Mr. Gary Gill, Director  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii  96813

Dear Mr. Gill:

Subject: Aircraft Rescue and Fire Fighting Training Facility  
Kahului Airport  
Project No. AM1033-15

In accordance with the requirements of Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Administrative Rules of the State Department of Health, a Final Environmental Assessment has been prepared for the subject project.

Notice of the availability of the Draft Environmental Assessment for the project was published in the May 8, 1995 edition of the OEQC Bulletin. Correspondence received during the public comment period, as well as our responses, have been included in the Final Environmental Assessment.

As the proposing agency, the State Department of Transportation, Airports Division has determined that there will be no significant impacts as a result of the project. Accordingly, we are filing the final Environmental Assessment as a negative declaration.

Enclosed are one (1) copy of the OEQC Bulletin Publication Form and four (4) copies of the Draft Environmental Assessment. We respectfully request that notice of the Final Environmental Assessment be published in the next edition of the OEQC Bulletin.

Very truly yours,

Owen Miyamoto  
Airports Administrator

cc: Munekiyo & Arakawa, Inc.

Enclosures: As listed above
Final Environmental Assessment

Aircraft Rescue and Fire Fighting Training Facility at Kahului Airport

Prepared for: State of Hawaii
Department of Transportation

August 1995
Final Environmental Assessment

Aircraft Rescue and Fire Fighting Training Facility at Kahului Airport

Prepared for:

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Department of Transportation

August 1995
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Preface

The applicant, the State Department of Transportation (DOT) - Airports Division, is proposing to construct an Aircraft Rescue and Fire Fighting (ARFF) training facility at the Kahului Airport, Kahului, Maui, Hawaii. The proposed facility is located adjacent to, and makai of, the Runway 5-23 safety zone.

The proposed improvements will include an aircraft Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements.

The approximately 2.0-acre project site is situated within the State Urban District, and is identified by TMK (2) 3-8-01:por. 19. In addition, the project site is located within the Airport District as reflected by Maui County zoning and the Wailuku-Kahului Community Plan, respectively.

Since the proposed project involves State land and funding, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules. This Final EA evaluates environmental factors and impacts, and advances finding and conclusions relating to the significance of the completed actions.

In addition, the project site is located within the County of Maui’s Special Management Area (SMA). Accordingly, this report also assesses the proposed improvements with respect to County SMA objectives and policies.
Chapter 1

Introduction
INTRODUCTION

A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP

The applicant, the State of Hawaii, Department of Transportation (DOT) - Airports Division, is proposing to construct an Aircraft Rescue and Fire Fighting (ARFF) training facility situated at the Kahului Airport, Kahului, Maui, Hawaii. See Figure 1 and Figure 2. The proposed facility is located adjacent to, and makai of, the Runway 5-23 safety zone. See Figure 3. Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street.

Identified by TMK (2) 3-8-01:por. 19, the approximately 2.0-acre project site is characterized by an open, paved asphaltic concrete (A.C.) expanse situated within the northern fenced perimeter of the Kahului Airport. In addition to being occasionally used for aircraft parking, a portion of the site was formerly used for ARFF training exercises. With the exception of Kanaha Beach Park, a County recreational facility to the north, the lands immediately surrounding the project site are utilized entirely for airport operations.

The State of Hawaii is the fee simple owner of the underlying property. The project site is located in the Airport District as reflected by Maui County zoning and the Wailuku-Kahului Community Plan, respectively.

B. PROJECT NEED

Kahului Airport is the second busiest airport in the State. In 1993, a total of 172,265 aircraft movements (individual takeoffs and landings) were attributable to aircraft operating from Kahului Airport (County of Maui/MEDB, Inc., December 1994). The distribution of total aircraft movements is reflected in Table 1.
Figure 1  Aircraft Rescue and Fire Fighting Training Facility
Regional Location Map

Prepared for: State of Hawaii, Dept. of Transportation
Presently there are four (4) ARFF stations located at airports throughout Maui County. The Kahului station is staffed by three (3) shifts consisting of eight (8) fire fighters per 24-hour rotating shift, while the Lanai and Molokai stations are each staffed by five (5) fire fighters per 12-hour rotating shift. The Kapalua station also operates a 12-hour rotating shift and is staffed by two (2) fire fighters. In addition, the Kapalua, Lanai, and Molokai stations are augmented by a total of seventeen (17) volunteer fire fighters (Interview with Chief Pat Fevella, Kahului Airport Fire Station, March 1995).

Each station is also equipped with ARFF vehicles capable of dispensing water, aqueous film forming foam (AFFF), dry chemical agents, and halon. Measured in gallons of water capacity, the Kahului station is equipped with two (2) 1,500-gallon and two (2) 3,000-gallon ARFF vehicles, while the Kapalua station is equipped with a single 500-gallon vehicle and a skid-mounted unit containing 100 gallons of AFFF and 450 pounds of a dry chemical agent. The Lanai and Molokai stations are each
equipped with 1,000-gallon and 1,500-gallon vehicles (telephone conversation with Chief Pat Fevella, Kahului Airport Fire Station, March 1995).

In the event an emergency should occur at the Kahului, Kapalua, Lanai, or Molokai Airports, the immediate rescue of aircraft passengers would be the first priority of ARFF personnel, with fire suppression as a secondary objective. As the result of a reciprocal agreement between the County of Maui and the DOT, Maui County fire fighters will respond to emergencies when requested, and if available. However, due to traffic and travel distances, they may not be able to arrive on the scene during the critical first three (3) minutes of an emergency. (Pacific Planning & Engineering, Inc., July 1992).

Previously, annual training exercises involving Maui County ARFF personnel utilized a site in an area adjoining the proposed facility. Defined by an A.C. curb, the 80-foot x 80-foot site utilized the existing paved A.C. surface. The proposed facility is intended to replace the existing substandard facility with a modern permanent facility that meets EPA standards. Accordingly, the latest Kahului Airport Development Plan has targeted the implementation of a permanent ARFF training facility as a short-term development objective.

In addition to promoting public safety, as well as mission proficiency and readiness, the proposed facility will enable ARFF personnel to comply with FAA requirements for annual hot-fire training and certification. The proposed facility will also provide fire fighters with a functional, "closed" system capable of providing realistic training exercises in a safe, controlled setting without interrupting ongoing airport operations.
C. PROPOSED ACTION

The proposed facility will feature a modern fire fighting training system capable of providing ARFF personnel with the necessary training and certification required to enable fire fighters to control and extinguish large scale, aircraft fuel spill fires under various conditions while in the presence of fire, smoke, and high heat.

The proposed improvements involve the construction of an aircraft Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements. The fuel and water delivery and recovery systems will enable residual fuel and water to be recycled for future use. See Figure 4.

The FSFT will feature a flammable liquid hydrocarbon-fueled Fuel Spill Burn Area (FSBA). Liquid hydrocarbon fuel (a.k.a., Jet A), is a kerosene-based product similar to diesel, without the volatility of automotive or aviation gasolines. Although AFFF will also be utilized as a supplement, water will be the primary extinguishing agent used during all ARFF training exercises.

Consisting of a 150-foot diameter burn pit with a refractory concrete perimeter curb, the FSBA will be divided into four (4) quadrants from which flames will emanate. The burn pit will contain a top layer of heat-resistant, impervious rock followed by a layer of uncompacted aggregate base course and geotextile filter fabric. In addition, sand cushion layers, separated by a containment layer consisting of high density polyethylene (HDPE) flexible membrane liners separated by drainage nets, are also
Figure 4

Aircraft Rescue and Fire Fighting
Preliminary Site Plan

Source: R. T. Tanaka Engineers, Inc.

Prepared for: State of Hawaii, Dept. of Transportation
Fire Fighting Training Facility
Iminary Site Plan
proposed.

A truncated aircraft mockup, consisting of a fuselage, single wing, and tail and wing engine enclosures, will also be positioned on pedestals in the FSBA. Both tail and wing engine enclosures will have the capability of simulating a three-dimensional fire with leaking or cascading fuel.

To control the size of fuel spill simulations, each quadrant can be independently regulated from a control shed to provide a range of partial to full flame engulfment capabilities. To accomplish this, the burn pit will first be filled with water, with the water level not to exceed the height of each quadrant's rock layer and sector plate. Next, fuel will be conveyed from a 6,000-gallon underground fuel storage tank and directed into the appropriate quadrant(s) prior to being inflamed by a propane ignition system. Fire fighters will then utilize ARFF vehicles and handlines while employing various fire fighting techniques to quell the fire.

Upon the completion of training exercises, the water level in the appropriate quadrant(s) will be raised to allow the surface layer of residual fuel/water to exceed the height of each quadrant's sector plate. To accelerate and direct the surface layer of residual fuel/water toward appropriate drainage outlets in each quadrant, risers with jet spray nozzles will be installed along the perimeter of the burn pit. Next, the residual fuel/water will be conveyed to an underground fuel/water separator and recycled for approximately two (2) hours to ensure maximum separation. Upon completion of the recycling process, the 300-gallon per minute fuel/water separator will convey the residual fuel to an underground reburn fuel tank where it will be stored for future use. The remaining water will then be transported to a holding pond where it can also be used for future training exercises or allowed to dissipate through
evaporation. It should be noted that while the facility is not being utilized for annual training exercises, the water in the burn pit will be maintained at a level approximately 1-inch below the rock layer surface.

The 72-foot x 72-foot holding pond will be lined with a drainage net sandwiched between HDPE liners on a layer of sand bedding. A 2-1/2 foot concrete masonry unit (CMU) wall will encircle the holding pond to prevent frogs and toads from nesting and breeding. To facilitate maintenance, the water in the burn pit and holding pond can be alternately transferred between each facility.

Extending approximately 125 feet beyond the perimeter of the burn pit, the existing paved A.C. surface will be utilized by ARFF personnel for vehicle and personnel deployment during training exercises. A portion of the maneuvering area will encompass the former ARFF training site, necessitating the removal of its existing A.C. perimeter curb. Another portion of the existing paved A.C. surface will be excavated to install the facility's system of underground drain lines and fuel and water supply lines. Upon completion, layers of A.C. mix, asphalt-treated base, and aggregate base course will be used to restore the excavated portion of the maneuvering area.

Off-site improvements include a new 8-inch water line, which will be connected to an existing 8-inch water line. Related water system improvements also include the installation of valves, fire hydrants, and an 8-inch double detector check valve assembly.

To address environmental, safety, and operational requirements, appropriate construction materials and procedures, in conformance with all applicable County, State, and Federal standards, will be implemented.
in the construction and operation of the proposed improvements. In addition, equipment engineered to meet all applicable governmental design criteria will be utilized in the operation of the proposed facility.

D. CONSTRUCTION COST AND IMPLEMENTATION
Approximately $2.9 million has been allocated for the development of the proposed improvements. Upon the receipt of all applicable permits, construction is anticipated to commence in December, 1995. The construction of the proposed improvements is projected to last approximately nine (9) months.
Chapter II

Description of the Existing Environment
II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

With a land area of approximately 727 square miles, the island of Maui is the second largest of the Hawaiian Islands. Maui is flanked by the islands of Molokai to the northwest, Lanai to the west, Kahoolawe to the southwest, and the "Big Island" of Hawaii to the southeast.

Situated along the north shore of the isthmus separating Haleakala and the West Maui Mountains, the town of Kahului includes the State's second busiest airport and harbor facilities. With its proximity to transportation facilities and services, Kahului serves as a focal point for commercial and light industrial activities and has emerged as the island's center of commerce. The town of Wailuku, approximately two (2) miles north of Kahului, serves as the County seat of government.

Kahului Airport is located approximately 1.5 miles to the east of Kahului. The project site is situated with the northern fenced perimeter of the Kahului Airport and is characterized by an expanse of open, A.C. pavement.

Encompassing approximately 2.0 acres, the project site is located in an area adjoining Runway 5-23, within proximity of that runway's safety zone. Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street, a two-way, two-lane minor County roadway.
Existing land uses to the north of the project site include Kanaha Beach Park, a County recreational facility, and vacant, undeveloped land proposed for future park expansion. In addition to the land encompassed by the Runway 5-23 safety zone, land uses to the northeast of the project site include the single-family residences of the Spreckelsville Beach Lots subdivision. Fields of cultivated sugar cane typify land uses to the east and south, while commercial, public/quasi-public facilities, and vacant, undeveloped land exemplify land uses to the west of the project site.

2. **Climate**

Hawaii's tropical location accounts for generally uniform weather conditions throughout the year. Climatic conditions on Maui are characterized by mild and consistent year-round temperatures, moderate humidity, and steady northeasterly tradewinds. Variations in the island's weather are attributable to regional topographical and climatic conditions.

Based on data collected by the National Weather Services' meteorological facility at Kahului Airport, average monthly temperatures for 1993 ranged from 69.6 degrees in February, to 80.3 degrees in August. The average annual temperature for 1993 measured 75.9 degrees. In addition, rainfall for 1993 ranged from .09 inch in June, to 2.19 inches in January. Total precipitation for 1993 measured 12.69 inches (County of Maui/MEDB, Inc., December 1994).

The island of Maui lies within the path of the northeast tradewinds which predominate throughout most of the year. Although wind speeds at Kahului Airport can attain speeds of 40 to 45 miles per
hour (mph), the tradewinds typically range from ten (10) to twenty (20) mph during afternoons, with lighter wind conditions prevailing during the morning and evening periods. The diurnal heating and cooling of the land mass gives rise to onshore sea breezes during the day and offshore land breezes at night.

Between the months of October to April, storm-generated winds from the south spawn "Kona" storms which are often characterized by high winds and heavy rainfall. In the absence of the tradewinds and Kona storms, wind conditions may become light and variable.

3. **Topography and Soil Characteristics**

Located at elevations ranging from 8-feet to 11-feet above mean sea level, the project site is presently surfaced with A.C. pavement and features a slope of approximately one (1) percent.

Underlying the project site and surrounding area are soils of the Pulehu-Ewa-Jaucus association. See Figure 5. These soils are deep, well-drained soils that have a moderately fine textured to course textured subsoil, and are found on low uplands. Predominantly derived from coral and seashells, the soil specific to the project site is Dune Land (DL). See Figure 6. With elevations ranging from near sea level to 150 feet, dune land consists of windblown sand particles which have accumulated and formed hills and ridges. This soil type is used for recreational areas, wildlife habitat, and as a source for liming material.

4. **Flood and Tsunami Hazards**

The project site is located within Zone V23 as indicated by the Flood Insurance Rate Map for the County of Maui. See Figure 7.
Figure 5  Aircraft Rescue and Fire Fighting Training Facility Soil Association Map
Figure 6 Aircraft Rescue and Fire Fighting Training Facility Soil Classifications Map

Prepared for: State of Hawaii, Dept. of Transportation
Figure 7 Aircraft Rescue and Fire Fighting Training Facility
Flood Insurance Rate Map

Prepared for: State of Hawaii, Dept. of Transportation
Zone V23 is defined as an area of 100-year coastal flooding with wave action.

The average regulatory flood level at the project site is approximately 20-feet above mean sea level. Lands to the interior of the project site are situated within Zone A4, areas of 100-year flooding, and Zone C, areas of minimal flooding.

5. **Flora**
A botanical survey was conducted for the preparation of the Final Environmental Impact Statement (FEIS) for the Kahului Airport Master Plan Update. Vegetation observed in the vicinity of the project site include koa-haole shrubs with a dense cover of buffel grass, green panic grass, or Guinea grass among the shrubs. Of the 146 plant species inventoried during the survey, nineteen (19) were identified as native. Of the native species, eighteen (18) were found to be indigenous, that is, found in the State and elsewhere throughout the Pacific; however, only one (1) was found to be endemic, that is, native only to the islands.

As indicated in the survey, there are no officially listed threatened and endangered plants, or any plants proposed for listing, in the general vicinity of the project site (Pacific Planning & Engineering, Inc., July 1992).

6. **Fauna**
A bird and mammal field survey was also prepared in connection with the FEIS for the Kahului Airport Master Plan Update. The survey did not reveal any unusual concentrations of exotic, or introduced species. In addition to migratory and native species, the
survey noted that endemic and indigenous resident avifauna utilize Kanaha Pond, a wildlife sanctuary on the eastern outskirts of Kahului, for nesting, foraging, and resting. The survey also noted that Kanaha Pond's adjoining wetlands, coastal shoreline, and the grass covered areas around the airport's runways are also used by avifauna. Although avifauna may frequent the general vicinity, there are no known wetlands associated with the project site. As such, the project site does not offer a habitat for these species.

Feral mammals typically associated with the region include cats, mice, rats, and mongoose. There are no known endangered or threatened wildlife species observed within proximity of the project site (Pacific Planning & Engineering, Inc., July 1992).

7. **Archaeological Resources**

Defined by an expanse of open, A.C. pavement and originally developed as a Naval Air Station facility, the project site and surrounding area have been subsequently utilized for ARFF training exercises and occasional aircraft parking.

The results of an archaeological survey and subsurface testing undertaken for the preparation of the FEIS for the Kahului Airport Master Plan Update revealed that the majority of the areas surveyed did not contain any significant archaeological or historic resources. The test area encompassed nearly 120 acres of coastal lowlands, in the vicinity of Spreckelsville, beyond the northeastern extent of Runways 2-20 and 5-23. Testing was not required beyond the survey area due to previous widespread surface and subsurface alterations and disturbances related to past grading and clearing activities associated with the development of the Kahului

8. **Air Quality**

Air quality in the vicinity of the project site is affected by a variety of sources, including smoke and dust from sugar cane harvesting and cultivation operations. In addition, airborne pollutants are largely attributable to vehicular exhaust from traffic along Hana Highway and secondary roadways. However, these sources are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources.

An air quality analysis conducted for the FEIS prepared for the Kahului Airport Master Plan Update reveals that particulate matter, carbon dioxide, and nitrogen oxide levels are below State and Federal emission standards. Emissions generated by airport operations are dispersed in a southerly to southwesterly direction by the prevailing tradewinds (Pacific Planning & Engineering, Inc., July 1992).

9. **Noise**

The project site is primarily surrounded by lands utilized for airport operations. Accordingly, ambient noise is generally attributable to airport operations involving aircraft arrivals and departures. Situated at the terminus of Alahao Street, beyond the entrance to Kanaha Beach Park, vehicular traffic in the vicinity of the project site does not affect background noise levels due to its low traffic volume. With the exception of noise generated by aircraft operations and vehicular traffic, background noise is basically attributable to natural conditions such as wind and rain.
Typical of airport operations, aircraft noise contours at the Kahului Airport range from 65 to 75 Ldn as indicated by the FEIS prepared for the Kahului Airport Master Plan Update. Vehicular noise levels in the vicinity of the project site are minimal due to the relatively low volume of traffic along Alahao Street (Pacific Planning & Engineering, Inc., July 1992).

10. **Scenic and Open Space Resources**
   The project site is located at elevations ranging from 8-feet to 11-feet above mean sea level. Kanaha Beach Park and the adjoining ocean define the scenic resources to the north of the project site. The open expanse of the FAA safety zone and fields of cultivated sugar cane typify the open space resources to the east and south. Scenic resources to the southeast include Haleakala, while to the west lies Iao Valley and the West Maui Mountains. The project site is not considered to be within a scenic view corridor.

B. **Socio-Economic Environment**

1. **Population**
   The population of Maui County has exhibited relatively strong growth over the past decade with the July 1992 resident population estimated to be 108,000, a 52 percent increase over the July 1980 population of 71,600 (County of Maui/MEDB, Inc., December 1994). Growth in the County is expected to continue, with resident population projections to the years 2000 and 2010 estimated to be 112,349 and 133,459, respectively (Community Resources, Inc., January 1994).

   The Wailuku-Kahului Community Plan region is anticipated to follow the Countywide pattern of population growth, with the
region's 1990 population of 32,816 expected to increase to 40,452 by the year 2000 and to 48,132 by the year 2010 (Community Resources, Inc., January 1994).

2. **Economy**

   As previously noted, the Kahului region is the island's center of commerce. Combined with neighboring Wailuku, the region's economic character encompasses a broad range of commercial, financial, governmental, light industrial, and service-oriented activities. In addition, the region is surrounded by productive agricultural lands which include macadamia nut orchards, and pineapple and sugar cane fields. This vast expanse of agricultural land, managed by Hawaiian Commercial & Sugar (HC&S) and Wailuku Agribusiness, is considered a key component of the local economy.

C. **PUBLIC SERVICES**

1. **Recreational Facilities**

   Stretching along the shoreline from Kahului to Paia, recreational areas such as Hoaloha Park, Kanaha Beach Park, Kooks Beach, Camp One, Baby Beach, H.A. Baldwin Beach Park, and Lower Paia Park provide a full range of ocean activities including boating, canoeing, diving, fishing, kayaking, snorkeling, swimming, surfing, and windsurfing. In addition, popular outdoor activities such as baseball, jogging, picnicking, soccer, and volleyball are accommodated by the Kanaha Beach Park and H.A. Baldwin Beach Park facilities.

   The North Shore Greenway, an open space corridor with a bikeway component, is proposed along the coastal lowlands between
Kahului and Paia. A one (1) mile segment of the bikeway is proposed to the north of the project site.

2. **Police and Fire Protection**

With headquarters situated in Wailuku, approximately 3.5 miles west of the project site, police and security services for Maui County are provided by the Maui Police Department (MPD). The MPD consists of 369 administrative, patrol, and support personnel. Including the Wailuku patrol district, MPD's uniformed patrol bureau also serves the Hana, Lahaina, Lanai, and Molokai patrol districts (Maui County Police Department, December 1992).

Fire prevention, suppression, and protection services for the Wailuku-Kahului region are provided by the Maui Fire Department's Kahului Fire Station, about two (2) miles southwest of the project site. Additional support is also provided by the MFD's Wailuku station, approximately four (4) miles west of the project site.

3. **Solid Waste**

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County refuse crews is transported to the County's 55-acre Central Maui Landfill located at Puunene, approximately five (5) miles south of the project site. The Central Maui Landfill also accepts commercial waste from private solid waste collection services.

4. **Medical Services**

Maui Memorial Hospital, the island's only major medical facility, also services the Wailuku-Kahului region. Acute, general, and
emergency care services are provided by the 145-bed facility. In addition, numerous privately operated medical/dental clinics and offices provide health care services for the region's residents.

5. Schools
In addition to several privately operated schools, the Wailuku-Kahului region is primarily served by the State Department of Education's (DOE) public schools system. DOE facilities in the Kahului area include Lihikai and Kahului School (Grades K-5), Maui Waena Intermediate School (Grades 6-8), and Maui High School (Grades 9-12).

Existing facilities in the Wailuku area include Wailuku Elementary School (Grades K-5), Iao Intermediate School (Grades 6-8), and Baldwin High School (Grades 9-12). Maui Community College, a branch of the University of Hawaii, serves as the island's only institute for higher education.

D. INFRASTRUCTURE
1. Roadways
The Wailuku-Kahului region is served by a network of roadways consisting of primary and secondary arterials, and collector and minor streets. Kaahumanu Avenue and Kahului Beach Road are the major roadways linking Kahului with Wailuku. Diverging from Kaahumanu Avenue near the eastern outskirts of Kahului, Hana Highway conveys traffic to Paia, Haiku, Hana, Makawao, Pukalani, and Kula. Puunene Avenue, another principal roadway, connects to Mokulele Highway at Puunene to link Kahului with Kihei, Wallea, Makena, and Maalaea.
In addition to serving Kanaha Beach Park, access to the project site is provided by Alahao Street. Owned and maintained by the County of Maui, Alahao Street is a two-way, two-lane paved asphalt roadway with an ultimate right-of-way of 44 feet and a speed limit of 30 mph.

2. Water
The Wailuku-Kahului region is served by the Department of Water Supply's (DWS) domestic water system. Situated in the vicinity of Iao and Waiehu Streams, water drawn from the Iao Aquifer supplies the Central Maui Water System. The system services the communities of Waihee and Waiehu to the north, Wailuku, Kahului, and Paia to the east, and Maalaea, Kihei, and Makena to the south. The Iao Aquifer has an estimated sustainable yield of 20 mgd. Recent estimates place the average monthly basal water withdrawal from the aquifer at approximately 19 mgd (telephone conversation with Ellen Kraftsow, Department of Water Supply, March 1995).

A single 12-inch water transmission line, situated in the general vicinity of the project site, conveys water past Kahului Airport to Paia. Diverging from the 12-inch transmission line, an 8-inch water line along Koheke Street presently terminates near the Kaa Street intersection with Alahao Street. Currently, a 6-inch water line branches from the 8-inch water line and provides service to Kanaha Beach Park. Refer to Figure 3 and Figure 4.

3. Wastewater
Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater
Reclamation Facility located along Amala Place, approximately one (1) mile west of the project site. The facility serves the Kahului, Wailuku, Paia, Kuau, and Spreckelsville areas. An existing 18-inch sewer line and a 12-inch force main lie to the north and northeast of the project site, respectively. Refer to Figure 3 and Figure 4.

The design capacity of the facility is 7.9 million gallons per day (mgd). Excluding groundwater and stormwater infiltration, current sewage flow volume treated by the facility is approximately 6.28 mgd (telephone conversation with Dave Taylor, Department of Public Works and Waste Management, Wastewater Reclamation Division, March 1995).

4. Drainage and Erosion

The project site consists of an open, paved A.C. expanse and is characterized by a slope of about one (1) percent. Elevations range from 8-feet to 11-feet above mean sea level.

Presently, there is no existing drainage facility serving the project site. On-site runoff is currently disposed of by surface flows which discharge into the vacant, undeveloped lands to the north of the project site. The runoff is then trapped in local depressions and pockets until it percolates into the ground or evaporates.

Under present conditions, the project site is capable of generating a storm flow of about 10.6 cubic feet per second (cfs) for a 10-year storm intensity. See Appendix A.
The project site is presently surfaced with A.C. pavement. In addition to being occasionally used for aircraft parking, a portion of the project site was formerly utilized for ARFF training exercises.

5. **Electrical and Telephone Systems**

Electrical and telephone service to the project site will be provided by Maui Electric Company, Ltd. and GTE Hawaiian Telephone Company, Inc., respectively.
Chapter III

Potential Impacts and Mitigation Measures
III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. Surrounding Land Uses
   The area adjoining the project site was formerly utilized for annual ARFF training exercises. In addition, the latest Kahului Airport Development Plan has targeted the implementation of a permanent ARFF training facility as a short-term development objective. As such, the development of a permanent ARFF training facility is consistent with adjacent and surrounding land uses and is not anticipated to create any adverse impacts.

2. Topography and Landform
   In addition to the off-site water system, the development of the project site will involve the excavation, trenching, and filling of existing surfaces for the construction of the burn pit, holding pond, and underground detection, distribution, storage, and recovery systems, as well as portions of the ARFF maneuvering area.

   In general, however, the finished paved surfaces will follow existing grades to minimize site work and maintain existing drainage patterns. While the burn pit and holding pond will modify the appearance of the existing landform, the development of the proposed facility is not anticipated to affect the overall appearance of the surrounding area.

3. Flood and Tsunami Hazards
   The project site is located within Zone V23, an area within the limits of 100-year coastal flooding with wave action. Due to its location, coordination with applicable governmental agencies will be
Initiated as needed to address requirements for structures located within flood hazard districts.

4. **Flora and Fauna**
There are no known significant habitats or rare, endangered, or threatened species of flora and fauna located on the project site.

The proposed project will not impact wetland areas and adjoining wildlife habitats. In addition, the utilization of the project site for the development of the proposed facility is not anticipated to adversely impact the area’s wildlife population.

5. **Archaeological Resources**
The proposed project is not anticipated to impact any archaeological or historic resources. The presence of any archaeological or historic features are not anticipated due to previous widespread surface and subsurface alterations and disturbances associated with past grading and clearing activities related to the development of the Kahului Airport and its ancillary facilities.

However, should any archaeological or historic features be encountered during development, the SHPD will be notified, and applicable procedures to ensure compliance with Chapter 6E, Hawaii Revised Statutes, will be implemented.

6. **Air Quality**
Emissions from construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality within the immediate vicinity. However, these effects can
be minimized by properly maintaining construction equipment and vehicles.

In addition, dust generated during construction, especially from earth-moving operations such as excavating, trenching, and filling, may also result in a temporary decrease in ambient air quality. Mitigation measures include utilizing waterwagons and/or sprinklers to control dust, watering exposed areas after construction activities have ceased for the day, and covering all exposed graded areas with grass, gravel, or pavement upon the completion of finish grading.

On a long-term basis, once construction activities have been completed, traffic along Aiahao Street and the region's roadways will generate automotive emissions. However, due to the facility's removed location and the dissipating effect of the prevailing winds, these emissions are not expected to adversely impact local and ambient air quality conditions.

7. **Noise**

Ambient noise conditions may be temporarily affected by construction activities. Heavy construction machinery, such as back hoes, dump trucks, front-end loaders, paving equipment, and material-transport vehicles, are anticipated to be the dominant noise generating source during the construction period.

Proper equipment and vehicle maintenance are anticipated to minimize noise levels. Equipment mufflers or other noise attenuating equipment may also be employed as required. The
remote location of the project site is also anticipated to minimize the effects of construction noise to adjoining developed areas.

In the context of the surrounding airport environs, the operation of the proposed facility is not anticipated to have adverse long-term noise impacts.

8. **Scenic and Open Space Resources**

   The project site is situated at elevations ranging from 8-feet to 11-feet above mean sea level. As viewed from the project site, Haleakala is visible to the southeast and Iao Valley and the West Maui Mountains to the west.

   With the exception of the approximately 8-foot height of the control shed, the remaining improvements will be constructed at elevations ranging from below grade to slightly above grade. The proposed facility is not part of a scenic corridor and will not affect view from inland vantage points. As such, the proposed project is not anticipated to have an adverse impact upon the visual character of the surrounding area.

B. **IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT AND PUBLIC SERVICES**

1. **Economy**

   On a short-term basis, the proposed project will support construction and construction-related employment.

   Once developed, the proposed facility will contribute to the long-term support of the regional economy through purchases of
equipment, materials, and services which will be required to maintain the condition and operational status of the facility.

2. **Public Services**
The proposed facility is not anticipated to affect the service capabilities of police, fire, medical, and emergency medical operations. The existing service area limits for emergency services are not expected to be extended or affected. In addition, the proposed improvements will not affect requirements for recreational and educational facilities.

3. **Solid Waste**
A solid waste management plan will be coordinated with the Department of Public Works and Waste Management's (DPWWM) Solid Waste Division for the disposal of cleared, grubbed, and excavated material.

C. **IMPACTS TO THE INFRASTRUCTURE**

1. **Roadways**
Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street. With the exception of Kanaha Beach Park, lands immediately adjoining the project site along Alahao Street are vacant and undeveloped.

Accordingly, vehicular traffic in the vicinity of the project site is not anticipated to have an adverse effect on the traffic circulation of the surrounding roadways.
2. **Water**

The proposed 8-inch water line will connect to an existing 8-inch water line near the Alahao and Kaa Street intersection and proceed in an easterly direction along Alahao Street toward the project site. Refer to Figure 3 and Figure 4.

In addition to initially filling the burn pit, proposed water use will involve discharging the surface layer of residual fuel/water from the burn pit upon the completion of training exercises. A fuel/water separator will then segregate the residual fuel/water and convey the water to a holding pond where it will be recycled for future training exercises. The fuel will be transported to a reburn fuel tank where it will be stored and recycled for future use.

The proposed facility is expected to utilize approximately 110,000 gallons of water to initially fill the burn pit.

Water system improvements will be designed in accordance with standards established by the Department of Water Supply (DWS). Considering the annual nature of the training exercises, and the specialized use and recycling capabilities of the proposed facility, the proposed improvements are not anticipated to adversely impact existing water facilities and capacities.

3. **Wastewater**

The proposed facility will not generate any wastewater flows. Accordingly, the ARFF training facility is not anticipated to have an adverse effect on existing wastewater facilities and capacities.
4. **Drainage and Erosion Control**

Massive grading is not planned for the construction of the proposed facility. Site work will primarily involve excavation for the burn pit, holding pond, water system, and underground detection, distribution, storage, and recovery systems. With the exception of the burn pit and holding pond, all disturbed surfaces will be restored to their original grade and will be finished with grass, gravel, or A.C. pavement. Refer to Appendix A.

The proposed burn pit and holding pond will be provided with perimeter curb and CMU walls, respectively. In addition, these facilities will also be constructed with containment liners to prevent liquids from leaching into the ground. As a result of these improvements, rainfall captured by the burn pit and holding pond will be retained on-site; thereby, reducing the storm runoff presently generated at the site. At post developed conditions, the site is expected to generate about 7.7 cfs, a reduction of 2.9 cfs from existing drainage flows. Refer to Appendix A.

The proposed facility will not include any drainage facilities. The project site will utilize surface sheet flows, similar to existing drainage patterns, for the disposal of runoff. Storm waters will flow into the open area north of the project site where they will be trapped by depressions and retained until evaporation or percolation occur. Refer to Appendix A.

The development of the proposed facility is not anticipated to have adverse drainage effects on adjacent and downstream properties.
Erosion control measures recommended during construction include the following:

1. Using waterwagons and/or sprinklers to control dust;

2. Utilize temporary berms or similarly approved diversionary methods to divert off-site runoff away from excavated areas and toward natural drainageways;

3. Ensure that adequate provisions, such as the installation of silt fences downgrade from graded areas, are implemented as needed to prevent sediment-laden runoff from leaving the project area;

4. Water graded areas after construction activity has ceased for the day as well as on weekends and holidays; and

5. Upon completion of finish grading, finish all exposed areas with grass, gravel, or pavement.

The uncontrolled erosion rate is projected to be less than the allowable erosion rate. In addition, the severity number is within the maximum value of 50,000. Accordingly, normal construction erosion control measures are considered sufficient for project development, with no excessive soil loss occurring. Refer to Appendix A.

5. **Electrical and Telephone Services**

   The proposed facility is not anticipated to adversely impact electrical and telephone services in the Walluku-Kahului region.
Chapter IV

Relationship to Governmental Plans, Policies, and Controls
IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICTS
Chapter 205A, HRS, contains provisions which established the four (4) major land use districts throughout the State. As indicated by the State Land Use Commission, these districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The proposed action involves the use of "Urban" designated lands for a new ARFF training facility and is consistent with land uses permitted within the "Urban" district. See Figure 8.

B. HAWAII STATE PLAN
The proposed action is in compliance with Chapter 226, HRS, of the Hawaii State Planning Act. More specifically, HRS, Section 226-104(a)(3) seeks to ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the state. The proposed action will further the stated goal of providing adequate support services.

C. MAUI COUNTY GENERAL PLAN
The Maui County General Plan (1990 Update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter:

"The purpose of the General Plan is to recognize and state the major problems and opportunities concerning the needs and the development of the County and the social, economic and environmental effects of such development and set forth the desired sequence, patterns and characteristics of future development."
Figure 8  Aircraft Rescue and Fire Fighting Training Facility
State Land Use Designations

Prepared for: State of Hawaii, Dept. of Transportation
The proposed action is in keeping with the following General Plan objective and policies:

**Objective:** To create an atmosphere which will convey a sense of security for all residents and visitors and aid in the protection of life and property.

**Policies:**

1. Maintain a proper state of preparedness for man-made or natural disasters.

2. Maintain efficiency of police and fire fighters at the highest attainable level through in-service educational and training programs.

**D. WAILUKU-KAHULUI COMMUNITY PLAN**

The subject parcel is located in the Wailuku-Kahului Community Plan region which is one of nine Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region.

Land use guidelines are set forth by the Wailuku-Kahului Community Plan Land Use Map. See Figure 9. As indicated by the Wailuku-Kahului Community Plan, the proposed ARFF training facility is situated within an area designated for airport use.

The proposed project is consistent with the Wailuku-Kahului Community Plan.
E. **SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES**

Pursuant to Chapter 205A, Hawaii Revised Statutes, and the Rules and Regulations of the Planning Commission of the County of Maui, projects located within the SMA are evaluated with respect to SMA objectives, policies and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A and the Rules and Regulations of the Planning Commission.

1. **Recreational Resources**

   **Objective:** Provide coastal recreational resources accessible to the public.

   **Policies:**

   1. Improve coordination and funding of coastal recreation planning and management; and

   2. Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:

      a. Protecting coastal resources uniquely suited for recreation activities that cannot be provided in other areas;

      b. Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

      c. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
d. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

e. Ensuring public recreational use of County, State, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

f. Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters; and

g. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions, and crediting such dedication against the requirements of Section 46-6 of the Hawaii Revised Statutes.

Response: The proposed project will not impact coastal recreational resources. Existing shoreline rights-of-way will remain unaffected by the proposed action.

2. Historical/Cultural Resources

Objective: Protect, preserve and where desirable, restore those natural and man-made historic and prehistoric resources in the coastal zone management areas that are significant in Hawaiian and American history and culture.

Policies:
1. Identify and analyze significant archaeological resources;

2. Maximize information retention through preservation of remains and artifacts or salvage operations; and
3. Support State goals for protection, restoration, interpretation and display of historic resources.

Response: An archaeological survey and subsurface testing was previously conducted within the general vicinity of the project area. Testing was not required for the area proposed for the project site due to previous widespread surface and subsurface alterations and disturbances related to past grading and clearing activities associated with the development of the Kahului Airport and its related improvements.

As a result, the proposed project is not anticipated to have an adverse effect on any significant archaeological or historic resources.

3. Scenic and Open Space Resources

Objective: Protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

1. Identify valued scenic resources in the coastal zone management area;

2. Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural land forms and existing public views to and along the shoreline;

3. Preserve, maintain and, where desirable, improve and restore shoreline open space and scenic resources; and

4. Encourage those developments which are not coastal dependent to locate in inland areas.
Response: The proposed project will not impact coastal scenic and open space resources and is not anticipated to affect scenic view corridors.

4. Coastal Ecosystems

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:
1. Improve the technical basis for natural resource management;
2. Preserve valuable coastal ecosystems of significant biological or economic importance;
3. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
4. Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

Response: The development of the proposed facility is not anticipated to affect coastal ecosystems. Appropriate soil mitigation measures will be implemented during the construction of the proposed improvements.

5. Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.
Policies:

1. Concentrate coastal dependent development in appropriate areas;

2. Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy-generating facilities are located, designed, and constructed to minimize adverse social, visual and environmental impacts in the coastal zone management area; and

3. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
   a. Utilization of presently designated locations is not feasible; and
   b. Adverse environmental effects are minimized.

Response: The economy of the State is heavily dependent upon air travel. By providing adequate training facilities, the proposed project will enable ARFF personnel to maintain a level of preparedness and proficiency required to address public safety requirements.

6. Coastal Hazards

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies:

1. Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
2. Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

3. Ensure that developments comply with requirements of the Federal Flood Insurance Program;

4. Prevent coastal flooding from inland projects; and

5. Develop a coastal point and nonpoint source and pollution control program.

Response: The project site is located within an area of 100-year coastal flooding with wave action. Accordingly, the project will comply with the Flood Hazard Area requirements, reflected in Chapter 19.62 of the Maui County Code.

Utilizing surface sheet flows similar to existing drainage patterns, runoff will flow into the area north of the project site where it will be trapped by local depressions and retained until evaporation or percolation occur. The proposed project is not anticipated to have any adverse drainage effects on adjacent or downstream properties.

7. Managing Development

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazard.

Policies:

1. Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
2. Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

3. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their lifecycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Response: All aspects of development will be conducted in accordance with applicable Federal, State, and County requirements. Opportunities for reviewing the proposed action are available through the early consultation, and public notification, review, and comment processes.

8. Public Participation

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

1. Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;

2. Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and

3. Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response: As previously noted, opportunities for agency and public review of the proposed action are provided through Federal and State notification, review, and comment processes, as well as the County Special Management Area permitting process.
9. **Beach Protection**

**Objective:** Protect beaches for public use and recreation.

**Policies:**

1. Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;

2. Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and water line activities; and


**Response:** The proposed action is not anticipated to interfere with existing recreational and shoreline activities.
Chapter V

Summary of Unavoidable, Adverse Environmental Effects; Alternatives to the Proposed Action; and the Irreversible and irretrievable Commitment of Resources
V. SUMMARY OF UNAVOIDABLE, ADVERSE ENVIRONMENTAL EFFECTS; ALTERNATIVES TO THE PROPOSED ACTION; AND THE IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

A. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

The proposed project will result in some construction-related impacts as described in Chapter III, Potential Impacts and Mitigation Measures.

Potential effects include noise-generated impacts occurring from site preparation and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust emissions discharged by construction equipment.

The proposed project is not anticipated to create any significant, long-term, adverse environmental effects.

B. ALTERNATIVES TO THE PROPOSED ACTION

1. No Action Alternative

In light of the established need for the proposed improvements, the "no action alternative" does not represent a responsible option in addressing public safety requirements as well as promoting and maintaining the proficiency and readiness of ARFF personnel.

The proposed site will also enable fire fighters to receive realistic training in a safe, controlled setting without interrupting ongoing airport operations.
C. **IRREVOCIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The proposed development of the ARFF training facility would involve the commitment of fuel, labor, funding, and material resources.

Development of the proposed project will involve the commitment of land for improvements which will preclude other land options for the site. This commitment of land resources is consistent with existing and future land uses in and around the project area.
Chapter VI

Findings and Conclusions
VI. FINDINGS AND CONCLUSIONS

The proposed project will involve the construction of a Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements.

Since the proposed improvements involve State land and funding, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS and Chapter 200 of Title 11, Department of Health Administrative Rules. Because the project site falls within the County of Maui's Special Management Area (SMA), an application for a SMA Use Permit will also be filed with the County's Planning Department.

The development of the proposed facility will involve short-term environmental impacts typically associated with construction activities. To minimize dust, mitigation measures include using water wagons and/or sprinklers, and covering exposed graded areas with grass, gravel, or pavement upon completion of finish grading. Ambient noise conditions may also be temporarily affected by construction activities; however, due to the remote location of the project site, noise impacts to adjoining developed areas are not anticipated to have any adverse effects. Due to its location within a flood hazard area, coordination with appropriate governmental agencies will be initiated to ensure conformance with applicable design and construction standards.

From a long-term perspective, the proposed project is not anticipated to result in any adverse environmental impacts. There are no known rare or endangered species of flora or fauna situated within proximity of the project site. Due to previous widespread alterations and disturbances associated with past grading and clearing activities related to the development of Kahului Airport, the
proposed project is not anticipated to impact any archaeological or historic resources. The proposed improvements are not part of a scenic corridor and are not anticipated to have an adverse impact upon the visual character of the surrounding area.

With regard to short-term socio-economic impacts, construction-related employment is anticipated to have a positive effect on the local economy.

In the long-term, the proposed actions are not anticipated to have any adverse impacts upon public services or infrastructure systems.

The proposed facility will also enable Aircraft Rescue and Fire Fighting (ARFF) personnel to address Federal Aviation Agency (FAA) requirements for training and certification and ensure that public safety objectives are adequately fulfilled.

Based on an assessment of the proposed actions, the development of the ARFF training facility will not result in any significant environmental impacts.
Chapter VII

Agencies Consulted During the Preparation of the Environmental Assessment
VII. AGENCIES CONSULTED DURING THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT

1. State of Hawaii  
   Department of Transportation  
   Airports Division  
   Kahului Airport  
   Kahului, Hawaii  96732

2. County of Maui  
   Department of Public Works  
   and Waste Management  
   Wastewater Reclamation Division  
   200 South High Street  
   Wailuku, Hawaii  96793

3. County of Maui  
   Department of Water Supply  
   200 South High Street  
   Wailuku, Hawaii  96793
Chapter VIII

Correspondence Received During the Public Comment Period and Responses to Substantive Comments
VIII. CORRESPONDENCE RECEIVED DURING THE PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS
Please contact me if you have any questions about any of the above. I look forward to hearing from you.

Sincerely yours,

HH/jp

Lori Ishida
OEQC
Michael Munkiyo
Mau Planning Department
Mau Planning Commission
EIS clients

Encl.
ROBERT A. MARSH 2163
Attorney General of Hawaii

LARRY T. ISHID A 3691
Deputy Attorney General
Department of the Attorney General, State of Hawaii
1200 Kihinoa Building
445 South King Street
Honolulu, Hawaii 96813
Phone: (808) 587-2090
Attorneys for Plaintiff

IN THE CIRCUIT COURT OF THE SECOND CIRCUIT

STATE OF HAWAII

SIERRA CLUB, a California
non-profit corporation; et al.,

Plaintiffs,

v.

JOHN WAIHEE, in his capacity
as Governor of the State of
Hawaii; et al.,

Defendants.

STIPULATION AND ORDER

Plaintiffs SIERRA CLUB; MARY EVANS; MANU AIR
TRAFFIC ASSOCIATION, INC.; STEPHEN PETT; JAMES REDDEN; HUI
ALANUI O MAKAPU; DANA MACIEK HALL; and NATIONAL AUDUBON SOCIETY
("Plaintiffs"); Defendants JOHN WAIHEE; DEPARTMENT OF
TRANSPORTATION, STATE OF HAWAII; REX D. JOHNSON ("DOT
Defendants"); and Defendants STATE LAND USE COMMISSION, STATE
OF HAWAII; and RECTOR L.E. NEP ("SLUC Defendants"), through
their respective undersigned counsel, have reached a Stipulated

EXHIBIT 2

EXHIBIT 3
applications for governmental permits or approvals, such as the change in zoning application before the Maui County Council, until (a) the single or joint EIS is prepared in accordance with this Court's prior orders, NEPA and NEPA and the regulations promulgated thereunder and accepted and a Record of Decision is issued, and (b) the single or joint EIS, the acceptance letter and Record of Decision are delivered to all parties. The DOT Defendants shall instruct all permitting entities before whom applications are now pending to cease processing these applications until further order of this Court. Once the acceptance and Record of Decision are issued, Plaintiffs are free to pursue any legal actions or remedies which they deem to be appropriate.

3. Upon the resumption of the evidentiary hearings in the boundary amendment proceedings referenced above, the single or joint EIS shall be introduced into evidence and, thereafter, the intervenors shall be permitted to present further evidence which is relevant to: (a) changes in the size, scope, location or timing, among other things, of the actions as described in the boundary amendment proceedings and the current EIS; (b) new or different anticipated environmental impacts; (c) changes in proposed mitigation measures; and (d) new circumstances or evidence which bring to light matters not previously discussed to date in the boundary amendment proceedings or the current EIS.

4. Other than those matters explicitly agreed to above, the parties do not waive any of their rights pursuant to NEPA, NRRA Section 91, Chapter 343 or the orders of this Court.

5. This Court shall retain continuing jurisdiction to review compliance with this Order and, upon satisfactory performance by all parties, may consider the dismissal of this lawsuit.

DATED: Honolulu, Hawaii, ____________________________________________________________________________

[Signature]
Larry T. Itohsa
Deputy Attorney General
Attorney for DOT Defendants

DATED: Wailuku, Hawaii, ____________________________________________________________________________

[Signature]
Sudha Chin Nisutshara
Marilyn M. Kotake
Attorneys for SIUC Defendants

APPROVED AND SO ORDERED: ____________________________________________________________________________

[Signature]
Judge of the Above-Entitled Court

IN THE CIRCUIT COURT OF THE SECOND CIRCUIT, STATE OF HAWAII;
SHERA CLING, ET AL. V. WAIHEE, ET AL.; stipulation and order

5
Figure V-18 Northshore Greenway Phase I Bikeway Plan
Proposed Segment D Routing Plan

OUT TO SCALE
The reduced developed runoff will utilize existing drainage patterns and convey runoff onto the undeveloped lands north of the project site where it will be trapped and retained in local depressions and pockets until it percolates into the ground or is lost to the atmosphere by evaporation. It should be noted that the County of Maui, Department of Parks and Recreation has indicated that the proposed project will not impact park usage and accordingly, does not have any objections to the project. See Exhibit "A”.

With regard to wetland impacts, the U.S. Army Corps of Engineers, has recently indicated that no wetlands, streams, or other waters of the U.S. will be affected by the project. Accordingly, the Corps has indicated that Department of the Army permit will not be required. See Exhibit "B".

As with previous training exercises, the State Department of Transportation, Airports Division will notify the public of any scheduled training exercises, through coordination with local radio stations, as well as the Maui Fire Department and Maui Police Department.

Federal Aviation Administration (FAA) standards require a minimum of one (1) hot-fire training exercise for annual certification. To ensure public safety as well as promote proficiency and readiness, approximately three (3) training exercises are proposed to be scheduled each quarter. Each training exercise is anticipated to last about three (3) to five (5) minutes in duration. To minimize air quality impacts, training exercises will consider favorable wind conditions to ensure that smoke will be dispersed away from populated areas. Since the smoke resulting from the training exercises will be of limited duration and quickly dispersed by the prevailing wind, no lasting adverse impacts to ambient air quality are anticipated as a result of the training exercises.

We hope that this letter alleviates your concerns. Thank you for your comments and interest in this project.

Very truly yours,

[Signature]

[Name]

[Title]

Airports Administrator

Enclosures: Exhibits A, B, C, D and E

cc: Project Managers Hawaii, Inc., AIR-EP

AFFIDAVIT OF SERVICE

I, **REDacted**, hereby certify under penalty of perjury under the laws of the State of Hawaii that on **REDacted**, 2023, I personally served the above-named defendant with a true copy of the enclosed document by delivering a copy thereof within the State of Hawaii to the defendant at the defendant's last known address.

**Signature**

**Affiant**

**Address**

**City, State and Zip Code**


dated **REDacted**, 2023

[Stamp]

[Seal]

[Annex]

[Part of Exhibit "E"]
§4332 at ESS., the National Environmental Policy Act, including the rules and regulations thereunder, (1) an EIS covering both the Long-Term Development Plan projects and (2) the following Short-Term Development Plan and other enumerated projects for the Kahului Airport:

A. Development of the commercial development area east of Runway 5-23 (H-N);
B. Construction of the transient aircraft parking apron on the west side of Runway 5-23 (K);
C. Construction of the access or ramp service road connecting the transient aircraft parking apron with the new passenger terminal and the east ramp (K);
D. Development of new, lease sites in the ground transportation subdivision area across Kaliainui Gulch (J);
E. Construction of a new general cargo facility (O);
F. Construction of a new hold cargo facility (O);
G. Provision of a lease site on Airport property for the development of a flight kitchen facility (R);
H. Provision of a lease site and pipeline right-of-way for the development of the bulk fuel storage facility (Q, U, V);
I. Construction or implementation of a new general aviation facility (O);
J. Construction or implementation of the long term phase of the helicopter facility (E);
K. Expansion or improvement of utility and drainage systems on the East Ramp to service airport facility development (J);
L. Acquisition of approximately 390 acres of additional land for airport development, and for the Kahului Airport land bank, including Parcels 139-A and 5-A as identified by the State of Hawaii, Department of Transportation; however, excluding approximately 126 acres of land which is necessary for the development of the terminal access roadway, for the widening of Kaulani Place from the Kahului Airport boundary to Daley Road, and for the widening of Hana Highway;
M. Construction of the runway pavement strengthening project for Runway 1-20 and the taxiways overlay, not to include emergency repairs necessary to keep the runway open (J);
N. Construction of Phase II of the new passenger terminal building, a long term project identified in the March 1989 Kahului Airport Development Plan (Revision 1) and shown as part of the Long-Term Development Plan on Figure 6.1 (Revision 1)(A);
O. Improvement of terminal facilities for Air Scenic Tour passengers (F); and
P. Construction of the Helicopter/Scenic Tour
connector taxiways (B-8);
Q. Construction of the Airport passenger terminal
access road (X-Y);
R. Plaintiffs shall waive any objections to the lack
of an EIS covering the following Short-Term Development Plan
projects for the Kahului Airport which are either complete or
substantially complete, and/or for which a prior negative
declaration has been issued:
A. Construction of the Kalaliului Gulch
Improvements ( )
B. Construction of Phase I of the new passenger
terminal building as identified in the 1981
Environmental Assessment for said project and the March
1989 Kahului Airport Development Plan (Revision I) as
part of the Short-Term Development Plan in Figure-4.2
(Revision I)(A);
C. Construction of the circulation roadways and
vehicular parking facilities at the Airport (A);
D. Construction of the 1,000 foot runway safety
area at the southern end of Runway 2-20, including the
perimeter access road (A-B); however, this provision
shall be subject to the terms of paragraph 13 herein;
E. Widening of Keolani Place from the western
boundary of the Airport to Dairy Road ( ) and
F. Relocation of the Traffic Control Tower and
VOR/TAC installations (R,T);
3. Plaintiffs shall waive any objections to the lack
of an EIS covering the following Short-Term Development and
other concomitant projects for the Kahului Airport, due to
their public benefit and/or lack of adverse impact:
A. Construction of a security fence around the
Airport perimeter, subject to later relocation (M);
B. Construction of the post office and access
ramp (C-C), provided that, should the Puunene Airport be
reopened on a temporary or long-term basis, one
alternative to be studied in the EIS is the location or
relocation of the Post Office to Puunene;
C. Development of the Maui County assessed at the
airport ( )
D. Construction of a new crash fire rescue
station and training facility (D,F);
E. Acquisition of approximately 126 acres of land
for the development of the Airport passenger terminal
access road, for the widening of Keolani Place from the
Airport boundary to Dairy Road, and for the widening of
Hana Highway ( );
F. Construction of ramp or service "perimeter"
roadway (J-L);
G. New terminal access road connecting airline
support facilities with passenger terminal apron (G-G).
II. Construction of a fourth lane to widen Hana Highway (I) and

I. Proposed Pulehu/Hansen Road realignment;

4. Defendants shall keep Koeheke Street open to public use at least until the Alahau Street bypass road is open to public use;

5. Defendants shall keep the perimeter road around the Runway 2-20 safety area and Hana Highway open to public use at least until the Hana Highway widening project is completed and the additional lanes are open to public use;

6. Defendants shall analyze the traffic impacts at the Dairy Road and Punnene Avenue intersection as part of the above-referenced EIS;

7. Defendants shall investigate, in the EIS and otherwise, the feasibility of reactivating the Punnene Airport on a permanent basis for general aviation, as a reliever airport and for night cargo operations. Defendants recognize that the implementation of the Runway 2-20 pavement strengthening project referenced to in paragraph 1.M. above could indirectly impose adverse impacts upon surrounding landowners. To mitigate these impacts, Defendants will also consider reactivation of the Punnene Airport on a temporary basis for night aircraft use during the period of time required to implement the runway strengthening project. If Defendants determine that the Punnene Airport will be developed as a general aviation and reliever airport, either on a temporary or long-term basis, Plaintiffs and Defendants stipulate and agree that upon the opening of the Punnene Airport on at least a temporary basis for night use by commercial cargo aircraft, the Runway 2-20 pavement strengthening project referred to in paragraph 1.M. and the temporary reopening of the Punnene Airport need not be included within the scope of the above-referenced EIS. Should Defendants determine that the Punnene Airport will be opened on a long-term basis the Kahului Airport land bank project referred to in paragraph 1.L. above need not be included within the scope of the above-referenced EIS;

8. DOT shall investigate in the EIS realigning, widening and improving Alahau Street and extending it to the northeast to Hana Highway as a road which shall be open for public use providing through traffic along the coastal side of the Kahului Airport;

9. DOT shall investigate in the EIS a recreational area/beach park on airport lands adjoining the County Kanaha Beach Park;

10. Plaintiffs and Defendants stipulate and agree that for any other and further projects, including but not limited to those described in the Long Term Development Plan and any revisions to the Kahului Airport Development Plan (June 1988), or substantial or major modifications to projects enumerated in paragraphs 1 through 3 above, for which negative declarations have been published, Defendants shall
comply with applicable laws to determine whether they should be included within the scope of the above-referenced EIS or should be the subject of a supplemental EIS.

11. Defendants affirm that all projects or operations which are in planning, design or construction at the Kabul Airport have been disclosed in the Kabul Airport Development Plan (June 1988); Revision 1 to the Kabul Airport Development Plan (March 1989) and the International Flights Facilities Requirements Study, Kabul Airport (January 1989). Defendants shall provide to Plaintiffs, through their counsel, all further planning documents, environmental assessments and/or studies for revised, modified or additional projects or operations planned for the Kabul Airport, which would substantially increase beyond current levels the number or type of aircraft operations, the number of passengers using Kabul Airport, the number of vehicles using airport roadways and/or the amount of noise generated through aircraft operations.

12. Until the subject of international flight operations is fully analyzed in the EIS to be prepared by DOT, the DOT shall not allow regularly scheduled international flights to land or take off at the Kabul Airport and no facilities, including customs facilities, necessary for international flights, shall be constructed either on a temporary or permanent basis;

13. No runways at the Kabul Airport shall be constructed, strengthened or extended in a fashion necessary to facilitate increased aircraft operations, the landing or taking off of aircraft carrying heavier loads or increased passenger operations until the impacts of these increased operations are fully analyzed in the EIS to be prepared by DOT, except that DOT may conduct emergency repairs necessary to keep runways open;

14. The findings, alternatives and recommendations contained in the FAR Part 150 Noise Study currently being undertaken for the Kabul Airport shall be investigated in the EIS. No final decisions shall be made by Defendants on the location of new facilities which are the subject of the Part 150 Noise Study and the EIS at the Kabul Airport whose positioning may have a bearing on noise impacts imposed upon surrounding lands until the completion of the Part 150 Noise Study and its submittal to the Federal Aviation Administration.

15. Except as provided in paragraph 16 below, the Complaint for Declaratory and Injunctive relief filed herein shall be dismissed with prejudice upon compliance with the terms and conditions above and the publication of an Amended Preparation Notice consistent with the above in the CEC Bulletin pursuant to Section 14-200-15(h), Rev. Admin. Rules; and
16. Dismissal of this case shall be without prejudice
to Plaintiffs' right to seek recovery of attorney fees and
other expenses herein and should be without prejudice to the
rights of either party to enforce the terms of this
Stipulated Order. Any provision in this Stipulation shall not
be used as a basis for recovery of attorney's fees or costs.

DATED: Maalaea, Maui, Hawaii    MAR 11 1991

APPROVED AS TO FORM:

[Signature]
Isaac Hall
Co-counsel for Plaintiffs

[Signature]
Arnold L. Luna
Co-counsel for Plaintiffs

[Signature]
Keith Tanaka
Counsel for Defendants

APPROVED AND SO ORDERED:

[Signature]
Judge of the above-entitled cause

Sierra Club et al. v. Department of Transportation, State of
Hawaii, No. 89-0336(1); Stipulation between
Plaintiffs and Defendants to Prepare Environmental Impact
Statement and Dismiss Complaint for Declaratory and
Injunctive Relief and Order

12
KAHULUI AIRPORT DEVELOPMENT PLAN
State Project No. AM104-D01

Prepared For:
State of Hawai\i
Department of Transportation
Airports Division

Prepared By:
Project Manager Hawai\i
100 Mauka Street
Building B, Room 101
Honolulu, Hawai\i 96814

HCO Airport, Inc.
615 Fikaili Street, Suite 1009
Honolulu, Hawai\i 96814

June 1986

EXHIBIT "B"

seasonal flooding in the vicinity of Kalaulau Gulch until that problem is fully solved by
Gulch improvements and other measures proposed in this Plan.

5.5.3 Development Alternatives. Only one location was considered for expansion of the
Ground Transportation Subdivision. That is to extend it southward along Keahole Place,
across Kalaulau Gulch. The site can be extended laterally along the road, keeping out of
the approach path to Runway 3-23 and outside the boundary of the environmentally favored
area around Kahului Pond. As a result, the subdivision could expand across Kalaulau Gulch and
grow in depth along the channel to the west. Once beyond the cleared area of Runway 5, it is acceptable to use the land under the approach path if vertical
building restrictions are observed. The new cleared boundary would permit this deeper
development scheme.

Groundside roadway access to the expanded subdivision may continue as a single
point of entry at Keahole Street and the planned new access roadway to be built or another
access from Kealahole Street could be provided south of Kalaulau Gulch in the 1990-95 time
period. It is important that the rental car return path be easily found by passengers coming
to the airport to board a flight and the distance between the terminal area and car storage
areas be as short as possible to minimize rental car van traffic on the airport roadway
system.

5.5.5 Recommended Plan. It is recommended that the Ground Transportation
Subdivision remain in its present location, in proximity to the new terminal building, and be
expanded across Kalaulau Gulch and along the gulch to the west in the future. Between
1987 and 1990, the present 23.5 acres should be expanded to 27.1 acres for the operators.
This may be accomplished by consulting land use in the existing subdivision or expanding
across Kalaulau Gulch. A new access to the subdivision street system should be provided
south of Kalaulau Gulch at the time the new access roadway is constructed. The extension
of Alahe Street on the west side of Keahole Place may serve this purpose. The design of all
improvements and any tenant structures is to recognize that a portion of this subdivision is
subject to flooding by Kalaulau Gulch (see Figure 6-4). Recommendations for
improvements to Kalaulau Gulch are made in Section 5.14, Utilities and Drainage. Beyond
1990, development will expand the area by bridging the channel bordering the western
boundary to allow acquisition of an additional 15.5 acres. All streets, utilities, drainage and
other improvements will be extended into this parcel to create a unified whole.

5.9 Crash Test Require/CPR/Airport Facilities

The CPR facilities in existence at Kahului Airport consist of a CPR Station and a
mish mash training facility. The station, located near the existing hangars is used for
training on the airport system. In addition, a new CPR station has been built on the
site. It presently accommodates four major types of CPR equipment: one 2,500 gallon tank, one 5,000 gallon
tank, and two CPR stations.
track, one 500 gallon truck and one rescue truck. Because of its proximity to the hold cargo building, it lacks future growth of that facility. In its present location, it is in danger of having its view of Runway 2/20 blocked by an extension of the new passenger terminal hold-down concourse.

The CFR Training Facility is located to the west of Runway 5/23 at the end of Alahao Street. It is readily accessible from the airfield system and positioned so the prevailing wind blows smoke from training fires away from the passenger terminal area and active runways. Fuel is stored in tanks at the site and practice fires are ignited on a paved area.

5.1.1 Future Facility Requirements. Two future changes are required for CFR facilities: 1) CFR Station position and size must be changed to meet FAA crash response requirements and increased equipment needs when the parallel runway is built, and 2) the CFR Training Facility must be updated and improved.

- **Change CFR Station Position and Size.** If the new parallel runway is constructed in the 1995-2000 time period, more equipment will probably be required to cover increases in aircraft operations and changes in fleet mix and the station's must be repositioned to meet FAA response time requirements on an expanded airfield. Station's should have direct access to all parts of the airport operating area for CFR equipment via non-public access roads and access to the ground/brush runway system for automobiles and straight trucks. Utility requirements for station are water, sewer, electricity and communications. The site drainage system should provide for frequent washdown of CFR equipment.

- **Improve CFR Training Facility.** It is necessary to upgrade the existing CFR Training Facility in the 1987-1995 time period. It must be located in a remote area on the airfield that is immediately accessible by CFR vehicles from the runway/expansion area and so positioned that the prevailing winds will blow smoke from training fires away from active runways and the passenger terminal area.

The site must be geometrically regular with a training surface 460 ft. in diameter that is cleared and composed to support CFR vehicles. In the center of the training area, a 100 ft. diameter concrete fire pit should be provided and connected by pipes to a 6,000 gallon fuel tank located on the periphery of the training area.

The site requires water and the drainage system should be able to handle large quantities of water and chemical fire retardant as well as a possible fuel spill. Security fencing should protect part of the facility not visible to the AOA fence.

- **Study Need for CFR Bases.** At present, the U.S. Coast Guard is relied upon to respond to an aircraft crash in the ocean off the northern ends of Runways 2/20 and 5/23. Because Coast Guard boats are usually on station on the western side of Mall, guaranteed response times may be three hours or longer. Although there are private boats in Kauai harbor, they cannot be relied on in an emergency. The Wahiawa Fire Department has a small boat that is kept about five miles from the airport that may or may not be able to respond. A study of CFR responses to water dipping should be made to assess the need for a CFR boat for Kauai airport and a facility for handling it on the coast on airport property. The study should be carried out in the 1987-1990 time period and coordinated with the State Harbor Divisions. Early completion of the study is required because it deals with a potential safety-ban.

5.2 Development Alternatives

- **Change CFR Station Position and Size.** Alternatives to relocation of the existing CFR Station to a site on the east ramp included leaving it at its present location, moving it to a position to the west of Runway 5/23 between the runway and Alahao Street and moving it to a position at the extreme north end of the new passenger concourse. The disadvantage of leaving it at its present location is that extension of the new passenger terminal concourse to the north would block the CFR Station from view and ready access to Runway 2/20. Use of closed circuit television or movement of the station to the extreme north end of the passenger concourse would solve this problem but would require that a second CFR Station be built at the time of construction of the parallel runway. An advantage of having it on the central ramp is that most day-to-day CFR calls are to the terminal area for fuel spills, medical assistance and the like. The principal disadvantage of the Runway 5/23 location is the need to build a second station later.

- **Improve CFR Training Facility.** In the case of the CFR Training Area, priority was given to moving its site south between Runway 5/23 and Alahao Street to a point opposite the Runway 5/23 area. It could not be left at its present location because of relocation of General Cargo to that area (see previous consideration). A site near its present location is desirable because of the proven smoke dispersion pattern from that general area.

5.3 Recommended Plan

- **Redesign Existing CFR Station.** It is recommended that the existing CFR Station be moved to a position on the east ramp between the Helicopter and Air Services Facilities when the parallel runway is built. Until that time, the station should remain at its present location, be equipped with a closed circuit television system, and provided with a clear access to Runway 2/20 beneath the passenger terminal concourse. Upon relocation, the 10,000 sq. ft. high bay portion of the existing building should be largely salvaged. The high bay (former) portion is a metal frame structure that should be salvageable in its entirety. The remainder of the building is largely concrete block built on a slab on grade. Once the parallel runway is constructed and the station relocated, an additional 10,000 sq. ft. of high bay area should be added to the station to accommodate three additional pieces of CFR equipment. The paved area around the existing building should be replicated at the new site.

5.29
for vehicle parking and equipment repair, and landscaping added. The building should be oriented to provide unobstructed views of Runways 2-20 and 5-23 and advantage
takes of the direct access to the aircraft system interest in the new site. A drainage trap
may be needed to remove oil and chemicals from the equipment washdown area and prevent
their discharge into the airport drainage system. The direct equipment access road leading to
Runway 5L (on the west) can probably be routed directly to the taxiway between the
Helicopter and Air Traffic Control facilities. From there, CAF equipment can reach any part of
the western runway system. The equipment road leading to Runway 2R (on the east) should
probably connect to the interconnecting taxiway between parallel runways.

5.10 Flight Kitchen Facility

Until regularly scheduled overseas flights service to Hawaii began in 1951, there was no
requirement for in-flight meal service at Kahului Airport. The mainland carriers, flying
very short-route segments, generally provided only beverages to their passengers.

With the advent of frequent, direct flights from Hawaii to the mainland United States,
Dole Bros., Inc. opened a flight kitchen in the town of Kahului and began providing
overseas carriers with in-flight meals from an off-airport location. As the number of flights
grew and flight kitchen truck traffic on the airport roadway system increased, it became
apparent that a Flight Kitchen Facility located on airport property was needed. Accordingly,
the Airport Division of the Department of Transportation decided to include selection of a
location for a Flight Kitchen Facility in the Airport Development Plan. The selected site
will be made available for lease to a qualified flight meal catering firm.

5.10.1 Future Facility Requirements. Based on the forecasts of the Hawaii Airport
System Plan, future average daily departing overseas passengers from Kahului are estimated to be:

<table>
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<th>Year</th>
<th>1990</th>
<th>1995</th>
<th>2000</th>
<th>2005</th>
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<td>Daily Departing PAX</td>
<td>1325</td>
<td>1795</td>
<td>2245</td>
<td>2690</td>
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</table>

Between the present time and 1995 when the new passenger terminal becomes
fully operational, overseas flights from Kahului will remain a mixture of direct mainland
flights and those with a stop at Honolulu for fueling and provisioning. Thereafter, until the

5-29
December 16, 1990

Peter Ha1 Associates, Inc.
615 Piikoi Street, Suite 2001
Honolulu, Hawaii 96814

Attention: Mr. Peter Ha1

Gentlemen:

Subject: ARFF Training Facility
        Kahului Airport
        Project No. AM 1033-15

Please submit a fee proposal for the subject project based on the enclosed scope of work and site plans. The project will construct fire training facilities similar to those under construction at the Honolulu International Airport. We have enclosed the construction plans for the HIA project for your reference.

Your fee proposal should separate the Architectural and Civil portions of the design, by manhours. Include in your fee proposal, any major reimbursable costs you anticipate during the design. In addition, please submit a construction cost estimate for the entire project.

Very truly yours,

PROJECT MANAGERS HAWAII, INC.

Nimno Tomoda

Enclosures

CC: DOT-A (Mr. Shozo Kunura) - EXHIBIT "C"

ARTICLE V - SCOPE OF WORK

5.1 GENERAL: The Consultant shall prepare complete Plans, Specifications and Costs Estimates for the construction of "AIRPORT RESCUE AND FIRE FIGHTING (ARFF) TRAINING FACILITY, KAHULUI AIRPORT, PROJECT NO. AM 1033-15."

5.2 REVIEW BY STATE: The Consultant's working office shall be established on the Island of Oahu to enable the State to inspect, review, and discuss proposed design features, compliance with state policies, and other requirements with the least amount of delay.

Monthly review of the progress of the Consultant's work will be made by the State.

5.3 Data to be furnished by the State. The State will furnish at no cost to the Consultant the following:

(a) "As-Built" Plans where applicable.

(b) Results of tests on samples of materials taken during construction of the project.

If existing conditions data to be furnished by the State is not sufficient, the Consultant shall obtain such data as required through independent sources when approved in writing by the State, and such additional expense shall constitute a reimbursable cost. Compensation to the Consultant shall be as specified in Section 5.15.

5.4 Work by Consultant. Unless indicated otherwise, the Consultant shall provide all architectural and engineering services necessary to complete the work specified for this project, including the following:

(a) Construction of a new Airpark Rescue and Fire Fighting training facility as indicated in the Kahului Airport Development Plan and as approved by the State and the Federal Aviation Administration.

Design of the facility shall conform with the current edition of the Maui County Building Code, State of Hawaii Department of Transportation and Department of Health standards, the FAA Advisory Circular No. 150/5220-17 and Federal Environmental Protection Agency regulations.
The facilities shall be designed to provide effective training of ABFF personnel on multiple aircraft type structures, without interruption to ongoing airport operations.

(b) One (1) large burn area structure 150 feet in diameter, with aircraft mock-up, and one (1) 3-dimensional burn area structure. Both burn area structures shall have a flexible membrane liner with crushed stone cover, drainage trench, berm, and wall. The burn area structures shall be designed to the following criteria:

1) Designed to utilize construction materials that retain their material and performance integrity under cyclic thermal, hydraulic, mechanical, and bearing stresses, and long term exposure.

2) In compliance with federal, state and local environmental standards for ground water protection.

3) Designed so that fuel, water, and ignition are centrally controlled from an observation area.

4) The structures shall also be capable of creating a variety of fire suppression scenarios involving forcible entry, fuel spills, 3-dimensional or cascading fires, ruptured fuel lines, engine fires, tire/wheel fires and interior cabin and cargo fires.

5) Designed to be capable of rapid recycling of fuel and water.

(c) A 250 foot diameter ABFF vehicle maneuvering area around the large burn area structure to allow maneuvering within the training facility and offering different approach structures to the burn area structures.

(d) Aircraft mock-up (minimum 50% scale) of a Boeing 747-size airplane with multiple engines.

(e) Vented fuel/water separator to separate unburned fuel and used water for recycling.

(f) Burn area control center and observation tower with an adjacent 650 square foot storage building located up wind of the burn area structure.

(g) Underground, vented 15,000 gallon fuel tank and distribution system with explosion-proof pumps, independent on-site fuel delivery network, and burn area fuel delivery network. Fuel tank and distribution system shall be in compliance with federal, state and local environmental standards for ground water and shoreline protection.

(h) All support facilities shall be sited far enough away from the burn area or have provisions to protect the facilities from the heat generated by the various type training fires in the burn area.

(i) Vehicle access road, with ADA access gate, from Alabao Street to the tower/storage building and fuel tank for service and maintenance vehicles.

(j) Vehicle access road from the airfield to the control center/observation tower for ABFF response vehicles.

(k) Two (2) each 3,000 gallon per minute fire hydrants.

(l) Utility service for water, electricity and sanitary sewer.

(m) The Consultant shall consult with, present to, and advise the users of the facilities at the appropriate phases of the project.

The Consultant shall furnish all drafting materials, supplies, including reproduction of the Plans and Specifications of the various phases for the submission to the State for its review. Six (6) sets of drawings and specifications are required for each submission.

The Consultant shall be available during the period of advertising for bids to answer all questions from the bidders on the Plans and Specifications. He shall also provide construction administration during the entire length of the construction period.

5.5 Planning, Design and Construction Stages. For the convenience in checking and reviewing the Project Plans and Specifications and Cost Estimates, the State has classified the work into six (6) basic phases, namely:

(a) Preliminary Plan phase;

(b) Design Development phase;
5.8 Semi-Final Construction Documents. Upon the return and receipt of the approved Design Development Plans, the Consultant shall proceed with the preparation of the Semi-Final Plans and Specifications.

The Semi-Final Plans and Specifications shall include, but not be limited to, the following:

(a) Site plan (including tie-ins to landscaping, roads, utilities, and fencing, etc. as developed by others);
(b) Floor plans, elevations, sections, and details of the building and appurtenances;
(c) Plans and details of all utilities required for the project;
(d) Technical Specifications. Sections of the Technical Specifications shall be numbered so that they can be combined with the State's Specifications and shall be in accordance with the sixteen (16) divisions of CSI.
(e) A Cost Estimate prepared by a professional estimator.

The Semi-Final Construction documents shall set forth in detail and illustrate the size and character of the project with respect to the kinds of materials, type of structure, mechanical and electrical systems, and equipment, and such other work as may be required.

5.9 Submission of Semi-Final Construction Documents. Upon the completion of the Semi-Final Plans and Specifications, the Consultant shall submit six (6) sets of said Plans and Specifications to the State for its review and approval.

The State may, upon completing its review of the aforementioned submission, approve said Plans and Specifications subject to such revisions or changes as it deems necessary. The Consultant shall make such changes as requested by the State and resubmit the Plan for the State's approval. In the event of a disagreement between the Consultant and the State, the matter shall be referred to the Negotiating Committee for resolution.

5.10 Final Construction Documents. The Consultant shall make all changes and revisions required by the State in connection with the Semi-Final Submission and shall furnish the State with the revised, corrected, and completed drawings setting forth in detail the architectural, structural, mechanical, electrical, landscaping, and civil work required as the Final Plans and Specifications for the Construction Package.
The Final Plans and Specifications shall consist of the technical specifications, all tracings, detailed estimates (schedule of alternatives with deductive and additive items as may be necessary to meet available funds), notes, computations, and all other materials required to be furnished by the Consultant under the terms of the contract.

The Technical Specifications and Proposal Schedule shall be typed on clean bond paper which produces sharp and clear reproductions.

The Consultant shall prepare all Final Plans on standard tracing sheets furnished by the State.

Final drawings may be submitted in pencil. Pencil drawings shall be clean and suitable for obtaining clear prints.

The Final Plans and Specifications shall be considered final only after they have been approved in writing by the State.

The Consultant shall be responsible for obtaining the approval of the State Department of Health, the County of Maui, and any other governmental agency having jurisdiction over the design of the project.

5.11 Advertising and Bidding Phase. The Consultant shall be available during the period of advertising for bids of the project to answer all questions from contractors on the Plans and Specifications. He shall also attend each pre-bid and pre-construction meetings for the project. The Consultant shall review and recommend approval of materials or equipment submitted for substitution for specified materials or equipment.

The State shall print all bid documents, advertise for bids and award the contract for construction.

5.12 Construction Administration Phase. The Consultant shall review and recommend actions on samples, schedules, shop drawings and other submittals by the contractor during construction. The Consultant shall provide during construction such supplemental guidance as may be required to clarify the contract documents, and in that connection shall provide supplemental plans and cost estimates for construction changes, review and approve samples, shop drawings, and other submittals by the Contractor, at no additional cost to the State.

The Consultant shall make periodic visits to the job site as requested by the State on a reimbursable basis to assist the State and to determine in general if the work is proceeding in accordance with the Final Construction Documents for the project. On the basis of his on-site observations, he shall endeavor to guard the State against defects and deficiencies in the work of the contractor. The Consultant shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. The Consultant shall not be responsible for construction means, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, and he shall not be responsible for the Contractor's failure to carry out the work in accordance with the Final Construction Documents.

The Consultant shall be responsible for errors and/or omissions in the design plans and specifications of the project. Designs and/or revisions and field visits required to correct said errors or omissions shall be performed by the Consultant, for which no additional compensation will be made, including all travel costs and meals. Should problems develop, which are not the result of errors or omissions of the Consultant, and for special job site consultations requested in writing by the State, payment will be made as provided for in Section 5.13.

The Consultant shall accompany the State on pre-final and final inspections and shall advise the State as to whether the project is completed in reasonable and substantial accordance with the Final Construction Documents.

The State shall perform tests of construction materials when requested by the Consultant. Final acceptance and closing of the construction contract shall be made by the State.

5.13 Consultant's Reimbursable Costs. Subsurface investigations by an approved sub-consultant (if required), off-island travel costs, printing costs for review submittals, and project-connected long distance phone calls shall be considered as reimbursable costs and the Consultant shall be compensated on the basis of the actual cost incurred by the Consultant and supported by receipts, expense accounts, and other invoices, and by a brief statement as to the purpose sought and/or accomplished by such expense. The Consultant shall be paid for expenses incurred at actual cost.
May 26, 1995

Mr. Brian Miskea
Planning Director
Mau Planning Department
250 South High Street
Wailuku, HI 96793

Attendee: Larry Brooks

Subject: 95/SMA-011

NK: 3-6-001:19

Kahului Airport AERFT Facility
Applicant: Dept. of Transportation, Airports

Dear Mr. Miskea:

We have reviewed the subject application and have no objections to the project. The project’s type of land use does not impact park usage.

Thank you for allowing us to comment on the Special Management Area Permit application. We are returning the project’s documents for your disposition.

Sincerely,

CHARMAINE TAVARES
Director

EXHIBIT "D"

CT/M
Enclosure

June 5, 1995

Mr. Larry Brooks, Staff Planner
County of Maui
Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Brooks:

Thank you for the opportunity to review and comment on the Special Management Area Permit Application and Environmental Assessment for the Kahului Airport Aircraft Rescue and Fire Fighting Training Facility, Kahului, Maui (TRR 3-6-1:19). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue, Department of the Army (DA) permits under the Clean Water Act, the Rivers and Harbors Act of 1899, and the Marine Protection, Research and Sanctuaries Act.

1. Based on the information provided, no wetlands, streams, or other waters of the U.S. will be affected by the project; therefore, a DA permit will not be required.

2. The flood hazard information provided on page 14 of the environmental assessment is incorrect.

Sincerely,

RAY N. JYD, P.E.
Director of Engineering

EXHIBIT "E"
References
References


Interview and telephone conversation with Chief Pat Fevella, Airports Division - Kahului Airport Fire Station, March 1995.

Telephone conversation with Dave Taylor, Department of Public Works and Waste Management, Wastewater Reclamation Division, March 1995.

Telephone conversation with Ellen Kraftsow, Department of Water Supply, March 1995.

University of Hawaii, Land Study Bureau, *Detailed Land Classification Island of Maui*, May 1957.


Appendix A

Preliminary Drainage and Soil Erosion Control Study
PRELIMINARY
DRAINAGE & SOIL EROSION CONTROL STUDY
FOR
PROPOSED AIRCRAFT RESCUE AND
FIRE FIGHTING (ARFF) TRAINING FACILITY
PROJECT NO. AM 1033-15
KAHULUI AIRPORT, MAUI, HAWAII
TMK: (2) 3-8-01:19 (PORTION)

MARCH 1995
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II. FLOOD HAZARDS  
III. STORM DRAINAGE  
IV. SOIL EROSION CONTROL STUDY  
V. CONCLUSION  
VI. REFERENCES  
VII. HYDROLOGY CHART  
VIII. EXHIBITS

- FIGURE D-1 - FLOOD MAP  
- FIGURE D-2 - DRAINAGE AREA MAP  
- FIGURE D-3 - SOILS MAP
I. BASIS OF STUDY:

This preliminary drainage and soil erosion analyses are in accordance with the Maui County Interim Drainage Standards [1] and Chapter 20-08, "Soil Erosion and Sedimentation Control" of the Maui County Code, respectively.

II. FLOOD HAZARDS:

Site of the proposed project falls within Zone "V23" as established by the "Flood Insurance Rate Map" of the County Maui (Figure D-1). Zone "V23" are areas affected by the 100-year coastal flood with wave action.

The average regulatory flood level at the project site is about 20 feet above mean sea level.

III. STORM DRAINAGE:

A. EXISTING CONDITIONS:

The project site is presently paved with asphalt concrete. It has a flat slope of about 1.2% with elevations ranging from 8 feet to 11 feet above mean sea level.

There is no existing drainage facility serving the project site. Onsite runoff is presently disposed of by surface flow which discharges into the open and undeveloped lands north of the project area. The runoff will then be trapped in local depressions and pockets until it percolates into the ground or is lost to the atmosphere by evaporation.
At present conditions, the site can generate a storm flow of about 10.6 cubic feet per second (cfs) for a 10-year storm intensity.

Hydrology calculation is shown on the attached Hydrology Chart. Drainage area is delineated on Figure D-2.

B. FUTURE CONDITIONS:

There is no massive grading planned for this project. Grading will primarily involve the excavation of the burn pit, holding pond, trenches and placement of underground storage tanks. Except for the burn pit and holding pond, all ground surfaces disturbed will be restored to their original grade and will be paved, grassed or gravelled.

The proposed burn pit and holding pond will be provided with perimeter curb and CNU wall, respectively. They will also be constructed with containment liners to prevent liquid leaching into the ground. With these features, rainfall captured by these facilities will be retained onsite; thereby, reducing the storm runoff presently generated by the site.

At post developed conditions, the site can generate about 7.7 cfs, a reduction of 2.9 cfs from the existing drainage flow.

There are no drainage facilities planned for this project. The site will rely on surface flow method for the disposal of runoff similar to present drainage pattern; thereby, storm waters will flow into the open
lands north of the project where they will be trapped and retained until lost to the atmosphere or to the ground.

IV. **SOIL EROSION CONTROL STUDY:**

A. **EXISTING SOIL CONDITION:**

Existing soil at the project site (Figure D-3) is classified by the United States Department of Agriculture, Soil Conservation Service as Dune Land (DL) [2]. This type of soil consists of hills and ridges of sand-sized particles located mostly in coastal areas. Dune lands are suitable for wildlife habitat, recreational areas and as a source for liming materials.

The site is presently paved, being part of the old Runway 17-23 and is now used for fire training exercise and sometimes for aircraft parking.

B. **HESL SOIL LOSS FOR PROJECT DURING CONSTRUCTION:**

Erosion rate, as set forth by the County of Maui Ordinance:

\[
E = RKLSCP
\]

Where:

- \( E \) = Soil Loss in tons/acre/year
- \( R \) = Rainfall factor = 160 tons/acre/year
- \( K \) = Soil Erodibility Factor, Dune Land = 0.10
- \( L \) = LS Factor = Slope Length = 250 ft. (worst conditions)
- \( S \) = LS Factor = Slope Gradient = 1.2\%
- \( LS \) = Slope Length Factor = 0.20
C = Cover Factor, Use Bare Soil = 1.0
P = Control Factor, Construction Site = 1.0
E = 160 x 0.10 x 0.20 x 1 x 1 = 3.2 tons/acre/year

B. ALLOWABLE SOIL LOSS FOR SITE:
   1. Coastal Water Hazard (D) = Class A = 2
   2. Downstream Hazard (F) = 4
   3. Duration of Site Work = 6 month = 0.5 year
   4. Maximum Allowable Construction Area x Erosion Rate = 3,571 tons/year
   5. Area of Graded Land = 1.0 acres
   6. Allowable Erosion Rate = 3,571/1.0
                               = 3,571 tons/acre/year

       Allowable E = 3,571 > 3.2

C. SEVERITY NUMBER (H1):
   \[ H = (2F + T + 3D)AE \]

Where:
H = Severity Number
F = Unit Downslope = Downstream Factor = 4
D = Unit Coastal Water Hazard Rating Factor = 2
T = Time of Distribution (years) = 0.5
A = Area of Disturbance = 1.0
E = Soil Loss Rate from USLE = 3.2 tons/acre/year
\[ H = (2 \times 4 \times 0.5 + 3 \times 2) \times 1.0 \times 3.2 = 32 \]

Estimated severity number for this project is less than the allowable value of 50,000.

E. EROSION CONTROL PLAN:
   The uncontrolled erosion rate is less than the allowable erosion rate and the severity number is within
the maximum allowable value of 50,000. Therefore, normal construction erosion control measures are sufficient for this project with no excessive soil loss occurring.

Temporary erosion control measures shall include the following:

1. Control dust by means of waterwagon and/or sprinklers during period of construction.

2. Provide temporary berms or other approved methods required to divert offsite runoff away from excavated areas to natural drainageways during construction. Also provide adequate provisions, such as installation of silt fences down grade of graded areas, to prevent sediment-laden runoff from leaving the project area.

3. Graded areas will be thoroughly watered after construction activity has ceased for the day and for weekends and holidays.

4. All exposed graded areas shall be paved, grassed and/or gravelled immediately upon completion of finish grading.

v. CONCLUSION:

Based on this preliminary study, construction of the ARFF Training Facility will not have adverse drainage effects on adjacent and downstream properties. The expected runoff for the project site will flow into unused airport lands
where they will be trapped by depressed areas until they will infiltrate into the ground or evaporate to the atmosphere.

VI. REFERENCES:

1. Interim Drainage Standards for the County of Maui, January 1994.


5. Flood Insurance Rate Maps for the County of Maui, June 1981, revised September 6, 1989.
<table>
<thead>
<tr>
<th>Drainage Designation</th>
<th>Area (Acres)</th>
<th>Length of Overland Flow (Feet)</th>
<th>Average Slope, %</th>
<th>Character of Ground</th>
<th>T (min)</th>
<th>C</th>
<th>T (years)</th>
<th>1-Hour Rainfall (inches)</th>
<th>I (lin./hr)</th>
<th>Q (c.f.s.)</th>
<th>Remarks</th>
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<td>2.9 Decrease After Project Completion</td>
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ENGINEERS - SURVEYORS
NOTE: The flood map is in the process of being revised by the Federal Emergency Management Agency (FEMA), because of major drainage improvements completed by the State to alleviate the flooding conditions.

FLOOD MAP
Scale: 1" = 1,000'

FIGURE D-1