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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
AIR-P
00.0528

September 8, 2000

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

FROM: KAZU HAYASHIDA K.H.
DIRECTOR OF TRANSPORTATION

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT FOR LANAI AIRPORT
LANAI, HAWAII
TMK 4-9-2:1, 41, 55, AND 56
STATE PROJECT NO. AM4011-02

The State of Hawaii, Department of Transportation, Airports Division, has reviewed the comments received during the 30-day public comment period which began on May 23, 2000. The agency has determined that the project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the September 23, 2000, OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, four copies of the Final Environmental Assessment, and the project summary on disk. Please have your staff contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

Enclosures: As listed above

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

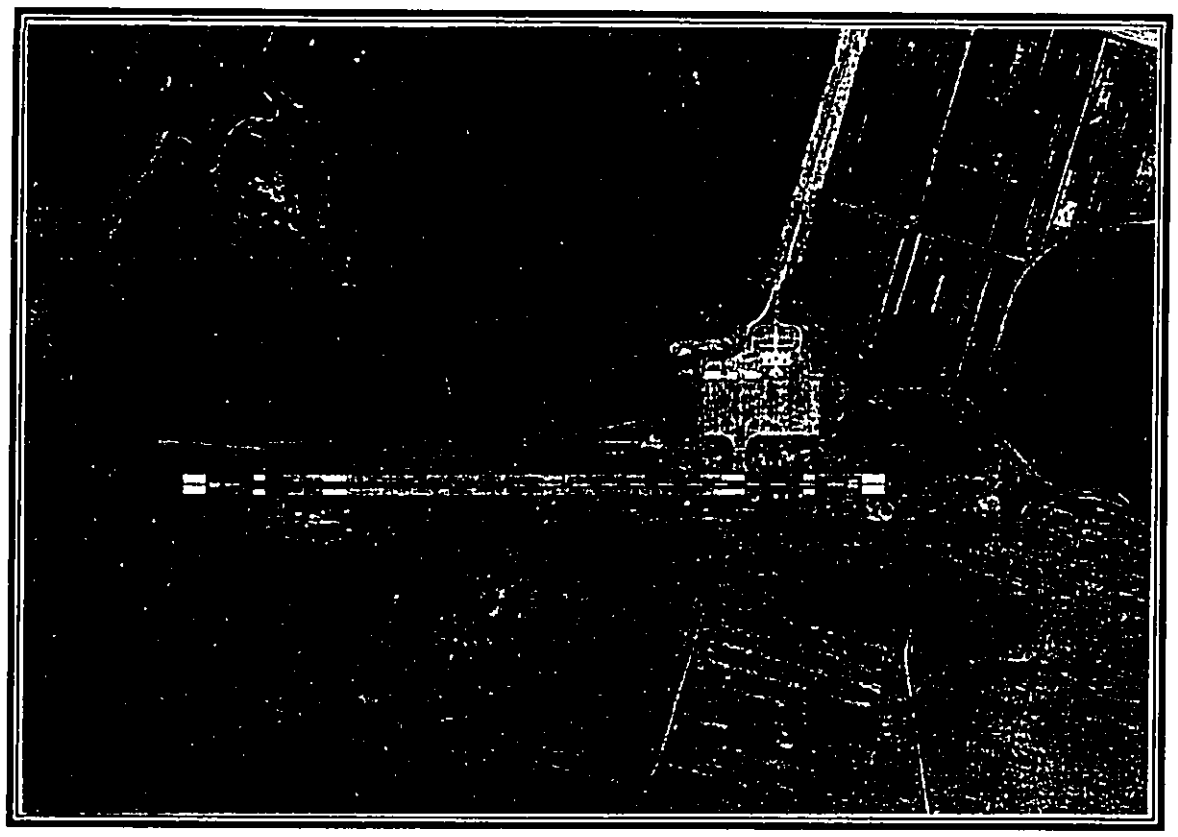
2000-09-23-LA-FEA-

SEP 23

FILE COPY

LANAI AIRPORT MASTER PLAN UPDATE

FINAL ENVIRONMENTAL ASSESSMENT
LANAI AIRPORT, LANAI, HAWAII



BENJAMIN J. CAYETANO, GOVERNOR
STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

AUGUST 2000

Prepared By:
KFC AIRPORT, INC.
Y. EBISU & ASSOCIATES, INC.

FINAL ENVIRONMENTAL ASSESSMENT

FOR

LANAI AIRPORT MASTER PLAN UPDATE

Project No. AM4011-02

Tax Map Key: 4-9-2:1, 4-9-2:41, 4-9-2:55, and 4-9-2:56

This Final Environmental Assessment is prepared pursuant to Chapter 343, Hawaii Revised Statutes

Approving Agency: Department of Transportation
Airports Division
State of Hawaii

Responsible Official: Kazu Hayashida — Date: 8/15/00
Kazu Hayashida
Director of Transportation
State of Hawaii

Prepared by: KFC Airport, Inc.

August, 2000

PREFACE

This final environmental assessment (EA) and notice of anticipated Finding of No Significant Impact (FONSI) are prepared pursuant to Chapter 343, Hawaii Revised Statutes, Title 11 (as amended), Chapter 200, Administrative Rules, Department of Health and Federal Aviation Administration Orders 5050.4A (October 8, 1985), 1050.1D (December 21, 1983) and its appendices. The proposed action is an agency action involving the expenditure of State funds by the Department of Transportation, Airports Division. This final EA and notice of anticipated Finding of No Significant Impact will be filed with the State Office of Environmental Quality Control by the proposing agency for public review pursuant to ACT 241, Session Laws of Hawaii (1992).

The proposed action assessed herein is the construction of improvements to the Lanai Airport, including the extension of the existing runway. The intent of the action is to provide better flight services for the airlines utilizing the Lanai Airport.

SUMMARY

LANAI AIRPORT MASTER PLAN UPDATE
Lanai Airport, Lanai, Hawaii

District:	Lanai, Maui
Tax Map Key:	4-9-2:1, 4-9-2:41, 4-9-2:55, and 4-9-2:56
Proposing Agency:	State of Hawaii Department of Transportation Airports Division 400 Rodgers Boulevard., Suite 700 Honolulu, Hawaii 96819
EA Preparer:	KFC Airport, Inc. 3375 Koapaka Street, Suite F220-48 Honolulu, Hawaii 96819
Existing Land Use:	Airport Terminal Complex and Runway
Proposed Action:	Proposed action consists of a 2,000-foot runway extension to the northeast, parallel and additional entry/exit taxiways, expansion of the apron and overlay of the existing runway and apron pavement. Major terminal facilities proposed include the expansion of the passenger terminal building, as well as expanded automobile parking facilities. Construction of this project will utilize standard erosion control and dust control procedures to minimize the surface water and dust impacts during the construction. The other mitigative measures are detailed in the enclosed final environmental assessment.

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SECTION I

PROJECT DESCRIPTION

I. PROJECT DESCRIPTION

1.1 PURPOSE AND NEED OF PROPOSED ACTION

This document was prepared in compliance with Chapter 343, Hawaii Revised Statutes, Title 11 (as amended), Chapter 200, Administrative Rules, Department of Health and Federal Aviation Administration Order 1050.1D, Policies and Procedures for Considering Environmental Impacts, and Order 5050.4A, Airport Environmental Handbook, which detail the FAA Procedures for compliance with the National Environmental Policy Act (NEPA) and the NEPA implementing regulations established by the President's Council on Environmental Quality (CEQ) (40 CFR 1500 et seq.).

The purpose of an environmental assessment (EA) is to quantify the environmental impacts, if any, which may result from implementing the proposed action or alternatives. If the decision-making authority determines, based on the EA and according to CEQ criteria, that the proposed action would not significantly affect the human environment, a Finding of No Significant Impact (FONSI) can be issued and the proposed action can proceed. If the EA finds that significant unmitigable environmental impacts may occur with implementation of the proposed action, an Environmental Impact Statement (EIS) must be prepared.

In September of 1988, the State of Hawaii Department of Transportation, Airports Division (DOTA), initiated a comprehensive planning study of Lanai Airport under the Federal Aviation Administration Airport Improvement Program. The result of the study was a Master Plan and Noise Compatibility Program, which determined the type and extent of aviation facilities, needed at Lanai Airport through the year 2005. In 1990, upon completion of the Master Plan, the DOTA had determined that an Environmental Impact Statement was required pursuant to Chapter 200 of Title II, Administrative Rules, Subchapter 5(b) and the National Environmental Policy Act. The Environmental Impact Statement included relevant information on the proposed actions, existing environmental conditions, and an assessment of probable impacts and possible mitigation measures.

In June of 1998, the State of Hawaii, Department of Transportation, Airports Division initiated a comprehensive planning study to update the 1990 Lanai Airport Master Plan and FAR Part 150 Noise Compatibility Program. The study was funded under the Federal Aviation Administration Airports Improvement Program. The firms of KFC Airport, Inc. in association with Y. Ebisu & Associates, Inc. were contracted to prepare the Airport Master Plan Update and an Airport Noise Compatibility Program. The purpose of the Master Plan Update was to reevaluate, monitor key conditions, and adjust the 1990 Master Plan recommendations if required by changed circumstances. Aircraft operations and passenger activity through the 2020 planning period was forecast for Lanai

Airport. It was determined from the forecast and FAA planning criteria that improvements were needed to improve safety and air carrier access to the Airport. The Master Plan Update provided guidelines for future airport development and made recommendations to ensure the viability of the Airport in a financially sound manner while addressing the Lanai Community's environmental and socioeconomic issues and concerns through the year 2020.

The environmental impacts of the proposed actions reviewed in the 1990 Environmental Impact Statement for Lanai Airport were found to have no significant impacts. This Environmental Assessment covers the same proposed actions and environmental impacts studied in the 1990 Environmental Impact Statement as well as any adjustments to the 1990 Master Plan presented in the Master Plan Update.

1.2 LOCATION

The Lanai Airport is located on the island of Lanai, approximately 3 miles southwest of Lanai City. Its hours of operation are from 6:00 AM to 7:30 PM, seven days a week. The island of Lanai is under the jurisdiction of Maui County. It is the third smallest island of the eight main Hawaiian Islands, and was once home to the largest pineapple production center in the world. The recent development of two luxury resorts on Lanai has attracted visitors from all over the world to the island. Kaumalapau Highway, the major roadway connecting Lanai City to the harbor, is 0.6 miles north of the Airport. See figure 1-1.

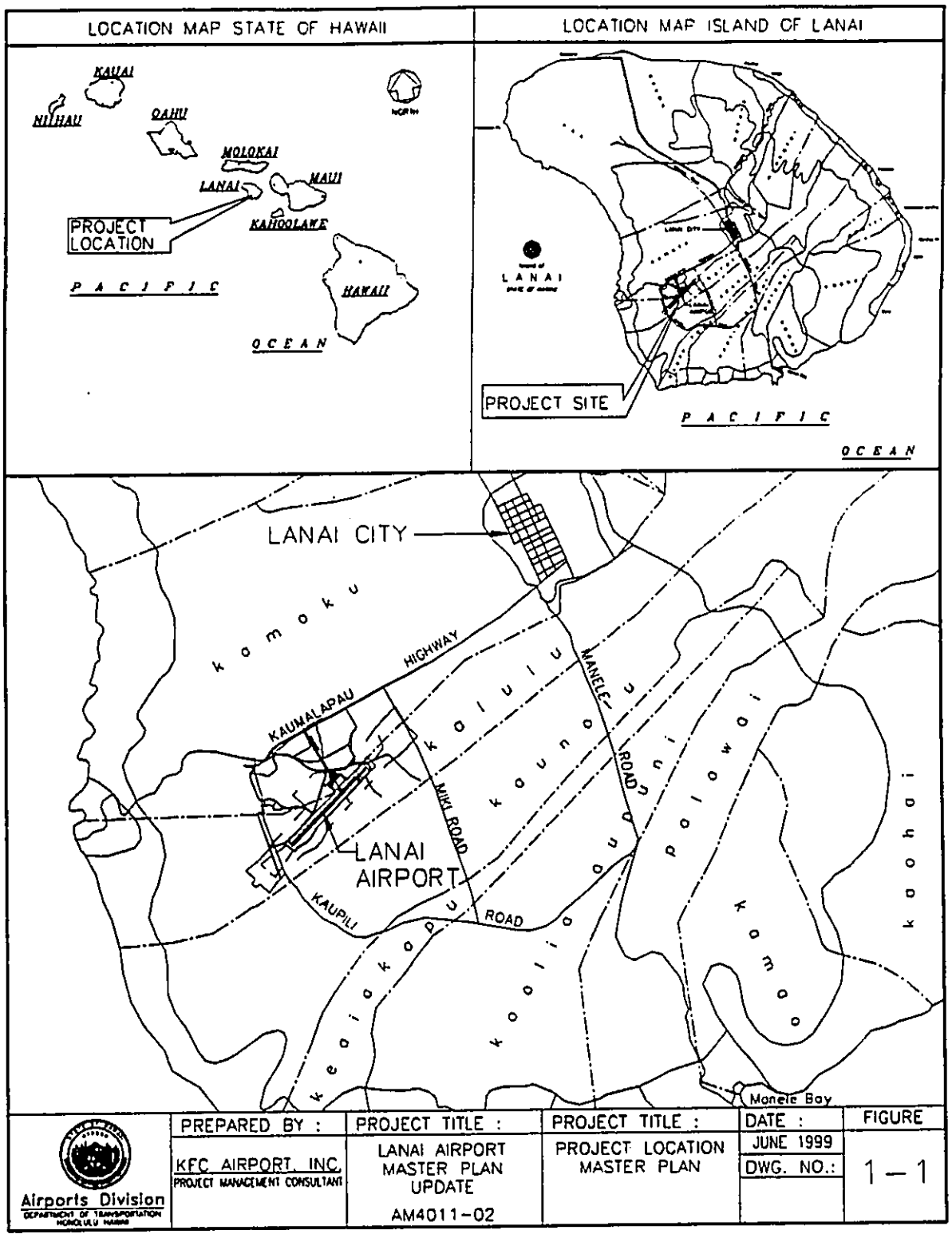
The project site is defined by Tax Map Key: 4-9-2:1, 4-9-2:41, 4-9-2:55, and 4-9-2:56, and encompasses a boundary of 505 acres of land at approximately 1,300-feet above mean sea level (MSL). The Airport lies on a relatively flat ridge where the surrounding terrain slopes away from the site in both the easterly and westerly direction. Lanai Airport is located on land owned by the State of Hawaii in the ahupuaa (district) of Kalulu. The land was transferred to the State Department of Transportation under Executive Orders 1248, 1279, and 2211. All the surrounding land is owned by the Lanai Company.

1.3 DESCRIPTION

The Lanai Airport has a single runway configuration, Runway 3-21. Runway 3-21, which is 5,000-feet long and 150-feet wide, is aligned in a northeast-southwest direction. There is a single taxiway that serves as both an entrance and exit to and from Runway 3-21. The taxiway is 75-feet by 287.5-feet long and is aligned perpendicular to Runway 3-21. There is also 317,000 square feet of apron space at the Airport and it accommodates parking for both air carriers and general aviation aircraft that service Lanai Airport.

Runway 3-21 is painted with nonprecision runway markings and equipped with medium intensity runway lights (MIRL). Runway 3 has a nonprecision instrument

approach with straight in minimums, a visual approach slope indicator (VASI-4L) and an instrument landing system (ILS). See figure 1-2.



1.4 PROPOSED ACTION

1.4.1 AIRFIELD FACILITIES

The major improvements proposed for the airfield consist of the following and are shown on figure 1-3.

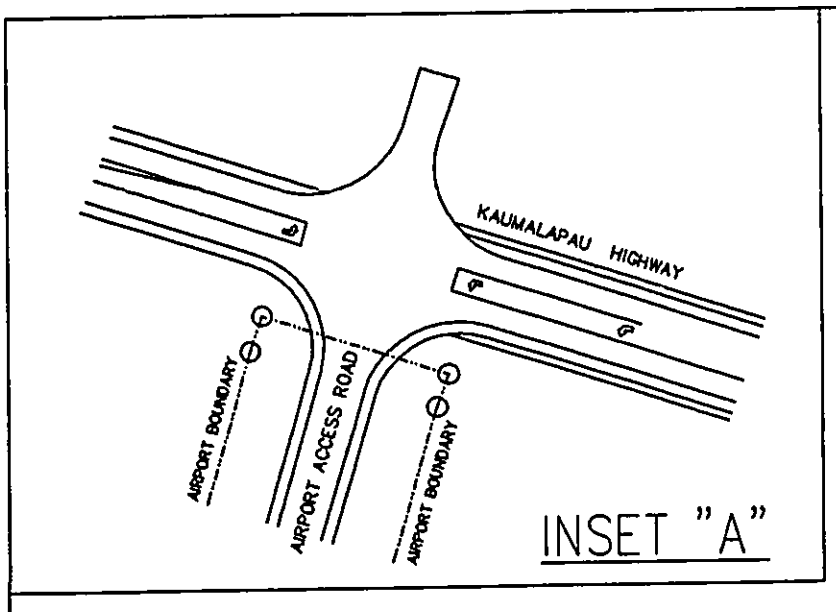
- Runway 3-21 – Runway 21 will be extended to the northeast by a length of 2,000-feet and a width of 150-feet. Approximately 5000-feet of the existing runway will be strengthened to accommodate the largest aircraft using the runway. A 1,000-foot long by 500-foot wide runway safety area will be provided beyond both ends of the extended Runway 3-21 thresholds. Because of the sloping terrain, extensive grading work will be necessary to construct the runway safety areas of Runway 3. The grading work, will involve the excavation of material in the area beyond the end of Runway 21 and the placement of this material within the safety area of Runway 3. A runway obstacle free area (ROFA) having dimensions of 800-feet in width by 1,000-feet in length (beyond the ends of each runway) will be provided.

- Taxiways – The runway extension and other improvements will require the development of a parallel taxiway to the west of Runway 3-21. The parallel taxiway will be 60-foot wide with 20-foot shoulders. Additional entry/exit taxiways are also provided to expedite aircraft ground movement.

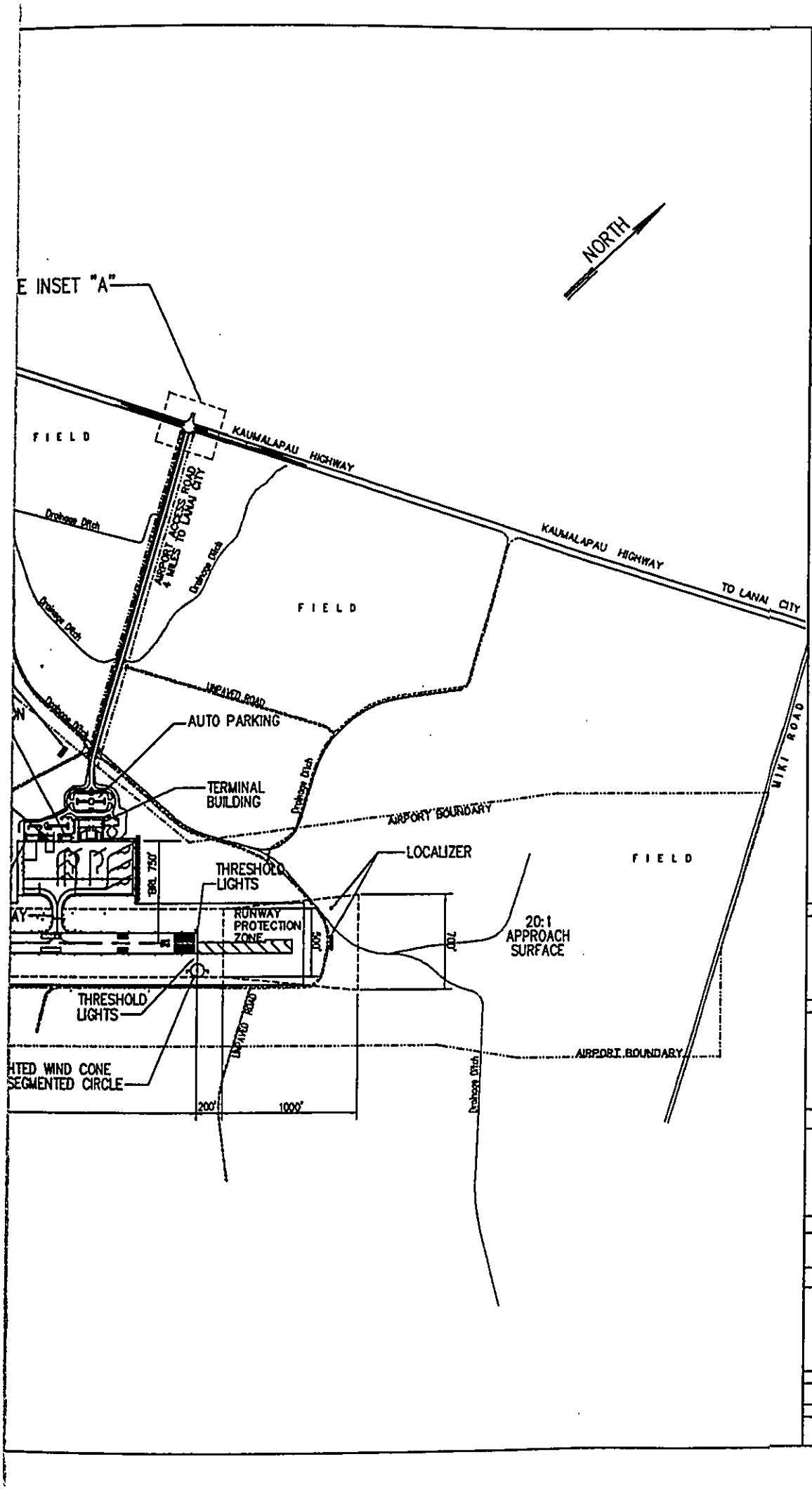
- Aprons – The aviation apron will be expanded by approximately 80,800 square feet to the southwest of the existing apron to provide seventeen (17) additional tie-down spaces for general aviation aircraft. Two new holding aprons are proposed at both ends of Runway 3-21. These holding aprons are to facilitate runway departures and are proposed primarily for use by small propeller aircraft. Holding aprons at these locations will also facilitate aircraft movement to the runways by aircraft cleared for take-off.

- Pavement Overlay – The existing runway pavement and apron pavement will be overlayed to satisfy future pavement strength requirements.

- Jet Blast Protection – The primary facilities used in reducing the effects of jet blast include stabilized (paved) shoulders and blast pads. Presently, the airfield has neither stabilized shoulders nor blast pads. Twenty five-foot wide stabilized shoulders will be provided along Runway 3-21 and 20-foot wide stabilized shoulders will be provided along associated taxiways. Two hundred-foot wide by 200-foot long blast-pads will also be provided at the ends of the existing and extended ends of Runway 3-21.


KAUMALAPAU HIGHWAY
AIRPORT BOUNDARY
AIRPORT ACCESS ROAD
AIRPORT BOUNDARY
INSET "A"

SEE INSET "A"
FIELD
FIELD
FIELD
FIELD
UNPAVED ROAD
UNPAVED ROAD
KAUMALAPAU HI
AIRPORT ACCESS ROAD 4 MILES TO LANAI CITY
Drainage Ditch
Drainage Ditch
Drainage Ditch
Drainage Ditch
WASTE WATER TREATMENT SYSTEM
AIRPORT BOUNDARY
ADMINISTRATION BUILDING
AUTO PARKING
AIRCRAFT RESCUE & FIREFIGHTING
TERMINAL BUILDING
WATER TANK
LIGHTED WIND CONE
AIRPORT BOUNDARY
GLIDE SLOPE
VASI
VASI
LIGHTED ANEMOMETER
CARGO BLDG
THRESHOLD LIGHTS
PRIMARY SURFACE
TAXIWAY
RUNWAY PROTECTION ZONE
34:1 APPROACH SURFACE
AIRPORT BOUNDARY
1000'
RUNWAY PROTECTION ZONE
500'
RUNWAY 3-21 150' x 5000'
PRIMARY SURFACE
UNPAVED ROAD
ARP
THRESHOLD LIGHTS
UNPAVED ROAD
AIRPORT BOUNDARY
LIGHTED WIND CONE & SEGMENTED CIRCLE
1700'
200'
5000'
200'
1000'
FIELD



Airports Division

DSGN. | DRWN. | CHK'D. | APPD.

KEY PLAN / NOTES :

NOTE:
THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.

THE PREPARATION OF THIS EXHIBIT WAS FINANCED IN PART THROUGH AN AIRPORT IMPROVEMENT PROGRAM GRANT FROM THE FEDERAL AVIATION ADMINISTRATION UNDER THE PROVISION OF SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982.

PREPARED BY:

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

SCALE:

GRAPHIC SCALE IN FEET

500 0 500 1000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

AM4011-02

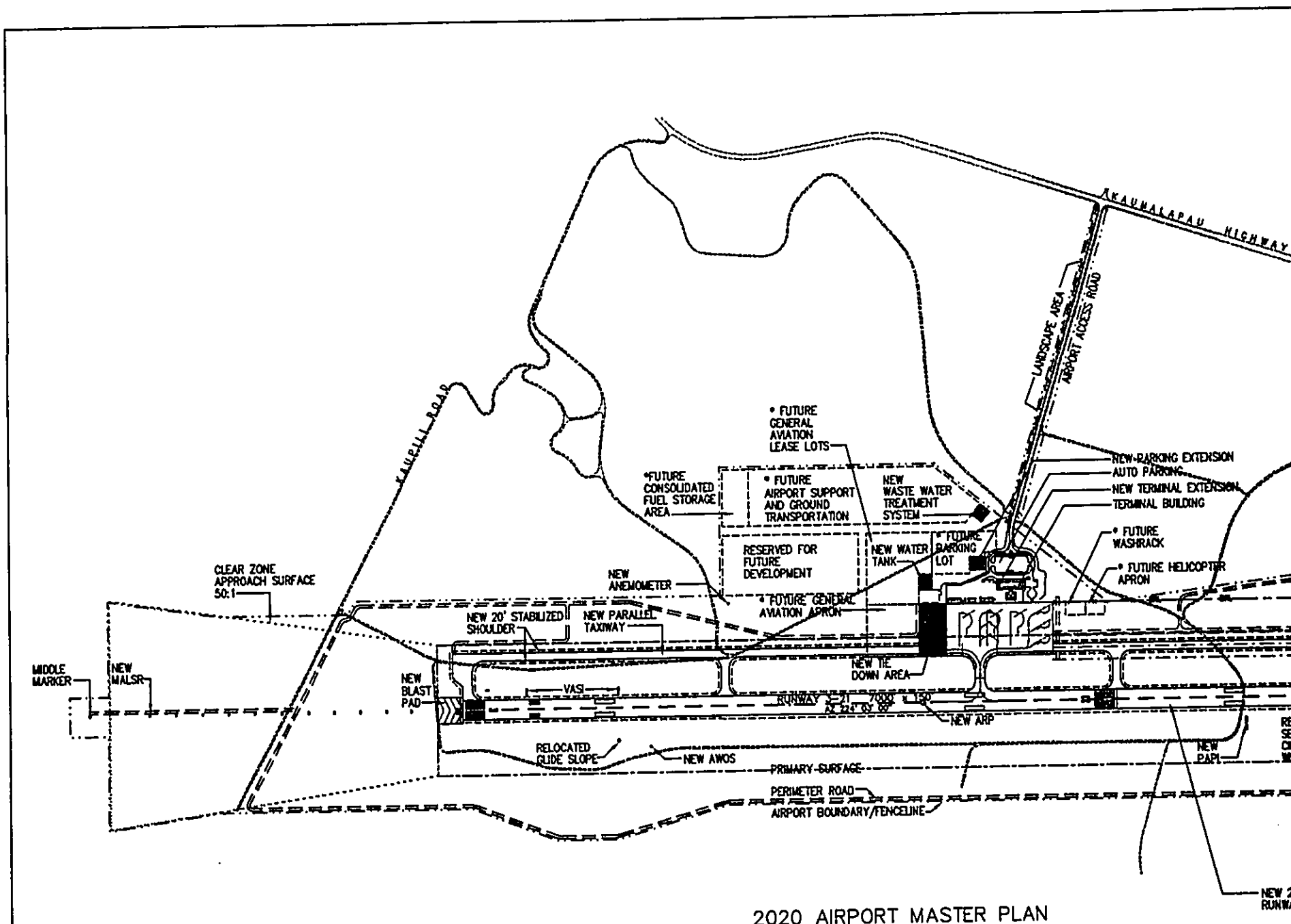
SHEET TITLE :

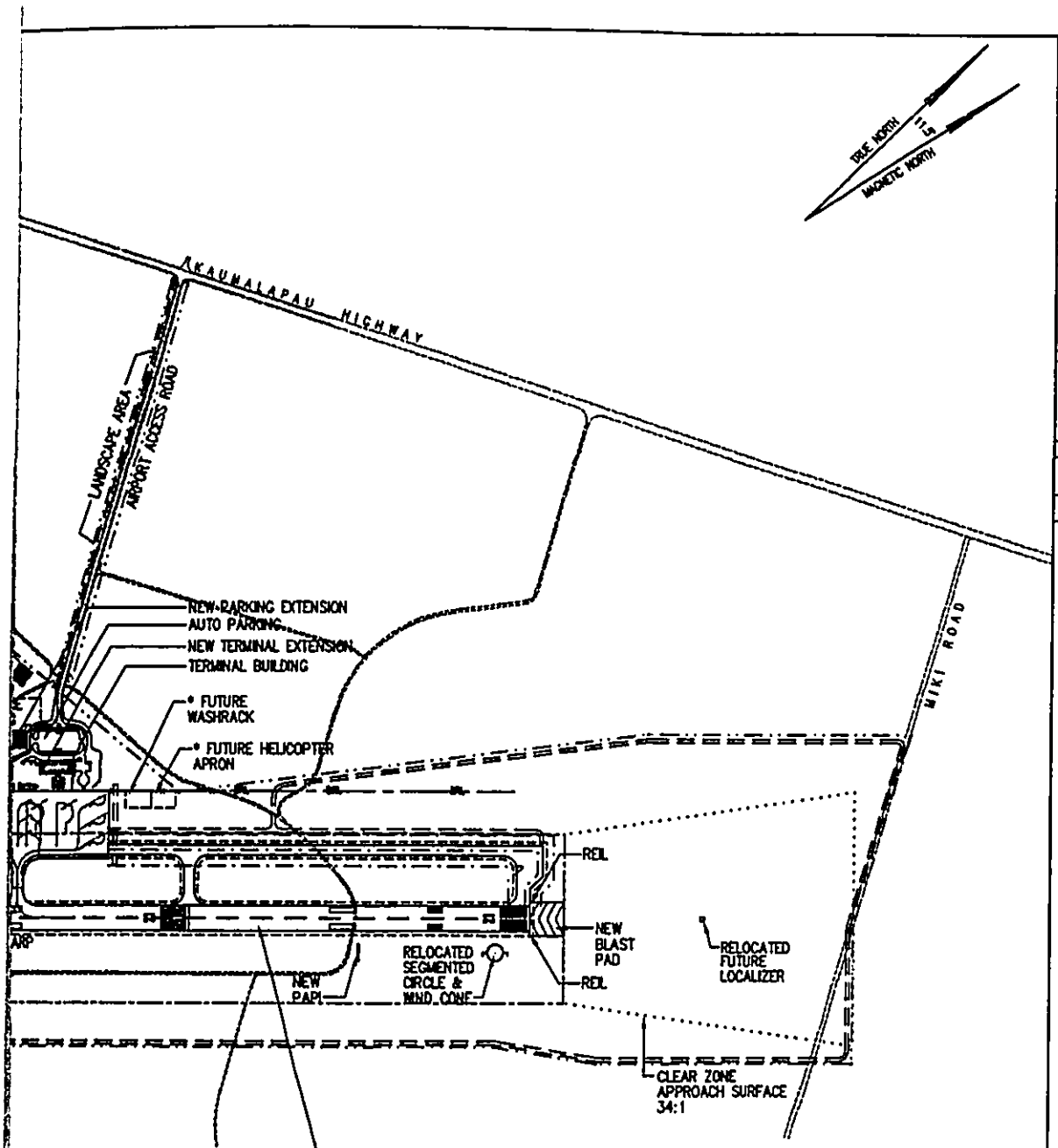
EXISTING AIRPORT
FACILITIES

DATE :
JUNE 1999

DWG. NO. :
1-4a

FIGURE
1-2


AKAUWALAPAU HIGHWAY
KAUPILI ROAD
LANDSCAPE AREA
AIRPORT ACCESS ROAD
* FUTURE GENERAL AVIATION LEASE LOTS
NEW PARKING EXTENSION
AUTO PARKING
NEW TERMINAL EXTENSION
TERMINAL BUILDING
*FUTURE CONSOLIDATED FUEL STORAGE AREA
* FUTURE AIRPORT SUPPORT AND GROUND TRANSPORTATION
NEW WASTE WATER TREATMENT SYSTEM
* FUTURE WASHRACK
* FUTURE HELICOPTER APRON
RESERVED FOR FUTURE DEVELOPMENT
NEW WATER TANK
* FUTURE PARKING LOT
CLEAR ZONE APPROACH SURFACE 50:1
NEW ANEMOMETER
* FUTURE GENERAL AVIATION APRON
NEW 20' STABILIZED SHOULDER
NEW PARALLEL TAXIWAY
MIDDLE MARKER
NEW MALSR
NEW BLAST PAD
VASI
NEW TIE DOWN AREA
RUNWAY 21 7000 X 150
AT 324° 01' 00"
NEW ARP
NEW PAPI
RELOCATED GLIDE SLOPE
NEW AWOS
PRIMARY SURFACE
PERIMETER ROAD
AIRPORT BOUNDARY/FENCELINE
2020 AIRPORT MASTER PLAN
1000 500 0 1000 2000
GRAPHIC SCALE IN FEET



NOTES:

1. THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES. THE PREPARATION OF THIS EXHIBIT WAS FINANCED IN PART THROUGH AN AIRPORT IMPROVEMENT PROGRAM GRANT FROM THE FEDERAL AVIATION ADMINISTRATION UNDER THE PROVISION OF SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982.
2. NEW = WITHIN PLANNING PERIOD
   * FUTURE = BEYOND 2020

Airports Division

DSGN.	DRWN.	CHK'D.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

PROJECT TITLE :

LANAI AIRPORT MASTER PLAN UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

2020 AIRPORT MASTER PLAN

DATE :
JUNE 1999

DWG. NO. :
1-4b

FIGURE
1-3

- Navigation and Landing Aids – There are several navigational aids currently existing at Lanai Airport. It is anticipated that additional NAVAIDs will be required through the 2020 planning period. Other aids that are either required by FAA design standards or recommended by the Master Plan Update include the following:

  - High intensity runway lights (HIRL) for both the existing and extended sections of Runway 3-21.
  - Medium intensity taxiway lights (MITL) for the parallel taxiway and additional entry/exit taxiways.
  - Automatic weather observation stations (AWOS) and automatic recording instruments.
  - Runway designation markings, runway centerline and edge markings, and runway threshold markings for the runway extension.
  - Taxiway centerline and edge markings.
  - Holding line markings.
  - Precision Approach Path Indicator (PAPI) and Runway End Identifier Lights (REIL).
  - Distance-to-go markers.
  - A medium Intensity approach lighting system with runway alignment indicator lights (MALSR).

1.4.2 TERMINAL FACILITIES

The proposed terminal and airport support facilities have been planned to allow for future expansion of the Airport through the year 2020. Refer to figure 1-3.

- Passenger Terminal Building – The existing passenger terminal building will not accommodate forecast demand through the planning period. An additional 1,544 square feet is required for the expansion of the airline ticket office space, additional concessions space and rental car counter space.

- Automobile Parking Facilities – Currently there are 161 vehicular parking spaces provided at the Lanai Airport. One hundred ninety five (195) vehicular parking spaces will be required to accommodate the projected needs of airport users through the planning period. To satisfy the future demand an additional parking lot located to the west of the passenger terminal building will be provided.

1.5 RATIONALE FOR ACTION

The proposed improvements to Lanai Airport described in Section 1.4 were derived based on planning criteria established by the Federal Aviation Administration and other recognized references on airport planning. Expansion of the existing facilities as well as lengthening the Runway will allow Lanai Airport

to accommodate the passenger and operations demand expected on the Airport during the forecast period. These improvements will also improve the safety of passengers and aircraft using the Airport.

1.5.1 INCREASED PASSENGER AND AIRCRAFT OPERATION ACTIVITIES

The Lanai Airport Master Plan Update projects annual passenger and aircraft activities to the year 2020. The study indicated a substantial increase in aviation activities. Aviation activity in 1998 included 176,619 passengers and 13,276 operations. Aviation activity for the Lanai Airport in 2020 is projected at 409,000 passengers and 15,700 operations. See Table 1-1 and 1-2 below.

TABLE 1-1
PASSENGER DEMAND FORECAST
LANAI AIRPORT, LANAI
1998-2020

Year	Actual 1998	2000	2005	2010	2015	2020
Passengers (enplaned & deplaned)	176,619	214,000	263,000	311,000	361,000	409,000

TABLE 1-2
AIRCRAFT OPERATION FORECAST
LANAI AIRPORT, LANAI
1998-2020

Year	Actual 1998	2000	2005	2010	2015	2020
Air Carrier	11,702	11,900	12,517	13,011	13,597	14,046
Air Taxi Commuter	296	170	190	210	230	250
General Aviation	1,178	1,030	1,093	1,179	1,273	1,304
Military	100	100	100	100	100	100
TOTAL	13,276	13,200	13,900	14,500	15,200	15,700

The proposed expansion of major facilities is based on expansion capability and efficiency in airport operations. Airfield improvements will provide for unrestricted operations for the aircraft types forecast to use the Airport through the planning period.

The total enplaned (departure) and deplaned (arrival) interisland passengers at Lanai Airport increased from 48,774 passengers in 1984 to 176,619 passengers in 1998. Historically, passengers who use the Lanai Airport can be divided into two major categories: visitors and Lanai residents. Visitor arrivals to Lanai are expected to continue to increase in the future. Greater travel industry recognition of Lanai with increased development and promotion of visitor facilities is anticipated to contribute to this growth.

1.5.2 AIRCRAFT MIX

Scheduled air service is currently provided by Hawaiian Airlines with two (2) flights a day using DC-9(50) Aircraft. Island Air provides scheduled commuter airline service with fifteen (15) daily flights using DeHavilland Twin Otter Aircraft Dash 6 and DHC Dash 8 aircraft. Aloha Airlines also occasionally fly interisland charter flights using B-737(200) into Lanai Airport.

Aircraft mix is the relative percentage of operations conducted by each of the four classes of aircraft. The four classes of aircraft established by the FAA for the purpose of determining runway capacity are indicated in Table 1-3. The DHC-6 aircraft is in Aircraft Class B, the DHC-8, B-737 and DC-9 are in Aircraft Class C.

TABLE 1-3
AIRCRAFT CLASSIFICATIONS

Aircraft Class	Maximum Certified Takeoff Weight (lbs)	Number of Engines	Wake Turbulence Classification
Class A	12,500 or less	Single	Small
Class B	12,500 or less	Multi	Small
Class C	12,500 –300,000	Multi	Large
Class D	300,000	Multi	Heavy

The aircraft mix for fixed wing aircraft operations is indicated in Table 1-4.

TABLE 1-4
FORECASTED AIRCRAFT MIX

Aircraft Class	Percent of Total Aircraft Operations				
	1997	2005	2010	2015	2020
A & B	38%	40%	39%	39%	38%
C	62%	60%	61%	61%	62%
D	0%	0%	0%	0%	0%

1.5.3 RUNWAY LENGTH

Based on FAA Design Criteria and the forecasted Aircraft Mix presented in Table 1-4, indicates Runway 3-21 should be planned to satisfy the criteria for Airplane Design Group III. The FAA's parameters for Airplane Design Group III are for Aircraft with an approach speed of 121 knots up to 140 knots, and a wingspan of 79 feet up to 117 feet.

Aircraft similar to the DC-9-50 (operated by Hawaiian Airlines) and the B-737-200 (operated by Aloha Airlines) are the design aircraft for the forecast period. These and similar aircraft are capable of taking off and landing on the available 5,000-foot length of Runway 3-21 with weight restrictions. For unrestricted operations, a runway length of up to 7,000-feet is required based on the 6,500-foot design standard used for other Interisland Airports and adjusted for the elevation and gradient of the Lanai Airport Runway.

1.6 PERMITS REQUIRED

This improvement project will be located at the Lanai Airport, and will be part of the Master Plan improvements. Therefore it will require, but shall not be limited to the following permits:

- NPDES Construction Permit – Notice of Intent (NOI) Form 1, Form 'A', and Form 'C'
  State of Hawaii
  Department of Health
  Clean Water Branch

- Grading and Grubbing Permit
  Maui County
  Department of Public Works
  Land Use and Codes Administration

The NOI Form 'C' is required for discharge of storm water runoff associated with construction activity. A NPDES general permit is not required for the Lanai Airport facility at this time due to the absence of industrial activity. When industrial activities are planned for Lanai Airport, the process for application of an NPDES also needs to be scheduled.

A grading and grubbing permit is required for any excavation or fill or any combination thereof, to regulate and control grading and grubbing operations.

Activities associated with the construction of the project shall comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control."

- The contractor shall obtain a noise permit if the noise levels from the construction activities are expected to exceed the maximum permissible sound levels of the regulations as stated in Section 11-46-6(a).

- Construction equipment and on-site vehicles requiring an exhaust of gas or air shall be equipped with mufflers as stated in Section 11-46-6(b) (1) (A).

- The contractor shall comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d) (4).

The project will be designed and constructed in accordance with the County of Maui and Hawaii State's standards and all associated FAA standards.

1.7 PUBLIC PARTICIPATION PROGRAM

A Technical Advisory Committee was organized for the purpose of reviewing and commenting on detailed aspects of the Master Plan Update and Noise Compatibility Program. The Technical Advisory Committee was made up of community leaders, airport users, and representatives from governmental agencies. Three Technical Advisory Committee Meetings were held prior to final completion of the Master Plan Update and Noise Compatibility Program Report.

Three Public Information Meetings were also held on Lanai to inform interested parties in the community on the progress of the Master Plan Update development as well as the Noise Compatibility Program development, and to solicit community input on the proposed Airport improvements.

In addition to the informational meetings, a public hearing was held on the FAR Part 150 Noise Compatibility Program on November 18, 1999 at the Lanai Public Library. The hearing was held to afford all interested persons an opportunity to submit data, views or arguments, orally or in writing, with respect to the Noise Compatibility Report.

The dates and times of the Public Information Meetings, as well as the public hearing, were advertised in various newspapers prior to the meeting and hearing dates.

Copies of the Master Plan Update, as well as the Noise Compatibility Report, were also provided to the Lanai Public Library.

1.8 GOALS AND OBJECTIVES

Construction of the planned facilities implements and establishes the following objectives:

- Meet goals consistent with the Lanai Airport Master Plan Update
- Provides better flight services and improves safety to airlines and passengers using the Lanai Airport
- Energize tourism in Lanai and improve Lanai's economy

1.9 PHASING AND CONSTRUCTION COSTS

The Lanai Airport Master Plan Update is recommended to be implemented in phases to ease the financial burden on the State and to provide a smooth transition between the phased developments.

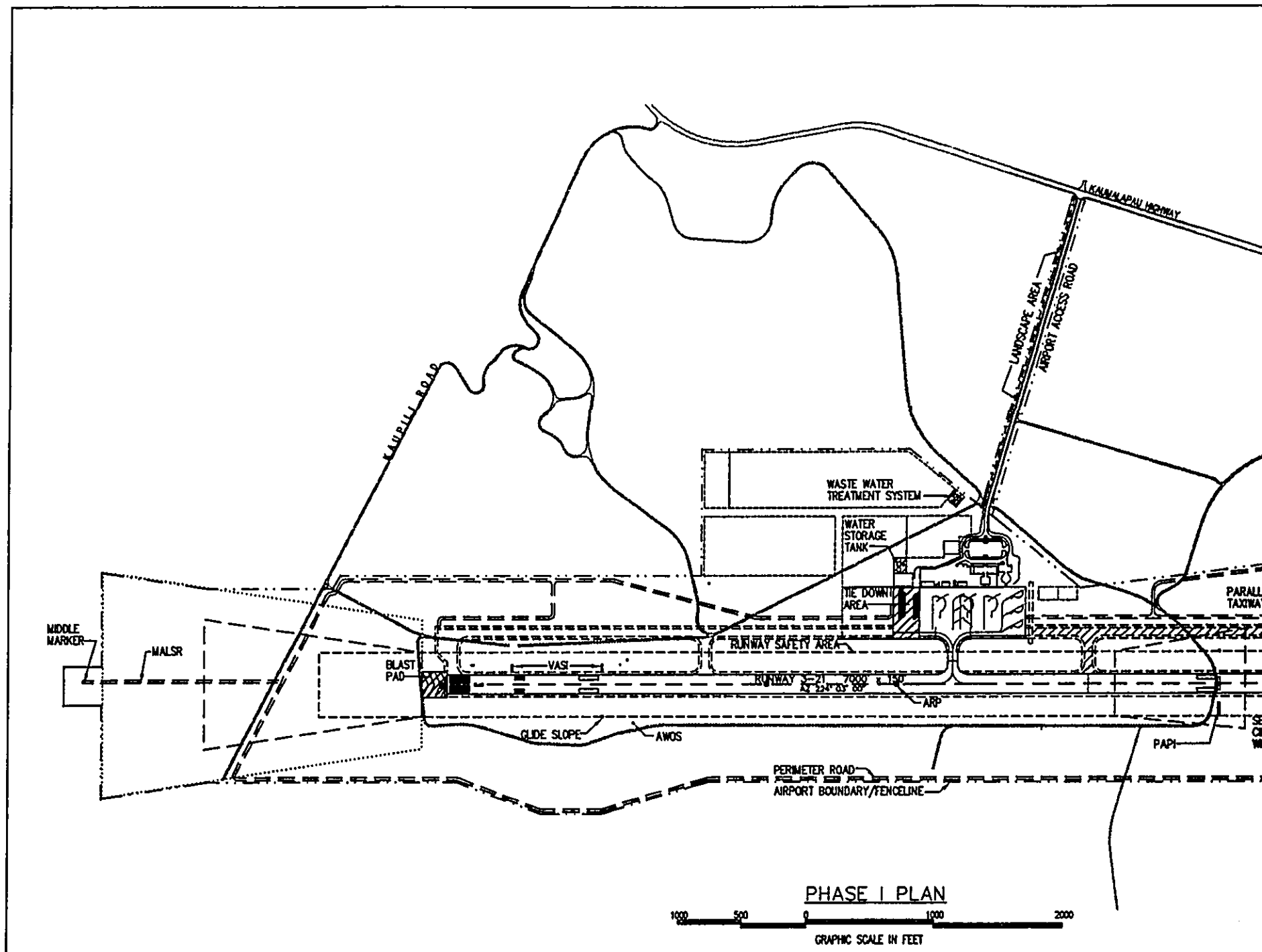
This program is proposed to be completed in two phases: Phase I (2000-2010), Phase II (2010-2020), and will be funded by the State of Hawaii, Department of Transportation. The funding will be obtained from the airport development fund. The preliminary estimated construction cost for the program is approximately $23 million.

1.9.1 PHASE I (2000-2010)

During Phase I, the runway will be extended to 7,000-feet, a parallel taxiway that spans from the apron to the end of the runway extension to the northeast will be completed, the apron will be expanded and a new entry/exit taxiway will be constructed. Navigational aids and upgrades to the water and sewage systems will also be provided during this phase. Phase I is expected to cost approximately $20 million to complete. See figure 1-4.

1.9.2 PHASE II (2010-2020)

During Phase II, the parallel taxiway will be completed to the southwest side of the apron and 25-foot wide paved stabilized shoulders will be provided for the runway and 20-foot wide paved stabilized shoulders will be provided for the parallel and entry/exit taxiways. The terminal building will be expanded and an additional public, employee and rental car parking lot will be provided to the southwest of the existing automobile parking lot. Phase II is expected to cost approximately $3 million to complete. See figure 1-5.



PHASE I PLAN

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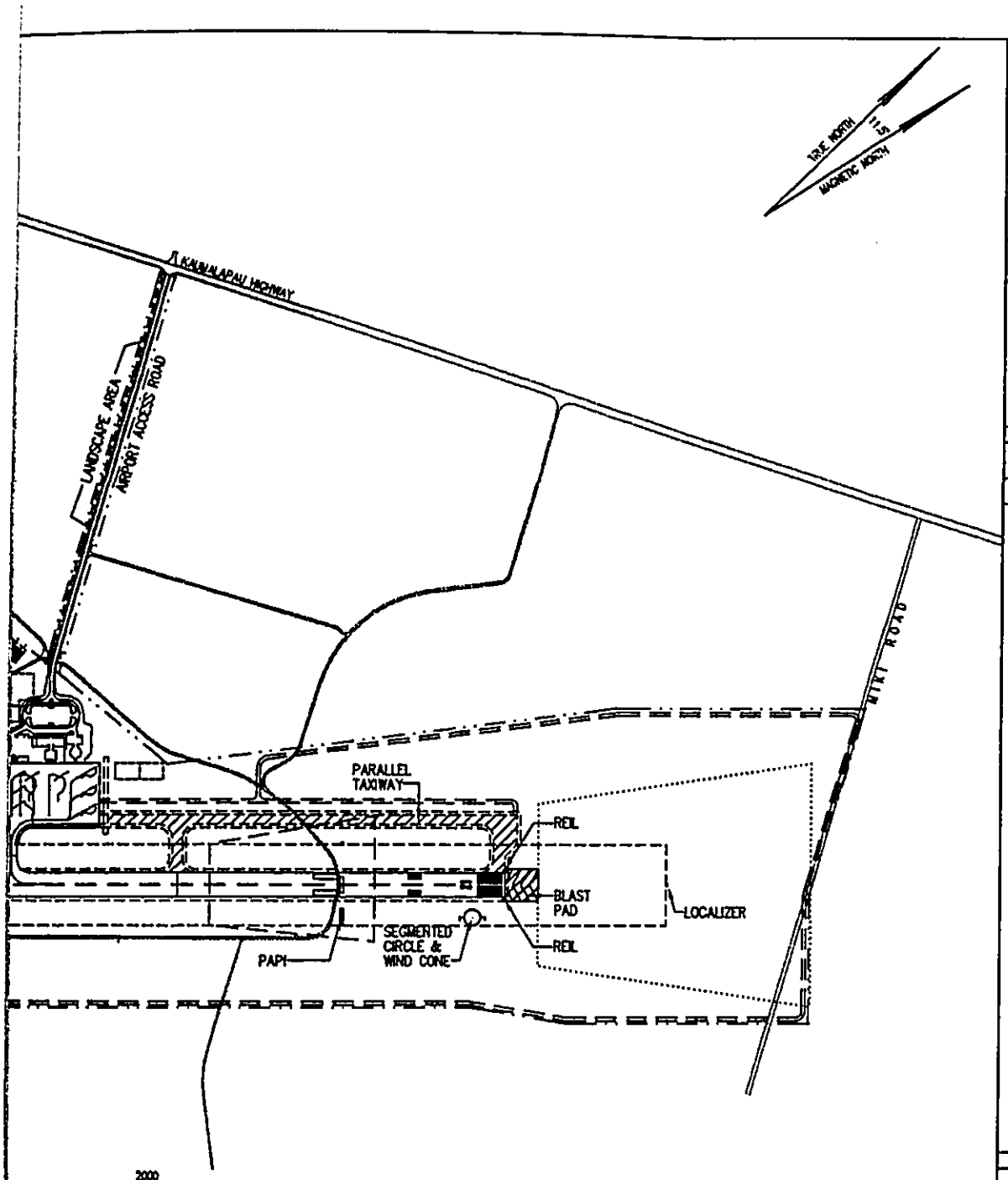

Airports Division

DSGN. | DRWN. | CHK'D. | APPD.

KEY PLAN / NOTES :

PHASE I

NO. | DATE | REVISIONS

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

PHASE I (2000-2010)

DATE :
JUNE 1999

1-11a

FIGURE
1-4

NOTES:

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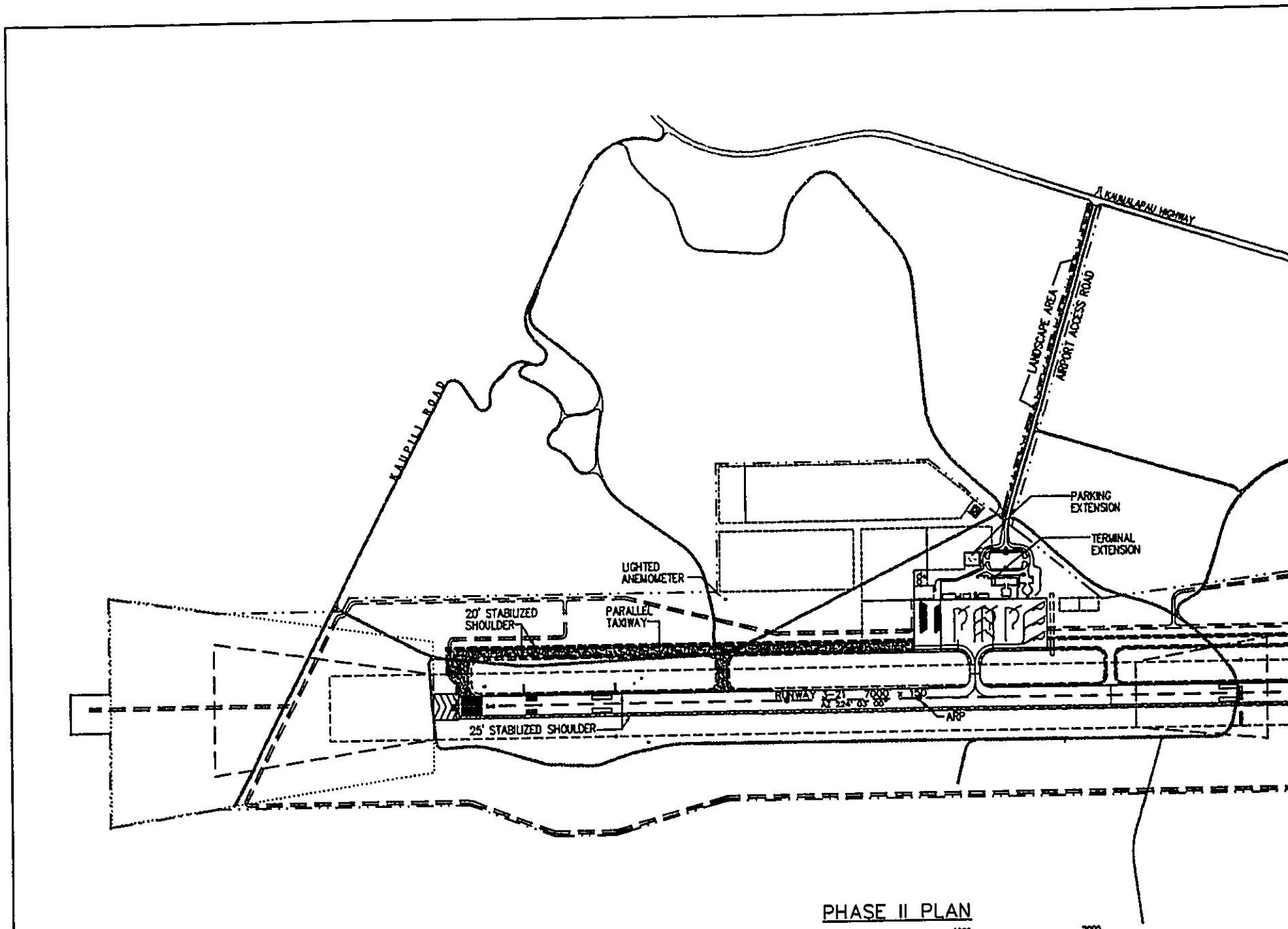

PHASE II PLAN

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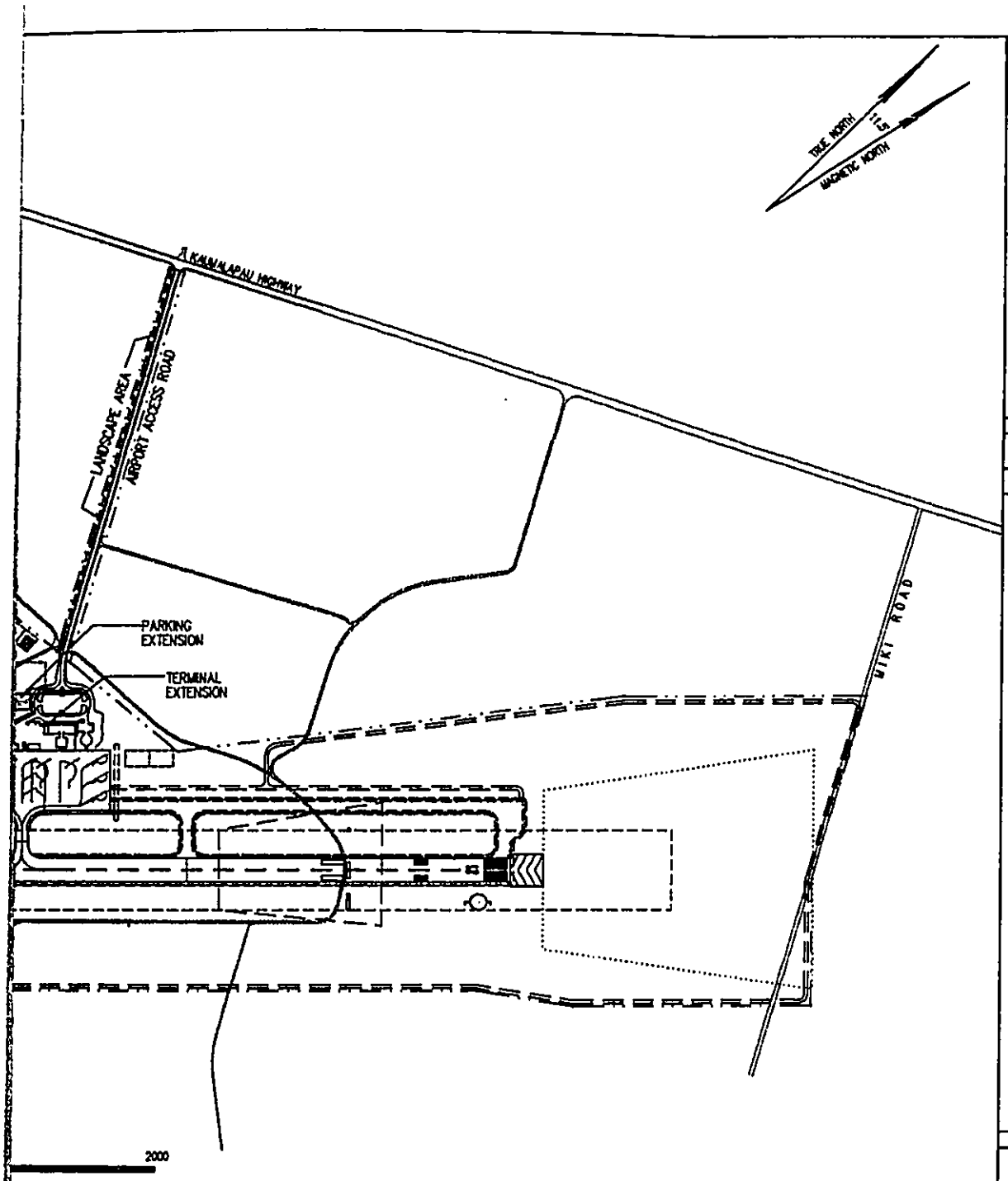
GRAPHIC SCALE IN FEET



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Airports Division

DSGN.	DRWN.	CHK'D.	APPD.

KEY PLAN / NOTES :

PHASE II

NO.	DATE	REVISIONS

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

PROJECT TITLE :

LANAI AIRPORT MASTER PLAN UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

PHASE II (2010-2020)

DATE :
JUNE 1999

1-11b

FIGURE
1-5

SECTION II

AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS AND MITIGATIVE MEASURES

II. AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS AND MITIGATIVE MEASURES

The 1990 Lanai Airport Environmental Impact Statement included relevant information on the proposed actions, existing environmental conditions, and an assessment of probable impacts and possible mitigation measures. This Environmental Assessment covers the same proposed actions presented in the 1990 EIS, as well as any adjustments to the 1990 Master Plan presented in the Master Plan Update. Refer to Table 2-1.

TABLE 2-1
1990 EIS REVIEW OF IMPROVEMENTS

Improvement	Reviewed by 1990 Lanai Airport EIS
Runway	Yes
Taxiway	Yes
Apron	Yes
Pavement Overlay	Yes
Jet Blast Protection	Yes
Navigational & Landing Aids	Yes
Passenger Terminal Building Expansion	No
Automobile Parking Facilities Expansion	No

2.1 EXISTING LAND USE

2.1.1 STATE LAND USE LAW

The State Land Use Law regulates the classification and use of lands within the State under the provisions of the Hawaii Revised Statutes, Chapter 205. The purposes of the land use regulations are to accommodate growth, development, and to conserve natural resources. All lands in the State are classified by the State Land Use Commission and placed into one of the four major land use districts. The four major districts are "Urban," "Rural," "Agriculture," or "Conservation." The Department of Land and Natural Resources is responsible

for land use decisions pertaining to State Conservation lands. The individual counties govern land use within the "Rural" and "Agriculture" districts.

The project site is located at the existing airport. The Lanai Airport is designated as urban lands, while the areas immediately surrounding the Airport are classified as "Agriculture". See figure 2-1.

Impacts and Mitigation Measures

The construction of the proposed project is not anticipated to alter the existing land use in the surrounding area since the project only provides improvements to the existing airport. The land use in the surrounding areas remains the same.

2.1.2 MAUI COUNTY ZONING

The County of Maui does not have a Zoning Map for the Island of Lanai at this time. All zoning matters for Lanai are therefore governed by the Interim Zoning Provisions of the Maui County Zoning Code.

Impacts and Mitigation Measures

Not applicable.

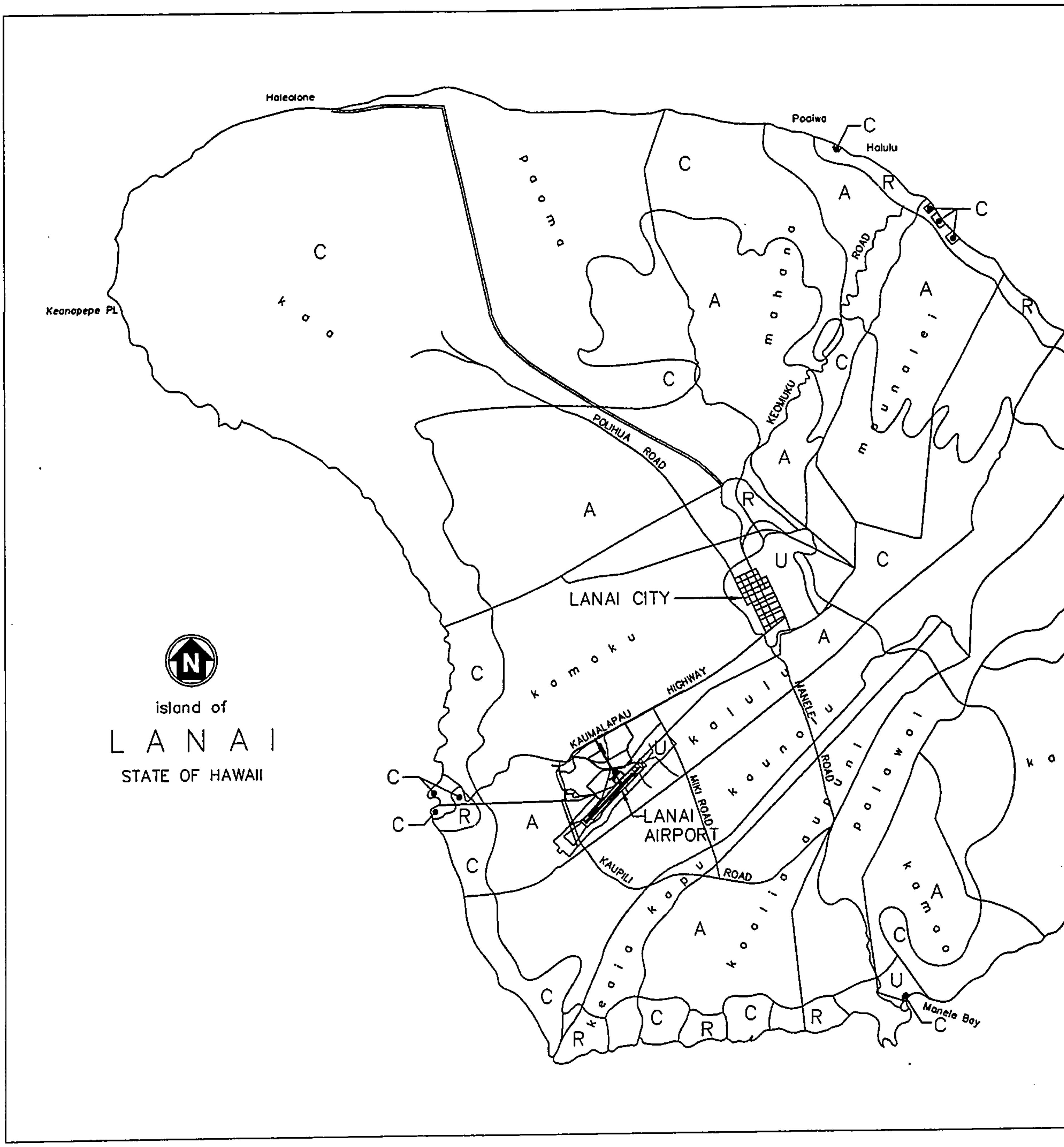
2.1.3 LANAI COMMUNITY PLAN

The Lanai Community Plan was mandated by the 1977 Charter of Maui County. Its purpose is to provide the detailed scheme for implementing the broad and long range objectives/policies of the County General Plan for the Island of Lanai. It is intended to serve as a guide in the decision making process for developments on Lanai until the year 2010. The plan elements are organized according to the General Plan objectives and policies.

The Lanai Community Plan designates the Lanai Airport as "Airport" and the areas immediately surrounding the Airport as "Light Industrial," "Heavy Industrial," and "Agricultural". See figure 2-2.

Impacts and Mitigation Measures

The 1998 Lanai Community Plan indicates that the runway at Lanai Airport should not be extended in the direction of Lanai City, which conflicts with the Master Plan Update. An amendment of the Lanai Community Plan will be required should the extension of the runway occur prior to 2010 as proposed in the Master Plan Update. Should the State pursue the amendment of the Plan, the Maui Planning Department will be consulted.



island of
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Halulu
Keanapepe Pt.
POLIHUA ROAD
KEOMUKU ROAD
ROAD
LANAI CITY
KAUMALAPAU HIGHWAY
LANAI AIRPORT
MIKI ROAD
KAUPILI ROAD
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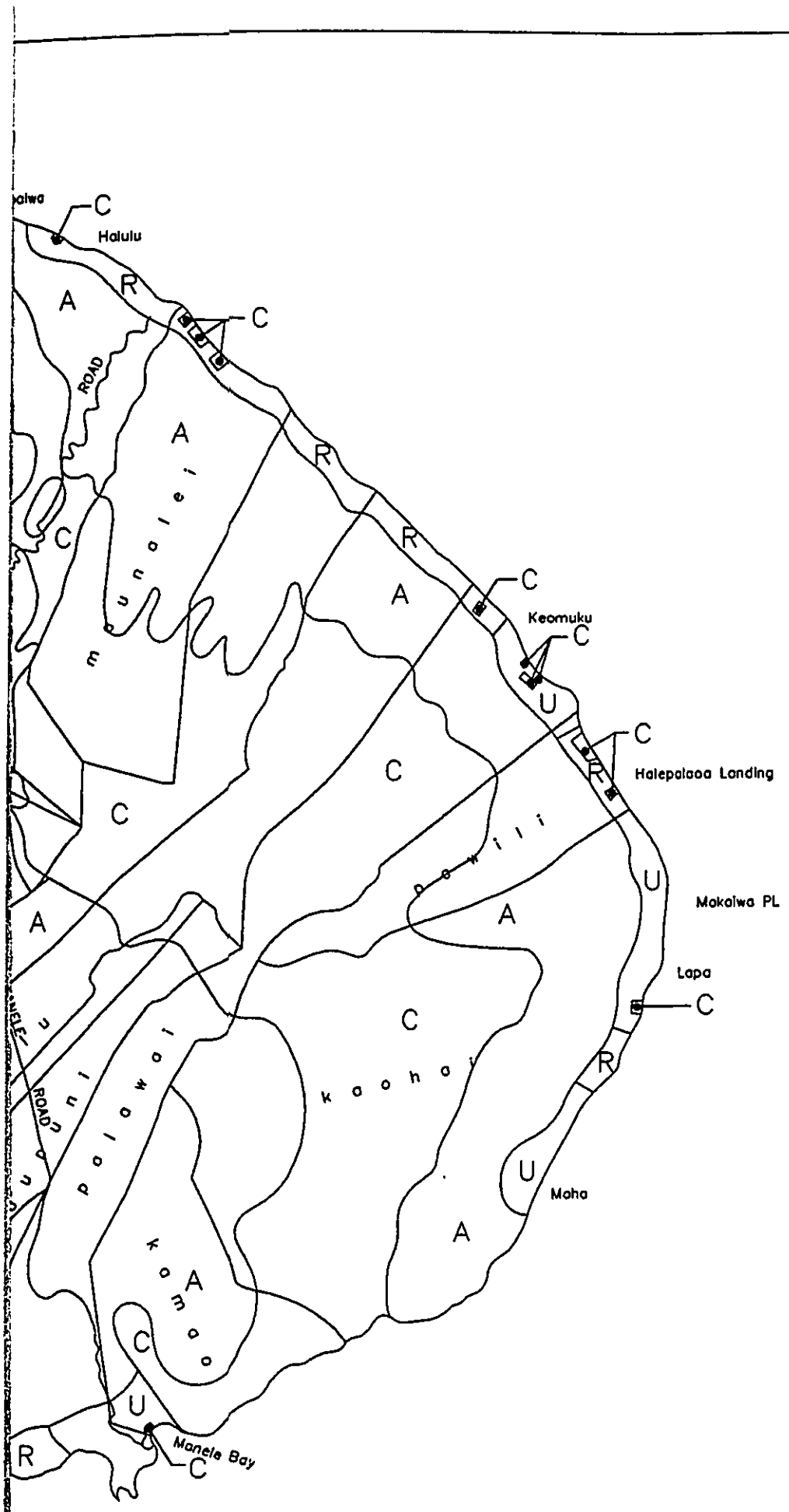

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KEY PLAN / NOTES :

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LEGEND:

C CONSERVATION
A AGRICULTURE
R RURAL
U URBAN

PREPARED BY:

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

SCALE:

GRAPHIC SCALE IN FEET
4000 0 4000 8000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

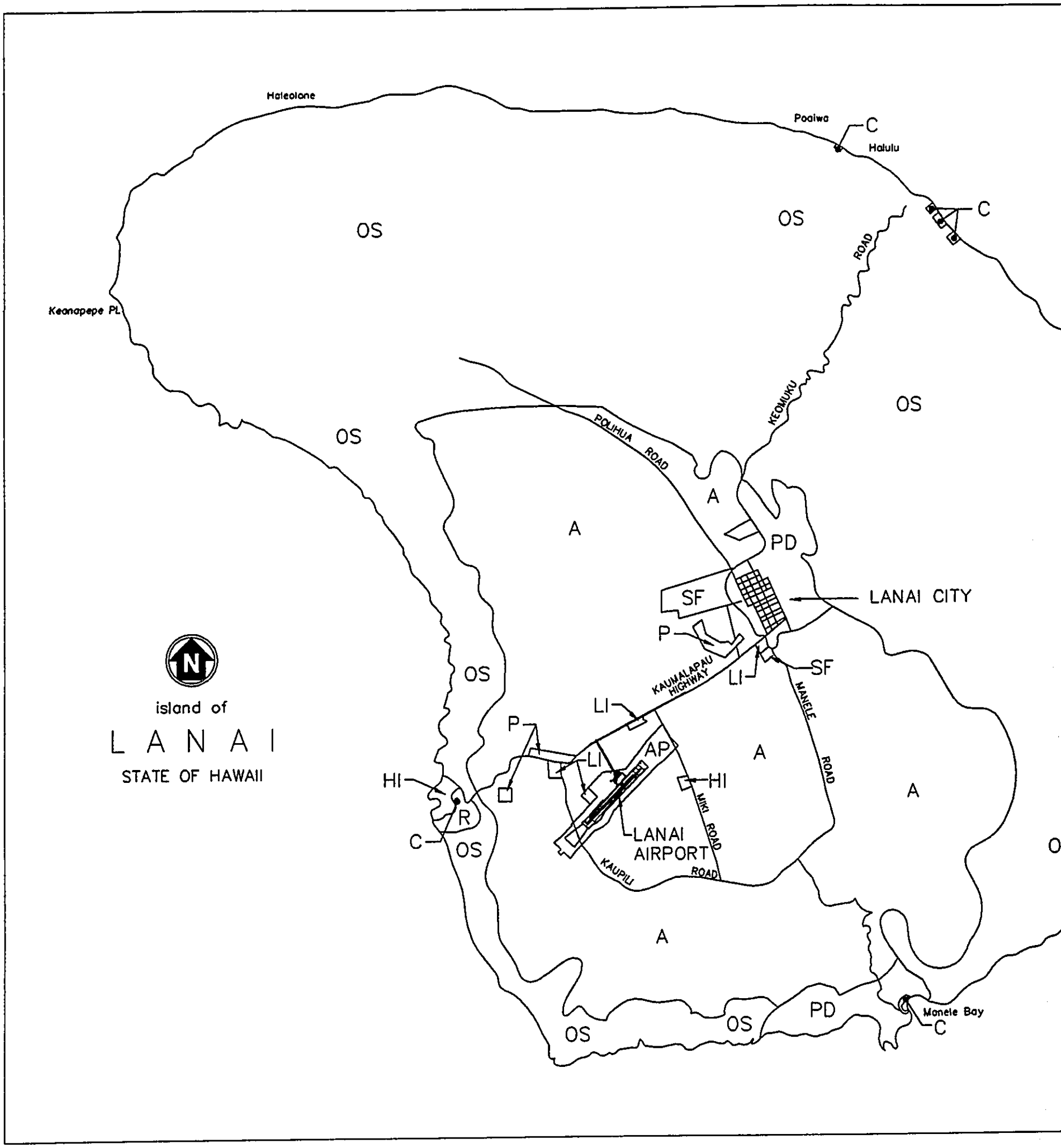
AM4011-02

SHEET TITLE :

STATE LAND USE
DISTRICT MAP

DATE :
JUNE 1999
DWG. NO. :
2-2a

FIGURE
2-1


Haleolone
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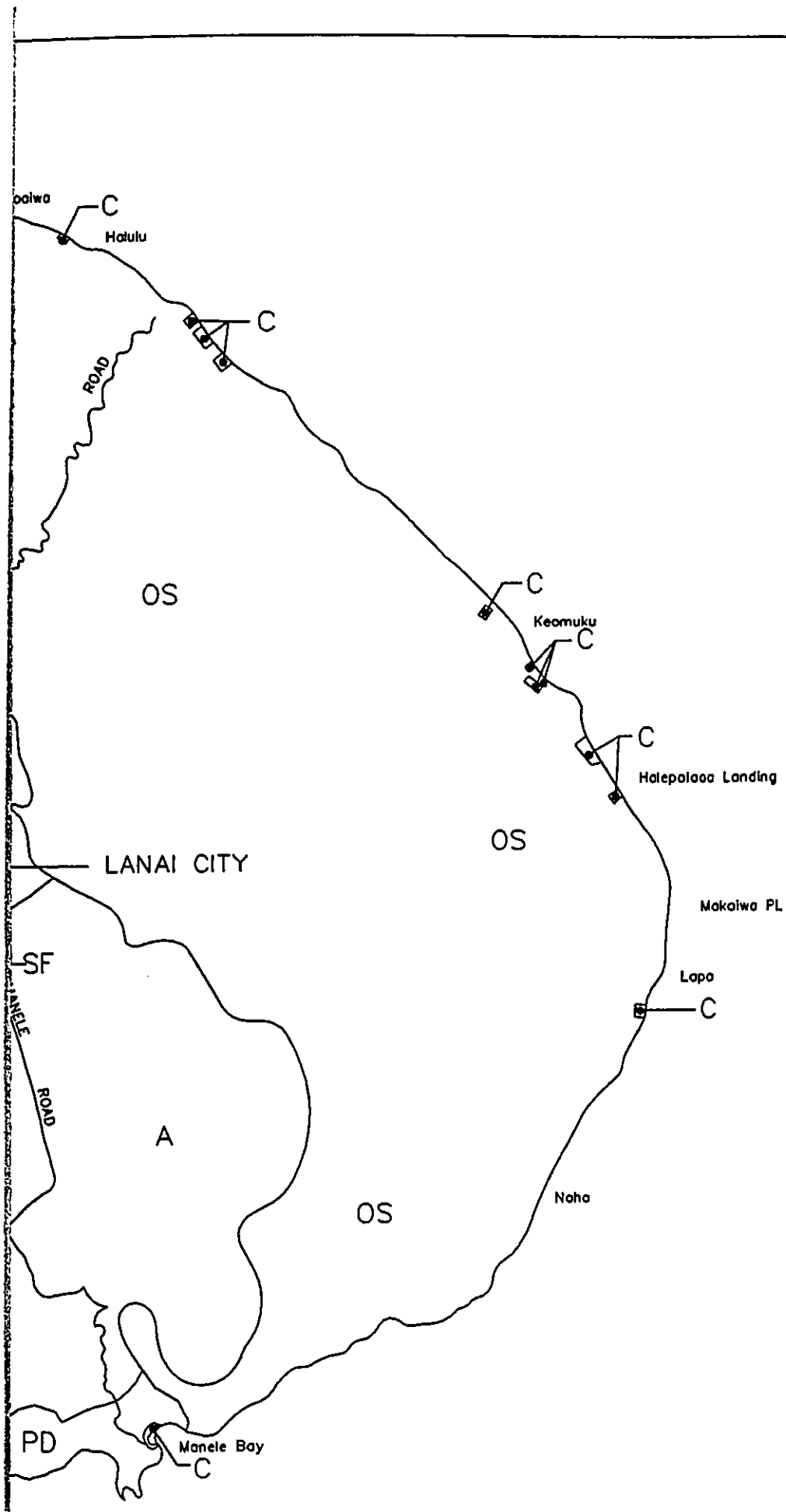

Airports Division

DSGN.	DRWN.	CHK'D.	APP'D.

KEY PLAN / NOTES :

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LEGEND:

C	CONSERVATION
A	AGRICULTURAL
SF	SINGLE FAMILY
R	RURAL
OS	OPEN SPACE
PD	PROJECT DISTRICT
HI	HEAVY INDUSTRIAL
LI	LIGHT INDUSTRIAL
P	PUBLIC/QUASI PUBLIC
AP	AIRPORT

PREPARED BY:

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

SCALE:

GRAPHIC SCALE IN FEET
4000 0 4000 8000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

LANAI COMMUNITY
PLAN

DATE :
JUNE 1999

DWG. NO. :
2-2b

FIGURE
2-2

The construction of the proposed project is not anticipated to alter the existing land use in the surrounding area since the project only provides improvements to the existing airport. The land use in the surrounding areas remains the same.

2.2 TOPOGRAPHY AND GEOLOGY

Lanai Airport is located on the southwestern quadrant of the island near Miki Basin, approximately 3 miles southwest of Lanai City. The Airport lies on a relatively flat ridge where the surrounding terrain slopes away from the site in both the easterly and westerly direction. The terrain beyond the ends of the runways falls at an average slope of 5 percent to the southwest and rises at 2 percent to the northeast. The U.S. Department of Agriculture Soil Conservation Service classifies the soil type in the area of the Airport as silty clay loams.

Impacts and Mitigation Measures

The construction of the proposed project is not anticipated to alter the existing topography in the vicinity and surrounding areas.

2.3 SOILS

The U.S. Department of Agriculture Soil Conservation Service classifies the soil type in the area of the Airport as silty clay loams.

Impacts and Mitigation Measures

The construction of the proposed project does not induce any significant negative impacts on the soil. Temporary disturbance of soils will occur during the excavation and backfill activities. The replacement of existing soil with rock and pipe cushion is not expected to pose any adverse effects on existing conditions. Existing surface conditions will be restored upon completion of construction.

2.4 SURFACE WATER

The coastline of the Pacific Ocean is the only surface water in the near vicinity of the proposed project site.

Impacts and Mitigation Measures

There will be several temporary impacts concerning the quality of the surface runoff during construction.

Level of turbidity of the runoff will increase minimally due to the disturbance of existing sediments. However, given the proximity of the Runway to the coastline of Lanai, it is not expected that the run-off will reach the ocean.

Turbidity and other types of construction related impacts are expected to be temporary. The Contractor will follow the requirements and terms in the approved NPDES permits for the subject project.

Impacts to ocean aquatic life are expected to be minimal since increased turbidity in the event of runoff will be temporary and sediments will eventually settle. Dislocated aquatic life will be able to return and reestablish in the area after the construction is complete.

2.5 FLORA AND FAUNA

Most of the vegetation on the site consists of abandoned pineapple fields. Weedy species associated with agricultural lands are found more commonly along the less maintained areas such as roadsides, drainageways, and margins of fields. Scrub vegetation, is usually found on the abandoned pineapple fields. This vegetation type is composed of a mixed grass associated with scattered shrubs. A small gulch area near Kaupili Road supports scattered koa-haole shrubs and Guinea grass scrub.

There is very little botanical interest within the lands proposed for the Airport expansion. Actively cultivated fields or weedy shrub are the major vegetation types. In December of 1989 a botanical survey was conducted as part of the 1990 Lanai Airport Master Plan – Final Environmental Impact Statement. The survey done by Char and Associates can be found in Appendix A. Of the 43 species inventoried on the site, 39 (91 percent) are introduced. Because of the past agricultural activities, there are no sensitive native plant communities remaining on the study site. None of the native plants are rare, threatened, or endangered. One species of endangered plant, Abutilon menzesii, occurs in similar habitats, adjacent to the proposed project location. However, this plant was not found on the proposed project site. Based on these findings, the proposed expansion of the Airport is not expected to have a significant impact in the total Island-wide populations of the species involved. The majorities are introduced and the natives on the site also occur in similar environmental habitats throughout the Islands.

The area proposed for expansion of the Lanai Airport consists of previously cultivated pineapple fields, with few native plant species present. Only a few trees, all of them exotic species, are found on this site; this greatly restricts nesting activities by most of the bird species there. In this severely disturbed, non-native habitat, almost all of the species observed were foreign. Ten bird species were recorded, but the only one native species is the Pacific Golden-Plover, which is a migratory species that nests in the Artic. Signs of two mammal species were noted, but these two, as well as the House Mouse which is probably present, are also foreign species.

According to the U.S. Department of the Interior, Fish and Wildlife Service, Pacific Islands Office letter of October 25, 1989 no federally listed threatened or endangered species (plants or animals) are found in the area of the Lanai Airport. A faunal field survey was performed on April 17, 1992 by Phillip L. Bruner of Environmental Consultant Faunal (Bird and Mammal) Surveys. The only native species recorded on the survey was the short-eared owl or Pueo. This bird is listed by the State of Hawaii as endangered on the island of Oahu, but is much more abundant on the other Hawaiian Islands. Pueo are not threatened or endangered on Lanai.

The dark-rumped petrel is a federally endangered seabird that does not occur in the project area, but may migrate over the proposed project site seasonally. Circumstantial observations and experimental evidence have shown that artificial lighting can disorient seabirds when flying between inland nesting areas and offshore feeding grounds. This disorientation is caused by excessively bright outdoor lighting and can result in seabird collisions with man-made structures such as light poles and wires. Seabird attraction to lights at an airport could result in increased collisions with aircraft, jeopardizing the safety of passengers and operating personnel.

Impacts and Mitigation Measures

There are no botanical limitations to the development of the project site. The proposed expansion of the Airport is not expected to have a significant negative impact on the total Island-wide populations of the species involved; the majorities are introduced and the few native species on the site also occur in similar environmental habitats throughout the Islands.

Potential impacts associated with seabird "fall-out" can be addressed by:

1. Being aware of the light attraction problem during the stages of project design
2. Avoiding these type of lights:
    a. unshielded high intensity floodlights on tall structures
    b. street lights without shields
    c. unshielded spotlights
    d. spotlights aimed upwards
3. Avoiding lighting situations which project lights upwards or laterally
4. Avoiding intensity floodlights located on building tops whenever possible

5. Avoiding locating bright lights near utility wires that could be difficult for birds to see at night

6. Using shielded lights whenever possible

The Maui Division of Forestry and Wildlife, State Department of Land and Natural Resources (DOFAW) office will also be contacted as part of the final project design.

The proposed project is not expected to have any significant impact on the biological communities of the study site, due to the past severe disturbance to the vegetation, and the consequent *almost complete absence of native* vertebrates. The site, as it is today, does not offer any suitable habitat for most native species, nor will it after the proposed modifications are completed.

2.6 WETLANDS

Wetlands are defined as those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances, does or would support a prevalence of vegetative or aquatic life which requires saturated or seasonally saturated soil conditions for growth and reproduction (Executive Order 11990, Protection of Wetlands). Previously, this area was a pineapple field before it was developed to be used as an airfield. There are no wetlands in the area of the proposed project.

Impacts and Mitigation Measures

Not applicable.

2.7 FLOODPLAINS

Floodplains are defined in Executive Order 11988, Flood Management, as "low land and relatively flat area adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." i.e., the area that would be inundated by a 100-year flood. There are no Federal Emergency Management Act Flood Insurance Rate Maps for the island of Lanai.

Lanai Airport is situated on a flat ridge such that storm water generally drains away from the Airport. This topography minimizes that flood hazard potential from off-site storm water flows. The natural terrain of the surrounding area generally slopes away from the Airport in the westerly direction towards Kalamaiki Gulch or to the southwest towards Miki Basin.

The existing airfield drainage system consists of pipe culverts that cross the runway and longitudinal swales constructed along the edges of the grassed

shoulders. Storm water from the terminal area drains by surface flow to the pipe culverts within the airfield. The majority of the runoff from the Airport flows into Miki Basin.

A network of drainage ditches has been constructed by the Dole Company within the central plateau to divert storm waters away from Palawai and Miki Basins. Some of these ditches are located near the threshold of Runway 21.

Impacts and Mitigation Measures

The existing drainage ditches to the northeast of Runway 21 have a drainage area of approximately 700 acres that is tributary to Miki Basin. The construction of the runway extension will obliterate some of these ditches. This will cause storm water from the upper reaches to flow into the lower basin and aggravate the flooding and ponding conditions in the low-lying areas.

The existing drainage ditches that are affected by the construction of the new runway extension will be reconstructed.

A detailed final drainage report and site specific erosion control plans shall be submitted with the construction plans for review and approval prior to issuance of a grading permit. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules for Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The site-specific erosion control plan shall show the location and details of structural and non-structural Best Management measures.

2.8 NOISE

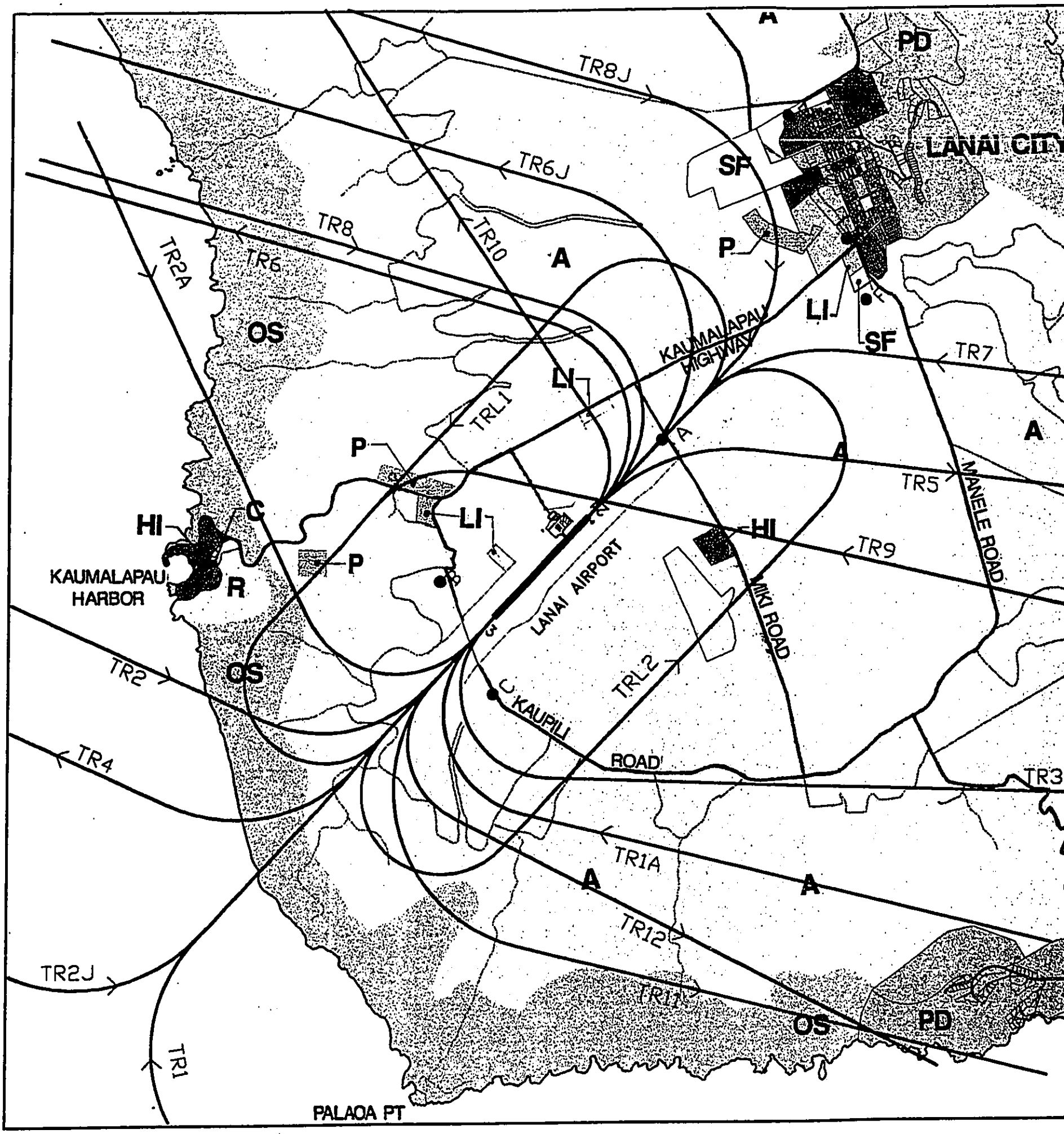
As stated in Section 1, as part of the Lanai Airport Master Plan Update, a FAR Part 150 Noise Compatibility Program study was prepared for the Hawaii State Department of Transportation. Background information concerning the FAR Part 150 Program and the purpose of the study are contained in Appendix E.

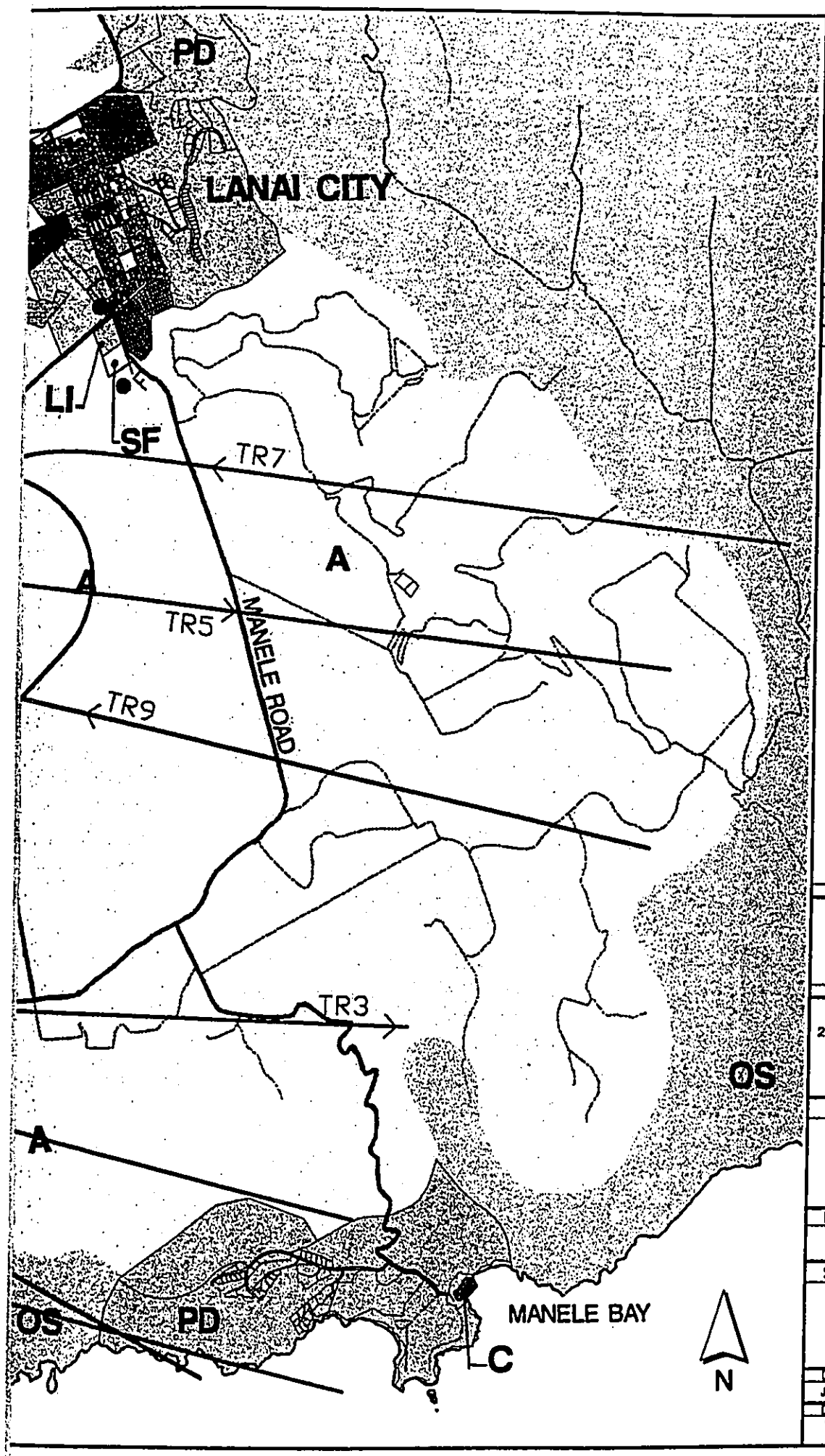
2.8.1 AIRWAYS AND GENERAL AIR TRAFFIC PATTERNS

Lanai Airport is located in the southwestern quarter of the island of Lanai, with air traffic routes generally contained within flight corridors northwest of Lanai which lead to the islands of Oahu and Molokai, and with flight corridors east of Lanai which lead to the islands of Maui and Hawaii (see Figure 2-3 and Table 2-2). Additional information on Lanai Airport, which was extracted from the Hawaii Airports and Flying Safety Manual, are shown in Figure 2-4. The primary flight corridors to and from Lanai Airport, generally used by interisland flights are,

TABLE 2-2
DESCRIPTION OF FIXED WING FLIGHT TRACKS

DEPARTURES	
TRACK NAME	**TRACK DESCRIPTION**
TR3	Rwy 21 itinerant departure track for light propeller aircraft to points east.
TR4	Rwy 21 itinerant departure track for all aircraft to points west.
TR5	Rwy 3 itinerant departure track for all aircraft to points east.
TR6	Rwy 3 itinerant departure track for all light propeller aircraft to points west.
TR6J	Rwy 3 itinerant departure track for large propeller and jet aircraft to points west.
TR10	Rwy 3 itinerant departure track for aircraft to points northwest.
TR11	Rwy 21 itinerant departure track for large propeller and jet aircraft to points east.
TR12	Rwy 21 itinerant departure to track for light propeller aircraft to points east.
ARRIVALS	
TRACK NAME	**TRACK DESCRIPTION**
TR1	Rwy 3 itinerant approach track for large propeller and jet aircraft from the east.
TR1A	Rwy 3 itinerant approach track for light propeller aircraft from the east.
TR2	Rwy 3 itinerant approach track for light propeller aircraft from the west.
TR2J	Rwy 3 itinerant approach track for large propeller and jet aircraft from the west.
TR7	Rwy 21 itinerant approach track for jet and propeller aircraft from the east.
TR8	Rwy 21 itinerant approach track for light propeller aircraft from the west.
TR8J	Rwy 21 itinerant approach track for large propeller and jet aircraft.
TR9	Rwy 3 itinerant approach track for light propeller aircraft from the east.
TRAINING	
TRACK NAME	**TRACK DESCRIPTION**
TRL1	Rwy 3 local track for light propeller aircraft.
TRL2	Rwy 21 local track for light propeller aircraft.


TR8J
TR6J
TR8
TR10
TR2A
TR6
TR2
TR4
TR2J
TR1
TRL1
TRL2
TR1A
TR12
TR11
TR9
TR7
TR5
TR3
A
PD
SF
P
LI
OS
HI
C
R
KAUMALAPAU HIGHWAY
KAUMALAPAU HARBOR
LANAI AIRPORT
MANELE ROAD
KAUPILI ROAD
LANAI CITY
PALAOA PT



Airports Division

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KEY PLAN / NOTES :

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LEGEND:

C	CONSERVATION
A	AGRICULTURAL
SF	SINGLE FAMILY
R	RURAL
OS	OPEN SPACE
PD	PROJECT DISTRICT
HI	HEAVY INDUSTRIAL
LI	LIGHT INDUSTRIAL
P	PUBLIC/QUASI PUBLIC
AP	AIRPORT

PREPARED BY:

SCALE:

GRAPHIC SCALE IN FEET
2000 0 2000 4000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN UPDATE
FAR PART 150 NOISE
COMPATIBILITY PROGRAM

PROJECT NO.:

AM4011-02

SHEET TITLE :

BASE YEAR (1999)
AIRCRAFT FLIGHT TRACKS,
LANAI AIRPORT

DATE :
JUNE 1999

DWG. NO. :
2-8a

FIGURE
2-3

LANAI AIRPORT (LNY), Lanai City, Lanai

Attendant ..... Telephone Lanai 565-6757
Latitude ..... 20 47.1 N
Longitude ..... 156 57.1 W
From City ..... 4 miles SW of Lanai City
Airport Area ..... 92 Acres

Airfield:
Elevation ..... 1,308' MSL
Runway ..... 3-21 (Width 150'; Length 5,000' Paved)
Lights ..... Obstruction, wind cone, runway, beacon, VASI Rwy 3

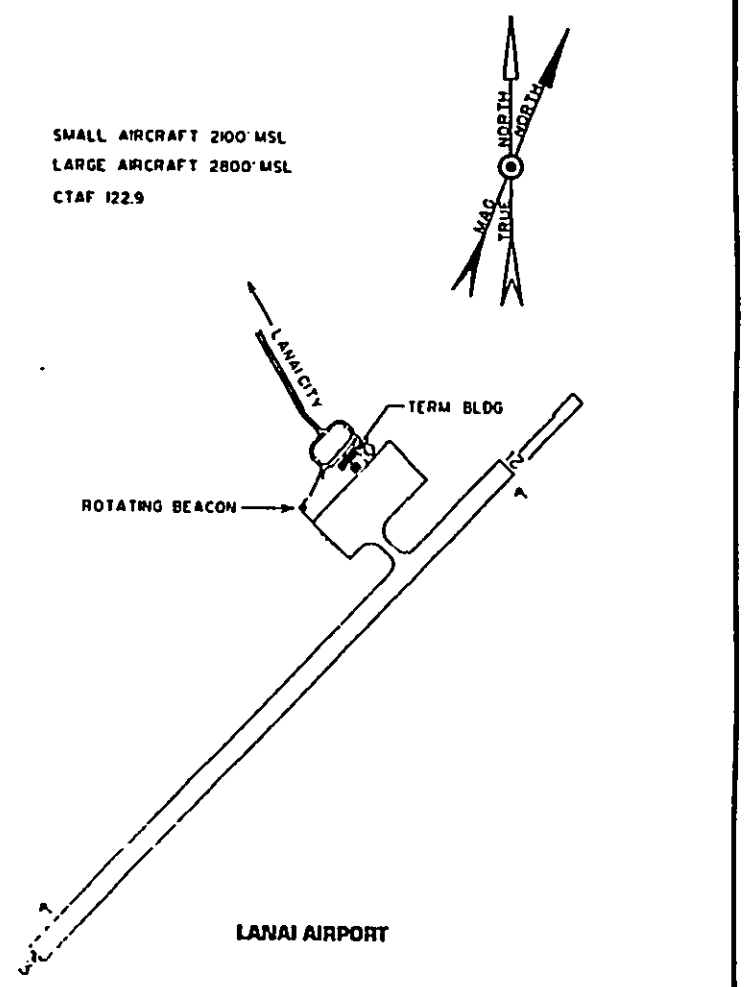
Communications and Navigational Aids:
Control Tower ..... None
Frequencies ..... CTAF: 122.9
HNL DEP/ARR CON 119.3
Navaids ..... VORTAC 117.7 LNY Chan 124
1.6 nm from field
NDB: LLD 353 on field

Airspace: Class E service Sun., Thur., Fri 1600-2000L, Mon. 0600-1200L other times Class G

Traffic Pattern Altitude:
Small Aircraft 2,100' MSL.
Large Aircraft 2,800' MSL.

Remarks:
Services ..... None
Meals & Transportation ..... None
Crash/Fire ..... FAR 139 index A 0600 to last scheduled flight plus 15 minutes
Left traffic only. Announce taxi intentions prior to taxiing onto the active runway.
PPR for parking over 1 hr. Small aircraft park on NE side of ramp.
Call Maui Airports District Manager at 872-3830 or Airport Operations Control at 872-3875 (24 hours) for PPR.
Maximum Authorized Landing Weight: S-45, D-70, DT-110.

Source: Hawaii Airports and Flying Safety Manual
1997-1998 (20th Edition)
State of Hawaii, Department of Transportation
Airports Division



HAWAII AIRPORTS AND FLYING SAFETY MANUAL
DATA FOR LANAI AIRPORT

FIGURE
2-4

either over water, or over cultivated and vacant lands. Therefore, these flight corridors are not considered to be noise sensitive. Interisland traffic between Lanai, and points east of Lanai, generally remain south of the Puu Lanaihale peak (3,370 feet), which is located on the eastern side of the island.

All scheduled interisland flights to/from Lanai Airport originate or terminate at state airports to the east or west. These flights consist primarily of DeHavilland Twin Otter Dash 6, DHC Dash 8, and DC-9(50) aircraft. Occasional interisland charter flights by B-737(200) were also flown in and out of Lanai Airport.

Estimates of the Base Year runway use frequencies were made based on meteorological conditions, observations during noise monitoring periods, and discussions with users of Lanai Airport. The results of this analysis are summarized in Table 2-3, and indicate that the runway use frequencies at Lanai Airport were probably as follows:

- Runway 3 is used for landings approximately 88.3% of the time. Runway 3 is used in lieu of Runway 21 approximately 5.4% of the time during calm wind conditions. Runway 3 is used in lieu of Runway 21 approximately 5.0% of the time during moderate to strong cross winds. Runway 21 is used for landings approximately 11.7% of the time due to kona winds.

- Runway 3 is used for departures by light propeller aircraft 59.9% of the time during light, moderate, and strong trade winds. Runway 21 is used for departures by these light aircraft approximately 40.1% of the time during calm, kona winds and cross winds.

- Runway 3 is used for departures by jet and propeller aircraft 70.4% of the time, and Runway 21 is used approximately 29.6% of the time for departures by these aircraft.

2.8.2 APPROACH/DEPARTURE FLIGHT TRACKS AND PROCEDURES

A description of ground tracks of aircraft departing, arriving, and training at Lanai Airport was required for airport noise contour modeling under the FAR Part 150 Program. Visual observations were used to describe the center of the primary departure and arrival corridors. Ground tracks were then grouped by aircraft type, arrival, departure, training, and by traffic pattern (or directional flow). Where the spatial dispersion of the tracks was too large, multiple corridors were developed. The frequency of flight corridor usage by various aircraft type categories was also tabulated from visual observations. Following initial formulation of the ground tracks, discussions were held with airport users to validate the ground track assumptions.

TABLE 2-3
SUMMARY OF WIND AND TRAFFIC PATTERN CONDITIONS AT LANAI AIRPORT

ANNUALIZED, DAYTIME PERCENTAGES FOR WINDS ALIGNED TO RWY 3-21				
DIRECTION	≤ 4 MPH	4 TO 7 MPH	7 TO 15 MPH	> 15 MPH
Trade	—	20.2%	16.7%	31.0%
Kona	—	21.7		
Calms	5.4%	—	—	—
Crosswinds	—	—	5.0%	

ANNUALIZED, RUNWAY USE FREQUENCY FOR RWY 3-21				
WINDS	TAKEOFFS		LANDINGS	
	RWY 3	RWY 21	RWY 3	RWY 21
Calms	2.7%	2.7%	5.4%	0.0%
Light Trades	10.1%	10.1%	20.2%	0.0%
Mod. Trades	16.7%	0.0%	16.7%	0.0%
Brisk Trades	31.0%	0.0%	31.0%	0.0%
Light Kona	0.0%	10.0%	10.0%	0.0%
Strong Kona	0.0%	11.7%	0.0%	11.7%
Crosswinds	2.5%	2.5%	5.0%	0.0%
Totals	*63.0%*	*37.0%*	*88.3%*	*11.7%*

Sources: (1) Weather Bureau, 1957 to 1961, Lanai Airport Wind Rose
(2) January to December, 1965 Wind Rose on Airport Layout Plan, Lanai Airport

The departure, approach, and training (or local) flight tracks used to depict the Base Year conditions at Lanai Airport are shown in Figure 2-3. Table 2-2 provides a description of the ground tracks and of the aircraft utilizing those tracks. Only two local tracks (with left-hand traffic pattern) were used to depict the areas over flown by the aircraft conducting training operations. The right-hand local traffic pattern was omitted due to the small influence of the noise from these local tracks on the Lanai Airport Noise Exposure Maps.

2.8.3 LATE NIGHT AIRCRAFT OPERATIONS

The hours of operation at Lanai Airport are from 6:00 AM to 7:30 PM, seven days a week. There are currently no jet aircraft operations at night. The Noise Compatibility Study also determined that a nighttime curfew for aircraft operations was unnecessary presently and into the foreseeable future as there is no incompatible land uses.

2.8.4 EXISTING NOISE ABATEMENT PROCEDURES

Existing noise abatement procedures at Lanai Airport are not formalized, but attempt to avoid the populated community of Lanai City. Winds and traffic conditions permitting, Runway 3 is the preferred runway for arrivals due to the uphill slope of the runway and the shorter taxi-in distances to the terminal. Runway 21 is the preferred runway for departures by aircraft heading west due to the shorter taxi-out distance and shorter flight distances to points west from Runway 21. This runway use practiced by the airport users maximizes the aircraft traffic over the ocean west of the airport, and tends to minimize the amount of aircraft traffic northeast of the airport toward the populated community of Lanai City.

Aircraft departing on Runway 3 or landing on Runway 21 fly over vacant lands between Lanai City and the airport. For this reason, Lanai City does not experience frequent overflights by aircraft operating at Lanai Airport. Upon departure from Runway 3, the noise abatement procedure is to climb and initiate turns towards the east or west as soon as practical following liftoff.

2.8.5 DAY/NIGHT WIND CONDITIONS

In evaluating noise-land use compatibility, many agencies, including the FAA and the State of Hawaii Department of Transportation, use noise levels averaged over a period of 24 hours and weighted to account for greater human sensitivity to noise in nighttime hours. The day-night average sound level is the energy average A-weighted acoustical level for a 24 hour-period with a 10-decibel (dB) penalty added to the noise levels for the hours of 10:00 pm to 7:00 am. The day-night level is abbreviated DNL.

Noise sensitive receptors are generally considered to be human activities or land uses that may be subject to the stress of significant interference from noise. Land uses that are associated with sensitive receptors often include residential dwellings, mobile homes, motels, hotels, hospitals, nursing homes, education facilities, and libraries. Noise sensitive receptors may also include wildlife.

There are no sensitive human receptors and/or noise sensitive wildlife species on or adjacent to the Airport, nor are there any sensitive noise receptors within one-

quarter mile. Within one mile of the Lanai Airport, the land uses are all agricultural.

In conjunction with the FAA Part 150 projects, the State DOT, Airports Division (as the implementing agency) has determined that a single noise level of 60 DNL should be uniformly applied in all land use compatibility determinations related to residential, apartment, resort, educational, public use, and other noise sensitive land uses throughout the state. Proposed land uses should be discouraged when it can be accurately and/or reasonably demonstrated that aircraft noise levels do, or can be expected to, exceed 60 DNL. The recently adopted Lanai Community Plan includes a recommendation, which is consistent with the FAR Part 150 Plan for Lanai Airport. The Airports Division should not oppose proposed land use changes where it can be accurately or reasonably demonstrated that aircraft noise levels do not, and will not, exceed 60 DNL in the foreseeable future. A planning level of 60 DNL is believed to be a reasonable compromise between that used by federal agencies and that required to insure the health and welfare of the public.

The recommended 60 DNL local planning level represents a compromise at a level which is midway between the lower welfare/health level of 55 DNL, and the higher federal regulatory (cost/benefit) level of 65 DNL. It also represents a way of sharing the future liability in respect to future aircraft noise impacts among all those parties who had, or should have had, constructive knowledge of the health and welfare effects of the noise levels around the state's airports.

The Hawaii State Department of Transportation land use compatibility standards are contained in Appendix E.

The dominant noise source in the area of the airport is aircraft operations. Aircraft noise levels are characterized by measured or calculated noise level contours. In 1999, as part of the Lanai Airport Master Plan Update, noise level contours were forecast for the base year 1999 and the years 2004 and 2020. These noise level contours were created based on a forecast aircraft operation mix that included DC-9(50), B-737(200), DHC-8, and DHC-6 aircraft, with the DC-9(50) and B-737(200) jet aircraft being the most significant contributors to the Noise Exposure Map.

The base year Noise Exposure Map for Lanai Airport does not enclose any existing or potential noise sensitive land uses, and is fully compatible with the FAR land use compatibility standards contained in Appendix E. No residences are contained within the 60 through 75 DNL contours.

The 5-Year Noise Exposure Map for Lanai Airport does not enclose any existing or potential noise sensitive land uses, and is fully compatible with the FAR Part 150 land use compatibility standards.

Future land use compatibility through the year 2004 was also examined using the more stringent planning levels (60 DNL) recommended for Lanai Airport. These planning levels are identical to those used by the State of Hawaii Department of Transportation. Although these planning levels are approximately 5 DNL lower than those contained in FAR Part 150 standards, the existing and potential land uses are also anticipated to be compatible with the more stringent DOT planning levels in CY 2004.

The contours are shown in figures 2-5, 2-6, and 2-7. A comparison of the noise forecasts for the year 2004 with the base year noise levels shows only a slight expansion of the airport noise exposure map over a five-year period.

The noise contours for the year 2020 are based on a 7,000-foot runway. All land uses within the 65-dBA DNL contour are, and will continue to be, airport related. The agricultural land use outside the 65-dBA DNL contour is compatible with the airport use without restrictions by both the FAA and the State of Hawaii. Furthermore, the land use is also compatible with the more stringent 60 DNL planning levels.

Impacts and Mitigation Measures

Impacts associated with the increased single event noise levels at Lanai City may occur as a result of the proposed runway extension from 5,000 feet to 7,000 feet. With the completion of the proposed runway extension, larger jet aircraft arriving on Runway 21 may over fly portions of Lanai City. Increases of aircraft noise levels are predicted to occur during landings on Runway 21, and may be in the order of 8 to 9 dB above current noise levels. In addition, with the runway extended by 2,000 feet to the northeast, there may be a greater tendency of aircraft to overfly existing residences at Kaumalapau Harbor following departures from Runway 21.

Tables 2-4 and 2-5 present forecast aircraft noise levels for 2004 and 2020. The 2004 contours depict conditions with an extended straight departure track from Runway 21 to avoid overflights of Kaumalapau Harbor. The 2020 contours depict conditions with the 2,000 feet runway extension as well as an extended straight departure track from Runway 21. From these 1999 noise contours, as well as the 2004 and 2020 contours, it can be concluded that the proposed runway extension should not cause any land use incompatibilities between 1999 and 2020.

It should be noted that the noise exposure levels were created based on an aircraft operation mix that included the utilization of the DC-9(50) by Hawaiian Airlines. Hawaiian Airlines has since made plans to replace the DC-9(50) with the B-717. If Aloha Airlines continues to fly the B-737(200) to Lanai, the impact of Hawaiian's use of the B-717 to the forecast noise levels will be 2-3 DNL lower than those presented here. Should Aloha Airlines discontinue B-737(200)

charters to Lanai, the impact of Hawaiian's use of the B-717 to the forecast noise levels will be 10-15 DNL lower than those presented here.

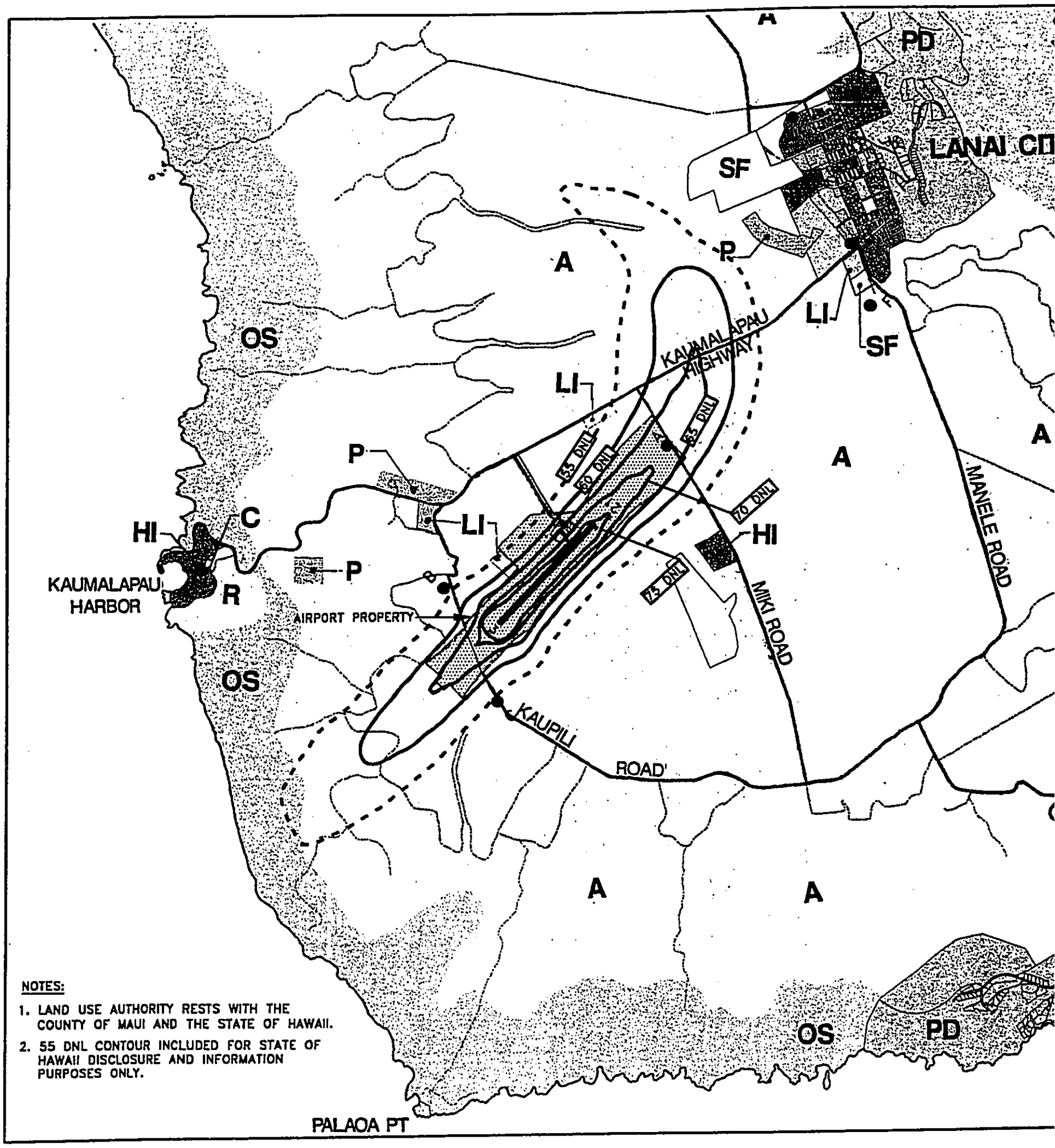
TABLE 2-4
FORECAST YEAR 2004
NOISE LEVELS IN THE VICINITY OF LANAI AIRPORT

MONITORING STATION	INM 5.2 CALCULATED CY 2004 DNL LEVELS	CHANGE FROM BASE YEAR DNL LEVELS
A	69.4	0.9
B	54.5	1.8
C	55.8	1.6
D	43.0	2.1
E	39.1	2.4
F	42.2	1.3
G	39.0	-1.1

TABLE 2-5
FORECAST YEAR 2020
NOISE LEVELS IN THE VICINITY OF LANAI AIRPORT

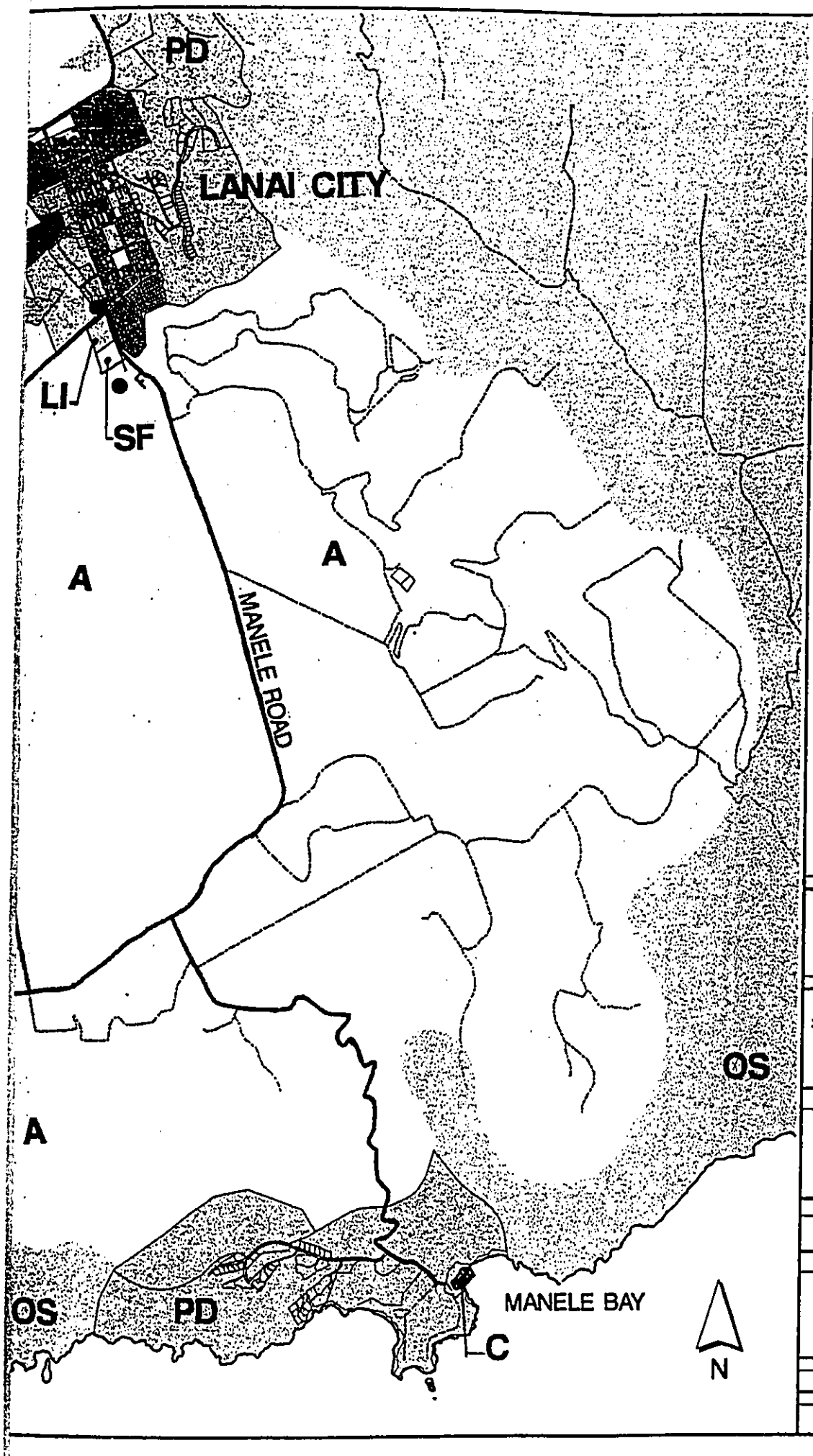
MONITORING STATION	INM 5.2 CALCULATED CY 2020 DNL LEVELS	CHANGE FROM BASE YEAR DNL LEVELS
A	72.5	4.0
B	57.4	4.7
C	58.7	4.5
D	46.0	5.1
E	42.2	5.5
F	45.0	4.1
G	40.8	0.7

The recommended noise mitigation measures for minimizing single event noise impacts from the proposed runway extension are:



NOTES:

1. LAND USE AUTHORITY RESTS WITH THE COUNTY OF MAUI AND THE STATE OF HAWAII.
2. 55 DNL CONTOUR INCLUDED FOR STATE OF HAWAII DISCLOSURE AND INFORMATION PURPOSES ONLY.



Airports Division

DSGN.	DRWN.	CHK'D.	APPD.

KEY PLAN / NOTES :

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LEGEND:

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OS	OPEN SPACE
PD	PROJECT DISTRICT
HI	HEAVY INDUSTRIAL
LI	LIGHT INDUSTRIAL
P	PUBLIC/QUASI PUBLIC
AP	AIRPORT
	AIRPORT PROPERTY

PREPARED BY:

SCALE:

GRAPHIC SCALE IN FEET
2000 0 2000 4000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN UPDATE
FAR PART 150 NOISE
COMPATIBILITY PROGRAM

PROJECT NO.:
AM4011-02

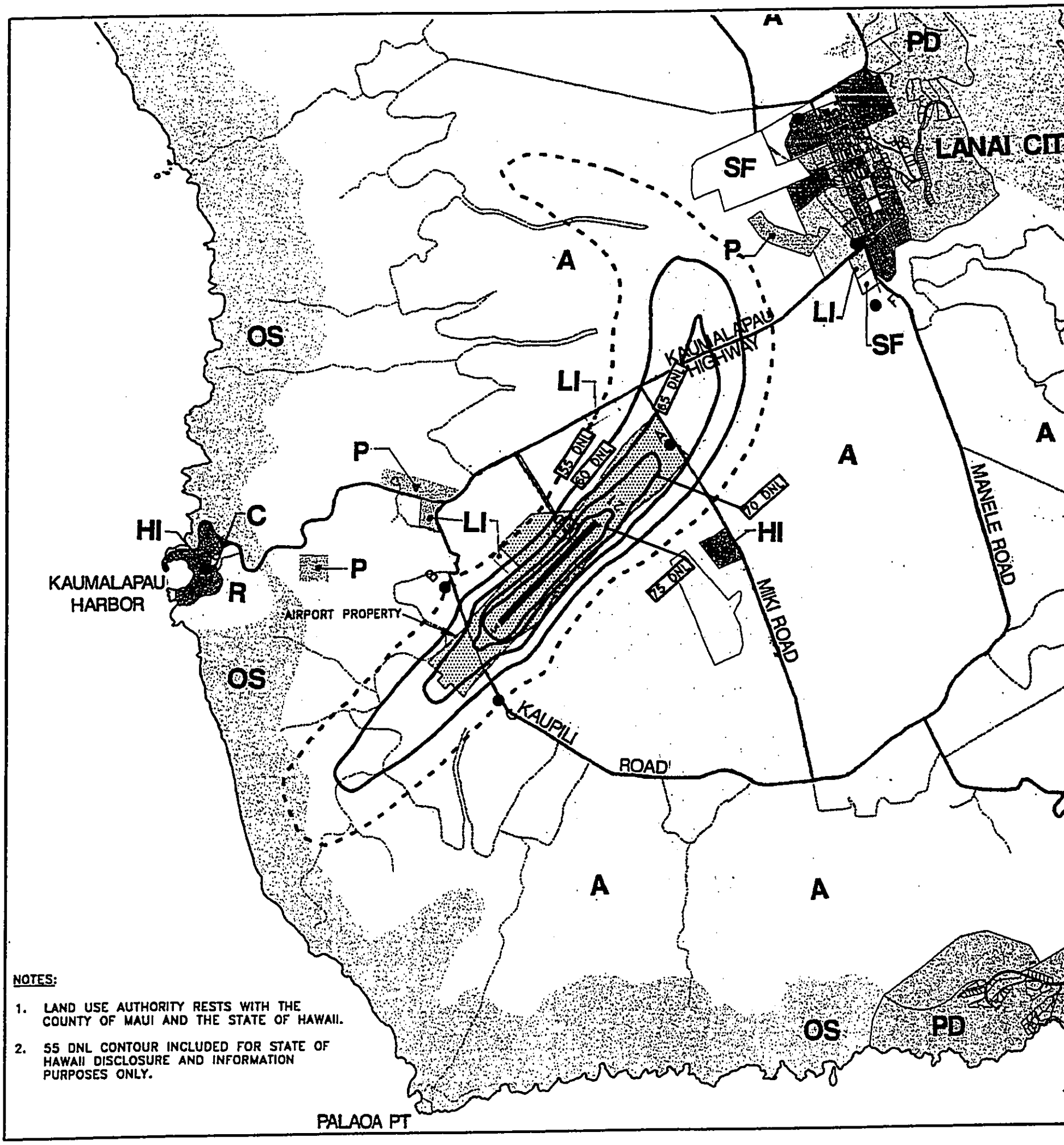
SHEET TITLE :

BASE YEAR (1999)
NOISE EXPOSURE MAP
LANAI AIRPORT

DATE :
JUNE 1999

DWG. NO. :
2-14a

FIGURE
2-5



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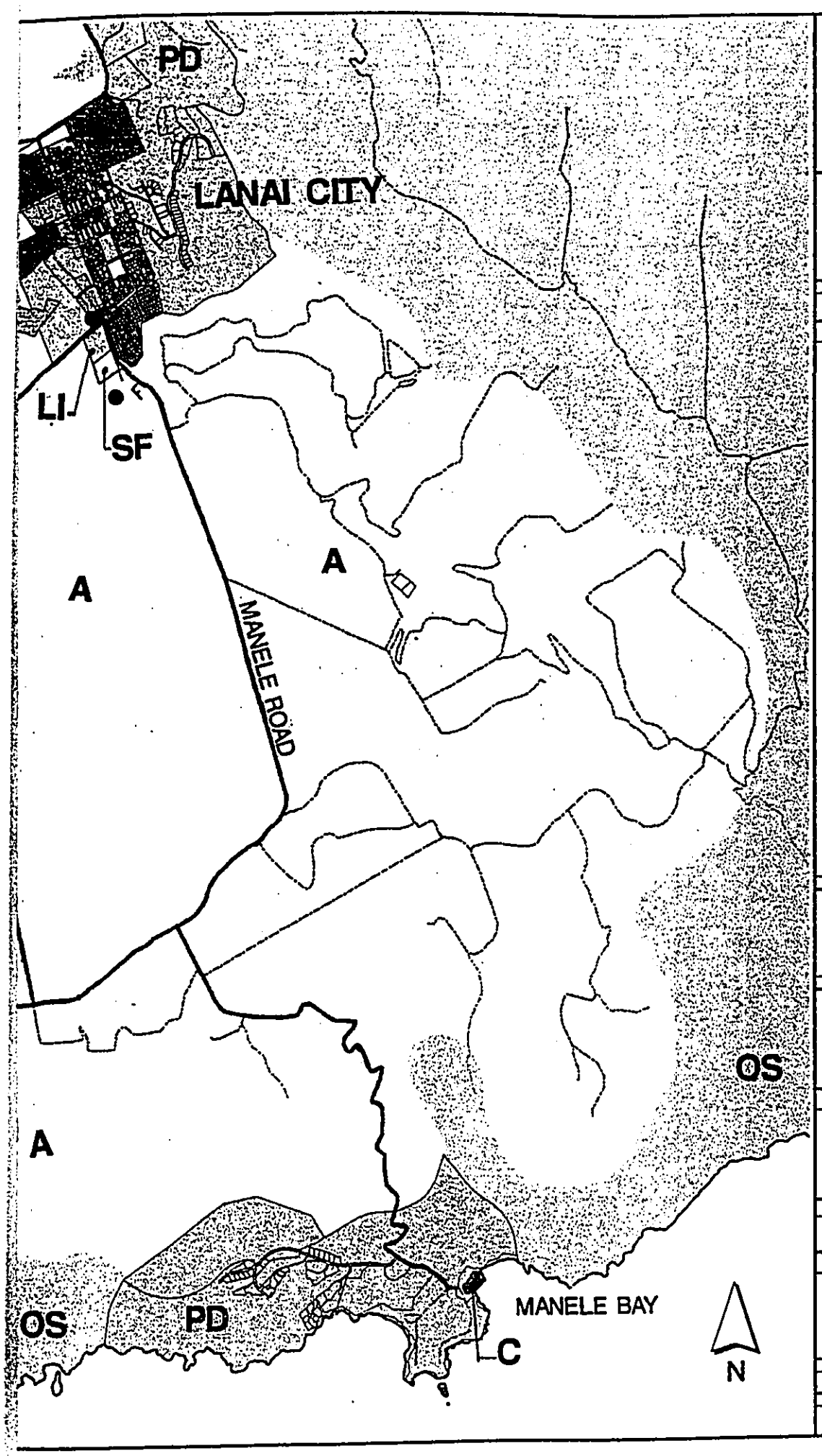

Airports Division

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	AIRPORT PROPERTY

PREPARED BY:

SCALE:

GRAPHIC SCALE IN FEET
2000 0 2000 4000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN UPDATE
FAR PART 150 NOISE
COMPATIBILITY PROGRAM

PROJECT NO.:
AM4011-02

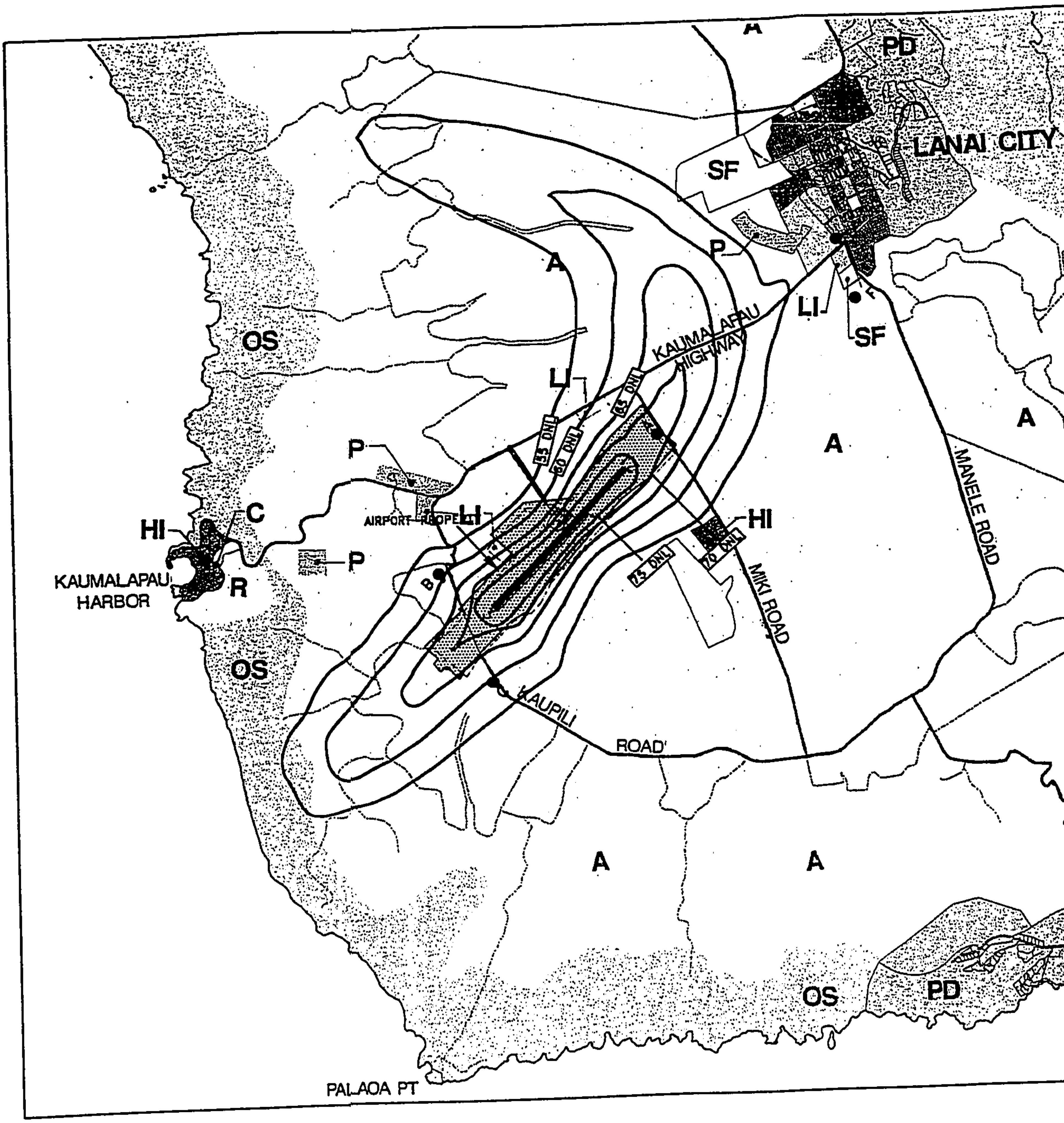
SHEET TITLE :

FIVE YEAR (2004)
NOISE EXPOSURE MAP
LANAI AIRPORT

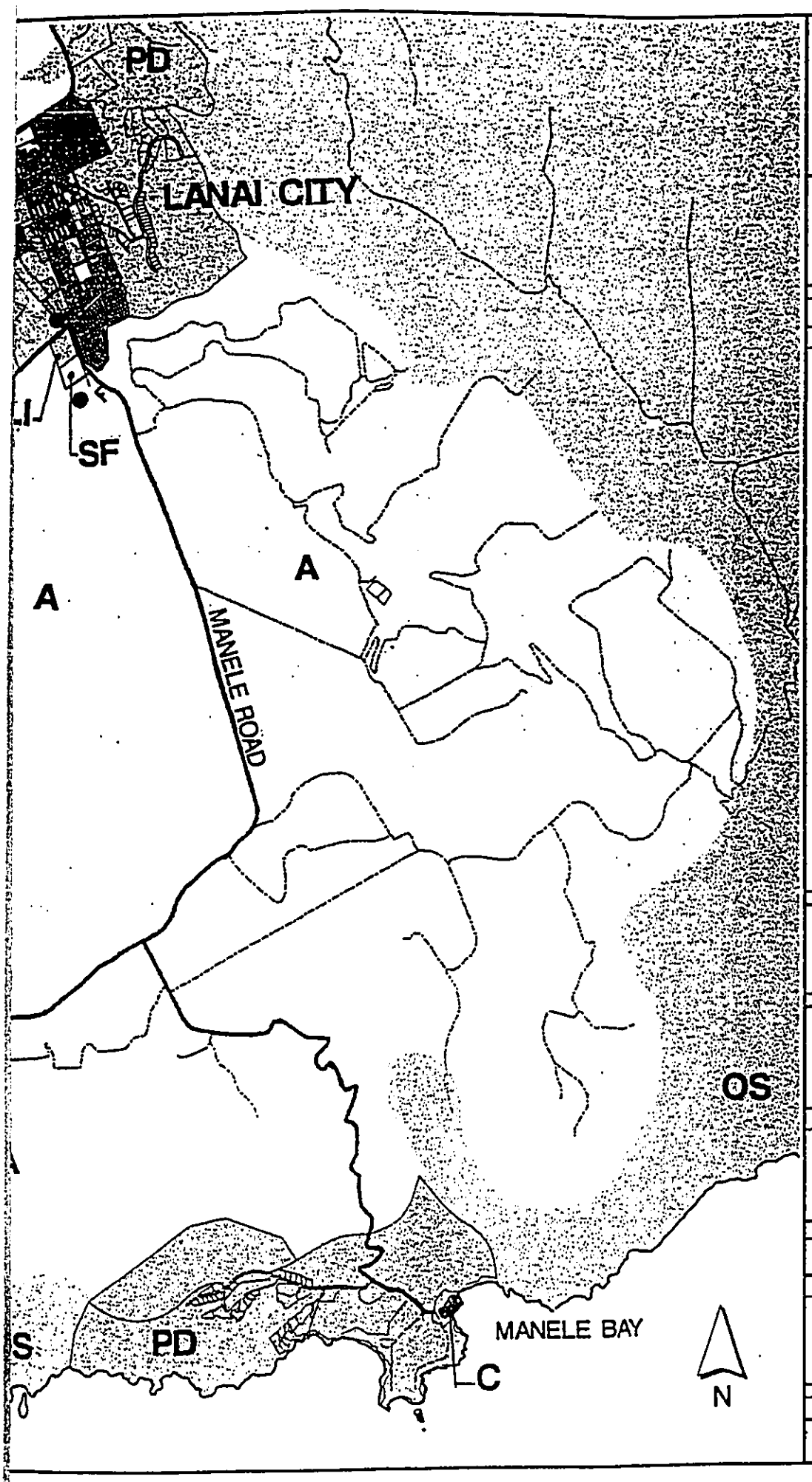
DATE :
JUNE 1999

DWG. NO.:
2-14b

FIGURE
2-6



A
PD
LANAI CITY
SF
P
A
LI
SF
OS
KAUMALAPAU HIGHWAY
LI
55 DNL
60 DNL
65 DNL
A
A
MANELE ROAD
P
AIRPORT PROPERTY
LI
HI
C
HI
KAUMALAPAU HARBOR
R
P
B
75 DNL
70 DNL
MIKI ROAD
OS
KAUPILI ROAD
A
A
OS
PD
PALAOA PT



Airports Division

OSCN. | DRWN. | CHK'D. | APPD.

KEY PLAN / NOTES :

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LI	LIGHT INDUSTRIAL
P	PUBLIC/QUASI PUBLIC
AP	AIRPORT

PREPARED BY:

SCALE:

GRAPHIC SCALE IN FEET
2000 0 2000 4000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN UPDATE
FAR PART 150 NOISE
COMPATIBILITY PROGRAM

PROJECT NO.:

AM4011-02

SHEET TITLE :

CY 2020 NOISE EXPOSURE MAP WITH 2,000 FOOT RUNWAY EXTENSION TO THE NORTH

DATE :
JUNE 1999

2-14c

FIGURE
2-7

- **Publication and Implementation of an Informal Preferential Runway Use Program,** which favors use of Runway 21 for departures and use of Runway 3 for arrivals under calm wind conditions. Following final approval of the FAR Part 150 Program by the FAA, the State DOT should draft the proposed Informal Preferential Use Program at Lanai Airport, and send it to the FAA for its approval. Anticipated date of approval of the Preferential Runway Use Program is CY 2001.

- **Continue Monitoring of Development Proposals in the Lanai Airport Environs, Disclosing Airport Noise Exposure Maps to the Community.** Include provisions for aircraft to utilize flight corridors to and from the airport, which would avoid noise sensitive areas, weather and safety permitting. The State DOT is currently monitoring development proposals in the airport environs. The disclosure of the Lanai Airport noise contours has also been initiated by the State DOT during the current FAR Part 150 Program.

- **Annually Monitor Aircraft Noise Levels and Operations at Lanai Airport, and conduct Public Informational Meetings on the Progress of the Part 150 Program.** The State DOT should initiate this program in CY 2000 following approval of the current Part 150 Program to provide continuity between the Part 150 Program updates.

- **Inclusion of Disclosure Provisions in Land Transfer Documents.** To support the current disclosure provisions within Chapter 508D of the Hawaii Revised Statutes, the overlay of the combined Base Year and 5-Year Noise Exposure Map on the Tax Maps applicable to the Lanai Airport environs have been completed and are included as figure 2-8.

2.9 AIR QUALITY

The dust from clearing and grubbing, excavation and backfill, and exhaust gases from traffic emissions will mainly influence air quality in the proposed project site.

Impacts and Mitigation Measures

Activities associated with the construction of the project shall also comply with the Department of Health's Administrative Rules outlined in section 1-6.

Dust Control

Due to the vicinity of the airfield, dust control is extremely critical in minimizing impacts to the airport operations and safety. During construction, dust from clearing and grubbing, excavation and backfill activities are expected and will be monitored by the Construction Manager. The Contractor is required to provide necessary dust control as specified on the plans and specifications. Dust controls at the site include frequent watering of exposed dirt surface and immediate paving or landscaping of completed areas of construction. Open body

trucks will be covered at all times while transporting materials that may generate fugitive dust. All measures taken shall comply with State of Hawaii, Department of Health Administrative Rules, Title 11, Chapters 59 and 60 and all-applicable county ordinances relating to excavation and stockpiling procedures. Strict adherence to approved erosion and dust control plans is expected to minimize any negative impacts.

Traffic Emissions

During construction, air quality is expected to be degraded by exhaust gas from the construction equipment and automobiles. However, the impacts are expected to be insignificant since the construction period is short and the amount of emission from the automobiles and equipment are negligible compared with those from the airplanes. Proper maintenance of construction equipment and automobiles will help to reduce exhaust emissions.

2.10 TRAFFIC

The Lanai Airport is located approximately three miles southwest of Lanai City. Access to the Airport is via Kaumalapau Highway (State Highway 440), a two (2)-lane highway and the airport access road, also a two (2)-lane road.

Based on traffic counts taken by the State of Hawaii Highways in 1993, the average daily traffic (ADT) in both directions on the airport access road was 600 vehicles. The ADT for Kaumalapau Highway was 952 vehicles for the section of the highway that runs from the airport access road to Manele Road, and 362 vehicles for the section of the highway from the airport access road to Kaumalapau Harbor. The traffic counts at the intersection of Kaumalapau Highway and the airport access road were from the east – 465 vehicles inbound to the intersection and 421 vehicles outbound to the intersection.

Traffic counts were taken again in 1999; the average daily traffic (ADT) in both directions on the airport access road was 614 vehicles. The traffic counts at the intersection of Kaumalapau Highway and the airport access road were from the east – 452 vehicles inbound to the intersection and 437 vehicles outbound to the intersection. Traffic levels are fairly low and there are no traffic problems in the area. See figure 2-9.

Impacts and Mitigation Measures

There are currently no traffic problems associated with the airport. The proposed improvements are not expected to affect the vehicle transportation network in the area and the proposed action would not create any long-term traffic. Some short-term construction traffic would occur. However, based on the relatively low ADT on the roads leading to the airport, the short-term nature of the proposed construction activities, and the amount of construction traffic that would be

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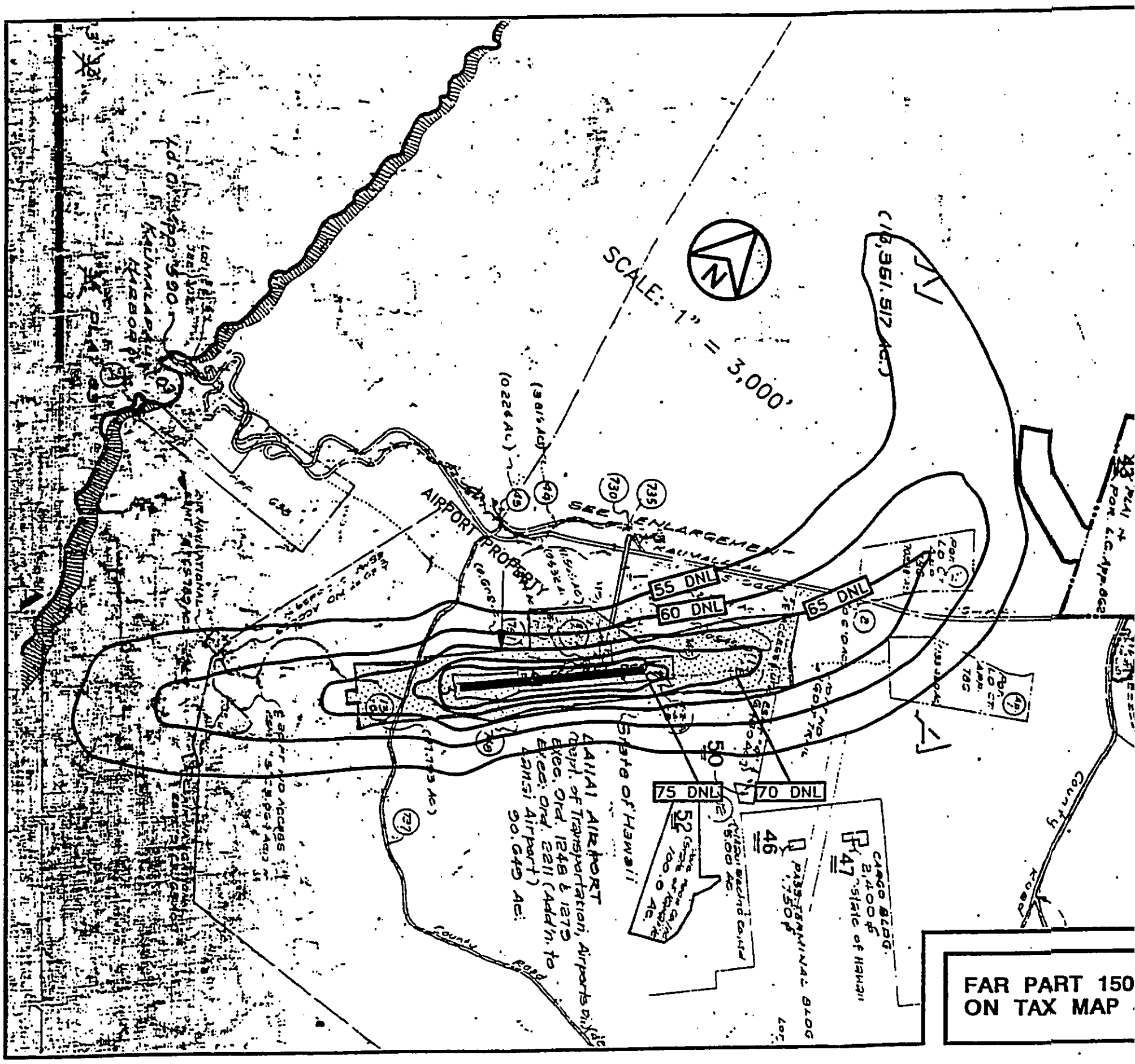
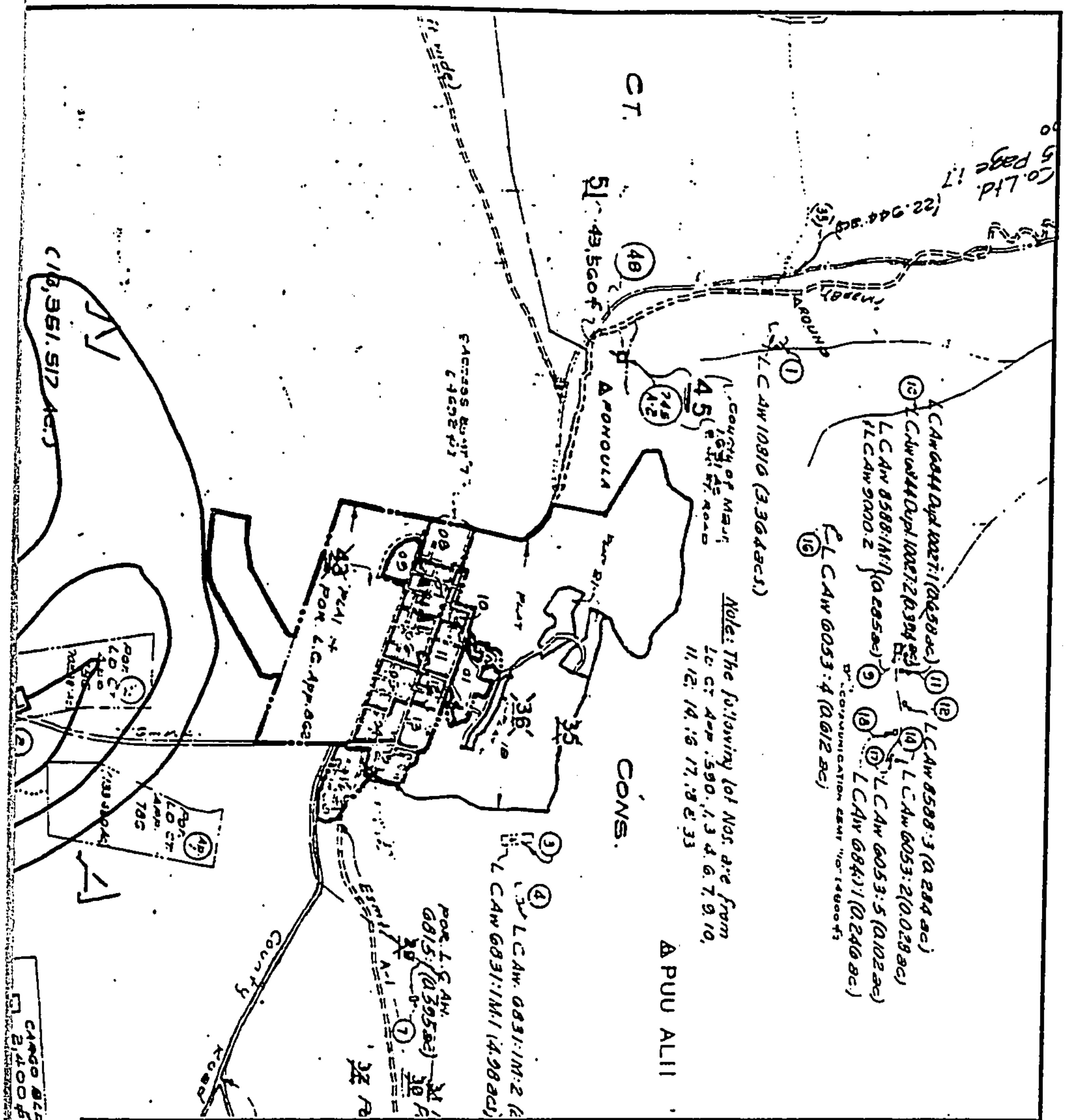
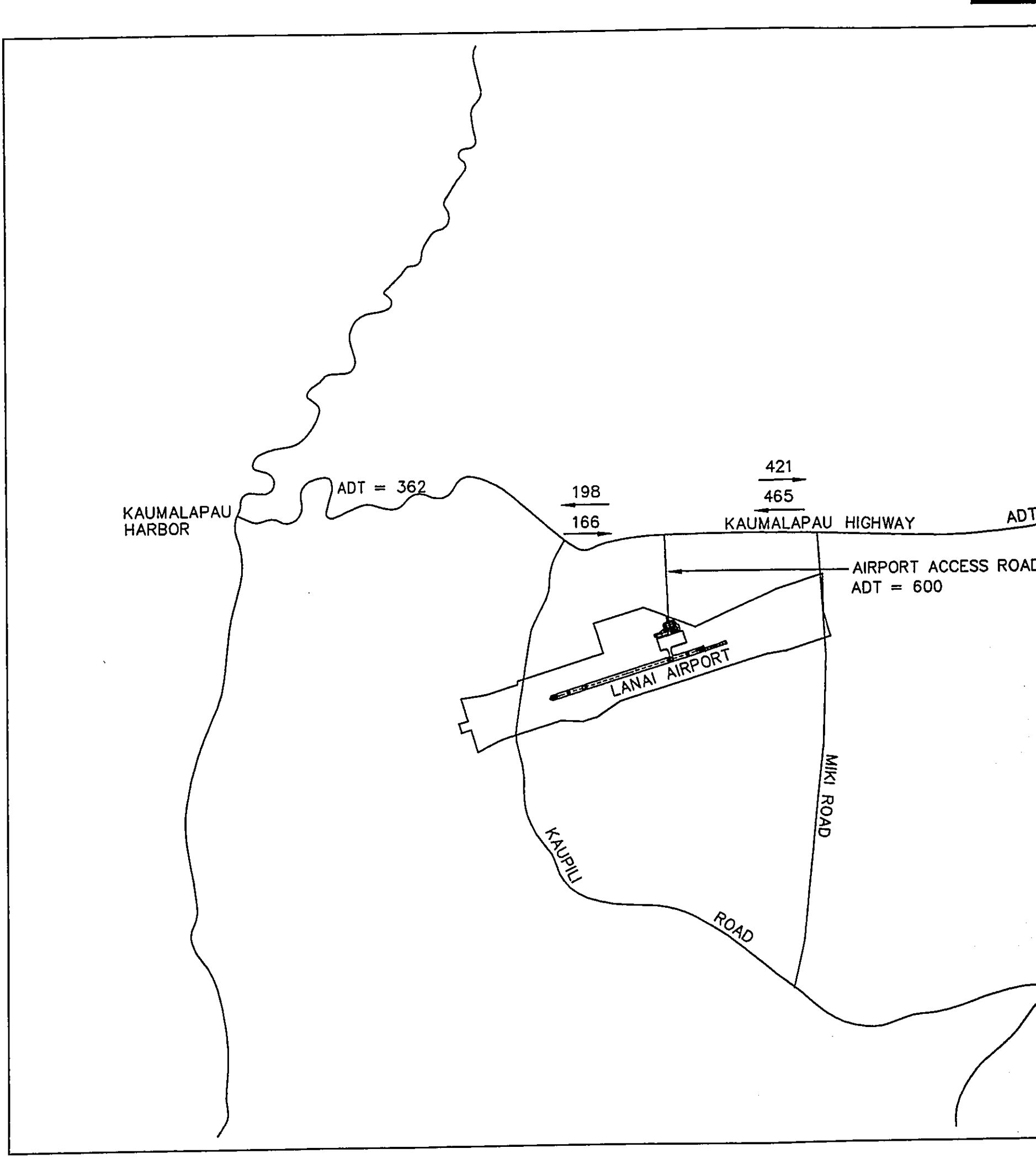


DOCUMENT CAPTURED AS RECEIVED



FAR PART 150 NOISE EXPOSURE MAP LOCATED ON TAX MAP 4–9–02, ISLAND OF LANAI

FIGURE 2-8


KAUMALAPAU
HARBOR
ADT = 362
198
166
421
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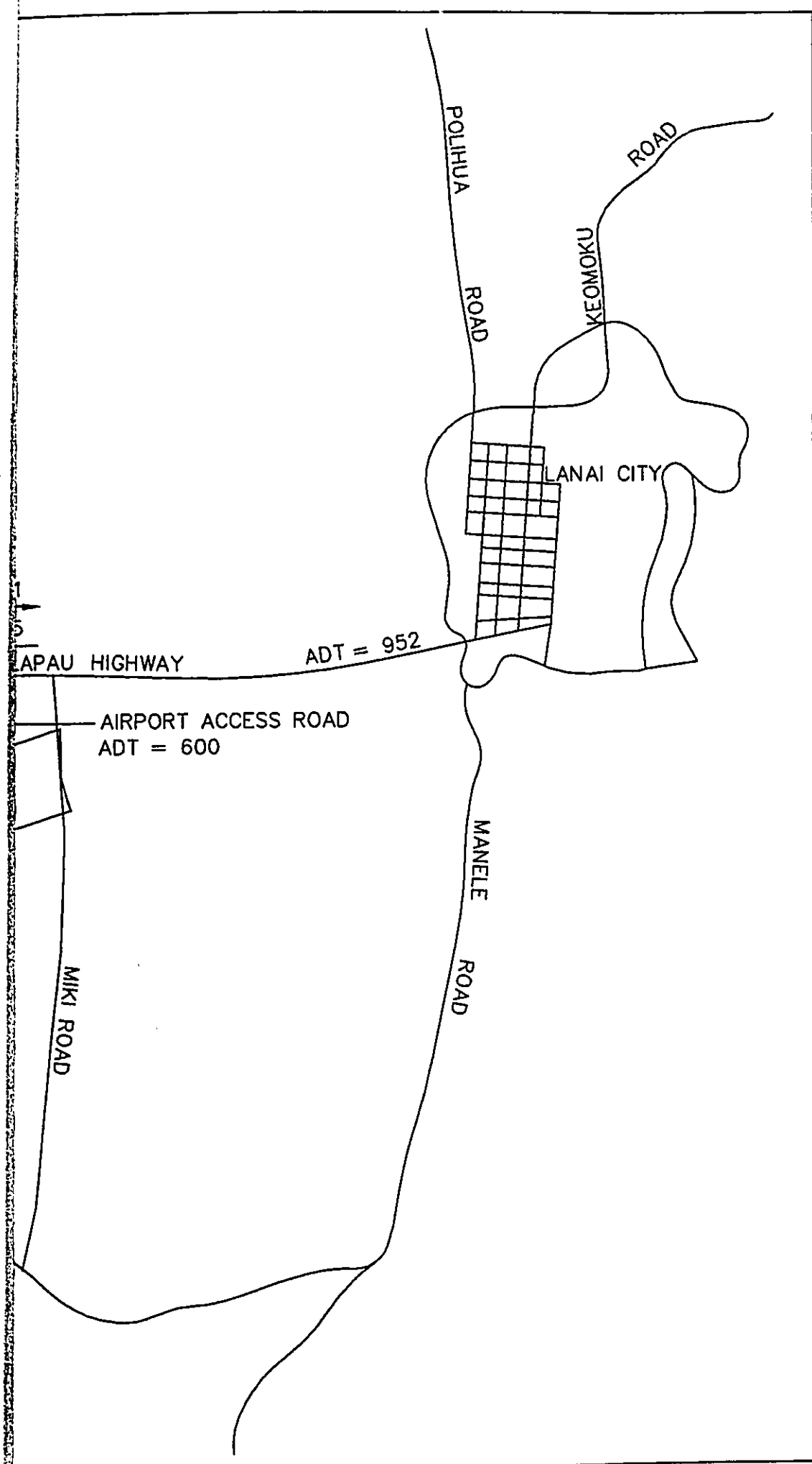
ADT
AIRPORT ACCESS ROAD
ADT = 600
LANAI AIRPORT
MIKI ROAD
KAUPILI
ROAD



Airports Division

DSGN.	DRWN.	CHK'D.	APP'D.

KEY PLAN / NOTES :

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PREPARED BY:

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

SCALE:

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

TRAFFIC
PLAN

DATE :
JUNE 1999
DWG. NO. :
2-16b

FIGURE
2-9

generated, traffic impacts would remain below a level of significance. Correspondingly, no mitigation measures would be necessary.

2.11 FARMLANDS

The areas of the proposed action are on Airport property, but were historically used for pineapple farming. The Lanai Company, owners and operators of the pineapple production properties, terminated pineapple-farming operations on Lanai in the early 1990's. The areas where the proposed improvements will occur, and the lands surrounding the Airport, are currently uncultivated and unirrigated.

Impacts and Mitigation Measures

The proposed improvements to the Lanai Airport, including the extension of the runway, would not remove acreage from active agricultural uses but would preclude future agricultural uses of these lands. The acreage affected would not be substantial compared to the overall Island's pineapple producing acreage. Large acreage of currently uncultivated fields could be recultivated to replace the lands lost from agricultural use by the proposed action. However, it should be noted that the Lanai Company has terminated large-scale production of pineapple on Lanai and is diversifying the economy toward tourism, commercial, and industrial uses. The overall loss of farmlands would be minimal and is not considered significant.

2.12 HISTORIC AND ARCHEOLOGICAL RESOURCES

The State Historic Preservation Officer, Department of Land and Natural Resources (DLNR), has indicated that there are no known historic sites in the project area.

An initial finding of "no effect" was given to the proposed project primarily upon the many years of agricultural cultivation of the project area. Past pineapple production, as well as development for the Lanai Airport, have contributed to significant disturbance of the site.

Notwithstanding this determination by the DLNR, the State engaged Applied Research Group of the Bishop Museum to study/assess the potential existence of historic and cultural resources within the project area. The Museum found four objects believed to have potential archaeological significance. As a result of these findings, a second study was performed by Cultural Surveys, Hawaii.

The research by Cultural Surveys Hawaii indicates that the project site was utilized during traditional times for agriculture and probably associated habitation. Subsequent commercial pineapple cultivation has homogenized the landscape to

such a degree that it is doubtful any subsurface cultural features still exist within the project area. No further archaeological work is deemed necessary.

Impacts and Mitigation Measures

Grading and/or development for improvements to Lanai Airport has the potential to affect Historic and Cultural Resources which may be of significance should any subsurface cultural feature still exist.

In the unlikely event a subsurface feature is unearthed during construction activities, "on-call" monitoring by a qualified archaeologist is recommended. This should include a contractual agreement to be "on-call", as well as analysis of any recovered materials. Furthermore, the contractor should also contact the State Historic Sites Office to assess the situation and make recommendations for mitigation actions.

2.13 ECONOMIC ACTIVITY

This project is intended to provide improvements to the existing airport facilities. These improvements are expected to help the tourism industry in Lanai by enabling larger aircraft to fly into Lanai Airport. The improvements will also help to meet the increasing demand of both visitor and resident travel to Lanai.

Impacts and Mitigation Measures

It is not anticipated that this project will disrupt any established communities, residences or businesses, and will not create a negative change in employment. On the other hand, this project may create more job opportunities in tourism industries. This project will also improve the safety at the Lanai Airport and allow larger jet aircraft to fly into Lanai.

Expansion of the Lanai Airport will create some additional jobs. Short-term construction employment and indirect construction-related employment will add to the Island's economy during the course of construction.

The Airport serves as a major transportation facility for both local residents and visitors. Expansion of the Airport will serve the forecast increase in economic activities and employment opportunities on Lanai. Expansion of the Airport, as proposed in the Master Plan Update, will provide for a more efficient, reliable, and convenient transportation facility for the movement of both passengers and cargo to and from Lanai.

2.14 SOCIAL AND SECONDARY (INDUCED) IMPACTS

The proposed expansion of the Lanai Airport facilities, and extension of the Runway, would all be located within the existing Airport boundaries. There are no residences or local businesses on the proposed sites. There are no surface transportation patterns, established communities, or planned developments on or adjacent to the proposed sites.

Some induced socioeconomic impacts may be expected to occur due to project implementation. The proposed action would accommodate the increase in airport operations at the Lanai Airport, and indirectly affect regional growth and employment in the area. This may result in changes in business and economic activities, especially in the area of tourism.

Impacts and Mitigation Measures

The proposed action will not involve the need to relocate any residences or local businesses; alter surface transportation patterns; divide or disrupt established communities; or disrupt orderly, planned developments.

In expectation of the forecasted growth in passengers and operations at Lanai Airport, the Lanai Company has proceeded with plans to expand the Koele Lodge and Manele bay Hotel. These plans include the development of at least one destination spa facility and an additional 250 rooms. Development plans also include the construction of more than 600 single and multi-family residences.

The 1998 Lanai Community Plan also outlines plans to: facilitate and support the maintenance and development of small businesses and cottage industries, provide fee simple land ownership opportunities to small businesses, and provide adequate government sponsored affordable housing units.

2.15 WATER SUPPLY

The water system for Lanai is owned and operated by the Lanai Company. The Lanai Airport water system is part of the domestic water supply system for Lanai City. Water is transmitted to the Airport through an existing 6-inch pipeline along Kaumalapau Highway and a 2 ½-inch pipe from the highway to the Airport. In 1994, along with the construction of a new terminal building, a 36-foot diameter steel water tank with a capacity of 120,000-gallons was installed. This water tank is expected to meet the domestic water demands of the Airport through 2020; however, the tank is not adequate to meet the fire demand of 2,000-gallons per minute for two hours.

Impacts and Mitigation Measures

An additional 120,000-gallon water tank should be installed to meet the fire demands of the Airport. The same requirements (dust control, emissions, etc.) for construction of the other activities will also be done for the construction of the water tank.

2.16 SEWAGE DISPOSAL

Wastewater generated at the Airport is estimated at 2,500-gallons per day. The wastewater generated was once treated and disposed of in two (2) cesspools located near the administration building. However, in 1991, new State Health Department regulations prohibited the use of cesspools. In order to comply with the new regulations, a leaching field and two (2) 1,500-gallon septic tanks and a 2 ½-inch force main were installed to dispose of Wastewater generated at the Airport.

Impacts and Mitigation Measures

Estimates of average daily and peak daily flows were calculated for service through 2020 for the terminal complex. Conservative estimates indicate that the average daily flow in 2020 is approximately 5,600-gallons, and peak daily flows were calculated to be approximately 6,300-gallons. Two additional 1,500-gallon septic tanks and an additional leaching field should be provided to the existing wastewater system to meet the demands of the Airport through 2020.

2.17 SOLID WASTE DISPOSAL

The Lanai Sanitary Landfill is located approximately 5,200-feet northwest of the Airport and approximately 4 miles southwest of Lanai City between the Kaumalapau Highway and Kalamaiki Gulch. The landfill is on land owned by the Lanai Company and is maintained by the County of Maui. The approximately 15-acre landfill has been in operation since 1969. The landfill will continue receiving municipal solid waste until cover grades are achieved. There is approximately 10 to 20 years of capacity remaining for the landfill.

Impacts and Mitigation Measures

The Resources Conservation Recovery Act (RCRA) Subtitle D siting restrictions state that existing landfill units within 10,000-feet of any runway end used by turbojet aircraft, or 5,000-feet from any runway end used by piston-type aircraft must demonstrate that the landfill is designated and operated so as not to pose a bird hazard to aircraft. An avifaunal survey was conducted to determine bird flight patterns, feeding habits, migratory pattern, and tendencies to congregate. The study concluded that the birds in the area are primarily "land" birds that

generally do not fly higher than 50 to 100-feet and that the landfill would not pose a problem for the Airport or its operations.

The solid waste generated from the proposed actions will not result in significant impacts. No mitigation measures would be necessary.

SECTION III

ALTERNATIVES TO THE PROPOSED ACTION

III. ALTERNATIVES TO THE PROPOSED ACTION

3.1 "NO ACTION" ALTERNATIVE

A "no action" alternative would mean no new facilities including any terminal area expansion or runway extension would be constructed. The Airport would continue to operate under present conditions. This alternative would not meet the current and long-term airfield and terminal area requirements for the Airport. As the impacts from construction of the new facilities at Lanai Airport would be small and insignificant, this alternative is rejected. (See Figure 1-2)

3.2 NO RUNWAY EXTENSION ALTERNATIVE

This alternative would retain the Airport "as is" with some minor improvements and any required periodic maintenance as described below. This alternative is shown in Figure 3-1.

3.2.1 LAND ACQUISITION

No land acquisition is required for this alternative.

3.2.2 AIRFIELD

The existing runway is 150-feet wide and 5,000-feet long and will remain at this length and width through the planning period. Airfield lighting, landing aids, and fencing are provided. The apron is expanded to provide for more general aviation parking and tie-down areas, and an overlay of the apron is also provided for maintenance purposes.

The runway protection zone for Runway 3 is increased to 2,500-feet in length to accommodate the precision runway designation due to the installation of the ILS. The runway protection zone on Runway 21 is also increased to 1,700-feet.

An Automated Weather Observation System is installed, and blast pads are constructed at the ends of Runway 3 and Runway 21.

3.2.3 TERMINAL AREA

The terminal building is expanded to provide for more airline ticket office space and more space for outbound baggage and operations. A rental car counter and the expansion of the concession area are also provided. The roof over the terminal building and the wood trellises are also repaired and maintained. The number of automobile parking stalls is increased along with the enforcement of long term parking restrictions in the parking area. The water storage facilities are also improved to meet fire safety requirements.

3.2.4 UTILITIES

New drainage, water and other utilities are provided to the terminal expansion as necessary. Existing drainage, water, sewage and other utilities are upgraded as necessary.

3.2.5 OFF SITE AND OTHER IMPROVEMENTS

A fence is installed along the new boundary of the Airport along with a perimeter road.

3.2.6 PRELIMINARY COST ESTIMATE

The preliminary cost estimate for this Alternative is $4.5 million. The cost estimate is based on expansion of the automobile parking lot and apron, as well as improvements to the water storage tank and terminal building.

This alternative does not meet the current and long-term airfield requirements for the Lanai Airport, nor does it improve safety for airlines using the Airport and is therefore rejected.

3.3 RUNWAY EXTENSION TO THE SOUTHWEST ALTERNATIVE

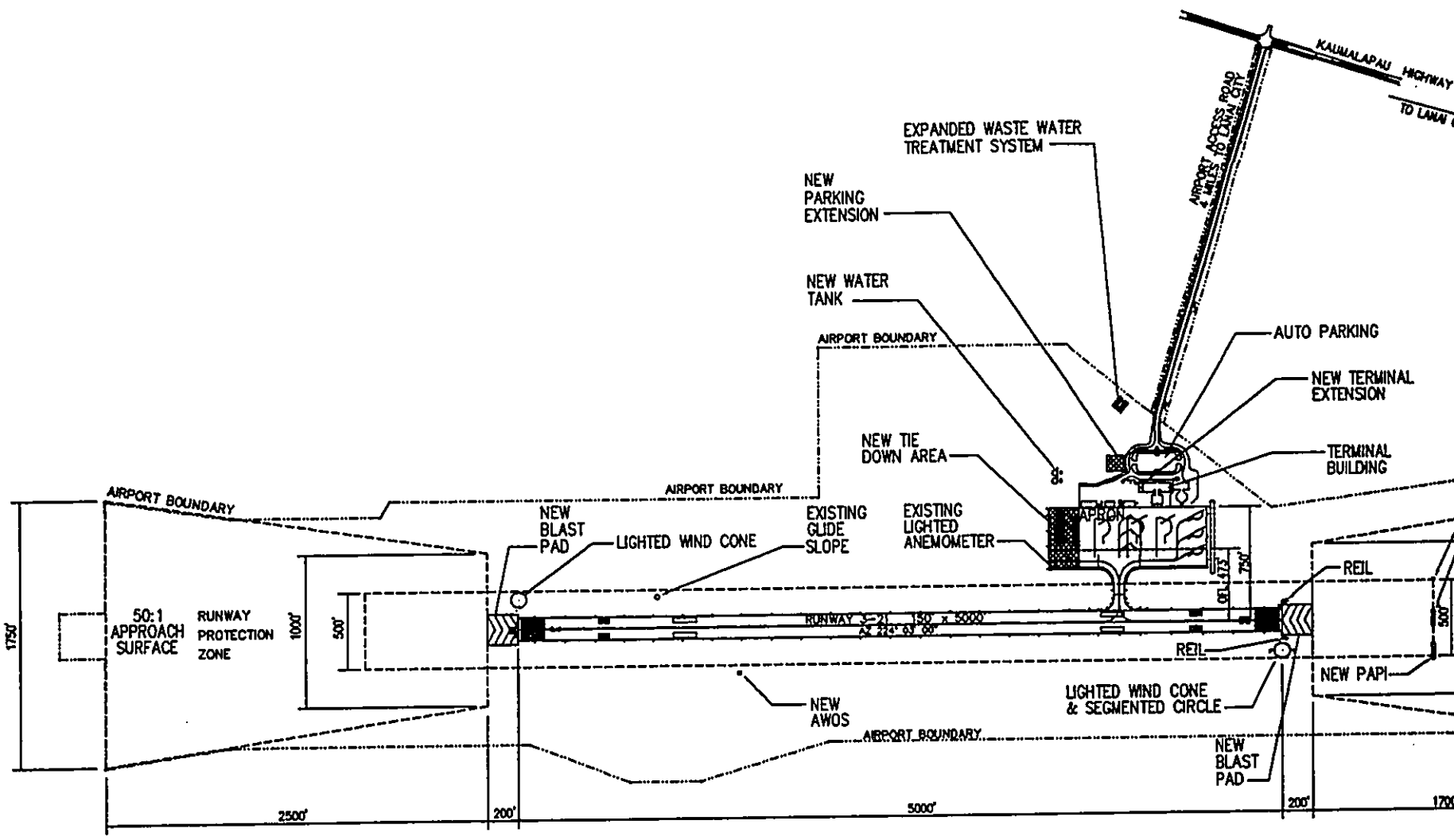
In this concept, the runway is extended by 2,000-feet in the southwest direction. This alternative accommodates the current aircraft (DHC-6, DHC-8, DC-9 and B-737), future and general aviation aircraft that operate from Lanai Airport. The public parking lot is expanded and improvements made to the aircraft parking apron, terminal building and water storage tank. This concept is illustrated in figure 3-2.

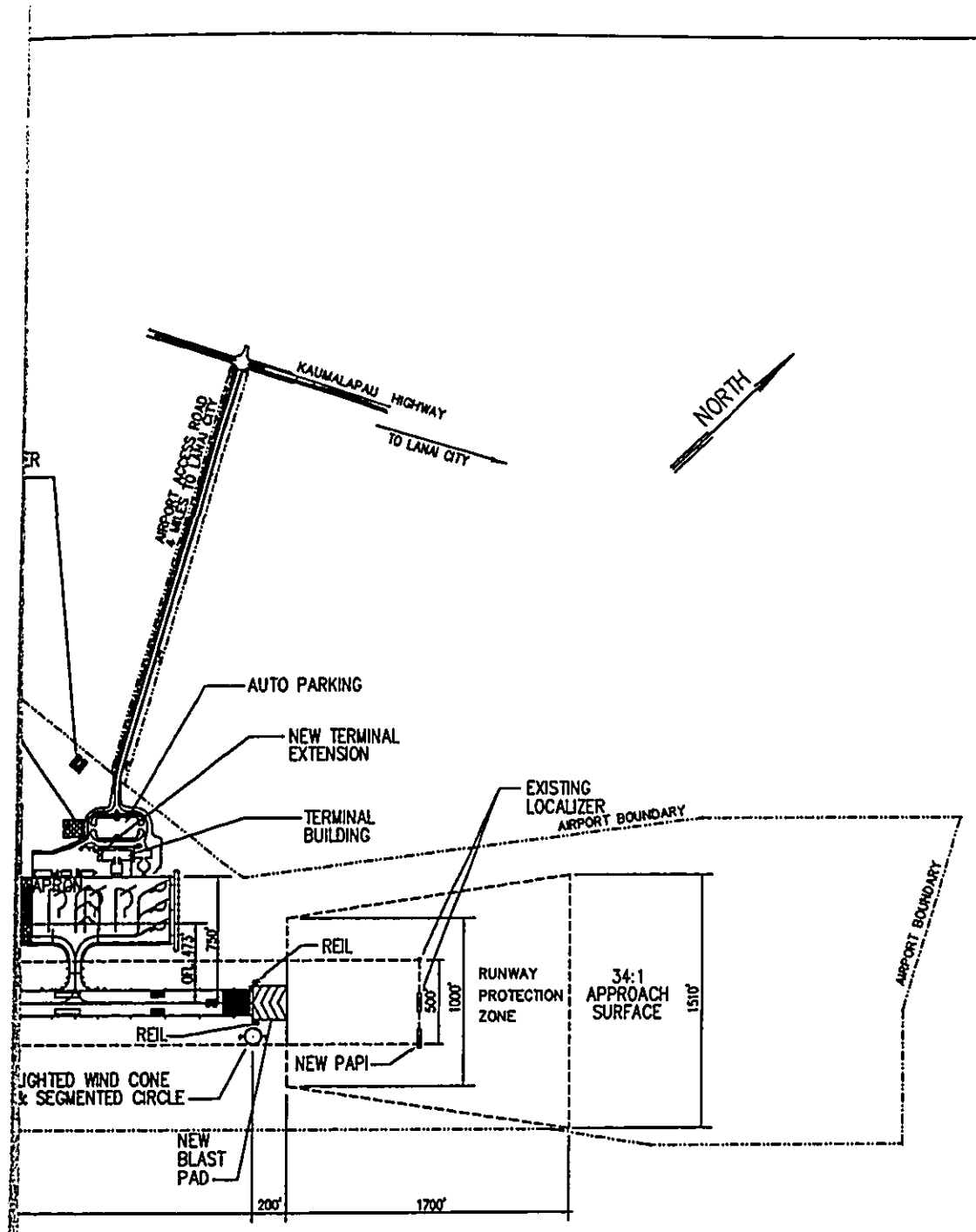
3.3.1 LAND ACQUISITION

Although the new airport boundary approved in 1994 will accommodate a runway expansion of 2,000-feet to the southwest, the new boundary does not accommodate the runway protection zones created from such an extension. Thus, this alternative requires the acquisition of approximately 65 acres of land.

3.3.2 AIRFIELD

The new runway is 150-feet wide and 7,000-feet long. All 5,000-feet of the existing runway is retained and strengthened to accommodate the maximum gross weights of aircraft using the runway. Approximately 2,000-feet of new runway is constructed to the southwest with pavement strength that accommodates current and future aircraft using the runway. A parallel taxiway is provided to the west of the runway. The parallel taxiway will require the relocation of the new glide slope. The MALSR on Runway 3 will also need to be


KAUMALAPAU HIGHWAY
TO LANAI
AIRPORT ACCESS ROAD
EXPANDED WASTE WATER TREATMENT SYSTEM
NEW PARKING EXTENSION
NEW WATER TANK
AIRPORT BOUNDARY
AUTO PARKING
NEW TERMINAL EXTENSION
NEW TIE DOWN AREA
TERMINAL BUILDING
APRON
EXISTING LIGHTED ANEMOMETER
EXISTING GLIDE SLOPE
NEW BLAST PAD
LIGHTED WIND CONE
REIL
RUNWAY 21 150' x 5000'
NEW PAPI
50:1 APPROACH SURFACE
RUNWAY PROTECTION ZONE
1000'
500'
1750'
NEW AWOS
LIGHTED WIND CONE & SEGMENTED CIRCLE
2500'
200'
5000'



Airports Division

DSGN. | DRWN. | CHK'D. | APP'D.

KEY PLAN / NOTES :

NOTE:
THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.

THE PREPARATION OF THIS EXHIBIT WAS FINANCED IN PART THROUGH AN AIRPORT IMPROVEMENT PROGRAM GRANT FROM THE FEDERAL AVIATION ADMINISTRATION UNDER THE PROVISION OF SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982.

PREPARED BY:

KFC AIRPORT, INC.
PROJECT MANAGEMENT CONSULTANT

SCALE:

GRAPHIC SCALE IN FEET

500 0 500 1000

PROJECT TITLE :

LANAI AIRPORT
MASTER PLAN
UPDATE

PROJECT NO.:

AM4011-02

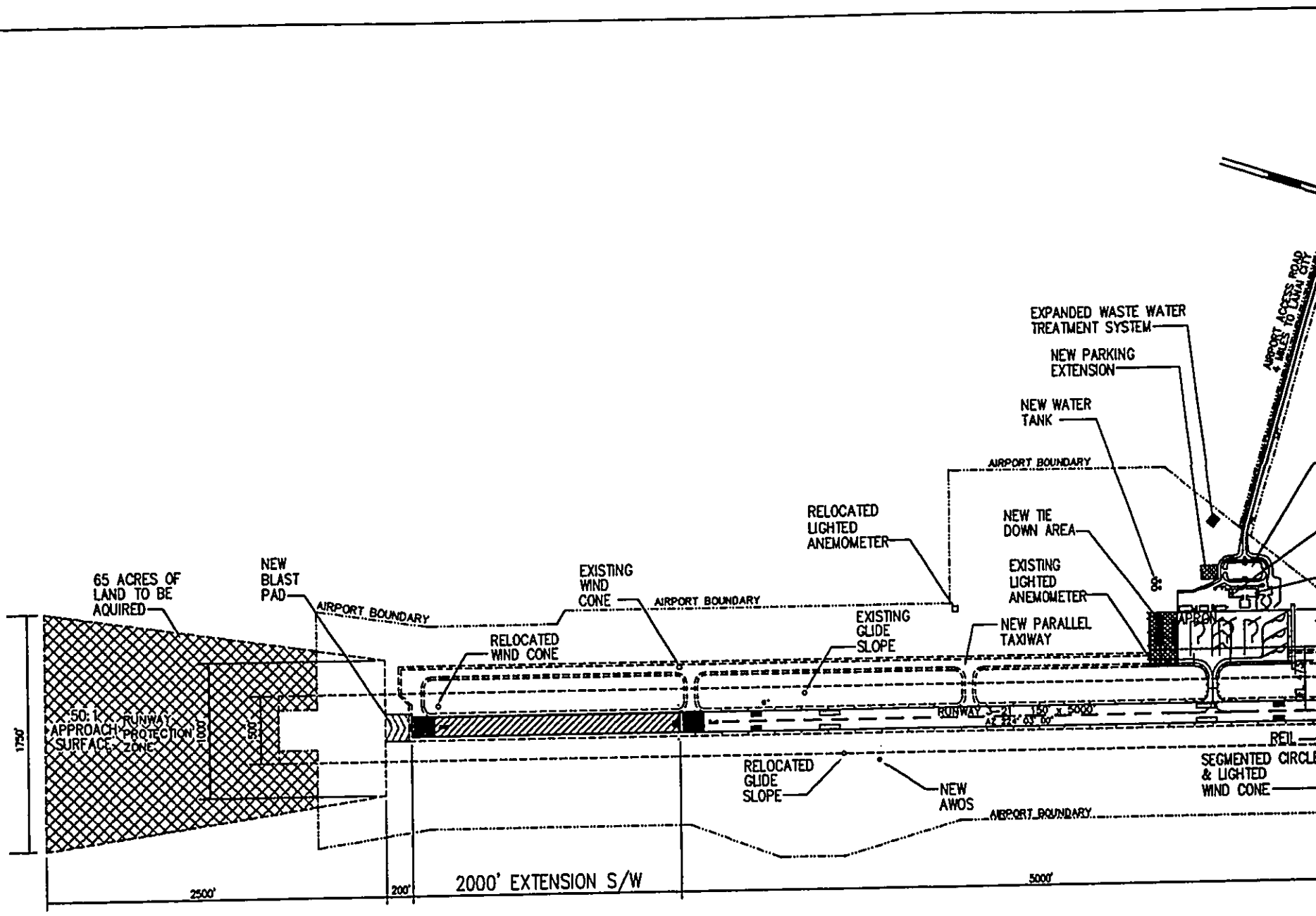
SHEET TITLE :

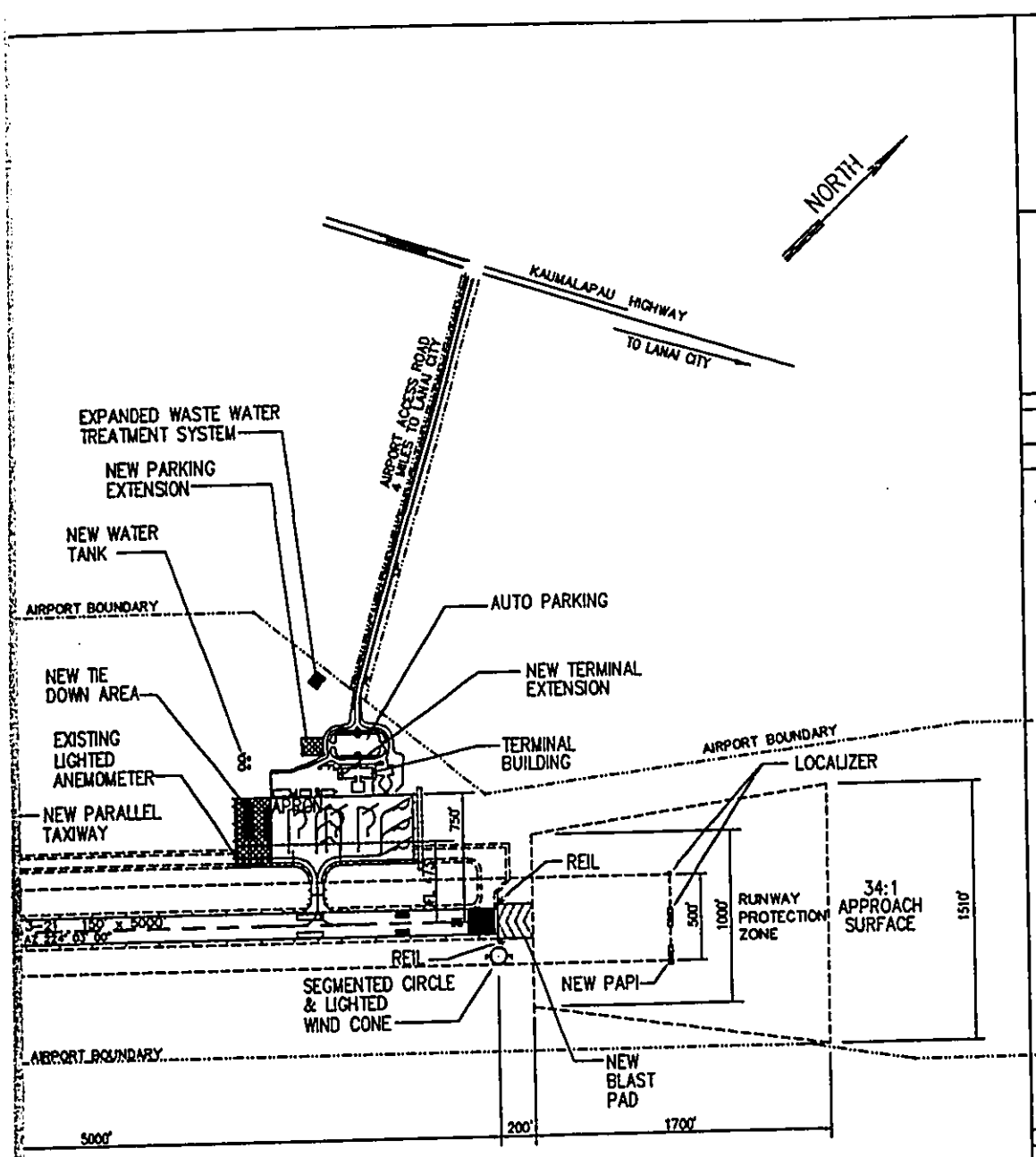
NO RUNWAY EXTENSION

DATE :
JUNE 1999

DWG. NO. :
3-2a

FIGURE
3-1


65 ACRES OF LAND TO BE AQUIRED
NEW BLAST PAD
AIRPORT BOUNDARY
EXISTING WIND CONE
AIRPORT BOUNDARY
RELOCATED LIGHTED ANEMOMETER
EXPANDED WASTE WATER TREATMENT SYSTEM
NEW PARKING EXTENSION
NEW WATER TANK
AIRPORT BOUNDARY
NEW TIE DOWN AREA
EXISTING LIGHTED ANEMOMETER
EXISTING GLIDE SLOPE
NEW PARALLEL TAXIWAY
RELOCATED WIND CONE
50:1 APPROACH SURFACE
RUNWAY PROTECTION ZONE
1750'
1000'
1510'
RUNWAY
150' x 5000'
REIL
SEGMENTED CIRCLE & LIGHTED WIND CONE
RELOCATED GLIDE SLOPE
NEW AWOS
AIRPORT BOUNDARY
2500'
200'
2000' EXTENSION S/W
5000'



Airports Division

DSGN.	DRWN.	CHK'D.	APP'D.

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GRAPHIC SCALE IN FEET

500 0 500 1000

PROJECT TITLE :

LANAI AIRPORT MASTER PLAN UPDATE

PROJECT NO.:

AM4011-02

SHEET TITLE :

RUNWAY EXTENSION TO THE SOUTHWEST

DATE :
JUNE 1999

DWG. NO. :
3-2b

FIGURE
3-2

relocated. The lighted anemometer adjacent to the aviation apron and the lighted wind cone on Runway 3 will also need to be relocated. Airfield lighting and landing aids are provided. The mass grading involves approximately 3,326,760 cubic yards of surplus fill and 47,144 cubic yards of embankment (cut to fill). The apron is enlarged by 80,800 square feet to provide more general aviation tie-down areas. For maintenance purposes, the existing parking apron is overlaid.

An Automated Weather Observation System is also installed and blast pads are constructed at the end of Runway 3 and Runway 21.

3.3.3 TERMINAL AREA

As stated in the alternative described in Section 3.2, the passenger terminal building is expanded to provide for additional airline ticket office and outbound baggage space, a rental car counter, and further expansion of the concession/snack shop. The roof and trellises of the terminal building are also repaired and maintained. The number of automobile parking stalls is increased along with the enforcement of long term parking restrictions in the parking area. The water storage facilities are also improved to meet fire safety requirements.

3.3.4 UTILITIES

New drainage, water and other utilities are provided to the extended airfield and terminal building. The existing drainage, water, sewage and other utilities are upgraded as necessary.

3.3.5 OFF-SITE AND OTHER IMPROVEMENTS

Chain-link fencing is provided to encompass the new Airport boundary. A perimeter road is also installed along the new Airport boundary.

3.3.6 PRELIMINARY COST ESTIMATE

The preliminary cost estimate for this alternative is $76 million. The cost estimate is based on an unbalanced earthwork design.

Although this alternative meets the current and long-term airfield requirements for the Lanai Airport, this alternative was not considered viable due to the costs associated with extending the runway to the southwest, and is therefore rejected.

3.4 "BUILD NEW 7,000-FOOT RUNWAY TO THE NORTH" ALTERNATIVE

This option was studied in the 1990 Lanai Master Plan. It consisted of constructing a new 7,000-foot runway to the north of the present airport. The new runway would be connected to the existing Runway 3-21 which is retained at

5,000-feet. It was not considered viable due to the estimated preliminary construction costs at the time of over $112 million, and is therefore rejected.

3.5 "BUILD NEW 7,000-FOOT RUNWAY TO THE SOUTH" ALTERNATIVE

This option was also studied in the 1990 Lanai Master Plan. It consisted of constructing a new 7,000-foot runway to the south of the present airport. The new runway would be connected to the existing Runway 3-21 which is retained at 5,000-feet. It was also not considered viable due to the estimated preliminary construction costs at the time of over $52 million, and is therefore rejected.

3.6 COMPARISON OF ALTERNATIVE AIRPORT DEVELOPMENT CONCEPTS

The different concepts for the Lanai Airport Master Plan Update were compared based on meeting the objectives of the Hawaii State Department of Transportation, Airports Division. This comparison is shown in Table 3-1. Based on the results of this comparison, the "Proposed Action" is the preferred alternative for development. It is the only alternative that clearly meets all the objectives established by DOTA and does so at the lowest cost.

TABLE 3-1
COMPARISON OF AIRPORT DEVELOPMENT CONCEPTS

**	Proposed Action	No Action	No Runway Extension	Southwest Runway Extension	Build Runway to the North	Build Runway to the South
1.	A	F	F	A	A	A
2.	A	F	F	A	A	A
3.	A	F	C	A	A	A
4.	A	A	A	F	F	F
5.	$23 M	$0	$4.5 M	$76 M	$52 M*	$112 M*

*Based on 1990 dollars

**Objectives
1. Improve Safety
2. Improve Air Carrier Access to the Airport
3. Improve Terminal Facilities
4. Cost Effectiveness
5. Estimated Cost (millions of dollars)

Determination of Objectives
A Achieves or Exceeds Objective
C Partially Achieves Objective
F Does not Achieve Objective

SECTION IV

DETERMINATION

IV. DETERMINATION

As stated in Chapter One, the environmental impacts of the proposed actions reviewed in the 1990 Environmental Impact Statement for Lanai Airport were found to have no significant impacts. This Environmental Assessment covers the same proposed actions and environmental impacts studied in the 1990 Environmental Impact Statement as well as any adjustments to the 1990 Master Plan presented in the Master Plan Update.

The negative impacts of the proposed action have been assessed and it has been determined that an environmental impact statement is not required. Hence, this document will serve as a Finding of No Significant Impact (FONSI). The determination of a FONSI is based on the following:

SIGNIFICANCE CRITERIA: According to the Department of Health Rules (I 1-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the criteria listed below.

1. *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*

The proposed project will not impact scenic views of the ocean or any ridge lines in the area. The 505 acres of land occupied by the Lanai Airport was reclassified from "Agriculture" to "Urban" in July of 1993 and approved by the County of Maui. The lands immediately surrounding the Airport are classified as "Agriculture". This "Urban" classification is compatible with the plans to be implemented at Lanai Airport.

As previously noted, no significant archaeological or historical sites are known to exist in the project area. If any archaeologically significant artifacts, bones, or other indicators of previous onsite activity are uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

2. *Curtails the range of beneficial uses of the environment;*

Although the subject property is classified as "Urban", the areas of the proposed action, as well as surrounding areas, were historically used for pineapple farming.

In the early 1990's, the Lanai Company, owners and operators of the pineapple-farming operations on Lanai terminated operations. The Lanai Company has since moved towards diversifying the economy on Lanai toward tourism, commercial, and industrial uses. The loss of the subject project land as farmlands would not be considered detrimental to the overall environment on Lanai.

3. *Conflicts with the State's long-term environmental policies or goals and guidelines as expresses in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;*

The proposed development is consistent with the Environmental Policies established in Chapter 344, HRS, and the National Environmental Policy Act.

4. *Substantially affects the economic or social welfare of the community or state;*

The proposed project will provide a positive economic contribution to the population of Lanai by 1) providing residents with better flight services; 2) improving the safety of airlines utilizing Lanai Airport; 3) increasing the amount of visitors to the island; 4) creating jobs to accommodate the tourism expansion.

5. *Substantially affects public health;*

Impacts to public health may be affected by air, noise, and water quality impacts, however, these will be insignificant, or not detectable, especially when weighed against the positive economic and social implications associated with the project. Overall, air, noise, and traffic impacts will be significantly positive in terms of public health as compared to the "no action" alternative.

6. *Involves substantial secondary impacts, such as population changes or effects on public facilities.*

A substantial increase in aviation activities is expected to occur during the planned project period. This increase in activities necessitates the expansion of the Lanai Airport in order to accommodate this increase.

The proposed project will not in itself generate new population growth, but provide needed infrastructure for Lanai's present and future resident and visitor population. The Lanai Company has already begun developing plans to expand their existing resorts to accommodate the tourism growth expected during the planning period.

In addition, new employment opportunities will generate new sources of direct and indirect revenue for Lanai residents and the County of Maui by providing both temporary and long-term employment opportunities during the construction

period. Indirect employment in a wide range of service related industries would also be created from the increase in tourism that the proposed project will bring to the island.

7. *Involves a substantial degradation of environmental quality.*

The proposed project will utilize land that prior to being reclassified as "urban" was vacant "agriculture" land. The lands surrounding the project site are currently vacant agriculture land and there are no future plans by the Lanai Company to return these lands to agricultural production.

8. *Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;*

By planning now to address the future needs of the Lanai Community and the State, improvement of the Airport is consistent with the long term plans for the Island. No views will be obstructed or be visually incompatible with the surrounding area.

9. *Substantially affects a rare, threatened or endangered species or its habitat;*

No endangered plant or animal species are located within the project area.

10. *Detrimentally affects air or water quality or ambient noise levels;*

Dust from clearing and grubbing, excavation and backfill and exhaust gases from traffic emissions will mainly affect air quality in the area of the proposed project. Strict adherence to approved erosion and dust control plans is expected to minimize any negative impacts.

The impacts from exhaust gas are expected to be insignificant due to the short construction period and the amount of emission from automobiles and equipment are negligible compared with those from airplanes.

The proposed action may have a minor impact on water quality with a possibility for a slight increased turbidity in the Pacific Ocean. However, the Best Management Practices (BMP) and sediment control effort as stated in NOI Form "C", and all permits associated with construction, will be filed and implemented during construction.

The base year, five year (2004), and 2020 Noise Exposure Contour Maps for Lanai Airport do not enclose any existing or potential noise sensitive land uses, and is fully compatible with the FAR land use compatibility standards.

Therefore, the proposed project is not expected to detrimentally affect air, water quality, or ambient noise levels.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion prone area, geologically hazardous land, estuary, freshwater, or coastal waters;

Development of the project site is compatible with the above criteria since there are not environmentally sensitive areas associated with the project and the physical character of the project area has been previously disturbed by agricultural uses. As such, the property no longer reflects a "natural environment". Shoreline, valleys, or ridges will not be impacted by the development of the project site.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies;

Due to topographical characteristics of the property, views of the area to be developed are generally not significant although they are visible. The majority of the proposed project area will not be visible, except from higher elevations.

13. Requires substantial energy consumption;

Construction of the proposed project will not require substantial energy consumption.

SECTION V

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V. REFERENCES

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Whistler, W.A.

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APPENDIX A

LIST OF INDIVIDUALS, ORGANIZATIONS AND AGENCIES CONTACTED

FEDERAL GOVERNMENT

Department of Transportation
- Federal Aviation Administration – Airports Division

Department of the Interior
- U.S. Fish and Wildlife Service

Department of Agriculture
- Soil Conservation Service

STATE GOVERNMENT

Department of Agriculture

Department of Business, Economic Development and Tourism

Department of Health

Department of Land and Natural Resources

Department of Transportation
- Airports Division
  - Kahului Airport
  - Lanai Airport
- Highways Division
  - Maui District

Lanai High and Elementary School

Office of Environmental Quality Control

State Land Use Commission

University of Hawaii
- Environmental Center

MAUI COUNTY GOVERNMENT

County Council

Department of Planning

Department of Public Works and Waste Management

AVIATION INDUSTRY

Airlines Committee of Hawaii

Airlines Pilots Association

Circle Rainbow Air

Genavco Air Cargo

General Aviation Council of Hawaii

Hawaii Air Ambulance

Hawaiian Airlines

Hawaiian Airlines Liason Office

Island Air

Paragon Air Incorporated

Polynesian Airways

GROUPS AND ORGANIZATIONS

Gifts With Aloha

GTE Hawaiian Telephone

Lanai City Service

Lanai Company, Inc.

Lanaians for Economic Growth & Stability

Lanai Land Company

Maui Electric Company, Ltd.

APPENDIX B

PRE-CONSULTATION COMMENT LETTERS

0382

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

FEB 14 2000

LD-NAV

Ref.: AM4011-02.RCM

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

SUBJECT: Review Environmental Assessment Pre-Consultation for Lanai Airport Improvements State Project AM4011-02 Maui, Hawaii TMK: 4-9-02: 1, 41, 46 & 47

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' Land Division has submitted the subject information material to our Division of: Aquatic Resources, State Parks, Boating and Recreation and Forestry and Wildlife and Land Division's Planning and Technical Services, Engineering Branch and Maui District Land Office for their review and comment on the proposed project.

We have no comment to offer on the proposed project. Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division's Support Services Branch at 587-0438.

Very truly yours,

DEAN Y. UCHIDA
Administrator

C: Maui District Land Office

0512

JAMES "KIMO" APANA
Mayor

CHARLES JENCKS
Director

DAVID C. GOODE
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND WASTE MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

RON R. RISKA, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

ANDREW M. HIROSE
Solid Waste Division

February 24, 2000

Mr. Jerry Matsuda
Airports Administrator
Department of Transportation, Airports Division
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819

Dear Mr. Matsuda:

SUBJECT: ENVIRONMENTAL ASSESSMENT PRE-CONSULTATION
LANAI AIRPORT
TMK: (2) 2-4-9-002:001, 041, 046 & 047

We reviewed the subject application and have the following comments.

1. Kaupili Road should be rerouted around the proposed southwest extension of the runway.

2. A detailed final drainage report and site specific erosion control plans shall be submitted with the construction plans for review and approval prior to the issuance of a grading permit. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules for Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The site specific erosion control plan shall show the location and details of structural and non-structural Best Management measures.

If you have any questions, please call David Goode at 270-7845.

Sincerely,

DAVID GOODE
Deputy Director of Public Works
and Waste Management

DG:msc/mt

S:\LUCA\CZM\lanaiair.wpd

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 3-122
P.O. Box 50088
Honolulu, Hawaii 96850

In reply refer to: DH

FEB 25 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Department of Transportation
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880

Re: Environmental Concerns for Lanai Airport Improvements

Dear Mr. Matsuda:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter requesting agency input regarding potential environmental impacts of the proposed airport improvements for the island of Lana'i. The proposed improvements include a 2,000-foot runway extension, construction of a parallel taxiway, addition of aviation and holding aprons, navigational and landing aids, and terminal expansion. The Service provides the following comments for your consideration.

Based on our review of information contained in our files, including maps prepared by the Hawaii Natural Heritage Program of The Nature Conservancy (HINHP), we have no records of federally listed species occurring within the proposed project site. However, at least one species of endangered plant, *Abutilon menzesii*, occurs in similar habitats, adjacent to the proposed project location. Based on this, we feel that the project should include botanical surveys of the areas that may be affected by the project and that this information be incorporated into the environmental assessment (EA) that is to be prepared. If this plant, or other listed species are located within the proposed project area, the project should be modified to avoid unnecessary impacts, minimize unavoidable impacts, and/or compensate for any unavoidable significant impacts to such listed species.

The dark-rumped petrel (*Pterodroma phaeopygia sandwichensis)* is a federally endangered seabird that does not occur in the project area, but may migrate over the proposed project site seasonally. Circumstantial observations and experimental evidence have shown that artificial lighting can disorient seabirds when flying between inland nesting areas and offshore feeding grounds. This disorientation is caused by excessively bright outdoor lighting and can result in seabird collisions with man-made structures such as light poles and wires. Injured seabirds that "fall-out" due to such collisions are highly vulnerable to predation by dogs and cats. In addition,

seabird attraction to lights at an airport could result in increased collisions with aircraft, jeopardizing the safety of passengers and operating personnel.

Since the proposed project includes additional parking areas, overhead lighting for this or other parts of the project will likely be required. The EA needs to address the potential impacts to seabirds. Potential impacts can be reduced or eliminated with the use of special ("soft") outdoor lighting, light shielding, and light poles that are 25 feet or less in height. Potential solutions to problems associated with seabird "fall-out" are available in a pamphlet published by the Division of Forestry and Wildlife, State Department of Land and Natural Resources (DOFAW). We recommend that you contact the Maui DOFAW office (871-2929) regarding this matter. The final project design should include adequate measures to reduce or eliminate lighting impacts to seabirds and these measures should be adequately described in the EA.

The Service encourages the early review of projects, and we hope that these comments are of use to you in your preparation of the EA. We look forward to receiving a copy of the EA when it is completed. If you have any questions regarding these comments, please contact Fish and Wildlife Biologist Dave Hopper by phone at (808) 541-3441 or by facsimile at (808) 541-3470.

Sincerely,

Donald Palawski
for Paul Henson
Field Supervisor
Ecological Services

cc: DLNR, Honolulu
DOFAW, Maui, Honolulu
FAA, Honolulu

0500

AIRLINES COMMITTEE OF HAWAII

Honolulu International Airport
300 Rodgers Blvd., #62
Honolulu, Hawaii 96819-1832
Phone (808) 836-1960
Fax (808) 836-4776

February 28, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Subject: Environmental Assessment Pre-consultation
Lanai Airport
State Project No.: AM4011-02

Dear Mr. Matsuda:

Thank you for the opportunity to provide comments on the potential environmental impacts associated with the planned improvements included in the1999 Master Plan Update for the Lanai Airport. The ACH has not formulated an opinion concerning the planned improvements. However, the expenditure of $20.0 million in airport revenue funds to design and construct the proposed planned Phase I (2000 – 2010) improvements does not, at this time, appear to be the best use of limited resources available for CIP projects.

The level of forecasted aircraft operations for the 2000 – 2010 Phase I planning period, in conjunction with the types of aircraft utilizing the airport facilities on a regularly scheduled basis, does not support the $20.0 million expenditure necessary to design and construct a 2000' extension to the runway. Therefore, proceeding with an Environmental Assessment does not seem prudent at this time.

Sincerely,

John T Hatanaka /gg

John T. Hatanaka
President

cc: Executive Committee
HALO

0553

Ms. Cynthia Arruiza
Lanaians for Economic Growth & Stability
P.O. box 630084
Lanai City, HI 96763

February 28, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Dept. of Transportation
400 Rodgers, Blvd., Suite 700
Honolulu, HI 96819-1880

Subject: Environmental Assessment Pre-Consultation
Lanai Airport
State Project No. AM4011-02

Dear Mr. Matsuda:

Thank you for allowing our organization to comment on the proposed improvements at Lanai Airport. Please be apprised that we are in full support of the improvements that are planned at the airport. The expansion of the runway will improve the transportation to and from Lanai for the local residents as well as visitors to the island. More importantly, the runway extension will enhance the safety for all passengers.

Our organization believes that the proposed improvements will not have a significant environmental impact on our environment. We encourage the state to proceed with these improvements as soon as possible to ensure the safety of our traveling public and to enhance our economic stability on Lanai.

Thank you again for allowing us to comment on the project and please feel free to contact us should you have any questions or require additional information.

Sincerely,

Cynthia Arruiza

Cynthia Arruiza
President

USS1

KIMBERLY DUPREE
dba *Gifts With Aloha*
P.O. Box 630665
Lana`i City, HI 96763

February 29, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Dept. of Transportation
400 Rodgers Blvd., Suite 700
Honolulu, HI 96819-1880

SUBJECT: Environmental Assessment Pre-Consultation
Lana`i Airport
State Project No. AM 4011-02

Dear Mr. Matsuda:

I am a business owner on the island of Lana`i and wish to thank you for allowing me to submit comments on the proposed improvements to the Lana`i Airport.

I am in full support of the airport runway extension which I believe will provide added safety to all traveling passengers on the island. I believe that the improvements proposed by the State will have no negative impact on our environment.

Should you have any questions, please feel free to contact me.

Sincerely,

Kimberly Dupree

Kimberly Dupree

0552

JENNA GENTRY
P.O. Box 630718
Lana`i City, HI 96763

February 29, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Dept. of Transportation
400 Rodgers Blvd., Suite 700
Honolulu, HI 96819-1880

RE: Environmental Assessment Pre-Consultation
Lana`i Airport
State Project No. AM4011-02

Dear Mr. Matsuda:

Thank you for giving us the opportunity to provide comments on the State's proposed improvements at Lana`i Airport. For your information, I am currently a business owner on the island of Lana`i.

The State's proposed extension of the runway will improve the transportation on and off Lana`i for the residents and visitors to the island. More importantly, the runway improvements will improve the safety for the passengers and will give the pilots a longer runway and thus a safer runway in the event of emergency.

I fully support these improvements and I believe that they will not have any negative impacts on our environment. I ask that these needed improvements are constructed as soon as possible.

Please feel free to contact me if you have any questions.

Sincerely,

Jenna Gentry

C555

LANA`I COMPANY, INC.

P.O. Box 310
Lana'i City, Hawaii 96763
Telephone: (808) 565-3000
Facsimile: (808) 565-3881

THE ISLAND OF LANAI
HAWAII

February 29, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Dept. of Transportation
400 Rodgers Blvd., Suite 700
Honolulu, HI 96819-1800

Subject: **Environmental Assessment Pre-Consultation**
Lanai Airport
TMK: 4-9-2:1, 41, 46 & 47
State Project No. AM4011-02

Dear Mr. Matsuda:

Thank you for affording us the opportunity to provide comments on the State's proposed runway extension and other needed improvements at the Lanai Airport.

We are in full support of the State's efforts to improve and extend the existing runway from the current 5,000 feet to 7,000 feet, parallel taxiway, aviation apron, and other improvements that are so vital to Lanai's economy. The proposed runway extension will provide and enhance the safety of our travelling public to and from Lanai. By the State making these improvements, it will make the Lanai Airport facilities more safe and attractive, as well as improve the visitor experience on Lanai.

We strongly believe that the improvements proposed by the State will have no negative impact on our environment, and we therefore encourage the State to proceed with these improvements as soon as possible so that our travelling public will have a safer airport.

Thank you again for considering our comments. Should you have any questions, or if we can be of further assistance, please do not hesitate to contact me at 565-3856.

Sincerely,

Vince G. Bagoyo, Jr.
Vice President

/emtt

0673

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

March 9, 2000

Mr. Jerry M. Matsuda
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

SUBJECT: Environmental Assessment Pre-consultation of Lanai Airport

I am in receipt of your letter dated January 24, 2000 regarding proposed improvements to Lanai Airport.

This subject of improving Lanai Airport is one that is of great interest and concern to me and to the people of Lanai. Open discussion and communication with the State and the Lanai community is of utmost importance since it can dramatically alter the future of our community.

The concern of noise due to traffic patterns from aircrafts if should runway extend towards Lanai City is an important factor to residents. At this time, I do not support any extension of Lanai Airport towards the city.

Thank you for the opportunity to share with you the concerns I have regarding this matter. Please feel free to contact me at my office at 270-7768 if I can be of further assistance to you.

Sincerely yours,

RIKI HOKAMA
Councilmember, Lanai

GRH:cmy

MAR 14 2000

0887

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

April 4, 2000

Mr. Jerry Matsuda, P.E.
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

RE: Environmental Assessment Pre-Consultation for the Lanai Airport, TMK: 4-9-2:1, 41, 46, and 47, Lanai, Hawaii

The Maui Planning Department has reviewed your request for pre-consultation on the proposed improvements at the Lanai Airport, and offer the following comments:

1. The Environmental Assessment should address compliance with the Lanai Community Plan Map and the Objectives, Policies, and Recommendations contained therein.

2. It is advised that the Lanai community be consulted about this project.

Thank you for the opportunity to comment. Should you have any questions, please contact Daren Suzuki, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:DMS:cmb
c: Clayton Yoshida, AICP, Deputy Director of Planning
Daren Suzuki, Staff Planner
Project File
General File S:\ALL\DAREN\AIRPORT.EA

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

APPENDIX C

DRAFT ENVIRONMENTAL ASSESSMENT COMMENT AND RESPONSE LETTERS

1434

U.S Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports District Office

300 Ala Moana Blvd., Room 7-128
Honolulu, Hawaii 96813
MAIL: Box 50244
Honolulu, Hawaii 96850-0001
Phone: (808) 541-1232
FAX: (808) 541-3462

June 1, 2000

Mr. Jerry M. Matsuda
Airports Administrator
DOT, State of Hawaii
400 Rodgers Blvd., Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

We have reviewed the Draft Environmental Assessment (EA) for Lanai Airport Master Plan Update dated March 2000.

Section 1.1 notes that this EA has been prepared in compliance with FAA Orders 1050.1D and 5050.4A. Our review is based upon the NEPA requirements contained in these Orders.

Section 2.1.3 notes that the proposed project is in conflict with the 1998 Lanai Community Plan. Paragraph 47.f of Order 5050.4A states, "if the proposal is not reasonably consistent with plans, goals, policies, or controls that have been adopted for the area in which the airport is located, an environmental impact statement is required."

Section 2.1.3 continues with "an amendment to the Lanai Community Plan will be required should the extension occur prior to 2010 as proposed in the Master Plan Update." However, Section 1.8.1 includes the extension in Phase 1 (2000-2010).

Based upon the above, if the extension is proposed for Phase 1, either the Lanai Community Plan must be revised or an EIS must be prepared for this project. Please advise us what action the State intends to take on this matter.

If you have any questions, please call David Welhouse at 541-1243.

Sincerely,

Daniel S. Matsumoto

Daniel S. Matsumoto, Acting Manager
Honolulu Airports District Office

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

June 13, 2000

IN REPLY REFER TO:

AIR-P
00.0307

Mr. Daniel S. Matsumoto
Acting Manager, Airports District Office
Federal Aviation Administration
Western-Pacific Region
P. O. Box 50244
Honolulu, Hawaii 96850-0001

Dear Mr. Matsumoto:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of June 1, 2000. In response to your comment, it is the intent of the State to pursue an amendment to revise the Lanai Community Plan.

Please have your staff contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

Sincerely,

JERRY M. MATSUDA, P.E.
Airports Administrator

c: ✓KFC Airport, Inc. (B. Bowers)
Lanai Company (V. Bagoyo)

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

June 14, 2000

Mr. Kazu Hayashida, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: Draft Environmental Assessment for the Lanai Airport Master Plan Update, Lanai

Thank you for the opportunity to review the subject document. We have the following comments.

1. The passenger demand forecast for Lanai Airport indicates that the number of passengers will double in the next twenty years. Do the island's general and land use plans support such an increase in passengers? Will the island's infrastructure and environmental resources be able to handle such an increase in the de facto population?

2. The proposed runway extension will enable planes from farther distances to land on Lanai. The risk of alien pest species introduction will increase because of this proposal. Please describe the mitigation measures that will be taken to avoid or minimize this impact.

3. Please consult with residents of Lanai concerning this plan. In particular, please inform the residents who may be affected by the increase in noise levels because of this project.

4. Please describe the existing operational constraints of the airport in terms of flight patterns, hours of operation, type of aircraft, and other relevant factors. How would this new plan change the factors described above? What are the associated impacts and mitigation measures?

5. The section of the environmental assessment on alternatives is weak. Please provide more detailed project descriptions of the alternatives and throughly describe why they were not selected.

6. Please discuss the findings and reasons for supporting the FONSI determination based on all 13 significant criteria listed in §11-200-12 of the EIS rules. Please see the enclosed example.

7. Please list the names of all agencies, citizen groups and individuals who were consulted in making the assessment.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185. Thank you.

Sincerely,

Genevieve Salmonson
Director

c: KFC Airport, Inc.

NL

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
AIR-P
00.0406

August 3, 2000

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

FROM: KAZU HAYASHIDA
DIRECTOR OF TRANSPORTATION

SUBJECT: LANAI AIRPORT
DRAFT ENVIRONMENTAL ASSESSMENT
STATE PROJECT NO. AM4011-02

Thank you for your letter of June 14, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). Below are our responses to your comments:

1. It is not within the scope of the Lanai Airport EA to address the impact of the increase in passengers on the island's infrastructure and environmental resources. The purpose of the EA is to address the environmental impact of the improvements necessary to accommodate the increase in passengers. Airports themselves do not increase passenger traffic to a destination. It is the facilities and visitor attractions on Lanai that promote the increase in tourists.

2. There is currently little risk of alien species as there are no direct flights from the mainland to Lanai. However, there is a State standard which is being used at Honolulu International Airport, and a Federal standard with the U.S. Department of Agriculture for flights departing Hawaii as well as for incoming international flights. Should direct flights commence to Lanai, the inspection procedures will be commensurate with the risk analysis for that particular flight. This will be clarified in the Final EA.

3. The residents of Lanai were consulted on the Master Plan improvements during three separate public information meetings and a Noise Compatibility Program Public Hearing. This will be discussed in the Final EA.

4. Additional information on operational constraints will be added in the Final EA.

5. Additional information on alternatives will be added to the Final EA.

6. Discussion of the 13 significant criteria supporting the FONSI determination will be added in the Final EA.

7. Names of all agencies, citizen groups, and individuals who were consulted in making the assessment will be added as an Appendix in the Final EA.

Please contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

bc: AIR-L
AIR-M

LB:nf

1555

LANA'I COMPANY, INC.

P.O. Box 310
Lana'i City, Hawaii 96763
Telephone: (808) 565-3000
Facsimile: (808) 565-3881

THE ISLAND OF LANAI
HAWAII

June 16, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State of Hawaii
Department of Transportation
Airports Division
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880

Dear Mr. Matsuda:

Thank you for giving us the opportunity to review the draft Environmental Assessment for the Lanai Airport proposed improvements.

We strongly support the improvements and we believe that these improvements will have no negative impact on our environment. The proposed runway extension and the other planned improvements at the airport are critical to the safety of our travelling public and we encourage the State to proceed with this project as soon as possible.

Once again, thank you for the chance to comment on the draft Environmental Assessment.

If you have any questions or if we can be of further assistance, please feel free to contact me at 565-3856.

Sincerely,

Vince G. Bagoyo, Jr.
Vice President

/emtt

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

LEADING HAWAII INTO THE NEW MILLENNIUM
1959 2000+

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

August 1, 2000

IN REPLY REFER TO:

AIR-P
00.0409

Mr. Vince G. Bagoyo, Jr.
Vice President
Lanai Company, Inc.
P.O. Box 310
Lanai City, Hawaii 96783

Dear Mr. Bagoyo:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of June 16, 2000, supporting the Lanai Airport Draft Environmental Assessment (EA). Your comments will be incorporated into the Final EA.

Please contact Lynn Becones, Planner, at (808) 838-8811 to clarify any questions you may have.

Sincerely,

JERRY M. MATSUDA, P.E.
Airports Administrator

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

1593

BENJAMIN J. CAYETANO
GOVERNOR
SEIJI F. NAYA, Ph.D.
DIRECTOR
PHILIP J. BOSSERT
DEPUTY DIRECTOR
DAVID W. BLANE
DIRECTOR, OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-8674

June 21, 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
Department of Transportation
Airports Division, Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

Subject: Draft Environmental Assessment for the Lanai Airport
Master Plan Update
Lanai Airport
TMK: 4-9-2: 1, 41, 55, and 56

The Office of Planning has reviewed the Department of Transportation's (DOT) Draft Environmental Assessment (DEA) for the Lanai Airport Master Plan Update, and offers the following comments.

The DEA evaluates the environmental impacts resulting from the proposed improvements and future development of Lanai Airport determined by DOT necessary to ensure the viability of the airport through the year 2020. According to the DEA, the proposed improvements in the DEA are part of a Master Plan Update. The DEA covers the same actions and environmental impacts studied in the 1990 Environmental Impact Statement as well as any adjustments to the 1990 Master Plan presented in the Master Plan Update.

Major improvements proposed include extension of the runway by 2000 feet; construction of a parallel taxiway to expedite aircraft ground movement; holding aprons; expansion of the passenger terminal building; and additional navigation and safety aids. According to the DEA, the proposed improvements will provide for unrestricted operations for

the aircraft types forecast to use the airport and will ensure the viability of airport operations through the year 2020.

One of the implementing actions for the Lana`i Community Plan's objectives and policies for Physical Infrastructure prohibits "the extension of Lana`i Airport's runway in the direction of Lana`i City." The DEA recognizes that the proposed extension of the runway is inconsistent with the 1998 Lanai Community Plan and it is mentioned that an amendment of the Community plan will be required should the planned extension of the runway occur prior to 2010 as proposed in the Master Plan Update.

Of all the environmental concerns addressed in the DEA for the proposed expansion of Lanai Airport facilities, noise appears to be of great concern to the community. The recommended noise mitigation measures for minimizing single event noise impacts from the proposed runway extension identified in the DEA appear to be more consistent with monitoring strategies rather than actual measures to mitigate noise impacts from the proposed runway extension.

The Final EA should discuss the impacts of proposed improvements with the following implementing actions identified in the Plan under the Objectives and Policies for Physical Infrastructure.

- Minimize aircraft flight patterns over Lana`i City as a means of noise mitigation.
- Identify and implement other aircraft noise mitigation measures such as the limitation of late-night aircraft operations.

Thank you for the opportunity to comment on the subject DEA. If you have any questions, please contact Judith Henry at 587-2803.

Sincerely,

David W. Blane
Director
Office of Planning

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
AIR-P
00.0423

August 8, 2000

TO: DAVID W. BLANE, DIRECTOR
OFFICE OF PLANNING
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT,
AND TOURISM

FROM: KAZU HAYASHIDA
DIRECTOR OF TRANSPORTATION

SUBJECT: LANAI AIRPORT
DRAFT ENVIRONMENTAL ASSESSMENT
STATE PROJECT NO. AM4011-02

Thank you for your letter of June 21, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). As requested, the noise impacts of the project will be further clarified in the Final EA. Please note that a thorough Noise Compatibility Program Study was completed in 1999, in accordance with Federal Aviation Administration (FAA) requirements. This Noise Study determined that based on the projected aircraft traffic, there is no incompatible land use on Lanai through the year 2020.

In response to your specific questions regarding flight patterns over Lanai City and late-night aircraft operations, please note the following:

- The Noise Compatibility Program Study recommended a preferential runway use system that would limit flights over Lanai City. The airlines are currently voluntarily participating in the system and we expect this to continue into the future.

- The Noise Compatibility Program Study determined that a nighttime curfew for aircraft operations was not required because presently, and into the foreseeable future, there is no incompatible land use. Also, there are currently no jet aircraft operations late at night.

Please contact Lynn Becones, Planner of the Airports Division, at 838-8811 to clarify any questions you may have.

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

bc: AIR-L
AIR-M

LB:nf

JAMES "KIMO" APANA
Mayor

CHARLES JENCKS
Director

DAVID C. GOODE
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND WASTE MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

RON R. RISKA, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

ANDREW M. HIROSE
Solid Waste Division

June 23, 2000

Mr. Jerry Matsuda
Airports Administrator
Department of Transportation, Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
LANAI AIRPORT
TMK: (2) 4-9-002:001, 041, 055, 056
STATE PROJECT NO. AM4011-02

We reviewed the subject draft environmental assessment and have no comment.

If you have any questions, please call David Goode at (808) 270-7845.

Sincerely,

CHARLES JENCKS for
Director of Public Works and
Waste Management

DG:msc/mt

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
AIR-P
00.0410

August 3, 2000

Mr. Charles Jencks
Director
Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Jencks:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of June 16, 2000, on the Lanai Airport Draft Environmental Assessment (EA). Your comments will be incorporated into the Final EA.

Please contact Lynn Becones, Planner, at (808) 838-8811 to clarify any questions you may have.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

bc: AIR-L
AIR-M

LB:nf

1054

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 3-122
P.O. Box 50088
Honolulu, Hawaii 96850

In reply refer to: DH

JUN 27 2000

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
State Department of Transportation
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880

Re: Draft Environmental Assessment for Lana`i Airport Improvements, Lanai, Hawaii

Dear Mr. Matsuda:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Assessment for proposed improvements Lana`i airport (DEA). The project sponsor is the Hawaii Department of Transportation, Airports Division (DOT). The proposed improvements include a 2,000-foot runway extension, construction of a parallel taxiway, addition of aviation and holding aprons, navigational and landing aids, and terminal expansion. The Service provides the following comments for your consideration.

The DEA adequately describes the wildlife resources in the area and describes the impacts that the proposed project could have on these resources. In addition, the DEA mentions methods that could be implemented to eliminate or reduce potential project-related impacts. Specifically, the DEA notes the presence of the endangered dark-rumped petrel (*Pterodroma phaeopygia sandwichensis*) and the potential negative project-related impacts to this species, as well as mitigation measures that will reduce or eliminate impacts to this seabird. This information was provided to the DOT by the Service in a letter dated February 25, 2000. However, the DEA fails to state which methods will be implemented to ensure that project-related impacts will be eliminated or reduced to this endangered species. If the Service is to support your anticipated Finding of No Significant Impact for the proposed project, then the final project design (i.e., environmental assessment) should include adequate measures to reduce or eliminate lighting and/or seabird collision impacts and these measures must be adequately described in the final environmental assessment (EA).

DEA for Lana`i Airport Improvements
Lana`i, Hawaii

The Service appreciates the opportunity to comment on this DEA and we hope that these comments are of use to you. We look forward to receiving a copy of the final EA when it is completed. If you have any questions regarding these comments, please contact Fish and Wildlife Biologist Dave Hopper by phone at (808) 541-3441 or by facsimile at (808) 541-3470.

Sincerely,

for Paul Henson
Field Supervisor
Ecological Services

cc: DLNR, Honolulu
DOFAW, Maui, Honolulu
FAA, Honolulu

NPC

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

IN REPLY REFER TO:

August 1, 2000

AIR-P
00.0403

Mr. Paul Henson
Field Supervisor
Ecological Services
Fish and Wildlife Service
U.S. Department of Interior
P.O. Box 50088
Honolulu, Hawaii 96850

Dear Mr. Henson:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of June 27, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). As requested, the Final EA will address mitigation measures that will reduce or eliminate impacts to the endangered dark-rumped petrel. The Final EA will also include additional measures to reduce or eliminate lighting and/or seabird collision impacts.

Please contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

Sincerely,

JERRY M. MATSUDA, P.E.
Airports Administrator

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
2550 Campus Road • Crawford 317 • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

June 29, 2000
EA: 01201

Mr. Jerry Matsuda
Department of Transportation
Airports Division
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819

Dear Mr. Matsuda:

Lanai Airport Master Plan Update
Draft Environmental Assessment
Lanai

In 1990, an Environmental Impact Statement was completed for Lanai Airport, based on the proposed actions recommended in the 1990 Master Plan. The proposed airport improvements were found to have no significant impacts.

The Master Plan was updated in 1999 by re-evaluating and adjusting the previous 1990 Master Plan. As a result, the proposed actions in this Environmental Assessment cover the same proposed actions and environmental impacts studied in the 1990 Environmental Impact Statement as well as any adjustments made to the 1990 Master Plan and presented in the 1999 Master Plan Update.

The proposed action consists of the following:

Airfield Facilities
- 2,000 foot runway extension to the northeast
- Parallel and additional entry/exit taxiways
- Expansion of the apron and overlay of the existing runway and apron pavement

Terminal Facilities
- Expansion of the passenger terminal building
- Expansion of the automobile parking facilities

This review was conducted with the assistance of James Moncur, Water Resources Research Center; and Cameron Lowry, Environmental Center.

General Comments

We found this environmental assessment to be incomplete in several areas and in need of additional detail. It was not clear from the rationale stated on pages 1-4 to 1-5 what type of aircraft would be using the airfield above and beyond those already landing there. We may assume that larger aircraft requiring a longer runway for takeoffs and landings will be employed, but none are listed. Only on page 2-8, in the section on Impacts and Mitigation Measures for Noise, is any new aircraft mentioned. We believe that if larger aircraft will be landing at the airport, they should be identified in the draft EA.

Minor questions were raised regarding the underlying intent of the proposed action. In Section 1-5 "Rationale for Action", it is stated that "The proposed expansion of major facilities is based on expansion capability and efficiency in airport operations." It is not clear if the proposed action is based on safety issues or on forecasted higher passenger demand. While not critical, this clarification is useful in providing a better understanding of the full rationale for the project.

We note that the Table 1-1 on page 1-5 **Passenger Demand Forecast** predicts that passenger arrivals will more than double over a 22 year period. The social impacts of the increase are not discussed anywhere in the draft EA with the exception of Economic Activity on pages 2-12 to 2-13. Economic activity is only one measure of social impact. We believe that there will be profound, long-term, secondary social impacts caused by the large numbers of additional visitors coming to Lanai. These impacts should be discussed in greater detail in the EA. Will there be, for example, more hotel constructed to house additional visitors? Will new retail facilities move to Lanai? What will be the impact on the existing stores?

In addition to our general comments we have the following specific comments.

Phases

According to the draft EA on page 1-7, phase 1 will take 10 years to complete. Why will it take so long? It seems that lengthening the runway to 7000 feet can be done more quickly than that.

Lanai Community Plan

The Lanai Community Action Plan, as indicated on page 2-2 of the draft EA, states that "the runway at Lanai Airport should not be extended in the direction of Lanai City." What was the reason the community felt that the runway should not be extended towards Lanai City? Why can't that section of the community plan be accommodated? We believe that this issue should be dealt with in greater depth in the EA.

Flora and Fauna

In this section under Impacts and Mitigation Measures on page 2-5, the draft EA states that the Division of Forestry and Wildlife (DOFAW) "should be contacted as part of the final project." Does this mean they will be contacted or they might be contacted? We believe the

Historical and Archeological Resources

On a more whimsical note, we doubt that "the project was utilized during traditional times for agricultural and probably associated habitation" as stated on page 2-12 of the draft EA. We think the authors meant that the project *site* was utilized during traditional times.

Determination

Section IV, Determination #7 claims that "The proposed action does not detrimentally affect air, water, or ambient noise levels" as part of the basis for a Finding of No Significant Impact. However, in Section 2.8.1 "Impacts and Mitigation Measures" it is stated that "Impacts associated with the increased single event noise levels at Lanai City may occur as a result of the proposed runway extension from 5,000 feet to 7,000 feet. With the completion of the proposed runway extension, larger jet aircraft arriving on Runway 21 may fly over portions of Lanai City. Increases of aircraft noise levels are predicted to occur during landings on Runway 21, and may be in the order of 8 to 9 dB above current noise levels. In addition, with the runway extended by 2,000 feet to the northeast, there maybe a greater tendency of aircraft to overfly existing residences at Kaumalapau Harbor following departures from Runway 21." Despite the proposed mitigative measures we find the two statements to be contradictory and that the proposed action does have the potential to generate significant noise impacts.

Conclusions

This draft EA needs work in order to be considered a full disclosure document. We hope you will address our concerns in a revised draft EA that will be open to the public for additional review.

Thank you for the opportunity to review this draft environmental assessment.

Sincerely,

Peter Rappa
Assistant Environmental Coordinator

cc: OEQC
James Moncur, WRRC
Cameron Lowry, Environmental Center

KFC

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

LEADING HAWAII INTO THE NEW MILLENNIUM
1959 2000+

August 1, 2000

IN REPLY REFER TO:

AIR-P
00.0407

Mr. Peter Rappa
Assistant Environmental Coordinator
Environmental Center
University of Hawaii
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

Dear Mr. Rappa:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of June 29, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). The following are our responses to your comments:

1. **General Comments.** It is not within the scope of the Lanai Airport EA to address the social or economic impact of the increase in passengers on the island. The purpose of the EA is to address the environmental impact of the improvements necessary to accommodate the increase in passengers. Airports themselves do not increase passenger traffic to a destination. It is the facilities and visitor attractions on Lanai that promote the increase in tourists.

   Additional information involving the proposed aircraft that may use Lanai Airport in the future will be added in the Final EA.

2. **Phases.** The phases given in the Master Plan and the EA are time periods and are not meant to prescribe a set completion date. This means that the runway extension could be completed anytime within the period up to 2010.

3. **Lanai Community Plan.** This issue will be further clarified in the Final EA.

4. **Flora and Fauna.** The U.S. Department of Interior, Fish and Wildlife Service, was contacted as part of the EA process. Their comments will be incorporated into the Final EA.

5. **Historical and Archeological Resources.** The Final EA will be corrected per your comments.

6. **Determination.** As requested, the noise impacts of the project will be further clarified in the Final EA. Please note that a thorough Noise Compatibility Program in accordance with the Federal Aviation Administration (FAA) requirements was completed in 1999. This noise study determined that based on the projected aircraft traffic, there is no incompatible land use on Lanai through the year 2020.

Please contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

Sincerely,

JERRY M. MATSUDA, P.E.
Airports Administrator

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

1739

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:

July 5, 2000

00-090/epo

Mr. Jerry M. Matsuda, P.E.
Airports Administrator
Department of Transportation, Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

Subject: Draft Environmental Assessment
Lanai Airport Master Plan Update (State Project No. AM4011-02)
Lanai, Hawaii
TMK: 4-9-02:1, 41, 55, and 56

Thank you for allowing us to review and comment on the subject plan. We have the following comments to offer:

Noise

1. Activities associated with the construction of the project shall comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control."

   a. The contractor shall obtain a noise permit if the noise levels from the construction activities are expected to exceed the maximum permissible sound levels of the regulations as stated in Section 11-46-6(a).

   b. Construction equipment and on-site vehicles requiring an exhaust of gas or air shall be equipped with mufflers as stated in Section 11-46-6(b)(1)(A).

   c. The contractor shall comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d)(4).

Should there be any questions on this matter, please call

Mr. Russell Takata, Program Manager, Noise, Radiation and Indoor Air Quality Branch at 586-4701.

Sincerely,

Gary Gill
Deputy Director
Environmental Health Administration

c: NRIAQ

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

NFC

August 3, 2000

IN REPLY REFER TO:

AIR-P
00.0405

TO: GARY GILL, DEPUTY DIRECTOR
ENVIRONMENTAL HEALTH ADMINISTRATION
DEPARTMENT OF HEALTH

FROM: JERRY M. MATSUDA, P.E.
AIRPORTS ADMINISTRATOR

SUBJECT: LANAI AIRPORT
DRAFT ENVIRONMENTAL ASSESSMENT
STATE PROJECT NO. AM4011-02

Thank you for your letter of July 5, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). Your comments concerning the noise aspects of the project during construction will be incorporated into the Final EA.

Please contact Lynn Becones, Planner, at 838-8811 to clarify any questions you may have.

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 19, 2000

Mr. Jerry Matsuda, P.E.
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

RE: Draft Environmental Assessment for the Lanai Airport, March 2000, TMK: 4-9-2:1, 41, 46, and 47, Lanai, Hawaii

The Maui Planning Department has reviewed the above-mentioned draft and has no additional comments beyond what was originally stated in our pre-consultation letter dated April 4, 2000 (enclosed).

Thank you for the opportunity to comment. Should you have any questions, please contact Mr. Daren Suzuki, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:DMS:cmb
Enclosure
c: Clayton Yoshida, AICP, Deputy Director of Planning
Daren Suzuki, Staff Planner
Project File
General File
S:\ALL\DAREN\AIRPORTE.DFT

0887

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

April 4, 2000

Mr. Jerry Matsuda, P.E.
Airports Administrator
Airports Division
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

Dear Mr. Matsuda:

RE: Environmental Assessment Pre-Consultation for the Lanai Airport, TMK: 4-9-2:1, 41, 46, and 47, Lanai, Hawaii

The Maui Planning Department has reviewed your request for pre-consultation on the proposed improvements at the Lanai Airport, and offer the following comments:

1. The Environmental Assessment should address compliance with the Lanai Community Plan Map and the Objectives, Policies, and Recommendations contained therein.

2. It is advised that the Lanai community be consulted about this project.

Thank you for the opportunity to comment. Should you have any questions, please contact Daren Suzuki, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:DMS:cmb
c: Clayton Yoshida, AICP, Deputy Director of Planning
Daren Suzuki, Staff Planner
Project File
General File S:\ALL\DAREN\AIRPORT.EA

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

AIR-P
00.0404

August 3, 2000

Mr. John Min
Director
Planning Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Subject: Lanai Airport
Draft Environmental Assessment
State Project No. AM4011-02

Thank you for your letter of July 19, 2000, commenting on the Lanai Airport Draft Environmental Assessment (EA). Your comments concerning the Lanai Community Plan and consultation with the Lanai community will be incorporated into the Final EA.

Please note that the Airports Division's position is to recommend an amendment of the Lanai Community Plan so that the extension of the runway can be accomplished.

Please contact Lynn Becones, Planner, at (808) 838-8811 to clarify any questions you may have.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

c: KFC Airport, Inc. (B. Bowers)
Federal Aviation Administration (D. Welhouse)

bc: AIR-L
AIR-M

LB:nf

APPENDIX D

BOTANICAL SURVEY

BOTANICAL SURVEY

LANA'I AIRPORT EXPANSION

ISLAND OF LANA'I, HAWAI'I

By

Winona P. Char

CHAR & ASSOCIATES

Botanical / Environmental Consultants
Honolulu, Hawaii

Prepared for: PARK ENGINEERING
December 1989

SECTION 1
INTRODUCTION

1.1 OVERVIEW

On 10 November 1989, a botanical survey of the lands proposed for expansion of the Lana'i Airport was conducted. Vegetation on the project site consists principally of actively cultivated pineapple fields while smaller portions of the site support scrub vegetation whose main components are a mixed association of grasses and scattered shrubs. These areas with scrub vegetation, for the most part, represent fallow fields now overgrown. A total of 43 species of vascular plants occur on the site. Of these, 39 (91%) are introduced or alien species and 4 (9%) are native. None of the species inventoried is considered rare, threatened, or endangered.

1.2 SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Topo-Graphic maps were examined to determine access onto the site, terrain characteristics, boundaries, and reference points.

A walk-through survey method was employed. Uncultivated areas were more likely to harbor native species and were thus more intensively examined. Notes were made on plant associations and distribution, substrate types, topography, exposure, etc. Species which could not be positively identified were collected for later determination in the herbarium (U. H., Manoa) and for comparison with the recent taxonomic literature.

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SECTION 2

DESCRIPTION OF THE VEGETATION

2.1 PINEAPPLE FIELDS

Roughly 70% of the lands proposed for the airport expansion are presently under pineapple cultivation. Some fields have been recently harvested, others contain plants with very young, green fruit. Pineapple plants (Ananas comosus) are xeromorphic, rosette-shaped, short-stemmed perennials with long, stiff, prickly-edged, bluish-gray leaves. Each plant bears one fruit; the fruit, a multiple fruit, consists of many six-sided berries arranged spirally and embedded in the juicy pulp of the stem (Neal 1965). They are planted in rows following along the contour of the land and, at maturity, form an almost closed, gray-green, harsh vegetation up to 3 ft. tall.

There are few weedy species associated within the fields themselves as the closely packed pineapple plants tend to exclude all other species. However, along the margins of fields, along roadsides, and drainage ditches, clumps of weedy species are found. The most commonly encountered plants are sourgrass (Digitaria insularis), Guinea grass (Panicum maximum), Natal redtop (Rhynchelytrum repens), Dallis grass (Paspalum dilatatum), and ʻuhaloa (Waltheria indica). Pangolagrass (Digitaria decumbens) is found along one of the main roads where it has been planted for soil erosion control.

One field on the southern portion of the project site has recently been harvested and the crop plowed under. This open field supports scattered patches of grasses, weedy herbs, and small shrubs such as balloon plant (Asclepias physocarpa), wild bittermelon (Momordica charantia), Natal redtop, Guinea grass, Asiatic butter- fly bush (Buddleia asiatica), hairy horseweed (Conyza bonariensis),

and weed verbena (Verbena litoralis). Locally common are pineapple plants which have resprouted.

2.2 SCRUB VEGETATION

Generally, scrub vegetation occurs on abandoned pineapple fields; black plastic strips used for mulching as well as a few pineapple plants can still be found in these areas. On fields which have been abandoned for some time, the weedy plant cover may be 80 to 90%. Scrub vegetation is typified by a mixed grass association, principally Guinea grass, Dallis grass, sourgrass, and Natal redtop, and scattered shrubs and subshrubs. These include balloon plant, 'ilima (Sida fallax), Asiatic butterfly bush, 'uhaloa, haole-koa (Leucaena leucocephala), indigo (Indigofera suffruticosa), and Cuba jute (Sida rhombifolia). A few small shrubs of the native false sandalwood or naio (Myoporum sandwicense) and a'ali'i (Dodonaea viscosa), 3 to 5 ft. tall, also occur in this vegetation type. Locally abundant in the scrub is the yellow-flowered telegraph plant (Heterotheca grandiflora).

Also included in the scrub vegetation type is a portion of the small gulch located near Kaupili Road. Because of the steepness of its slopes, this area has never been cultivated. The scrub on this part of the study site consists of clumps of koa-haole shrubs interspersed among Guinea grass. One small stand of ironwood trees (Casuarina equisetifolia), 12 to 18 ft. tall, and a few scattered trees of silk-oak trees (Grevillea robusta) also occur in this area. Common in this scrub are 'ilima and the lavender-flowered koali vine (Ipomoea cairica)

2.3 THREATENED AND ENDANGERED PLANTS

No officially listed threatened or endangered plants occur on the project site; nor are there any plants candidate or proposed for

such status on the property (U. S. Fish and Wildlife Service 1985; Herbst 1987).

Four plant species occurring on the site are considered indigenous, i.e., native to the Hawaiian Islands and elsewhere; these are the 'ilima, 'uhaloa, naio, and a'ali'i. These four species are found throughout the islands in similar environmental habitats. No endemic plants , i.e., native only to the islands, were found during the field studies.

SECTION 3

DISCUSSION AND RECOMMENDATIONS

3.1 SUMMARY OF FINDINGS

The majority of the vegetation on the site consists of actively cultivated pineapple fields, Weedy species associated with agricultural lands are found more commonly along the less well-maintained areas such as roadsides, drainageways, and margins of fields. Scrub vegetation, which covers roughly 30% of the property, is usually found on abandoned pineapple fields. This vegetation type is composed of a mixed grass association with scattered shrubs. A small gulch area near Kaupili Road supports scattered koa-haole shrubs and Guinea grass scrub.

There is very little of botanical interest within the lands proposed for the airport expansion. Actively cultivated fields or weedy scrub are the major vegetation types. Of the 43 species inventoried on the site, 39 (91%) are introduced. Because of the past agricultural activities, there are no sensitive native plant communities remaining on the study site. None of the native plants are rare, threatened, or endangered.

3.2 RECOMMENDATIONS

There are no botanical limitations to the development of the project site. The proposed expansion of the airport is not expected to have a significant negative impact on the total island-wide populations of the species involved; the majority are introduced and the few natives on the site also occur in similar environmental habitats throughout the islands.

Of some concern, however, is the loss of soil through wind and water. It is recommended that areas cleared or grubbed of vegetation be landscaped as quickly as possible. Native plants found on Lana'i are suggested for landscaping as they are already adapted to the local growing conditions. They would require less water and maintenance. Two native shrubs, the false sandalwood or naio and a'ali'i, already occur on the site and are doing well. The naio has attractive, glossy green leaves and fragrant white flowers. A'ali'i is a hardy, drought-tolerant shrub which produces showy red, papery flowers. Other natives which could be used include the Lana'i nehe (Lipochaeta); all the Hawaiian nehes are closely related to Wedelia, a commonly used ground cover. Wiliwili (Erythrina sandwicensis), with its many-hued pastel colors ranging from chartreuse to salmon-red, would make an excellent tree specimen.

SECTION 4

PLANT SPECIES FOUND ON THE SITE

Following is a checklist of all those vascular plants inventoried during the field studies. Plant families are arranged alphabetically within two groups of flowering plants: Monocots and Dicots. The taxonomy and nomenclature of the flowering plants follow Wagner et al. (in press). In most cases, common English and/or Hawaiian names given follow St. John (1973) or Porter (1972).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name, when known.
3. Biogeographic status. The following symbols are used:
   I = indigenous = native to the islands and also to one or more other geographic area(s).
   X = introduced or alien = all those plants brought to the islands intentionally or accidentally after Western contact (1778).

Note -- no endemic plants (i.e., native only to the islands) or Polynesian introduced plants (i.e., introduced prior to 1778) were found on the site during the field studies.

SCIENTIFIC NAME	COMMON NAME	STATUS
MONOCOTS		
BROMELIACEAE (Pineapple Family)		
Ananas comosus (Stickm.) Merr.	pineapple	X
POACEAE (Grass Family)		
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X
Cenchrus echinatus L.	common sandbur, 'ume'alu	X
Chloris barbata (L.) Sw.	swollen finger grass, mau'ulei	X
Chloris gayana Kunth	Rhodes grass	X
Digitaria decumbens Stent	pangolagrass	X
Digitaria insularis (L.) Mez. ex Ekman	sourgrass	X
Eleusine indica (L.) Gaertn.	wire grass	X
Panicum maximum Jacq.	Guinea grass	X
Paspalum dilatatum Poir	Dallis grass	X
Rhynchelytrum repens (Willd.) Hubb.	Natal redtop	X
DICOTS		
AMARANTHACEAE (Amaranth Family)		
Amaranthus viridus L.	slender amaranth, pakai	X
ASCLEPIADACEAE (Milkweed Family)		
Asclepias physocarpa (E. Mey.) Schlechter	balloon plant	X
ASTERACEAE (Sunflower Family)		
Bidens pilosa L.	Spanish needle, beggar's tick	X
Calyptocarpus vialis Less.	hierba del cabello	X
Conyza bonariensis (L.) Cronq.	hairy horseweed, ilioha	X
Emilia fosbergii Nicolson	red pualele	X
Emila sonchifolia (L.) DC.	purple pualele	X
Heterotheca grandiflora Nutt.	telegraph plant	X
Sonchus oleraceus L.	sow thistle, pualele	X
BRASSICACEAE (Mustard Family)		
Lepidium virginicum L.	wild peppergrass	X

SCIENTIFIC NAME	COMMON NAME	STATUS
BUDDLEJACEAE (Butterfly Bush Family)		
Buddleia asiatica Lour.	Asiatic butterfly bush, huelo-'ilio	X
CASUARINACEAE (Ironwood Family)		
Casuarina equisetifolia L.	common ironwood	X
CHENOPODIACEAE (Goosefoot Family)		
Atriplex semibaccata R. Br.	Australian saltbush	X
CONVOLVULACEAE (Morning-glory Family)		
Ipomoea cairica (L.) Sweet	koali	X?
Merremia aegyptia (L.) Urban	hairy merremia, koali kua hula	X?
CUCURBITACEAE (Gourd Family)		
Momordica charantia L.	wild bittermelon	X
EUPHORBIACEAE (Spurge Family)		
Chamaesyce hirta (L.) Millsp.	hairy spurge, garden spurge	X
FABACEAE (Pea Family)		
Desmodium triflorum (L.) DC.	three-flowered beggarweed	X
Indigofera suffruticosa Mill.	indigo, 'iniko	X
Leucaena leucocephala (Lam.) de Wit	koa haole	X
Macroptilium lathyroides (L.) Urb.	cow pea	X
MALVACEAE (Mallow Family)		
Malvastrum coromandelianum (L.) Garcke	false mallow, hauuoi	X
Sida fallax Walp.	ilima	I
Sida rhombifolia L.	Cuba jute	X
MYOPORACEAE (Myoporum Family)		
Myoporum sandwicense A. Gray	naio, false sandalwood	I
PLANTAGINACEAE (Plantain Family)		
Plantago lanceolata L.	narrow-leaved plantain	X

SCIENTIFIC NAME	COMMON NAME	STATUS
PORTULACACEAE (Purslane Family)		
Portulaca oleracea L.	common purslane, pigweed	X
PROTEACEAE (Protea Family)		
Grevillea robusta A. Cunn. ex R. Br.	silk oak	X
SAPINDACEAE (Soapberry Family)		
Dodonaea viscosa Jacq.	a'ali'i	I
SOLANACEAE (Tomato Family)		
Lycopersicon pimpinellifolium (Jusl.) Mill.	wild tomato, current tomato	X
STERCULIACEAE (Cocoa Family)		
Waltheria indica L.	uhaloa, hi'aloa	I?
VERBENACEAE (Verbena Family)		
Verbena litoralis Kunth	owi, oi	X

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APPENDIX E

FAR PART 150 NOISE COMPATIBILITY PROGRAM

APPENDIX E
FAR PART 150 NOISE COMPATIBILITY PROGRAM

The FAR Part 150 Airport Noise Compatibility Study was prepared for the Hawaii State Department of Transportation, Airports Division (DOT) by KFC Airport, Inc. and its subconsultant, Y. Ebisu & Associates. Two reports (Volume I and Volume II) were prepared in conjunction with this FAR Part 150 study for Lanai Airport. Volume I presents background information concerning Lanai Airport and describes the methodology used to prepare Base Year (1999) and Fifth Year (2004) Noise Exposure Maps for Lanai Airport, Lanai. The maps are two of the products resulting from an Airport Noise Compatibility Study of the airport. Volume II includes the recommended Noise Compatibility Program for Lanai Airport, which was developed in conjunction with airport users, community organizations, interested individuals, and government officials. The study was funded through a grant to the DOT from the Federal Aviation Administration, U.S, Department of Transportation (FAA). The Noise Compatibility Program study was prepared in accordance with the provisions of Federal Aviation Regulations (FAR) Part 150 Airport Noise Compatibility Planning.

The U.S. Congress adopted the Aviation Safety and Noise Abatement Act of 1979 in order to standardize the noise compatibility planning process and to provide limited immunity from litigation to those airport proprietors who participate in the development and public disclosure of Airport Noise Exposure Maps. The FAR Part 150 Airport Noise Compatibility Planning Program implements portions of this act. More specifically, it establishes a single system for the measurement of airport (and background) noise, a standardized procedure for determining the exposure of individuals to noise; and a formal airport noise compatibility planning process.

The process:

- Provides for "Noise Exposure Maps" and "Noise Compatibility Programs" to be developed by airport operators in cooperation with other interested parties and submitted to the FAA for review and approval;
- Establishes standard noise units, methods, and analytical techniques to be used in assessing airport noise;
- Identifies the land uses that are generally compatible with various noise levels around airports; and
- Defines the procedures and criteria that are to be used by the FAA in judging whether or not the part 150 programs submitted to it are acceptable.

The Airport Noise Compatibility Planning Program included land use planning and implementation elements deemed necessary to achieve the objectives of the Aviation Safety and Noise Abatement Act of 1979. According to FAA Advisory Circular (AC) 150/5020-1 "Noise Control and Compatibility Planning for Airports";

> "The Act does not in any way, however, interfere with the established prerogatives of state and local governments concerning land use and related noise compatibility actions and responsibilities. Accordingly, approvals and disapprovals of programs submitted to the FAA under Part 150 do not constitute a federal determination that the use of land covered by the program is acceptable or unacceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses remains with local authorities."

Participation in the FAR Part 150 program is voluntary, but it carries with it several benefits, including the following:

- The methodology incorporated in the planning process is based on scientific studies, which identify land uses normally compatible with various levels of airport noise.

- The program gives airport operators access to technical guidance from the FAA and federal financial assistance under the Airport Improvement Program for the preparation of the plan.

- The program contains a strong public participation component that promotes extensive consultation and interaction between airport operators, airport neighbors, local land use control agencies, and the FAA; this promotes broad-based public confidence in the plan and support for its implementation over the long-term.

- Local governments are eligible for federal financial assistance for projects carried out in accordance with FAR Part 150 Plans that have been accepted by the FAA.

- Section 107 of the Aviation Safety and Noise Abatement Act of 1979 makes available certain sanctions, which protect airport operators with approved noise compatibility programs against suits by neighboring landowners.

Approvals of the recommended Noise Compatibility Plan are normally granted by the FAA if the following conditions are met:

- The program measures to be implemented would not create an undue burden on interstate or foreign commerce (including any unjust discrimination), and are reasonably consistent with achieving the goals of reducing existing incompatible land uses around the airport and of preventing the introduction of additional incompatible land uses.

- The program provides for revision if changes occur in the Noise Exposure Map.

- Those aspects of programs relating to the use of flight procedures for noise control can be implemented within the period covered by the program and without:

    - Reducing the level of aviation safety provided;

    - Derogating the requisite level of protection for aircraft, their occupants and persons and property on the ground;

    - Adversely affecting the efficient use and management of the Navigable Airspace and Air Traffic Control Systems; or

    - Adversely affecting any other powers and responsibilities of the Administrator (FAA) prescribed by law or any other program, standard, or requirement established in accordance with law.

- A notice and an opportunity for a Public Hearing on the Noise Compatibility Plan were provided.

The specific goals for the first phase of the Lanai Airport FAR Part 150 Program Update include the following:

- Development of the maps and supporting technical documentation needed to comply with Section 103 of the Aviation Safety and Noise Abatement Act of 1979 and Sub-Part B of Appendix A of FAR Part 150 (these specify the standards, methodology, and procedures to be used in preparing and submitting aircraft noise exposure maps to the FAA for approval).

- Coordination with, and the fullest possible utilization of information developed for, the Lanai Airport Master Plan.

- Development of data bases of socio-economic, demographic, and land use information to be used during the second phase of the FAR Part 150 Study in analyzing noise abatement and land use compatibility alternatives.

- Compliance with the public consultation provisions of FAR Part 150.

- Adherence to the standards, methodology, and procedures specified in SubParts B and C of FAR Part 150 for the development of airport noise compatibility plans.

In addition to disclosure of the airport noise levels, the other objective of this noise compatibility study was to achieve the following goals of the FAR Part 150 Program at Lanai Airport:

- To confine the 75 DNL contour to within the airport boundaries.

- To establish and maintain compatible land uses within the airport noise contours.

The State DOT keeps its neighbors aware of development plans for airports through a program of public news releases, public informational meetings, and periodic meetings with residents and government officials. Staff members are available on request to meet with those concerned with airport related issues. The DOT is responsible for receiving and responding to complaints concerning aircraft noise. Where preliminary investigations indicate it would be appropriate, more formal investigations are initiated to determine the cause of, and potential solutions to, aircraft noise problems.

TABLE E-1

HAWAII STATE DEPARTMENT OF TRANSPORTATION RECOMMENDATIONS FOR LOCAL LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS (DNL).

TYPE OF LAND USE	**** Yearly Day-Night Average Sound Level ***					
	< 60	60-65	65-70	70-75	75-80	80-85
RESIDENTIAL						
Low density residential, resorts, and hotels (outdoor facil.)	Y(a)	N(b)	N	N	N	N
Low density apartment with moderate outdoor use	Y	N(b)	N	N	N	N
High density apartment with limited outdoor use	Y	N(b)	N(b)	N	N	N
Transient lodgings with limited outdoor use	Y	N(b)	N(b)	N	N	N
PUBLIC USE						
Schools, day-care centers, libraries, and churches	Y	N(c)	N(c)	N(c)	N	N
Hospitals, nursing homes, clinics, and health facilities	Y	Y(d)	Y(d)	Y(d)	N	N
Indoor auditoriums and concert halls	Y(c)	Y(c)	N	N	N	N
Government services and office buildings serving the general public	Y	Y	Y(d)	Y(d)	N	N
Transportation and Parking	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
COMMERCIAL AND GOVERNMENT USE						
Offices – government, business and professional	Y	Y	Y(d)	Y(d)	N	N
Wholesale and retail – building materials, hardware and heavy equipment	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
Airport business – car rental, tours, lei stands, ticket offices, etc.	Y	Y	Y(d)	Y(d)	N	N
Retail, restaurants, shopping centers, financial institutions, etc.	Y	Y	Y(d)	Y(d)	N	N
Power plants, sewage treatment plants, and base yards	Y	Y	Y(d)	Y(d)	Y(d)	N
Studios without outdoor sets, broadcasting, production facilities, etc.	Y(c)	Y(c)	N	N	N	N
MANUFACTURING, PRODUCTION, AND STORAGE						
Manufacturing, general	Y	Y	Y(d)	Y(d)	Y(d)	N
Photographic and optical	Y	Y	Y(d)	Y(d)	N	N
Agricultural (except livestock) and forestry	Y	Y(e)	Y(e)	Y(e)	Y(e)	Y(e)
Livestock farming and breeding	Y	Y(e)	Y(e)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(f)	Y(f)	N	N	N
Outdoor music shells, amphitheaters	Y(f)	N	N	N	N	N
Nature exhibits and zoos, neighborhood parks	Y	Y	Y	N	N	N
Amusements, beach parks, active playgrounds, etc.	Y	Y	Y	Y	N	N
Public golf courses, riding stables, cemeteries, gardens, etc.	Y	Y	N	N	N	N
Professional/resort sport facilities, locations of media events, etc.	Y(f)	N	N	N	N	N
Extensive natural wildlife and recreation areas	Y(f)	N	N	N	N	N

Numbers in parentheses refer to notes.

KEY TO TABLE E-1:

Y(Yes) = Land Use and related structures compatible without restrictions.
N(No) = Land Use and related structures are not compatible and should be prohibited.

TABLE E-1 (CONTINUED)

HAWAII STATE DEPARTMENT OF TRANSPORTATION RECOMMENDATIONS FOR LOCAL LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS (DNL).

NOTES FOR TABLE E-1:

(a) A noise level of 60 Ldn does not eliminate all risks of adverse noise impacts from aircraft noise. However, the 60 Ldn planning level has been selected by the State Airports Division as an appropriate compromise between the minimal risk Level of 55 DNL and the significant risk Level of 65 DNL.

(b) Where the community determines that these uses must be allowed, Noise Level Reduction (NLR) measures to achieve interior levels of 45 DNL or less should be incorporated into building codes and be considered in individual approvals. Normal local construction employing natural ventilation can be expected to provide an average NLR of approximately 9 dB. Total closure plus air conditioning may be required to provide additional outdoor to indoor NLR, and will not eliminate outdoor noise problems.

(c) Because the DNL noise descriptor system represents a 24-hour average of individual aircraft noise events, each of which can be unique in respect to amplitude, duration, and tonal content, the NLR requirements should be evaluated for the specific land use, interior acoustical requirements, and properties of the aircraft noise events. NLR requirements should not be based solely upon the exterior DNL exposure level.

(d) Measures to achieve required NLR must be incorporated into the design and construction of portions if these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

(e) Residential buildings require NLR. Residential buildings should not be located where noise is greater than 65 DNL.

(f) Impact of amplitude, duration, frequency, and tonal content of aircraft noise events should be evaluated.

TABLE E-2

FAR PART 150 RECOMMENDATIONS FOR LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS (DNL)

TYPE OF LAND USE	**** Yearly Day-Night Average Sound Level ***					
	< 65	65-70	70-75	75-80	80-85	> 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings.	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient Lodgings	Y	N(1)	N(1)	N(1)	N	N
PUBLIC USE						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail – building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade – general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agricultural (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parentheses refer to notes.

*The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissable land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

TABLE E-2 (CONTINUED)

FAR PART 150 RECOMMENDATIONS FOR LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS (DNL)

KEY TO TABLE E-2:

SLUCM	=	Standard Land Use Coding Manual.
Y(Yes)	=	Land Use and related structures compatible without restrictions.
N(No)	=	Land Use and realted structures are not compatible and should be *prohibited.*
NLR	=	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuations into the design and constructure of the structure.
25, 30, or 35	=	Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure

NOTES FOR TABLE E-2:

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Redustion (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminated outdoor noise problems.
(2) Measures to achieve NLR 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
(3) Measures to achieve NLR of 30 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
(4) Measures to achieve NLR 35 must be incorportated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
(5) Land use compatible provided special sound reinforcement systems are installed.
(6) Residential buildings require a NLR of 25.
(7) Residential buildings require a NLR of 30.
(8) Residential buildings not permitted.

Source: FAR Part 150, Appendix A, Table 1.