FINAL ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

ACQUISITION OF LAND AND IMPROVEMENTS FOR THE EXPANSION OF KAHULUI COMMERCIAL HARBOR

District of Wailuku, County of Maui
Tax Map Key: 3-7-10: 001 and 3-7-10: 036

Proposing Agency:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 South Nimitz Highway
Honolulu, Hawaii 96813

Responsible Official: _____ 7 24 06

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July 2006

This document is prepared pursuant to Chapter 343, HRS and
the Administrative Rules, Title 11, Chapter 200 of the Hawaii Department of Health.

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FOR THE DEVELOPMENT OF KAHULUI HARBOR

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1.0 INTRODUCTION

This Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) has been prepared to analyze the potential environmental impacts of the proposed use of State funds for the acquisition of improved land at Kahului Harbor, Maui, from Alexander & Baldwin Properties, Incorporated (A&B). The A&B property consists of two adjacent parcels and is depicted on the charts in Appendix A. This Final EA and FONSI has been prepared in accordance with the provisions of Hawaii Revised Statutes (HRS) Chapter 343, Section 5(a)(1) and Chapter 200 of Title 11, Sections 11-200-5, Hawaii Administrative Rules (HAR). A description of the proposed action, the affected environment, the alternatives considered, the proposed mitigation measures and the preliminary determinations based on the information presented herein and the reasons supporting those determinations are provided. The information contained herein has been compiled from the *Final Environmental Assessment and Finding of No Significant Impact, 2025 Master Plan Improvements, Kahului Commercial Harbor* (Edward K. Noda and Associates, Inc., November 2005)*, A Counseling Report Covering An Evaluation of the Fee Simple Interest in The Land and Improvements Located at 55 Kaahumanu Avenue, Kahului, Island of Maui, State of Hawaii* (ACM Consultants, October 10, 2005)*, A Counseling Report Covering an Evaluation of the Fee Simple Interest in the Land and Improvements Located at 101 Kaahumanu Avenue, Kahului, Island of Maui, State of Hawaii* (ACM Consultants, October 10, 2005), discussions with other agencies and affected parties, and generally available information regarding the area and its environmental characteristics.

1.1 DESCRIPTION OF THE PROPOSED ACTION

The State of Hawaii Department of Transportation Harbors Division intends to utilize State funds to purchase two privately owned A&B parcels and the improvements thereon. Both parcels are located adjacent to and south of Kahului Commercial Harbor, on Kaahumanu Avenue, between Wharf Street and Hobron Avenue. See Appendix A, Location Maps.

The parcels are necessary for the future expansion of Kahului Commercial Harbor, which is faced with congested and crowded operating conditions. The continuing growth of cargo volumes and passenger operations necessitate the acquisition of these parcels. **Curtailment of Kahului Commercial Harbor's expansion will result in delays in maritime deliveries, restrictions in operations (e.g., termination of Less-Than-Container-Load or LCL cargo[1]), and the creation of unsafe operating environments. While full redevelopment of the A&B land will be scheduled subsequent to purchase of the property, development of appropriate long-range plans and proper environmental analysis of these plans, minor projects may be implemented within the property to provide space for the inter-island cargo carrier's full range of existing cargo services, including its LCL cargo operations. These minor projects will be prudently selected from those contained in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation* (Amended, November 15, 2000).**

[1] An inter-island cargo carrier currently conducts LCL cargo operations within its Kahului Commercial Harbor terminal. As these LCL operations require a disproportionate amount of space, the inter-island cargo carrier desires to terminate its LCL operations and make room for increasing containerized cargo volumes. The individuals and small businesses that constitute the LCL cargo consignors are concerned that the termination of the service will detrimentally impact their shipping costs.

The proposed land acquisition is entirely consistent with the *Kahului Commercial Harbor 2025 Master Plan*, (DOT Harbors Division, September 2000). Page VI-3 of the Master Plan states, "As inter-island cargo operations outgrow the available acreage, the Harbors Division will work with Alexander & Baldwin Properties, Inc. to acquire the necessary acreage."

1.2 SUMMARY OF MAJOR IMPACTS AND MITIGATION

Description of the Economic and Social Characteristics of the Proposed Action

The proposed land acquisition is necessary for the preservation and enhancement of Kahului Commercial Harbor as the Island of Maui's only marine cargo port. It is clearly recognized that Hawaii, as an island State, is almost totally dependent on ocean surface transportation. Approximately 80 percent of the goods required to keep the Hawaiian economy functioning are imported, and 98 percent of these imported goods are delivered by ship (Lee & Olive, 1994). Adequate land for harbor operations is critical for a sound maritime industrial base and Maui's continued economic growth.

The economic and social characteristics of the proposed project are positive in that it will enable the Harbors Division to proceed with its *Kahului Commercial Harbor 2025 Master Plan* and ensure Maui's economic stability.

2.0 DESCRIPTION OF PROPERTY

2.1 GENERAL LOCATION

The two parcels that the Harbors Division proposes to acquire are located immediately to the south of Kahului Commercial Harbor. Kahului Commercial Harbor lies on Kahului Bay, and is located on the northern shore of the isthmus connecting East and West Maui (see Appendix A, Location Maps). Kahului Commercial Harbor occupies the eastern area of Kahului Bay and is approximately bordered by the east breakwater, Hobron Avenue, Kaahumanu Avenue and Puunene Avenue. Kahului Commercial Harbor is Maui's sole commercial port. Maui's commercial center naturally surrounds this critical maritime transportation facility.

Kahului Commercial Harbor is the busiest, deep-draft, neighbor island, commercial harbor and is one of ten (10) State-managed commercial harbors in Hawaii. The Harbors Division is responsible for the control, management, use and regulation of commercial harbors and their improvement as stated under HRS Chapter 266. The Harbors Division will include the two A&B parcels in the upcoming *Kahului Commercial Harbor 2030 Master Plan* project. The master plan's task force will decide on the best use of the two parcels. Once the 2030 master plan is completed and approved, the Harbors Division will commence with the HRS Chapter 343 assessment of the plan's projects and their cumulative environmental impacts. **Full redevelopment of the parcels will be scheduled after the completion of this environmental analysis. Interim measures may be implemented within the properties to assist the inter-island cargo carrier in continuing its full range of existing cargo services, including the LCL cargo operations. These interim measures will consist of minor projects that produce no significant events, fall within the exemptions granted to the State Department of Transportation and that are exempt from the Chapter 343 process.**

2.2 HISTORY

Early development at Kahului Bay started in 1863 with the construction of the first western building - a warehouse near the beach. In 1879, to facilitate the loading and unloading of goods and passengers, the first small landing was constructed in Kahului Bay. After the Bubonic Plague of 1900, the rebuilding of Kahului town coincided with the evolution of Kahului Bay into a full-scale commercial harbor. The development of the harbor began in earnest under the leadership of Henry Baldwin. During this time, the railroad and harbor depended on each other to provide service to the merchants and the sugar cane plantations. By 1910, the harbor had an 1,800-foot breakwater on the east side, a 40-foot tall lighthouse, a new 200-foot pile-and-timber pier, "Claudine Wharf," and the turning basin had been dredged.

The development of Kahului Commercial Harbor has continued to meet Maui's maritime demand. Pier 1 was initially 500 feet in length and was constructed between 1921 and 1924, along with a pier shed that was 374 feet long. Subsequent construction lengthened Pier 1 to 929 feet. Currently (2003), Pier 1C has been constructed, and Pier 1 increased to a length of 1,658 feet. The first 627 feet of Pier 2 was constructed in 1927 at the location of the old "Claudine Wharf," and extended in 1929 to 894 feet.

By the 1930s, the turning basin was dredged to a depth of 35 feet with a maximum width of 1,455 feet. In 1931, the west breakwater was completed. Currently, the harbor basin is 2,050 feet wide and 2,400 feet long with a depth of 35 feet. The entrance channel is 660 feet wide and has a depth of 40 feet.

To evaluate the existing and future needs at the harbor and to achieve its goals, the Harbors Division undertook the *2010 Master Plan for Kahului Harbor.* This master plan was reviewed and updated in November 1994, and published as the *Master Plan Update for Kahului Harbor.* Typically, the Harbors Division targets a five-year schedule in reviewing and updating its master plans. The current 2025 master plan serves as the latest update to the 2010 master plan, and also provides a long-range guide for the development of Kahului Commercial Harbor.

2.3 LAND OWNERSHIP

The two parcels are owned by A&B (Alexander & Baldwin Properties, Inc.). A&B has contracted ACM Consultants to appraise both parcels. The total appraised value of the land and improvements is $4,549,600.00. **The State of Hawaii Department of Transportation has contracted an appraiser to conduct the evaluation for an objective determination of the value of the two A&B parcels. This appraisal will provide a basis for the Harbors Division's negotiations with A&B on the purchase price of the properties.**

2.4 EXISTING USES AND FACILITIES

The following are descriptions of the parcels being considered for purchase.

Tax Map Key: Division II, Zone 3, Section 7, Plat 10, Parcel 036.
Street Address: 101 Kaahumanu Avenue, Kahului, Hawaii 96732

Owner of Record: A&B Properties, Inc.

Real Property Tax Assessments: $2,009,300 (land); $379,0000 (building).

Size and Shape: Approximately 2.16 acres or 94,002 square feet, generally rectangular in shape.

Topography and Soil Condition: Generally level with street grade. Presumed to have stable soil conditions.

Access: Directly from Kaahumanu Avenue as well as Wharf Street.

Flood Status: Zone V23 (coastal high hazard area), Zone A-4 (areas of 100-year flood with base flood elevations and flood hazard factors determined), Zone C (areas of minimal flooding).

Utilities: All public utilities are available along Kaahumanu Avenue.

State Land Use Classification: Urban District.
Zoning: M-2 Heavy Industrial District.

Wailuku-Kahului Community Plan: Heavy Industrial.

Other: Located with the Special Management Area.

Improvements: Three detached single-story retail/office structures. The original railroad building was constructed circa 1923. The other two railroad annexes were constructed much later (circa 1955) and are connected by concrete walkways to the 1923 railroad building. The buildings are of concrete block construction on a concrete slab foundation with approximately 6,935 square feet of leasable areas. The units range in size from 168 to 2,567 square feet. The buildings are separated by a landscaped courtyard and connected by concrete walkways. Parking is situated on the north, west and east sides of the buildings. The improvements were observed to be of sound construction quality and in average condition due to renovations and regular maintenance through the years. Most of the interior improvements were made by tenants and were observed to be of average construction quality and condition.

Summary of Tenant Leases:

1. Carl Incerto – Office. 1,194 square feet. Lease period: 5/01/03 – 5/30/08.
2. Four Star Mortgage Corp. – Office. 2,567 square feet. Lease period: 6/01/03 – 7/31/06.
3. Linda Austin – Office. 336 square feet. Lease period: 4/01/04 – 3/31/07.
4. John Schweiner – Officer. 1,101 square feet. Lease period: 9/01/03 – 8/31/06.
5. CB Richard Ellis, Hawaii, Inc. – Office. 305 square feet. Lease period: 7/01/03 –

6/30/06.

6. Boskoff Construction, Inc. – Office. 200 square feet. Lease period: 3/01/04 – 5/31/06.
7. Roger & Lisa Strong – Office. 728 square feet. Lease period: 9/01/02 – 9/30/07
8. Boskoff Construction, Inc. – Office. 336 square feet. Lease period: 3/01/04 – 5/31/06.
9. Roger & Lisa Strong – Office. 168 square feet. Lease period: 9/01/02 – 9/30/07.

Tax Map Key: Division II, Zone 3, Section 7, Plat 10, Parcel 001.

Street Address: 55 Kaahumanu Avenue, Kahului, Hawaii 96732

Owner of Record: A&B Properties, Inc.

Real Property Tax Assessments: $1,612,700 (land); $548,600 (building).

Size and Shape: Approximately 1.8 acres or 78,364 square feet, generally rectangular in shape.

Topography and Soil Condition: Generally level with street grade. Presumed to have stable soil conditions.

Access: Directly from Kaahumanu Avenue as well as from Wharf Street.

Flood Status: Zone V23 (coastal high hazard area), Zone A-4 (areas of 100-year flood with base flood elevations and flood hazard factors determined), Zone C (areas of minimal flooding).

Utilities: All public utilities are available along Kaahumanu Avenue.

State Land Use Classification: Urban District.

Zoning: M-2 Heavy Industrial District.

Wailuku-Kahului Community Plan: Heavy Industrial.

Other: Located within the Special Management Area.

Improvements: Presently improved with a two-story retail/office structure, which is commonly known as the "Old Kahului Store". The original part of the building constructed circa 1904. Subsequent portions of this building were constructed in 1916 and 1979. The building is of wood-frame construction on a concrete slab foundation with approximately 16,982 square feet of leasable area. Units A through L are all ground floor units, although some units have mezzanine space. Unit M is a second floor office, and Units No. 1 through 4 are small storage bays. The retail/office spaces range in size from 854 to 5, 011 square feet. The storage bays are 179 to 228 square feet with minimal improvements. Parking is situated on the north side of the building with access from Kaahumanu Avenue. The improvements were observed to be of sound construction quality and in average condition. The improvements were renovated a few years ago and the property has been regularly maintained since.

Summary of Tenant Leases:

1. Joel & Heidi Stuart – Retail. 1,042 square feet. Lease period: 12/01/04-1/31/07 with two-year option.
2. Lightning Bolt Maui, Inc. – Retail. 1,919 square feet. Lease period: 5/01/04-4/30/07.
3. Scott & Amber Emerzian – Retail. 854 square feet. Lease period: 11/01/04-10/31/07.
4. Fabric Mart – Retail. 5.011 square feet. Lease period: 5/01/02-4/30/05 with two-year lease option.
5. Island Beauty Supply, LLC – Retail/Office. Lease period: 5/15/00-5/14/07.
6. Gary Guenther – Office. 1,608 square feet. Month-to-month licensing agreement.
7. LF & Sons Landscape Maintenance – Storage. 228 square feet. Month-to-month licensing agreement.
8. Joel & Heidi Stuart – Storage. 202 square feet. Month-to-month licensing agreement.
9. Lightning Bolt Maui, Inc. – Storage. 179 square feet. Month-to-month licensing agreement.
10. Charles Buckingham – Storage. 136 square feet. Month-to-month licensing agreement.
11. Global Travel Center – Pad. 5,000 square feet. Lease period: 7/01/05-2/28/07.

2.5 SURROUNDING LAND USES

Kahului Commercial Harbor is located in an urbanized, industrial setting and surrounded by the towns of Kahului and Wailuku, the centers of Maui's commerce, light industry, and government. Kahului and Wailuku are home to approximately 37,600 residents, which equates to 37 percent of Maui's total population[2].

The east side of the harbor currently encompasses approximately 50 acres of land. It is the operational portion of the harbor, including three major berthing structures with storage areas, warehouses, harbor offices, and tenant buildings. All of the commercial maritime activities occur on the east side.

Bordering the commercial harbor on the east is the Maui Electric Company power plant, various petroleum storage facilities, and commercial ventures. The main access through this area is via Hobron Avenue. Commercial facilities, including two large shopping complexes (Maui Mall and the Kaahumanu Shopping Center) are to the south along Kaahumanu Avenue. Wharf Street serves as an access to the commercial harbor from Kaahumanu Avenue. Land uses to the west of Puunene Avenue include various commercial activities, canoe *hale* and hotels. Hoaloa Beach, which is partially located on Harbors Division property, neighbors Pier 2 to the west and is used for various recreational activities. The Harbor Lights residential condominium is situated along Kahului Beach Road and south of the harbor area. The Kanaha Pond Wildlife Sanctuary is a Conservation area and is about ½ mile east of the harbor area.

The State Land Use designation for the two A&B parcels and the area immediately surrounding the harbor is Urban. The two A&B parcels and the commercial harbor are within the Wailuku-Kahului Community Plan's heavy industrial district as well as the Special Management Area.

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[2] U.S. Census, 2000, State of Hawaii Data Book 2001, Department of Business, Economic Development and Tourism.

3.0 DESCRIPTION OF THE PROPOSED PROJECT

3.1 DESCRIPTION OF THE PROPOSED ACTION

The Harbors Division proposes to use State funds to acquire privately owned A&B lands and the improvements thereon. The properties consist of two adjoining parcels, located adjacent to and south of Kahului Commercial Harbor between Hobron Avenue and Wharf Street, and identified as TMK: Division II, Zone 3, Section 7, Plat 10, Parcel 001 and Division II, Zone 3, Section 7, Plat 10, Parcel 036. The total land area of both parcels is approximately 3.96 acres.

The affected property is needed to relieve Kahului Commercial Harbor's congested conditions, which are caused by the continual growth of Maui's maritime operations. The two parcels are viewed as critical expansion lands to support Maui's burgeoning cargo handling operations in Kahului Commercial Harbor.

The proposed land acquisition is one of the few limited options available for Kahului Commercial Harbor expansion and is entirely consistent with the *Kahului Commercial Harbor 2025 Master Plan*.

The Harbors Division will initially retain use of both the Old Kahului Store and the Kahului Railroad Building in their present use as commercial retail and office spaces. The future disposition of the buildings will be considered under the *Kahului Commercial Harbor 2030 Master Plan* project that is scheduled to take place in the fall of 2006. The master planning effort will invite participation by representatives from the County of Maui, State and Federal government services, the maritime industry, associated businesses and associations, community organizations and concerned individuals. The goal of the planning effort will be the development of long-range recommendations of the 2030 master plan, including the future use of the property sought for acquisition.

The *Kahului Commercial Harbor 2030 Master Plan* will assist in determining whether the buildings can be used and incorporated in a manner that will serve the needs of Kahului Commercial Harbor's maritime activities.

The *Kahului Commercial Harbor 2030 Master Plan* is scheduled to begin within the next seven weeks. The 2030 master plan's task force will invite a wide range of representatives from government service, the maritime industry, private enterprise, recreational, cultural and community organizations. Invitations will be extended to the Mayor of Maui, the Maui Mayor's environmental advisor, the Maui County Transportation Department, the Maui County Planning Department, the Maui County Public Works Department, the Maui County Council, the Governor's Office, Maui State legislators, Maui's congressional representatives, the State DOT Airports, Highways and Harbors Divisions and Statewide Transportation Planning Office, the State Department of Land & Natural Resources, the State Department of Agriculture, the State Department of Health, the State Department of Business, Economic Development & Tourism, the Public Utilities Commission, the United States Army Corps of Engineers, the United States Environmental Protection Agency, the

United States Customs and Border Protection, Na Kai Ewalu, Maui Canoe Club, Maui Tomorrow, the Sierra Club, the Kahului Harbor Coalition, the Maui Mall Association, the Maui Chamber of Commerce, the Maui Visitors Bureau, the Friends of Haleakala National Park, Alexander & Baldwin, Hawaiian Commercial & Sugar Company, Matson, Horizon Lines, Young Brothers., Sause Brothers, Hawaii Pilots Association, Hawaiian Tug & Barge Company, Maui Petroleum, Chevron, Aloha Petroleum, Tesoro, Norwegian Cruise Lines, the Hawaii Superferry, Kahului Trucking and Storage, Maui Electric Company, Hawaiian Cement, Grace Pacific Corporation, Hawaii Farm Bureau Federation, etc.

The process will be initiated with a public scoping meeting to acquaint and familiarize participants with a general background on the issues pertinent to Kahului Commercial Harbor's long-range requirements and the process that will be observed for formulation of the plan. Areas for consideration should include the maritime industry's operational requirements, anticipated growth and development for Maui County, environmental concerns, recreational and cultural concerns transportation demands, traffic congestion, and the County's overall economic outlook.

Following the scoping meeting, the 2030 master plan task force will convene in plenary session(s). Participants will be asked to engage in discussion of issues that they feel affect the harbor and brainstorm ideas to address the commercial harbor's long-term needs. The group will be asked to reduce their ideas into the preferred scenario and provide a number of viable alternatives. To accomplish this task, the task force must consider the feasibility of the alternatives, identify potential obstacles to the options and prioritize the alternatives. The task force's recommendations will be presented to the Governor for approval. The approved 2030 master plan will serve as the long-range development guide for the Kahului Commercial Harbor. The recommendations will address the future requirements of the overseas cargo, inter-island cargo, liquid bulk cargo, dry bulk cargo, neobulk cargo and the handling of passenger operations.

The 2030 Master Plan's recommendations will be subsequently reviewed through the Hawaii Revised Statutes (HRS) Chapter 343 environmental analysis. Any potential impacts to air quality, water quality, endangered species, recreational activities, cultural practices, historic properties and structures, viewplanes, social considerations, power supply, public services (fire, police, emergency medical, health, schools, parks, wastewater, solid waste, flood plains, etc.) will be identified, analyzed and the proper mitigation measures defined.

The planning effort should include consideration on the requirements of all aspects of operation by the inter-island barge service operator. Expansion opportunities will need to consider options for such growth, the impact and effect on current or adjoining tenants, and the state of the operator to continue engaging in LCL service based on both requirements to conduct such activity at Kahului and at other ports in the state. In order to accommodate the LCL service, sufficient space must also be available in Honolulu and other ports as the service is dependent on the availability of space throughout the state. Once the Chapter 343 environmental analysis is completed, cost estimates for the individual development projects will be developed and the projects will be prioritized and included in the Harbors Division's budget. As funds become available, the high priority projects will be scheduled for design and construction. In the interim, minor projects such

as those contained in the *Comprehensive Exemption List for the State Department of Transportation,* Amended, November 15, 2000, may be implemented to provide the inter-island cargo carrier with the requisite space for continuance of its full range of cargo services, including its LCL cargo operations.

3.2 BACKGROUND

The *Kahului Commercial Harbor 2025 Master Plan* provides a long-range guide for the development of the commercial harbor. The plan is based on the knowledge and experience of the maritime operators, their anticipation of future trends, various statistical analyses, as well as the input of other non-commercial users of the commercial harbor. The master plan, the cargo projections, the berthing analysis and the spatial analysis indicate that Kahului Commercial Harbor's limited maritime lands will be unable to satisfactorily process the volume of cargo being shipped through its terminals. The maritime operators, particularly the State's only inter-island cargo carrier, affirm the need for additional cargo yard acreage. The operators view the need for expansion as an immediate requirement as Kahului Commercial Harbor already lacks sufficient space for the increasing levels of activity.

Pursuant to Hawaii Administrative Rules 19-41-4, "*Delegation of authority. The chief, harbors division, district managers, and the harbor masters are the designated representatives of the department and of its director and as such are delegated full authority to administer the rules of the department and to establish procedures necessary for the efficient and safe operation of the harbors within their respective jurisdictions*." The Harbors Division's Deputy Director, Administrator (Chief) and Maui District Manager are in full agreement that additional operating areas must be acquired to provide the operators with sorely needed terminal acreage.

3.3 PURPOSE AND NEED

The proposed land acquisition will offer additional terminal space for more efficient, economical and safer maritime operations. The additional acreage provided by the proposed land acquisition will assist the Harbors Division in addressing existing and forecast maritime demands. The *Kahului Commercial Harbor 2025 Master Plan* emphasizes the following objectives:

- Plan the proper development of Kahului Commercial Harbor[3], thereby facilitating maritime shipments of the essential commodities required by Maui County;

- Optimize the utilization of land and water resources committed to marine cargo and passenger operations in an economically responsible manner;

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[3] As defined in the Hawaii Revised Statutes Chapter 266-1, a commercial harbor "*means a harbor or off-shore mooring facility which is primarily for the movement of commercial cargo, passenger and fishing vessels entering, leaving or traveling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers and vessels.*" Similarly, under Hawaii Administrative Rule 19-41-2 a State commercial harbor "*means a harbor under the jurisdiction of the department which has been designated for trade and other commercial activity....*"

- Provide terminals, other harbor resources, and access to these facilities in locations within Kahului Bay and other locations in a manner that best relates to and serves Maui in an efficient, safe and secure manner; and

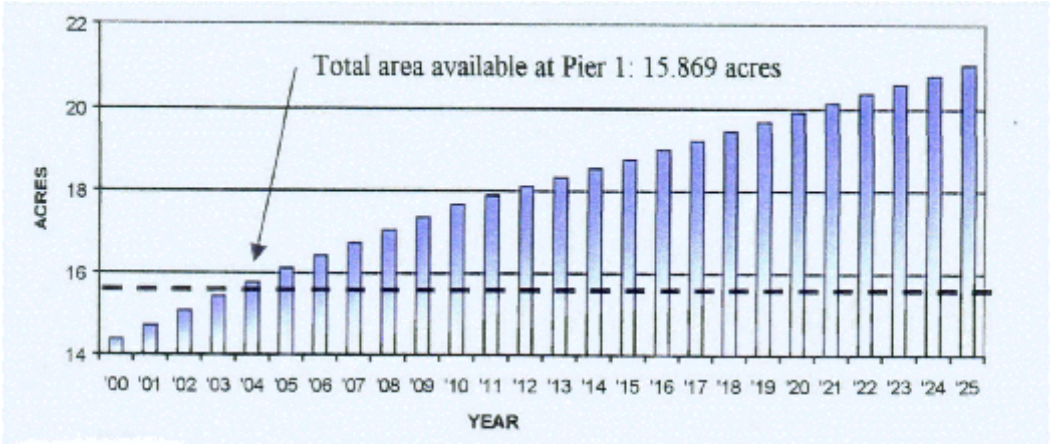
- Minimize the impact on environmental quality and recreational opportunities contiguous with the Harbor.

3.4 FORECAST

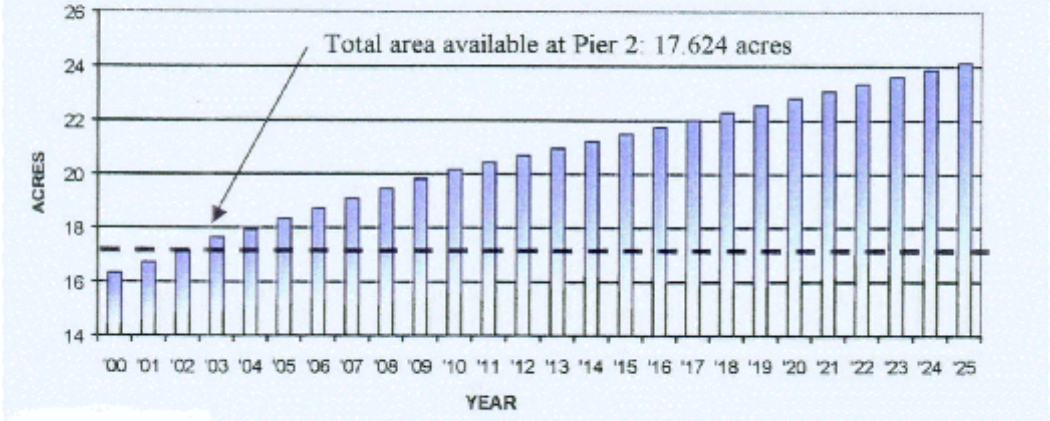
The forecast analysis in the 2025 master plan is based on a number of statistical studies that establish a method of quantifying the requirements for future cargo facilities. The two facilities that were analyzed for their operational capacities are the container yards and the berths. Strong correlations between the annual weight of all cargo shipped to and from Maui and the per-capita Gross State Product were established and used to project the future cargo volumes, the cargo yard acreages and the pier frontage necessary to support the projected cargo volumes.

The container yard analysis is based on a standardized container size that is reported in Twenty-Foot-Equivalent-Units (TEU). Therefore, a twenty-foot long container would be represented as one TEU, a twenty-four foot container would be equivalent to 1.2 TEU, a forty-foot container would be equivalent to 2 TEUs, etc. The number of TEUs is then used to projected storage volumes and areas. The 2025 master plan estimates Pier 1's current container storage requirement as 15.9 acres and Pier 2's current container storage requirement as 17.6 acres. The storage yard projections are shown on the following graphs. An additional 3.7-acre overflow storage yard is located at the corner of Hobron Avenue and Kaahumanu Avenue, and is typically used for automobile storage.

The spatial requirements for the projected cargo volumes were determined by the application of commonly used port-planning formulae. The forecast overseas cargo volumes require container yard space of 21 acres by the year 2025, and the projected inter-island cargo volumes will require over 24 acres by 2025. Based on the projected cargo volumes and the existing size of the cargo yards, both overseas and inter-island cargo yards have exceeded their capacities. The additional container yard capacity provided by the overflow space marginally delays the need for maritime land expansion. While alternate measures (e.g., relocating break-bulk cargo activities to off-dock locations; closing internal roadways and converting the roadway to cargo yard; relocating cement storage facilities to the outskirts of Harbors Division property) may aid in addressing the need for harbor space, the measures require significant time and finances to implement, and these measures alone will not satisfy the long-term spatial requirements of the terminal operators. The acquisition of the two A&B parcels is thus viewed as a necessary and immediate requirement.



Pier 1 Overseas Cargo Yard Acreage Requirement Projections



Pier 2 Inter-Island Cargo Yard Acreage Requirement Projections

3.5 ALTERNATIVES

Preferred Alternative. The preferred alternative is the purchase of the two A&B parcels. The purchase of these two parcels, which are adjacent to Kahului Commercial Harbor's cargo yards, enables the Harbors Division to plan the future development of these parcels. The Harbors Division anticipates starting the Kahului Commercial Harbor 2030 Master Plan in the summer of 2006. Successful completion of the proposed property purchase will allow the Harbors Division to include these parcels as maritime expansion lands in the 2030 Master Plan. Once the 2030 Master Plan is completed, the Harbors Division will process the HRS Chapter 343 environmental analysis. **Full redevelopment of the properties will be scheduled after completion of the environmental analysis. Maritime operators will then be able to occupy the newly developed lots. Operational efficiencies, safety and reasonable commodity costs will thus be maintained. Interim measures (minor projects with little or no probability of significant environmental impacts) may be implemented to address the inter-island cargo carrier's critical spatial requirements and enable the carrier's continuance of its full range of cargo existing services, including its LCL cargo operations.**

Second Harbor Alternative.

The U.S. Army Corps of Engineers investigated the potential development of six alternatives for the *Maui Second Commercial Harbor, Navigation Study* (1995). The study found that none of the proposed sites could be developed at an acceptable benefit-to-cost (B/C) ratio (i.e., greater than 1.0), which prohibits the Corps of Engineers' participation in the funding and construction of a second commercial harbor on Maui's coastline.

The results of the B/C ratio analysis are shown in Table 3-1 and include the impacts of a 23-day and 39-day closure of Kahului Commercial Harbor.

If the Harbors Division must undertake the financing and construction of a second commercial harbor without assistance from the Corps of Engineers, the project is expected to require many decades to complete. Even with the Corps of Engineers' help, such a project would require between ten to twenty years to finish.

TABLE 3-1
BENEFIT-TO-COST RESULTS FOR SECOND MAUI HARBOR

SITE	B/C WITH 23-DAY CLOSURE	B/C WITH 39-DAY CLOSURE
Hata Bay Breakwater Harbor	0.08	0.16
Maalaea Pier	0.38	0.50
Ukumehame Pier	0.50	0.71
Olowalu Pier	0.50	0.71
Olowalu Dock & Turning Basin	0.39	0.56
Olowalu Dredged Harbor	0.27	0.38

From an environmental viewpoint, the anticipated environmental impacts of constructing and operating a second commercial harbor may prove massive. As stated in the study, "*Based on the July 1990 biological opinion, a proposed commercial harbor development in west Maui is likely to result in a jeopardy opinion*[4] *from NMFS* (National Marine Fisheries Service)." The NMFS jeopardy opinion could result in the termination of the second harbor project. The Second Harbor Alternative, therefore, does not meet the purpose of the project, as:

- The Second Harbor Alternative does not facilitate (in the short-term) maritime shipments of the essential commodities required by Maui's residents, businesses and visitors;

- The Second Harbor Alternative does not optimize the utilization of land and water resources committed to marine cargo and passenger operations in an economically responsible manner; and

- The Second Harbor Alternative does not minimize the impacts on environmental quality and recreational opportunities contiguous with the potential second harbor sites.

A second commercial harbor is thus not considered a reasonable or feasible alternative to the proposed acquisition of the two adjoining A&B parcels.

West Breakwater Terminal Alternative

The *Kahului Commercial Harbor 2025 Master Plan* recommended the development of a passenger terminal at Kahului Harbor's west breakwater coral stockpile. The Harbors Division followed Governor Ben Cayetano's September 14, 2000 approval of the master plan with the U.S. Army Corps of Engineers' project that analyzed the feasibility of the planned projects. The ensuing technical study, *Wave Climate and Wave Response, 2025 Plan, Kahului Harbor, Maui, Hawaii,* U.S. Army Corps of Engineers, June 2002, revealed that the proposed terminal on the west breakwater would require extensive new breakwater construction and a large dredging project to permit successful navigation to and from the terminal's berth. An order of magnitude estimate of $182.3 million addresses terminal construction, construction of the breakwater extension system, dredging of the turning basin and berth. Significant impacts to benthic communities, coral reef ecosystems and the harbor surf sites are evident.

The huge financial commitment and the extensive mitigation measures necessary for the completion of the West Breakwater Terminal requires an extremely long-term completion schedule. Because of the time, cost and complexity associated with its development, the West Breakwater Terminal Alternative is not considered a reasonable or feasible alternative to the proposed acquisition of the two adjoining A&B parcels.

[4] A jeopardy opinion means that the project will jeopardize the continued existence of an endangered species.

3.6 NO-ACTION ALTERNATIVE

The No-Action Alternative is included in the EA and analyzed in accordance with HRS Chapter 343 requirements. The No-Action Alternative assumes that expansion space is not needed to address and alleviate harbor requirements within the short-term future. The forecast growth of shipping traffic, cargo tonnage and passengers will increase irrespective of any expansion of Kahului Commercial Harbor's terminal acreage. Under the No-Action Alternative, the forecast vessel traffic, cargo volumes and passenger counts will be squeezed into the commercial harbor's already constrained facilities. It is predicted that the No-Action Alternative would result in inordinate demand on the existing piers, passenger and cargo terminals, which would, in turn, result in significant delays in the loading and unloading of cargo and passengers. The ships waiting for their berths would be required to anchor offshore or extend their calls at other ports until space to accommodate cargo loads becomes available. These inefficiencies will add to the cost of goods transported into and out of Maui.

The No-Action Alternative will not alleviate congestion within the cargo yards. The cargo yard congestion will only worsen as cargo volumes continue to expand. The No-Action Alternative will also result in stevedores being exposed to dangerous working conditions as the cargo yard congestion and crowded working conditions increase. Without opportunities for harbor expansion, vessels will be delayed at their berths as cargo loads take longer to unload and reload. The lack of sufficient space will result in shipping delays, which would, in turn, cause limitations on essential commodities, leading to inflated costs of goods and products.

The No-Action Alternative is therefore not considered a reasonable or feasible alternative to the proposed acquisition of the two adjoining A&B parcels.

3.7 PROJECT FUNDING

The appraisal conducted by ACM Consultants on October 10, 2005 lists the combined value of both A&B parcels as $4,59,600.00. **The State of Hawaii Department of Transportation has contracted an appraiser for an objective determination of the value of the two A&B parcels. This appraisal will provide a basis for the Harbors Division's negotiations with A&B on the purchase price of the properties.** The proposed project will be financed solely with State of Hawaii funds, either through Harbor Special Funds or from the General Fund. Typically, the DOT Harbors Division funds their operating and capital improvement expenses through the Harbors Special Fund, which is derived from fees collected from commercial harbor operators and tenants.

4.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.1 CLIMATE

4.1.1 EXISTING CONDITIONS

The climate in the Kahului area is characterized by an equable temperature regime, marked seasonal variation in rainfall, persistent surface winds from the northeast quadrant and the rarity of severe storms. The range of temperatures between August, the warmest month, and January, the coldest month, is 79.2º F to 71.5º F, respectively.

Rainfall is normally relatively light and occurs mostly during the wet season from November through April. Annual rainfall is about 20 inches. Humidity in the Kahului area is usually moderate to high throughout the year.

Northeasterly trade winds dominate the wind pattern in the area of the two A&B parcels and provide excellent ventilation for the area. The trade wind flow is most prevalent during the dry season, while variable winds occur primarily during the wet season. However, trade winds occur more than 50 percent of the time during the wet season.

The normal trade winds, accentuated by the funneling effect of Haleakala and the West Maui Mountains, may attain speeds of up to 40 to 45 miles per hour (mph). Occasional strong southerly (Kona) winds occur with the passage of storms during the winter months.

4.1.2 ALTERNATIVE ANALYSIS

Neither the Preferred Alternative, the Second Harbor Alternative, the West Breakwater Alternative nor the No-Action Alternative will produce any impacts on Maui's climate.

4.2 LAND USE

4.2.1 EXISTING CONDITIONS

The majority of land within the environs of the two A&B parcels is designated Urban by the State Land Use Commission (LUC), with the Kanaha Pond Wildlife Sanctuary being designated as Conservation. The Kanaha Pond Wildlife Sanctuary is located about one-half (½) mile east of the A&B parcels and is owned by the State of Hawaii, Department of Transportation, Airports Division and managed by the State of Hawaii, Department of Land and Natural Resources (DLNR).

The two A&B parcels are located in an urbanized area and are surrounded by the Kahului Commercial Harbor and Kahului town. Both A&B parcels are zoned for Heavy Industrial use by the State LUC. Both parcels are also designated Heavy Industrial in the Wailuku-Kahului Community Plan. The surrounding land uses include the commercial harbor activity and other commercial and light industrial land uses. A residential condominium and two motels are to the south.

4.2.2 ALTERNATIVE ANALYSIS

The Preferred Alternative, the West Breakwater Alternative and the No-Action Alternative do not require a change in land use or zoning. There will be no impacts on land use or zoning as a result of these alternatives.

Dependent on the selected site, the Second Harbor Alternative may require changes in land use and zoning. Such changes will be preceded by full applications of the HRS Chapter 343 environmental analyses.

4.3 AIR QUALITY

4.3.1 EXISTING CONDITIONS

The air quality of a given location is a function of both local meteorology and the amounts of air pollutants emitted from sources in the area. Present air quality in the Kahului area is affected by vehicular emissions, industrial and agricultural activities, and natural processes. The latest emissions inventory for the Island of Maui was conducted in 1980 by the State of Hawaii, Department of Health.

In the vicinity of the two A&B parcels, agriculture continues to be the major source of particulate matter emissions, and the level of emissions has increased by about 25 percent since 1980[5]. Sulfur oxides and nitrogen oxides emissions are primarily generated by electric power plants. Motor vehicles and the agriculture industry are the major sources of carbon monoxide and hydrocarbon emissions.

Significant industrial sources located within a few miles of the two A&B parcels include the Kahului Commercial Harbor to the north, the Puunene Sugar Mill, located about two miles to the southeast; and the Kahului Power Plant neighboring the harbor to the east.

4.3.2 ALTERNATIVE ANALYSIS

Preferred Alternative and No-Action Alternative

As the forecast demand and maritime activity will occur with or without the proposed land acquisition, the proposed purchase of the two A&B parcels will have no significant impacts on air quality in the area.

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[5] *Final Environmental Impact Statement, Kahului Airport Improvements*, Department of Transportation, Airports Division and Federal Aviation Administration, 1990

Second Harbor Alternative and West Breakwater Alternative

Short-Term Construction Impacts

There will be no significant short-term air quality impact due to construction activities for these proposed improvements. Such impacts would be direct and indirect and emanate from two potential sources: fugitive dust from vehicle movement or soil excavation; and exhaust emissions from on-site construction equipment.

Fugitive dust emissions may arise from grading and dirt-moving activities within the project sites. The emission rate for fugitive dust is nearly impossible to estimate accurately because of its elusive nature and because the potential for its generation varies greatly depending upon: the type of soil at the construction site; the amount and type of dirt-disturbing activity taking place; the moisture content of exposed soil in work areas; and the wind speed. The State of Hawaii's Air Pollution Control Regulations require that visible emissions of fugitive dust from construction activity be essentially nil. Adherence to those regulations as recommended will serve to mitigate any potentially significant short-term fugitive dust air quality impacts to a level below the level of significance.

On-site construction equipment (both mobile and stationary) will also emit some air pollutants in the form of engine exhaust. The larger equipment are usually diesel-powered. Nitrogen dioxide emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the ambient air quality standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel-powered equipment, on the other hand, are very low.

Slow-moving construction vehicles traveling on roadways leading to and from the project site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions are increased, but this impact can be mitigated by moving heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers can be adjusted to avoid peak hours in the project vicinity. Thus, the potential short-term air quality impacts from project construction can be mitigated to a level below the level of significance.

Mitigation Measures - Construction Impacts

Although the short-term construction impacts are insignificant, under the State of Hawaii, Air Pollution Control Regulations, visible emissions of fugitive dust from construction activities at the property line are prohibited. Thus, an effective dust control plan for the project construction phase is essential. Construction activities must comply with provisions of Chapter 11-60.1 of the State of Hawaii Administrative Rules, Section 11-60.1-33, on Fugitive Dust. Adequate fugitive dust control can be accomplished by the following measures, as necessary:

- Focus on minimizing the amount of dust generating materials and activities, centralizing material transfer points and onsite vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;

- Provide an adequate water source at the site, prior to startup of construction activities;

- Control of dust from shoulders, project entrances, and access roads;
- Provide adequate dust control measures during weekends, after hours, and prior to daily startup of construction activities;
- Use of a frequent watering program to prevent bare-dirt surfaces from becoming significant dust generators;
- Limit the area that can be disturbed at any given time;
- Application of chemical soil stabilizers or mulching;
- Construction of wind screens;
- Require that all open-bodied trucks be covered when transporting dirt or dust producing materials;
- Road cleaning or tire washing, as appropriate; and/or
- Paving of parking areas and the establishment of landscaping early in the construction process to limit areas of possible dust production.

4.4 NOISE

4.4.1 EXISTING CONDITIONS

The two A&B parcels adjoin the Kahului Commercial Harbor, which is typically a high ambient noise environment, with operations occurring 24-hours a day and 7-days a week. The commercial harbor operations include heavy vehicle traffic, and the cargo loading and unloading operations that use cranes, lifts and other mechanical equipment, which contribute to the existing noise levels. The surrounding land uses also include the most industrialized portions of Kahului, and the area, therefore, has a high ambient noise level.

4.4.2 ALTERNATIVE ANALYSIS

Preferred Alternative and No-Action Alternative

Neither of these alternatives, will have any significant impacts on the noise characteristics at the two A&B parcels and their environs.

Second Harbor Alternative and West Breakwater Alternative

Short-Term Construction Impacts

There will be short-term noise impacts due to construction activities for these proposed alternatives; however, due to the finite and staged duration of these projects, the impacts will be insignificant.

4.5 SOCIO-ECONOMIC IMPACTS

4.5.1 EXISTING CONDITIONS

The two A&B parcels are part of Maui's industrial district in Kahului. The various tenants that occupy the parcels' structures utilize the sites for retail, office and storage operations. The tenants include: Joel & Heidi Stuart (retail); Lightning Bolt Maui, Inc. (retail); Scott & Amber Emerzian (retail); Fabric Mart (retail); Island Beauty Supply, LLC (retail/0ffice); Gary Guenther (office); LF & Sons Landscape Maintenance (storage); Joel & Heidi Stuart (storage); Lightning Bolt Maui, Inc. (storage); Charles Buckingham (storage); Global Travel Center (pad); Carl Incerto (office); Four Star Mortgage Corp. (office); Linda Austin (office); John Schweiner (office); CB Richard Ellis, Hawaii, Inc. (office); Boskoff Construction, Inc. (office); Roger & Lisa Strong (office); and Boskoff Construction, Inc. (office); Roger & Lisa Strong (office). The broad mix of tenants is fairly typical of the variety of operations evident within the Kahului industrial district.

4.5.2 ALTERNATIVE ANALYSIS

Preferred Alternative.

The DOT Harbors Division proposes the acquisition of the two A&B parcels for Kahului Commercial Harbor incorporation. Once the acquisition is completed, the Harbors Division will start the Kahului Commercial Harbor 2030 Master Plan to determine the best development options for the two parcels. Following the master plan's completion and the Governor's approval of the master plan, the Harbors Division will process the HRS Chapter 343 EA/EIS for the master plan. The two parcels will then be developed for their planned purposes. **Unanticipated burgeoning of maritime operations is causing an inter-island cargo carrier to consider terminating its LCL cargo operations. Interim measures may be implemented to create the critical, requisite space to accommodate the carrier's full range of existing cargo services, including these LCL operations. These interim measures will consist of minor projects with little or no probability of significant environmental impacts and that are contained in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000.**

As the State Department of Transportation Harbors Division commits to honoring the terms of all existing leases in place at the time of purchase and will not redevelop the properties until the expiration of the last lease date, no socio-economic impacts are anticipated.

Second Harbor Alternative.

Various socio-economic impacts (including loss of recreational sites, increased traffic, additional business opportunities, increased development, and loss of scenery) are anticipated, dependent on the selected site of the second commercial harbor.

West Breakwater Terminal Alternative.

The site of the West Breakwater Terminal is the dredged coral spoils stockpile at Kahului Harbor's western breakwater. The State Department of Land & Natural Resources operates and maintains a recreational boat ramp there. Recreational fishing occurs along the stockpile's shoreline. While development of the West Breakwater Terminal will preserve the DLNR recreational boating facilities, shoreline fishing will not be allowed at the terminal due to U.S. Coast Guard maritime security regulations.

No-Action Alternative.

The existing mix of retail, office and storage operations will likely continue if the two parcels remain under A&B ownership, Kahului Commercial Harbor's maritime operations will experience continued and worsening congestion, constrained working conditions and delays or even unavailability of essential commodities (food, clothing, building materials, cars and fuel). Negative socio-economic impacts are anticipated unless Kahului Commercial Harbor's constrained operating acreage is expanded to alleviate congestion and crowding.

The No-Action Alternative also limits the capacity and capability of the Harbor to accommodate future needs. The absence of additional expansion space will result in delays in the unloading and loading of cargo and passengers and increase the costs of goods in Maui. As all bulk shipments of petroleum products for Maui County arrive by ship, the fuel barges' petroleum products operations could experience extreme inefficiencies. These inefficiencies would translate to even higher fuel costs – a significant economic impact.

In 1997, the *Economic Impact of Hawaii's Harbors* showed that if the port-economy were reduced to one-percent (1%) annually (whether by lack of infrastructure or investment), the effects would be:

- Sales and employment of the major harbor industries would be limited by 23.4%, i.e. would reach only 76.6% of the level anticipated for the year 2020;
- The Gross State Product would be curtailed by 2.1%; and
- Employment would be lowered by 0.5%.

4.6 GEOLOGIC AND GROUNDWATER CONDITIONS

4.6.1 EXISTING CONDITIONS

Geologically, the Island of Maui is characterized as East and West Maui, with East Maui dominated by Haleakala Volcano. The West Maui area, which includes the saddle isthmus between Haleakala, the West Maui Mountains and the Kahului/Wailuku areas, is distinguished by Iao Needle in Iao Valley. There are five major geologic units on West Maui: (i) Pliocene and Pleistocene volcanic rocks, including the Wailuku and Honolua volcanic series; (ii) Pleistocene and recent volcanic rocks, including the Lahaina volcanic series; (iii) Pleistocene sediments which include calcareous dunes and consolidated earthy deposits; (iv) recent sediments which include unconsolidated deposits; and (v) historic volcanic rocks.

Typically, the West Maui basalt is thin-bedded a'a and pahoehoe created by quiescent flank eruptions along rift zones. A'a is characterized by a spiny, clinkery surface underlain by a dense core of rock. Pahoehoe has a smooth to billowy surface with a ropy or folded texture. The soils of West Maui, which reach depths of about 20 feet, indicate that the volcanic activity probably stopped in the Pliocene or earliest Pleistocene era.

The two A&B parcels are situated at the northeastern corner of a broad isthmus that joins the two mountains. The underlying geology of the area is a sequence of intercalated volcanics, marine sediments, terrestrial sediments and fill laid on the northwestern flank of Haleakala. The shallow subsurface conditions along the landward side of the area consists of exposed Pleistocene age sand dune deposits formed during a lower stand of the sea. Under the sand dunes lie lava flows and related deposits of the Kula Volcanic Series. This volcanic series is characterized as late stage volcanics of andesitic composition that formed thick flows of dense massive basaltic lava. The Kula lava flows are generally mantled by a thin cover of volcanic ash. The base of the stratigraphic section in this area is the Honomanu Volcanic Series basalts of Haleakala. These rocks are primitive theoleitic lavas with the porous and layered structure typical of Hawaiian basalts.

The physiography of the area is characterized as being relatively flat with an average slope of less then 0.5 percent from south to north. The current ground surface elevations range from sea level at the coast to about 13 feet mean sea level (msl) along Maui Beach Road.

Earthquakes with epicenters on or near the Island of Hawaii originate from both volcanic and tectonic activity. Most of the volcanically related earthquakes are associated within the underground movement of magma and are relatively small. These earthquakes originate from the Molokai Seismic Zone, which includes the islands of Maui and Hawaii. The Molokai Fracture Zone is a series of fractures in the sea floor that stretch from the Hawaiian Islands to Baja California. Most of the fracture zone is seismically inactive, but significant earthquakes are associated with the portion near Hawaii.

Data on earthquakes recorded on Maui during historical times indicate that two large quakes in the Molokai Fracture Zone and the Ka'u earthquake of 1871 probably produced earthquakes in East Maui. Haleakala Crater is considered to be a dormant volcano. The potential earthquake damage to existing and proposed structures would be minimized by following the Uniform Building Code and other applicable rules and regulations. Presently, the two parcels are in seismic Zone 2B as established by the Uniform Building Code (UBC).[6]

Ground Water Hydrology: The site overlies sediments of the Maui Isthmus and Kula Basalts which form a "caprock" or confining layer over the underlying basal aquifer in Honomanu Basalts. This confinement results in artesian conditions in the aquifer. Generally, Kanaha Pond is an expression of these artesian conditions resulting from leakage through the caprock.

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[6] The Uniform Building Code categorizes the United States in to various zones from 1 to 4. These zones are assigned a "seismic zone factor" which is used to compute the seismic design loads on structures. The "seismic zone factor" is related to the intensity of seismic activity in the region.

The aquifer in Honomanu Basalt contains fresh water and is utilized in some locales by the Maui Department of Water Supply as a drinking water resource. In the region of the site, the basal aquifer is located at a depth of about 100 feet below the ground surface. At this depth, the potential of contamination from surface activities is low.

There are no public drinking water wells within several miles of the two A&B parcels. The nearest wells are situated at locations that are either across gradient of or in distinctly separate geohydrologic formations from the property and are hydrologically isolated by the caprock that underlies the area.

The two A&B parcels and adjacent properties are situated makai (downgradient) of the Underground Injection Control Line in this area of Maui. Based on available Hawaii State Department of Health records, there are several known injection well facilities within a radius of approximately one (1) mile from the harbor. These wells are used for the disposal of municipal wastewater and storm runoff into the caprock formation. The wastewater wells are situated across gradient, and, the majority of the storm water wells are situated upgradient of the two A&B parcels.

4.6.2 MARINE ENVIRONMENT

The two A&B parcels are located inland of Kahului Commercial Harbor. The proposed acquisition of the two parcels will produce no impacts on Kahului Commercial Harbor's marine environment. The following is provided as a depiction of the harbor's marine environment as it pertains to the environmental impacts of the West Breakwater Terminal Alternative.

Kahului Harbor, a fan-shaped basin at the head of Kahului Bay, is bounded on both the east and northwest by long breakwaters protected with boulders and concrete armor units. The sand shoreline at the head of Kahului Harbor between Pier 2 and the shore along Kahului Beach Road is known as Hoaloa Beach and transitions to Kahului Beach. The beach is composed of brown, detrital sand and is broken by several boulder jetties built to retard erosion. Much of the southwest shoreline between the extreme south corner of the harbor and the coral fill area is a beach of gravel to boulder size rubble (See Appendix C). A sand channel entering Kahului Bay is believed to be a relic feature representing the ancient drainage course of Waikapu Stream.

Much of the southern and southwestern perimeter of the harbor is fringed by a shallow reef shelf, which extends a few hundred feet offshore. Beyond the reef edge, the dredged harbor bottom is a terrace of silty-sand and limestone rubble dipping gradually seaward to depths of over 50 feet (15 m) beyond the Harbor entrance. Off the sand beach west of Pier 2 is a sand bottom extending to a depth of 10 feet (3 m). From a depth of 10 feet, there are consolidated rock formations pocketed by sand, and at the seaward edge of this formation, the depth drops to the dredged basin forming the eastern portions of the harbor.

Between Piers 1 and 2 the bathymetry is the shallowest at the Pier 1 boathouse and along Pier 3 with depths ranging from 5 feet to 18 feet. The bathymetry increases eastward toward the turning basin to a depth of approximately 30 feet until the end of Pier 2 with deeper areas of approximately 35 feet near Pier 1. The majority of the bottom is covered with fine silt and mud with a few rock out-crops. Soil investigations at the corner of Piers 2 and 3 show the underlying

substrate to be coarse-grained soils to a depth of about 35 feet below sea level. Similarly, the soil boring for the construction of Pier 3 bulkhead (near the north end of the current Pier 3), shows that the soil from approximately 15 feet to 50 feet below the water surface consists of coarse-grained soils such as loose clayey-silty sand and coral deposits.

Sand bottom occurs at depths greater than 30 feet (9 m) outside the mouth of Kahului Harbor. The west breakwater overlies an irregular reef whose margin is about 15 feet (5 m) deep. Here, the limestone platform drops a short distance to a sand bottom continuing offshore from a depth of about 20 feet.

The bottom of the harbor basin is comprised of sand and mud. The extensive sandy-mud bottom extends a long distance to the north outside of the harbor mouth. There are fringing reefs for several kilometers on either side of the Harbor, comprised of scoured reef platforms with sparse coral and fish communities.

4.6.3 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative will produce no impacts on the nearby marine environment.

Second Commercial Harbor Alternative

The sites considered for Maui's second commercial harbor are largely undisturbed areas of the island's coastline. The typical commercial harbor construction activities of breakwater construction, entrance channel and turning basin dredging, construction of piers, berths, cargo/passenger terminals and access roadways would produce significant, perhaps even unacceptable, impacts on the sites' marine environment.

West Breakwater Terminal Alternative

The West Breakwater Terminal Alternative requires extensive breakwater construction, extensive dredging of the turning basin and berth. Large acreages of Kahului Bay's reef shelf would be obliterated by the new breakwaters, turning basin and berth.

No-Action Alternative

The No-Action Alternative will not produce any impacts on the marine environment, geological conditions or groundwater.

4.7 WAVE AND CURRENTS

4.7.1 EXISTING CONDITIONS

The two A&B parcels are located inland of the ocean. The proposed acquisition of the two parcels will have no impact of the waves and currents of Kahului Bay. The following is provided as a depiction of the waves and currents that would be affected by the West Breakwater Terminal Alternative.

A wave climate and wave response study was conducted by the U.S. Army Corps of Engineers for the 2025 Master Plan and published in June 2002. Wave data for the harbor were collected from November 1993 to May 1995 outside of the harbor entrance using a directional array gage. The data shows that the harbor is exposed to winds and waves from the north to northeast directions, and is protected from the northwest waves by the northwestern portion of Maui. Large waves generated by intense winter storms in the northern Pacific Ocean and hurricanes attack the harbor. The wave data shows an annual mean significant wave height of approximately 3 feet and a maximum significant wave height of over 8 feet for 1994.

Currents outside of the harbor are predominately tidal driven and travel in the east and west direction. Inside the harbor, the current has a clockwise circulation pattern during flood tide and counter clockwise during ebb tide. A drogue study completed in 2002 (presented in Appendix D) shows that there is generally limited exchange of waters from outside of the harbor. Under strong trade-wind conditions, the surface flow is across the harbor to the west.

4.7.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The proposed acquisition of the two A&B parcels will have no impacts on waves and currents in Kahului Bay.

Second Harbor Alternative

The sites considered for Maui's second commercial harbor are largely undisturbed areas of the island's coastline. The typical commercial harbor construction activities of breakwater construction, entrance channel and turning basin dredging, construction of piers and berths would produce significant, perhaps even unacceptable, impacts on the waves and currents at the potential sites for the second commercial harbor. Such significant alteration of the areas' waves and currents could disrupt sand deposits of the existing beaches.

West Breakwater Terminal Alternative

The West Breakwater Terminal Alternative requires extensive breakwater construction, extensive dredging of the turning basin and berth. The breakwater construction is suggested as a means of attenuating the wave energy that enters the harbor, disrupting the vessel maneuvering, cargo and passenger loading/unloading operations at the proposed West Breakwater Terminal's berth. The wave energy that enters the harbor, however, creates ideal conditions for a significant contingent of recreational surfers within the harbor. The extensive dredging necessary for the West Breakwater Terminal Alternative would further destroy the shallow reef shelf that helps to create the surf. The currents within the harbor would be similarly impacted by the massive dredging, breakwater and pier construction, which may significantly impact the sand deposits at Hoaloha Beach.

No-Action Alternative

The No-Action Alternative will not impact the existing harbor circulation or wave climate.

4.8 WATER QUALITY

4.8.1 EXISTING CONDITIONS

The two A&B parcels are located inland of Kahului Commercial Harbor. The proposed acquisition of the two parcels will produce no impacts on Kahului Commercial Harbor's water quality. The following is provided as a depiction of the harbor's water quality as it pertains to the environmental impacts of the West Breakwater Terminal Alternative.

The State of Hawaii, Department of Health, currently lists Kahului Bay (inshore of the breakwater) as an impaired body of water due to high levels of nutrients and turbidity, under section 303(d) of the Clean Water Act. The impaired status of these waters requires that the Department of Health establish Total Maximum Daily Loads (TMDLs) suggesting how much the existing pollutant loads should be reduced in order to attain water quality standards in the stream and coastal waters.

Water quality sampling of Kahului Harbor was conducted on October 16, 2002, on a rising tide, and on April 15, 2003, during a period of strong trade winds. The results of both sampling days are presented in Appendix C.

Water temperature was generally uniform between near-shore stations and between the surface and 5 meter depths at near-shore stations. Within the harbor, surface waters tended to be 0.3 - 0.7 degrees Celsius (C) cooler than at 5 meters depth, reflecting surface cooling associated with passing rain showers and light trade winds during the first sampling. Shoreline water temperatures were generally 0.3 - 0.5 degrees C warmer than surface harbor waters, probably reflecting solar warming as shoreline samples were collected in the early afternoon.

During the October 2002 sampling, salinity levels were lower than typical for Hawaiian waters, ranging from 29.66 parts per thousand (ppt) at the shoreline station S2 to 34.35 ppt in nearshore samples outside the harbor. Depressed salinity levels reflected the recent input of freshwater by rain and runoff. In the April 2003 study, the water quality conditions at the nearshore stations outside the harbor were typically open coastal in nature, with higher salinity levels (34.14 – 34.89 ppt) than observed during the previous survey. Levels of dissolved nutrients were consequently low and typical of open coastal waters with little groundwater influence.

Samples collected along the shoreline again showed strong influence of groundwater, with the salinity of samples collected within the western part of the harbor (S2 – S6) ranging from 27.2 – 32.59 ppt. Lowest salinities were observed at stations S3 and S4, located in the southwest corner of the harbor. Salinity at station S1, a shoreline station on the northern face of the western breakwater, outside the harbor, was similar to open coastal waters (34.39 ppt), as was salinity (34.67 ppt) at S7, near the base of Pier 1.

Dissolved oxygen concentrations were generally typical of near-shore marine waters, ranging from 4.8 to 6.0 mg/l, values that are greater than 90% saturation at their respective temperatures and salinities. PH levels varied little and were typical of near-shore marine conditions.

Turbidity levels were highly variable between near-shore stations, increasing from west to east.

This reflected visually observed decreases in water clarity due to high surf and resuspended sediments on the western stations and both resuspended sediments and stream-borne sediments discharged during earlier heavy rains to the east. Near-shore turbidity levels ranged from 1.6 to 10.4 NTU. Turbidity levels within the harbor were not different from those in near-shore waters outside the harbor, and ranged from 1.9 to 9.4, with a very high value from a near-bottom sample (37.6 at E1). Turbidity levels at shoreline stations within the harbor (S2 - S7) reflected variable shoreline wave action and build-up of detached macroalgal material. Overall, turbidity levels were highly significantly related to Total Suspended Solids, and showed the same patterns of distribution and concentrations (during April 2003).

Water samples taken during both sampling periods showed a strong influence of groundwater influx to the harbor. Increasing levels of silicate with decreasing salinity reflect the dilution of low silicate near-shore coastal seawater with high silicate groundwater. The data suggests a groundwater source with a somewhat decreased silicate load. In addition, the nitrate + nitrite vs. silicate and phosphate vs. silicate relationships show a strong relation between silicate and other dissolved nutrients, suggesting a common upland source. Only samples located along the western shoreline of the harbor, showed a different nitrogen-to-silicate and phosphorus-to-silicate ratio, suggesting a local source of additional nutrients or localized nutrient uptake.

Chlorophyll levels were generally low and showed no systematic relationship to salinity. Elevated chlorophyll levels were observed at shoreline stations along the coastline of the harbor.

4.8.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The proposed acquisition of the two A&B parcels will not impact the water quality of Kahului Bay.

Second Harbor Alternative

The Second Harbor Alternative will very likely produce significant impacts on the water quality of the selected area. All potential sites for the Second Harbor Alternative are largely undisturbed areas of the island's coastline. Any commercial use of these areas would alter the existing water quality, as large commercial vessels would continuously be utilizing the harbor facilities.

Short-Term Construction Impacts

There is a potential for short-term impacts during construction of the proposed Second Harbor Alternative. These impacts are short-term and are considered to be insignificant. To minimize the impact, the following mitigation measures will be included in the design as applicable.

- Designers shall coordinate with the Department of Health, Environmental Planning Office to attain a no-net increase in pollutant loads.

- Measures such as silt curtains will be used to control and isolate turbidity caused by in-water construction.

- Best Management Practices will be used to control runoff into harbor waters.

Dumping in the harbor is illegal pursuant to HRS Chapter 19-42-127, "Littering or polluting of water prohibited". It is illegal to pollute or discharge either directly or indirectly anything other than clean water into any harbor.

West Breakwater Terminal Alternative

As the West Breakwater Terminal Alternative is only intended to accommodate the maritime facilities necessary for the forecast demand of cargo and passenger activity, no significant long-term impacts to Kahului Bay's water quality is anticipated as a result of this alternative. Short-term impacts resulting from terminal construction activities will be mitigated by the following.

The design of the "in-water" projects will include measures, such as silt curtains and other Best Management Practices, to the extent practical, to minimize the impact of the construction on the water quality of the area. The designers should coordinate with the Department of Health, Environmental Planning Office to attain a no-net increase in pollutant loads. During the dredging operation, the Harbors Division will follow applicable rules and regulations, and the conditions of the U.S. Army Corps of Engineers permit, to further minimize impacts to the environment. With these measures, the construction of the "in-water" projects will have an insignificant impact to the water quality.

Dumping in the harbor is illegal pursuant to HRS Chapter 19-42-127, "Littering or polluting of water prohibited". It is illegal to pollute or discharge either directly or indirectly anything other than clean water into any harbor. The U.S. Coast Guard and the Harbors Division enforce this law. Therefore, there will be no legal dumping and discharge of pollutants in harbor waters due to the maritime demand. There is a spill response team, whose equipment is strategically located within Kahului Commercial Harbor, and which is trained to respond immediately to spills and coordinate its efforts with the U.S. Coast Guard.

No-Action Alternative

The No-Action Alternative will maintain the current water quality in the bay and will not reduce the nutrients or turbidity as stated by the Department of Health. There will be no significant impact on the existing water quality.

4.9 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

4.9.1 EXISTING CONDITIONS

The archaeological and cultural assessment that was completed for the Kahului Commercial Harbor 2025 Master Plan EA/FONSI is included as Appendix B. Kahului Commercial Harbor has been designated a historic site, Site 50-50-04-2953, in the State of Hawaii, Inventory of Historic Places maintained by the State Historic Preservation Division. While the site is not on the National Register of Historic Places or the Hawaii Register of Historic Places, it is potentially eligible. This site consists of those features and structures of the commercial harbor that were constructed during its main period of development between 1901 and 1931. The historic

importance of this site is its link to the Maui sugar industry's development and the establishment of Kahului as the main commercial center.

The Historic Kahului District is defined in the 1974 statewide inventory as Site 50-50-04-1607. Six structures are specifically listed as contributing elements, the Kahului Railroad roundhouse, shop and office, the First Hawaiian Bank, a school, and the fairgrounds (See Figure 9). Structure #1607, the Kahului Railroad Building sits on one of the A&B parcels desired by the DOT Harbors Division. Any demolition or alteration of this structure may require a review by the Maui County Cultural Resources Commission.

The 2030 master plan's task force will discuss and develop the recommendations for the maritime industry's future use of the buildings on the two A&B properties – the Old Kahului Store and the Kahului Railroad Building. Any historical significance of the buildings must be determined in accordance with the State Historic Preservation Division's guidelines.

John C. Wright surveyed the buildings in 1974 and listed the buildings in the Hawaii Register of Historic Places. The buildings were de-listed in 1980 because of a technicality. The Kahului Railroad Office Building (1923) is one of three structures that constitute the only extant remnants of the Kahului Railroad Company's infrastructure at Kahului Commercial Harbor. The other buildings, the Locomotive Shops and Roundhouse (1929), are not on either of the two properties.

Railroad resources (especially locomotive shops and roundhouses) are rare. Together with the Kahului Railroad Office Building, these buildings constitute the last intact remnant railroad complex in Hawaii. They are all eligible for listing in both the Hawaii Register and the National Register of Historic Places. The Old Kahului Store has been altered and is not eligible for listing in the National Register of Historic Places.

The age and history of the trees on the two parcels are not known at this time. The historical significance and value of these trees will be researched during the Hawaii Revised Statutes (HRS) Chapter 343 environmental analysis of the *Kahului Commercial Harbor 2030 Master Plan.*

The potential for undiscovered subsurface cultural resources in this area is quite low, as the area consists of fill from the dredging efforts that deepened the bay and expanded the harbor. A cultural deposit was revealed in TMK 3-7-8, however, and the State Historic Preservation Division noted the potential for such deposits on TMK 3-7-10:2.

While the current cultural activities in the harbor area include fishing, surfing and canoe paddling, none of these traditional Hawaiian recreational practices occur within the two A&B parcels. The activities occur within the harbor waters, and the two paddling organizations, the Hawaiian Canoe Club (established around 1974) and the Na Kai Ewalu (established around 1972), both have *hale* located outside of the commercial harbor boundaries, in back of Hoaloa Beach. The paddling season usually extends from March to October. The clubs use the water area, which consists of eight (8) lanes, and extends about 1/4 mile from shore, paralleling and passing Pier 2. Recent discussions with the canoe clubs indicate that other canoe organizations have also been using the area, resulting in the year-round use of the canoe facilities.

Shore fishing generally occurs in three areas: Perimeter Road, Hoaloa Beach, and the west breakwater area. Two of the fishing areas, the Perimeter Road and Hoaloa Beach, are near the two A&B parcels. The terrorist attacks of September 11, 2001, however, have prompted the prohibition of fishing along the Perimeter Road at Pier 1. Similar security precautions restrict pole fishing from the piers, and net fishing is prohibited in the commercial harbor. Small recreational boats are launched from the boat ramp on the western side of the harbor. While the majority of the boats leave the harbor, some fishing and fish collecting occurs within the harbor, outside of the security zones. Some of the boats are used as support vessels for the canoe races. The current security rules enforced by the U.S. Coast Guard do not allow unauthorized users to enter the area between Piers 1 and 2 and from the tip of Pier 2 to the tip of the east breakwater. A security zone also extends 300 feet around commercial passenger vessels. The U.S. Coast Guard has the authority to close Kahului Commercial Harbor during elevated maritime security levels.

Surfers have used the western end of the Harbor along the breakwater for many years. It is considered an ideal surf site for residents along the northern shores of Maui. Surfing occurs primarily during winter, and prime surfing conditions produce surf from the breakwater to the beach area (towards the Harbor Lights condominium).

Swimmers and park/beach-goers use the beach. Swimming is infrequent due to the murky waters in the harbor. When the harbor waters clear, however, spear fishing and recreational diving activities occur on the western side of the harbor.

4.9.2 ALTERNATIVE ANALYSIS

Preferred Alternative

This draft EA simply addresses DOT Harbors Division's intended purchase of the two A&B parcels. No demolition or construction activities are being proposed for any structures within these parcels at this time. The DOT Harbors Division will initiate the Kahului Commercial Harbors 2030 Master Plan during the summer of 2006. The two A&B parcels and their recommended maritime use will be added to the master plan. Once the 2030 master plan is completed and approved, the Harbors Division will analyze the environmental impacts of the planned harbor facilities prior to any redevelopment efforts. Historic structure #1607, the Kahului Railroad Building, is sited on the A&B parcel at the corner of Kaahumanu Avenue and Wharf Street. The DOT Harbors Division will take all necessary precautions to preserve this structure in accordance with DLNR State Historic Preservation Division rules. The Harbors Division may also request Maui County Cultural Resources Commission's review of their redevelopment plans for Historic structure #1607.

Second Harbor Alternative

The sites for Maui's second harbor are largely undisturbed areas of the island's coastline. These identified sites have yet to be investigated for their historic, architectural, archaeological or cultural resources. While no significant impacts on historic structures are anticipated, there is a potential for undiscovered subsurface cultural resources at these sites. The second harbor project's designers and contractors should therefore minimize any potential indirect impacts to

the archaeological and cultural resources. Should human remains, prehistoric or historic artifacts, or cultural features (such as trash pits, post holes, or hearths) be encountered in the course of excavation during construction, the contractor(s) shall halt work in the area and contact the SHPD Maui Office in accordance with Section 6e of Chapter 343, Hawaii Revised Statutes. If deemed necessary, a qualified archaeological monitor shall be present at all ground-altering activities. For these projects, a monitoring plan shall be prepared prior to the commencement of construction and a monitoring report submitted to the SHPD at the end of the monitoring period.

Given the second commercial harbor sites' shoreline locations, the impacts on cultural activities (fishing, gathering, surfing, canoe paddling, etc.) could be significant.

West Breakwater Terminal Alternative

As the West Breakwater Terminal Alternative would involve either work in the water (breakwater construction and dredging) or development of the dredged coral stockpile, no impacts on historical, architectural or archaeological resources are anticipated. The proposed breakwater structures, however, would alter the wave energies that enter the harbor and that are responsible for the coveted winter surf conditions. The proposed dredging would severely impact the reef shelf, affecting other cultural (fishing, gathering and diving) activities.

No-Action Alternative

The No-Action Alternative is not expected to produce any impacts on historic, architectural, archaeological or cultural resources.

4.10 BIOTIC COMMUNITIES

4.10.1 EXISTING CONDITIONS

4.10.1.1 FLORA

The area surrounding Kahului Commercial Harbor is already developed and predominantly on filled land. The existing flora consists of landscaped plants and weeds. The landscaped plants and weeds are a mix of introduced and native species, such as beach naupaka, Bermuda grass and tree heliotrope. There are no endangered, threatened or species of concern in the area.

4.10.1.2 FAUNA

As the area surrounding Kahului Commercial Harbor is already developed, the existing fauna is expected to be that found in other similar commercial/industrial areas. There are no endangered, threatened species or species of concern in the area. There have been observations of waterfowl in the drainage way to the west of Pier 2. These sightings were intermittent, and the area is not used as a nesting site by these water birds.

4.10.1.3 MARINE BIOTA

Within Kahului Commercial Harbor, the crab, *Macrophthalmus telescopicus*, is the most conspicuous inhabitant of the silty-sand bottom nearshore between Piers 1 and 2 in the eastern portion of the Harbor. Less common are solitary tunicates and a few small solitary heads of the coral, *Montipora* sp., in poor condition. *Mugil cephalus* (striped mullet), *Selar crumenophthalmus* (big-eyed scad), *Decapterus macarellus* (mackerel scad), *Acanthurus triostegus* (convict tang), *Etrumeus micropus* (herring), *Kuhlia sandvicensis* (Hawaiian flagtail), *Caranx ignobilis* (giant trevally), and *Chanos chanos* (milkfish) are reportedly common within the harbor. A detailed description is presented in Appendix C.

4.10.1.4 NONINDIGENOUS INVASIVE SPECIES (NIS)

4.10.1.4.1 EXISTING CONDITIONS

Nonindigenous species refer to terrestrial and aquatic plants, animals, and microorganisms transported or established outside of their natural range due to the activities of humans, whether done so intentionally or not. An "invasive species" is defined as a species that is: 1) nonindigenous to the ecosystem under consideration, and 2) whose introduction causes or is likely to cause economic or environmental harm, and/or harm to human health (NISC, 2001).

Oceanic islands throughout the world are especially vulnerable to biological invasions. Island ecosystems experience long periods of evolution in isolation from environmental forces faced routinely by plants and animals on continents. Hawaii is the most isolated group of islands in the world, and possesses one of the most highly endemic, fragile, and endangered biotas on earth, containing approximately 40% of the T&E species in the United States (Cox, 1999). Because of its fragile ecosystem introduction of NIS into Hawaii is a paramount environmental concern.

Hawaii's harbors, like other port facilities, have the potential to introduce NIS into the State's environment. There are six primary mechanisms of potential NIS introduction into marine environments. For marine nonnative introductions, the mechanism that is focused on to the greatest extent both in Hawaii and elsewhere, is the international and domestic shipping industry. In the past, research activities and stocking programs were also key mechanisms for marine introductions into Hawaii. Examples of additional potential mechanisms for introduction and transport include fisheries activities, aquaculture, and the water garden and aquarium industries (DLNR, 2003).

Table 8 summarizes potential pathways of NIS introduction and post-introduction dispersal in marine environments.

Table 8
NIS Introduction and Dispersal Pathways
in Marine Environments

Mechanism	Introduction Pathways	Dispersal Pathways
Large Commercial Shipping and Passenger Vessels (cargo vessels, fishing boats towed platforms, cruise ships and ferries)	A) Ballast water and sediments -Planktonic organisms and larvae -Adult organisms B) Vessel hulls, seachests and pipe systems -Fouling organisms - algae, adult fish and invertebrates and larvae released by adult organisms C) Live holding and bait wells -Release of baitfish/invertebrates -Release of sediments -Release of symbiots and pathogens D) Fisheries gear and debris -Fouling organisms on nets and floats	A) Ballast water and sediments -Planktonic organisms -Adult organisms B) Vessel hulls, seachests and pipe systems - Fouling organisms - Release of larvae C) Fishing gear and debris -Fouling and sediments on nets and floats
Recreational Boating	A) Hull fouling and bio fouling on structures besides the hull (e.g., outboard motors) - see above with commercial shipping B) Other factors-livewells, waterlines	A) Hull fouling and bio fouling on structures besides the hull (e.g., outboard motors) B) Other factors -livewells, waterlines
Aquaculture, Aquarium, Water Garden and Other Industries, from Producer to Consumer	A) Accidental release of target organisms from culture/grow-out facilities B) Accidental release of non-target organisms -Epiphytic organisms -Pathogens C) Unauthorized, intentional release of organisms (largely a result of consumers or hobbyists)	A) Inter-island transport of stock B) Unauthorized, intentional release of organisms (largely a result of consumers or hobbyists) C) Unintentional escape
Government Programs and Research	A) Authorized release -Bio-control -Stocking programs B) Un-authorized or unintentional release -Accidental release of experimental target organisms -Release of associated pathogens and symbiots	A) Authorized release of target species -Stocking programs -Bio-control B) Inadvertent release through inter-island transport -Including research activities
Private Sector	A) Live seafood shipments B) Aquarium release C) Release for cultural practices D) Illegal and/or accidental imports -Foreign Cargo, Domestic Cargo -Foreign Passengers, Domestic Passengers -Mail -Private Aircraft and Vessels	A) Live seafood shipments B) Interisland transport of aquarium pets C) Recreational boating (also referred to in recreational Boating above) D) Diving and snorkeling activities
Marine Debris	A) Fouling organisms on abandoned nets and floats	A) Fouling organisms on abandoned nets and floats
Natural Dispersal	Not Applicable	A) Natural Dispersal (passive and active) -once established, many AIS can disperse naturally without the assistance of human activities

Source: DLNR, 2003

Of the mechanisms described above, introduction of NIS as a result of operations associated with Kahului Commercial Harbor occurs via the following pathways:

- Presence in transported cargo shipments
- Release during ballast water discharge from ships
- Attachment to the bottom of ships' hulls (i.e. "hull-growth")

The potential of each of these pathways as they relate to Kahului Commercial Harbor operations is briefly discussed below.

Cargo Operations - Overseas and international containerized cargo is offloaded and inspected at Honolulu Harbor. It is subsequently loaded onto inter-island barges for transport to Kahului Commercial Harbor. Thus, cargo entering and being offloaded at Kahului Commercial Harbor has already been inspected and would be less likely to be carrying stowaway alien species.

Ballast Water Discharge - Ballast water is necessary to increase a ship's manageability and safety and for maximum sailing efficiency and stability. A ship carrying little or no cargo rides high in the water, having less draft than a loaded ship. Ballast water intake allows a ship to ride lower in the water, thus increasing stability and making the vessel less vulnerable to waves and winds, less vulnerable to the bow being slammed when riding over high waves, and less potential for the propeller to raise out of the water. Ballast water is also loaded or discharged to adjust a ship's trim, improve maneuverability, increase propulsion efficiency, reduce hull stress, raise the ship to pass over shallow areas (reduce draft), and lower the ship to get under bridges or cranes (lower air draft).

Ballast water enters a ship through intakes located below the waterline. Depending on the level of the tank relative to the water surface, water may be taken in or discharged either by pumping or by gravitational flow. Ballast water is generally carried in several different compartments on board ships, often in tanks dedicated to that purpose (referred to as "segregated ballast water"). Some tankers carry ballast water in their cargo holds which is referred to as "nonsegregated ballast water," since it is mixed with the contaminants or remnants of the material that was last in that cargo hold.

Ballast capacity can range from several cubic meters in small fishing boats to hundreds of thousands of cubic meters in large cargo carriers. Large tankers can carry an excess of 200,000 m^3 of ballast water and have ballasting discharge rates as high as 15,000 to 20,000 m^3/hour (NRC, 1996). Discharged ballast water often contains marine organisms and sediment that has accumulated in ballast tanks.

Ballast sediment occurs when water containing large amounts of particulate matter (plankton, organic and inorganic detritus) mixed in the water column is pumped into the ballast tanks. These particulates enter the ballast tanks and over time settle to the bottom of the tanks. Ballast sediment is difficult to dispose of Disposal may be done in mid-ocean, but normally is done only when the vessel is in port or dry dock. Sediment in the ballast tanks gets stirred up every time the tanks are refilled and the organisms in the sediment get re-suspended and may be discharged when ballast tanks are emptied.

Hull-Growth - Hull growth or fouling is the attachment of organisms to the hull of ships, barges, floating dry docks, and other floating or submerged surfaces. Organisms found growing on the hulls of ships include microscopic invertebrates, barnacles, algae, mollusks and crustaceans. Hull-growth tends to occur when ships stay at anchor or in harbors for extended periods of time, giving organisms a chance to establish themselves. Alien species may need little time to transfer from host vessels to other vessels and spread to other harbors. However, the amount of time needed for transfer of organisms is a point of conjecture, even among the experts on this subject.

In Hawaii, examples of nonnative species that are considered to have arrived in Hawaii as a result of hull fouling include *Acanthopora spicifera,* which arrived on the hull of a barge from Guam in 1950, and the introduced barnacle *Chthamalus proteus,* which is now present on all of the main islands, except Kahoolawe, which does not receive commercial traffic (DLNR, 2003).

Hull fouling organisms increase drag, resulting in slower speeds and higher fuel consumption. Therefore, it is in the best interest of vessels to keep bio-fouling such as hull-growth to a minimum, as it creates friction which increases fuel cost. Hull-growth on cruise ships is discouraged because the cost of building and maintaining cruise ships prompts owners to keep them in service as much as possible. Also, the expectation of cruise passengers to move frequently from port to port decreases the amount of time in any one harbor where hull-growth might have a chance to occur.

At the present time, the total number of nonnative aquatic species in Hawaii is not known. However, it is clear that the number is large: there are over 343 documented introduced or cryptogenic marine and brackish water species over 50 established introduced inland water species (many more of which were introduced, but are not known to be established), and an additional approximate 300+ introduced aquatic “insects". Additional work is needed to more formally and objectively assess the presence, distribution, life history traits, status, and threat of many of these nonnative aquatic species in Hawaii before all suspected aquatic invasive species can be identified (DLNR, 2003).

While the number of nonnative aquatic species in Hawaii is still being assessed, groups of potential NIS organisms have been identified which can directly impact marine environments. These groups of organisms pose a direct threat to waters of Kahului Commercial Harbor and are briefly discussed below.

Marine Algae - At least 19 species of macroalgae have been intentionally or passively introduced into Hawaii since the mid-1950s. At least five have successfully established and dispersed around the Hawaiian Islands, and are now ecologically dominant in some locations, where they appear to be outcompeting native benthic species These five species are: *Acanthophora spicifera*, *Gracilaria salicornia, Hypnea musciformis, Eucheuma denticulatum,* and *Kappaphycus* spp. (DLNR, 2003; Smith et al. 2002)

Each of these five algal species has become the dominant component of a number of reef environments, with three of the species, *Gracilaria salicornia, Hypnea musciformis,* and *Kappaphycus* spp., forming extensive, destructive blooms. *G. salicornia* and *Kappaphycus spp*. in particular have been observed in recent surveys to be invading

coral habitat and overgrowing reef building corals in Kane'ohe Bay, the south shore of Oahu including the world famous Waikiki area, and the south shore of Molokai, which harbors some of Hawaii's most intact and expansive coral reef ecosystems. The species *Hypnea musciformis* and *Acanthophora spicifera* have been found in the waters of Kahului Commercial Harbor (University of Hawaii, 2004; DLNR, 2003).

Marine Fish – Thirty-four species of marine fishes have been introduced into Hawaiian waters, and at least twenty of these introduced species have become established. Of those that have become established, thirteen species have been authorized, planned releases and at least seven species were accidental introductions. Potentially, many more cases exist but have gone undocumented in Hawaii (DLNR, 2003; Englund and Eldredge 2001). Between 1955 and 1961, the State of Hawaii introduced eleven species of shallow water snappers and groupers to Oahu and the island of Hawaii as potential food fish. Of these eleven species, three are known to be established in the nearshore reef fisheries of Hawaii: *Lu janus kasmira* (blueline snapper or ta'ape), *Cephalopholis argus* (peacock grouper or roi), and *Lutjanus fulvus* (to'au) (Oda and Parrish 1981).

Marine Invertebrates – Through the Hawaii Biological Survey at the Bishop Museum, 201 marine and brackish water invertebrate species have been identified as introduced to Hawaii, and 86 cryptogenic (not demonstratively native or introduced). In total, this makes up about 7% of the known marine and brackish water invertebrate fauna in the Hawaiian Islands. Of the 287 introduced and cryptogenic species, 248 (87%) have become established, 15 (5%) arrived but failed to become established, 6 (2%) were intercepted, and the population status of 18 species (6%) is unknown (DLNR, 2003).

It has not been determined if the greater number of marine invertebrates have arrived in Hawaii through hull fouling, or through ballast water and sediment. A number of purposeful introductions of commercially important shellfish are also well documented for Hawai'i, including mangrove crab *(Scylla serrata)* from Samoa; oysters *(Crassostrea* spp.) from San Francisco; and littleneck clams *(Tapes japonicum)* from Japan. Ecological impacts are largely unknown for these introductions, but *Crassostrea spp*. is very dominant in Pearl Harbor West Loch and *S. serrata* is common in brackish systems, including mangroves and fishponds, and is a generalist feeder." (Coles et al.1997, 1999a,b).

The majority of the nonnative marine invertebrates in the main Hawaiian Islands have been recorded within harbors, yacht basins, and embayments, and are likely present within Kahului Commercial Harbor. Few nonnative marine invertebrates have been recorded from reef areas outside these habitats, but this may be an artifact of the sampling effort that has focused on these altered habitats. The makeup of the nonnative and cryptogenic marine invertebrate fauna in harbors and yacht basins throughout the main Hawaiian Islands has shown to be quite consistent, and represents roughly 20% of the fauna identified from the surveys (Ibid).

4.10.1.4.2 POTENTIAL IMPACTS

Cargo Operations

The threat of alien species introduction through cargo through Kahului Commercial Harbor exists. However, as previously discussed, this threat is reduced because nearly all of the overseas cargo destined for Hawaii are received and inspected at Honolulu Harbor. Subsequently, cargo is transferred to inter-island vessels rather than foreign vessels and transported to harbors on the Island of Maui and other neighbor islands.

Ballast Water Discharge

As discussed in the previous section, ships' ballast water functions to increase the vessel's manageability and safety and to control its draft, trim (for maximum sailing efficiency), and stability. Ballast water is taken in and discharged by vessels at varying rates and volumes depending on external (weather and sea conditions) and internal (cargo type, vessel design, and load quantity) conditions under which a vessel is sailing. Ships exchanging water from other areas may introduce NIS that can invade and potentially adversely impact marine ecosystems.

The potential diversity of marine biota that can be transported in ballast water is vast. The maximum size range of organisms capable of being taken into a ship depends upon the method of ballasting and the size of the intake screens. Virtually all organisms less than 1 cm in size that are adjacent to the vessel – either swimming naturally, stirred up from bottom sediments, or rubbed off harbor pilings – could be ballasted into the vessel. Such organisms include viruses, bacteria, protozoa, fungi, algae, plants, zooplankton, and fish.

A recent study of marine nonindigenous (i.e., introduced) species in Hawaii concluded the following: "Hawaii is a net importer of bulk cargo and manufactured goods, and therefore receives less ballast water than regions that are net exporters of these items" (Godwin and Eldredge, 2001). The reason for this is because ballast water is taken on in the loading rather than unloading phase of port operations. Cargo vessels entering Kahului Commercial Harbor would be arriving with full loads and would not be carrying ballast water for discharge in or near the harbor. Conversely, cargo vessels would be taking in seawater from the Kahului Bay area in preparation for their exit voyages with a much lighter empty vessel.

Hull-Growth

Hull fouling may be the most underestimated pathway for nonnative introductions. Fouling organisms are divided into two categories: micro- and macro-sessile. Micro-sessile organisms include diatoms, algae, and bacteria. Macro-sessile organisms include mollusks, sea squirts, sponges, sea anemones, bryozoans, tubeworms, polychaetes, and barnacles. Both these categories of organisms can live on the hulls, and distribute propagules to wherever the vessel goes. The loosening and release of hull-growth into receiving waters can occur from natural ocean currents, draft of the vessel, or from rubbing against harbor pilings. Additionally, if a vessel that is fouled with nonnative species runs aground, then it is likely that many of these species will be distributed at the grounding site.

Relative to ballast water discharge, hull-growth is not considered to be as large of a potential threat of NIS introduction because the amount of organisms present in hull-growth is not as numerous, and as discussed in the previous section, most vessels adhere to regularly scheduled hull cleaning activities as a part of their preventive maintenance program.

Furthermore, a recent study notes that "the ports of Honolulu and Barbers Point Harbor are the hubs of commercial maritime shipping activity in Hawaii, and would be the primary receiving areas for marine NIS transported in this pathway" (Godwin and Eldredge, 2001). Neighbor island ports such as Kahului Commercial Harbor are not subject to the same level of threat as that experienced by Honolulu and Kalaeloa Barbers Point Harbors, which are the primary harbor gateways for the State.

4.10.2 PROPOSED MITIGATION MEASURES

The release of NIS, whether from ballast water discharge or hull-growth, into a new coastal environment does not necessarily constitute their successful introduction. An alien species must have the ability to form established populations to complete a successful introduction. Limiting the volumes of ballast water discharge into coastal waters, and in turn the number of potential NIS, would reduce the chances of the successful establishment of reproducing populations in the receiving waters.

Cargo Operations

The U.S. Department of Agriculture (USDA) will continue to inspect agricultural products coming in on vessels, including items passengers may have on board. As needed, they will confiscate illegal agricultural items that could contain alien species. When a foreign cruise ship comes in, the USDA will continue to inspect the ship's stores (food), including agricultural products in the kitchen. If prohibited items are found, they will be sealed in refrigerators.

Ballast Water Discharge and Hull Growth

Regulatory Measures

Until recently, there had been no enforceable laws at either the federal or state level regulating ballast water management (BWM). However, on November 1, 2004 the United States Coast Guard's (USCG) newly developed Mandatory Ballast Water Management (MBWM) Program took effect.

This final ruling revises 33 CFR Part 151 to implement the requirements of the National Invasive Species Act (NISA). Specifically, subpart D of 33 CFR part 151 has been revised to require a MBWM program for all vessels equipped with ballast water tanks entering U.S. waters.

The MBWM program requires all vessels equipped with ballast water tanks entering U.S. waters after operating beyond the Exclusive Economic Zone (the area encompassing waters extending up to 200 miles from the shoreline a.k.a., the EEZ) to employ at least one of the following ballast water management practices:

- Prior to discharging ballast water in U.S. waters, perform complete ballast water exchange in an area no less than 2,000 nautical miles from any shore.
- Retain ballast water onboard the vessel.
- Prior to the vessel entering U.S. waters, use an alternative environmentally sound method of ballast water management that has been approved by the USCG.

Although the national mandatory BWM program provides vessels with the option of using one of three BWM practices, ballast water exchange is likely to be the most used practice. This is because:

- Some vessels engaged in trade are unlikely to hold their ballast after arriving here from outside the EEZ, as this would mean they would not be able to load their cargo;
- Alternative environmentally sound methods of ballast water management are still being developed, and would likely be of limited availability in the near future.

Therefore, under this rule, the BWM practice of conducting mid-ocean ballast water exchange prior to discharging ballast in U.S. waters would be the practice most used by the majority of vessels.

Mid-ocean ballast water exchange is currently the most practicable method to help prevent the introductions of NIS into U.S. waters. Water in the open ocean contains certain physical, chemical, and biological properties, and organisms that are in ballast water that is exchanged in mid-ocean will not, or are unlikely to survive in an open ocean system. Likewise organisms that are contained in ballast water after a mid-ocean exchange is conducted will not, or are unlikely to survive if introduced into a freshwater or coastal system.

Under the new MBWM program regulations (33 CFR part 151 subpart D), subject vessels will be required to develop and maintain a BWM plan. The BWM plan shall be specific to each vessel and shall fulfill two purposes: (1) Show that there is a BWM strategy for the vessel; and (2) allow any master, or other ship's officer as appropriate, serving on that vessel to understand and follow the BWM strategy for the vessel.

The USCG currently recognizes two feasible methods of conducting ballast water exchange:

1. An empty/refill exchange. The tank (or pair of tanks) is pumped down to the point where the pumps lose suction, and then the tank is pumped back up to the original level, and;
2. A flow-through exchange. Mid-ocean water is pumped into a full tank while the existing coastal or fresh water is pumped or pushed out through another opening. As defined by the Coast Guard, a volume of water equal to three times the ballast tank capacity must be pumped for a flow-through exchange.

Failure to employ at least one of these BWM practices outlined above will result in monetary penalties, unless the vessel is exempt due to safety or voyage

At the present time, efforts by the State of Hawaii to address potential ballast water and hull-fouling NIS introductions are in their early stages. DLNR's Division of Aquatic Resources (DAR) is the designated lead agency for carrying out the prevention and elimination of introduced alien aquatic organisms. DAR recently published the *Aquatic Invasive Species* (AIS) *Management Plan*, which outlines several measures and approaches to move forward efforts in controlling NIS introductions. As part of their management efforts, DNLR-DAR is in the process of developing a MBWM Program for the State of Hawaii to compliment the federal USCG program. The background and status of the State MBWM Program is briefly summarized below:

In 1997, the Alien Aquatic Organism Task Force (AAOTF) was established to address ballast water and hull fouling issues in Hawaii. In December of 1997, the AAOTF submitted a report of its findings and recommendations in the "Report to the Nineteenth Legislature Regular Session of 1998 on Findings of the Alien Aquatic Organism Task Force". AAOTF recommendations included:

- Development of inspection protocols for the U.S. Coast Guard to use when inspecting ballast tanks and hulls.
- Adoption of voluntary ballast water exchange guidelines developed by the International Maritime Organization (IMO).
- Continuation of ongoing studies related to the impacts of nonnative aquatic organisms in Hawaiian waters.
- Inclusion of ballast water and hull fouling issues in DLNR and HDOA education and information programs

In 2001, the Hawaii Coastal Zone Management Program (CZM) awarded DLNR-DAR a contract for their proposal, "Ballast Water and Hull Fouling Alien Aquatic Organism Prevention Program." Under this contract, the AAOTF was re-established, and a temporary coordinator position was created to address ballast water, ballast sediment, and hull fouling issues.

The DLNR-DAR working with the AAOTF, is proposing a comprehensive mandatory ballast water and hull fouling management program for all vessels entering State marine waters. The first component of the management program includes procedures for ballast water exchange, including ballast water discharge, ballast water reporting, and ballast sediment disposal. These aspects are detailed in administrative rules, which have recently been drafted. However, at the present time, additional funding is needed to further develop, implement, and enforce these administrative rules. The second component of the program (hull fouling) still needs to be developed.

The development and implementation of a systematic approach for the prevention of marine species introductions through hull fouling poses complex challenges. The process to develop this component is in its infancy, and much effort will be required to develop this management component and corresponding administrative rules. In this initial stage, the approach would be to target vessels or floating platforms that are not part of the regular vessel arrival pattern. The guidelines for identifying these unique arrivals are being developed at this time through the

AAOTF (DLNR, 2003).

Additionally, as previously discussed, most vessels adhere to regularly scheduled hull cleaning activities as a part of their preventive maintenance program. The State of Hawaii does not currently have a formal program for inspecting hull-growth. During prior consultation with Harbors Division, and DLNR-DAR, it was suggested that the State could consider implementing a program in which either random hull inspections are performed or regular inspections are made at the time a ship enters the harbor.

Regulatory Oversight of NIS in Hawaii

In addition to the measures discussed above, control of NIS introduction into Hawaii would continue to be addressed by existing and future cooperative interagency efforts. For example, Harbors Division and the DOT are participating in committees like the Coordinating Group on Alien Pest Species (CGAPS), and task forces to monitor and resolve the potential introduction of alien pest species. The Harbors Division is committed to cooperating with other regulatory agencies that have jurisdiction and authority on the prevention and control of NIS introductions into Hawaii. Table 9 provides an overview of governmental agencies with responsibilities for control of potential NIS introductions.

Table 9
Regulatory Oversight of NIS Control and Introduction in Hawaii

Agency	Overview of Responsibility
United States Department of Agriculture	Inspection and clearance of agricultural items (plant material and pests) on foreign arriving vessels. Refers some plant pest dispositions to Hawaii Department of Agriculture.
United States Department of the Treasury U.S. Customs Service	Boarding and clearance of foreign arriving vessels, passengers, crew and cargo. Refers plant materials to U.S. Department of Agriculture or State of Hawaii Department of Agriculture and refers animals or animal parts to U.S. Fish and Wildlife Service.
United States Coast Guard*	Jurisdiction over all maritime vessels (commercial, private, foreign, U.S. flag ships). Oversees hazardous materials in transit and assists or refers contraband to other federal or state agencies for disposition.
United States Department of the Interior Fish and Wildlife Service	Inspection and clearance of wildlife (animals and parts) including alien species and protected, threatened or endangered species on foreign arriving vessels.

State of Hawaii Department of Agriculture	Inspection and clearance of agricultural items (animals, microorganisms, plants and plant parts) on domestic arriving vessels. May take appropriate action on foreign arriving items upon referral by federal agency.
State of Hawaii Department of Land and Natural Resources	Jurisdiction over the unintentional introduction of non-native aquatic species in ballast water and hull-fouling organisms (hull-growth) on all arriving vessels.

***Note:** As of March 1, 2003, the U.S. Coast Guard (USCG) became a component of the Department of Homeland Security. As a result the Secretary of Department of Homeland Security assumed all duties once bestowed on the Secretary of Transportation with respect to security measures at U.S. commercial ports.

Technological Measures

Once ballast water has been loaded on board, the ideal mechanism for preventing subsequent introductions of nonindigenous aquatic species is to kill or remove the organisms prior to discharging ballast water overboard. This could be achieved by utilizing onboard chemical, physical, biological, or mechanical treatment technologies. There are numerous promising treatment technologies emerging, a few of which are listed below (IMO, 1996):

- Filtration Systems
- Oxidizing and nonoxidizing biocides
- Thermal techniques
- Electric pulse and pulse plasma techniques
- Ultra violet treatment
- Acoustic systems
- Magnetic Fields
- Deoxygenation
- Biological techniques

Each of the above technologies, whether utilized individually or in combination, would achieve the goal of neutralizing potentially harmful alien species in an environmentally safe manner before they are discharged into receiving waters.

The calls of large overseas vessels, barges and passenger vessels in Kahului Commercial Harbor have the potential to introduce alien pest species through cargo, passengers, ballast water and onboard ships. Some of these alien species may become invasive and harmful to the State. In fact, the State of Hawaii, including Maui County, receives approximately 79 percent of all goods and commodities used in Hawaii through its commercial harbors. Harmful alien pest species include organisms, plants, predators and insects which can: damage native forests, streams and watersheds; compete with and cause the extinction of native flora and fauna; carry diseases that may affect native species, agricultural crops and humans; and interrupt the shipment of local produce (Reference 5). Currently, the prevention of the introduction of alien species to Maui is under the jurisdiction of the: State of Hawaii, Department of Agriculture (HDOA); Hawaii Department of Land and Natural Resources, Division of Aquatic Resources (DLNR-DAR), U.S. Department of Homeland Security (formerly U.S. Customs and U.S. Department of Agriculture); and the State of Hawaii, Department of Health. These agencies monitor, inspect, quarantine and certify cargo from foreign ports and inter-state / intra-state cargo. In addition, the DOT Harbors

Division is participating in the Coordinating Group on Alien Pest Species (CGAPS), and other task forces to monitor and resolve the potential introduction of alien pest species. The Harbors Division will continue to work with these agencies that have jurisdiction and authority on the prevention and control of alien pest species within the commercial harbors.

4.10.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the proposed acquisition of two A&B parcels by the Harbors Division. As there are no endangered or threatened species or species of concern within these parcels, there will be no impact on any listed terrestrial flora or fauna by the proposed acquisition.

Second Harbor Alternative

The sites for Maui's second harbor are largely undisturbed areas of the island's coast. Construction activities associated with commercial harbor development include breakwater construction, dredging of entrance channels, turning basins and berths, construction of piers, wharves, aprons, cargo yards, passenger terminals and roadways. Such construction is expected to produce significant impacts on both terrestrial and marine biota. The seas off of Maui's southern coast are a critical part of the humpback whale's environment and are thus part of the designated Hawaiian Islands Humpback Whale National Marine Sanctuary. Commercial harbor activity in this area may produce significant impacts on Hawaii's humpback whale population.

The Second Commercial Harbor Alternative is envisioned as establishing another commercial harbor at a site that would be separate and possibly quite distant from the existing Kahului Commercial Harbor. Such a distant, separate facility would further exacerbate State and federal governments' limited abilities to monitor and control the spread of invasive species. Additional manpower, equipment and inspection stations would be required for the fulfillment of the mission.

West Breakwater Terminal Alternative

The site for the West Breakwater Terminal is composed of dredged coral spoils from previous harbor dredging efforts. The coral stockpile is not a habitat of any endangered terrestrial flora or fauna. The West Breakwater Terminal, however, would also require extensive breakwater construction, extensive dredging for turning basin expansion as well as dredging for the new terminal's berth. These activities are anticipated to produce significant impacts on marine biota and benthic communities.

No-Action Alternative

The No-Action Alternative is not anticipated to produce any impacts on terrestrial flora or fauna, nor any impacts on marine biota.

4.11 WETLANDS

4.11.1 EXISTING CONDITIONS

The U.S. Army Corps of Engineers has delineated a portion of a nearby, unlined drainage way as a wetland. The delineated wetland is situated to the northwest of the two A&B parcels. The wetland runs through the beach area next to Kahului Commercial Harbor's Pier 2, and is connected and fed by the County's lined drainage channel, which parallels Puunene Avenue. The County of Maui's concrete-lined drainage canal collects water from upland areas and channels the water to the wetland and Kahului Bay. Char & Associates completed its *Botanical Resources Assessment Study* in January 1997. This Assessment does not list any endangered or threatened species in this area. Furthermore, the United States Department of Interior, in correspondence dated October 18, 1996, states that to the best of their knowledge, no endangered or threatened species are within the area. Recent field visits also confirm the absence of endangered or threatened bird species, as neither was encountered during these site inspections.

The County of Maui is considering relocating the drainage canal to a location outside of Kahului Commercial Harbor. The Harbors Division would appreciate the relocation of the drainage canal as the relocation is envisioned as resulting in a gain of terminal acreage for maritime operations.

4.11.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the Harbors Division's acquisition of the two A&B parcels. This alternative will not produce any wetland impacts.

Second Harbor Alternative

The sites considered for development of Maui's second harbor do not contain any designated wetland areas. No wetland impacts are thus expected to result from the construction and operation of a second commercial harbor.

West Breakwater Terminal Alternative

The West Breakwater Terminal would be separated from the current bounds of Kahului Commercial Harbor and the existing wetland area near Pier 2. The West Breakwater Terminal would be constructed on the dredged coral stockpile adjacent to the west breakwater. There are no wetlands at this site. No wetland impacts are anticipated as a result of the pursuit of this alternative.

No-Action Alternative

The No-Action Alternative is not expected to impact the existing wetland area.

4.12 FLOOD PLAINS

4.12.1 EXISTING CONDITIONS

The two A&B parcels are located in the V23 flood zone as delineated in the Flood Insurance Rate Map. The V23 zoning indicates flooding due to wave action (tsunami). Base flood elevations range from 10 feet to 18 feet. All of Kahului Commercial Harbor is similarly located in Zone V23.

4.12.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. The proposed purchase of this property will not produce any impacts on the floodplains in the harbor area. The Harbors Division will comply with all applicable National Flood Insurance Program regulations.

Second Harbor Alternative

All proposed sites for Maui's second commercial harbor lie on the island's coastline. Second harbor construction projects are thus expected to impact the existing floodplains at these sites. The Harbors Division must take all necessary precautions to mitigate these floodplain impacts during the project's design and construction phases.

West Breakwater Terminal Alternative

Although the proposed site for the West Breakwater Terminal is the dredged coral stockpile, which is in the northwest quadrant of the harbor, inside of the breakwater, the Harbors Division must similarly take all necessary precautions to mitigate any floodplain impacts during this alternative's design and construction phases.

No-Action Alternative

The No-Action Alternative will not produce any floodplain impacts.

4.13 ENERGY SUPPLY

4.13.1 EXISTING CONDITIONS

The Maui Electric Company (MECO) supplies electrical energy to the two A&B parcels through overhead lines on Kaahumanu Avenue and Wharf Street. Electrical power is supplied from both the Kahului Substation No. 8 and the Kanaha Substation No. 2.

4.13.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **Full redevelopment of the two parcels will be scheduled once the Harbors Division completes the property acquisition, the *Kahului Commercial Harbor 2030 Master Plan*, and the HRS 343 environmental analysis for the master plan. The Preferred Alternative is not anticipated to produce any impacts on existing energy supplies. Any interim measures implemented will consist of minor projects with little or no probability of impacts on existing energy supplies.**

Second Harbor Alternative

The proposed sites for the Second Harbor Alternative are largely undisturbed locations of the island's coastline. The design and construction phases of any second commercial harbor project must therefore address the additional energy requirements for the new maritime facility. The new commercial harbor may result in a doubling of the electrical energy requirements that exist with Kahului Commercial Harbor's current operations. An increase in the short-term use of petroleum products and energy consumption is further associated with the construction phase of this alternative.

West Breakwater Terminal Alternative

As with the Second Harbor Alternative, the West Breakwater Terminal Alternative may result in a doubling of Kahului Commercial Harbor's current energy requirements, as the new terminal will replicate the existing operating conditions of Maui's sole commercial harbor. Similarly, the West Breakwater Terminal Alternative will produce an increase in the short-term use of petroleum products and energy consumption during the project's construction phase.

No-Action Alternative

The No-Action Alternative is not anticipated to produce any significant impacts on the island's electrical demand. The Harbors Division predicts continued growth in sea-going vessel traffic, cargo volumes and passenger counts. This growth is an effect of Maui's forecast economic and population growth, and will occur regardless of any expansion of commercial harbor facilities.

4.14 LIGHT EMISSIONS

4.14.1 EXISTING CONDITIONS

The two A&B parcels house three structures. These structures are utilized by a number of retail, office and storage operations. The nature of these businesses is such that no more than the normal light emissions are generated. The two parcels are located in an urbanized area, and a high level of ambient light is expected in such an area. There are significantly more light emissions from the adjacent commercial harbor cargo and passenger terminals, which, due to occasional 24-hour operational requirements, are well illuminated to ensure safe evening working conditions and adequate security during any non-working night hours. Terminal lighting is shielded and directed toward to the ground so as not attract shearwaters and other

night-flying birds. Lower intensity lighting is used for security purposes as well as for navigational aids.

4.14.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **Full redevelopment of the two parcels will be scheduled once the Harbors Division completes the acquisition, completes the *Kahului Commercial Harbor 2030 Master Plan* with the two parcels included in the recommendations, and completes the HRS 343 environmental analysis for the 2030 master plan. To provide expansion of the space needed by the inter-island cargo carrier for its full range of existing cargo services and permit the continuance of LCL cargo operations, the Harbors Division may implement minor, Chapter 343 exempt projects in the interim. The Preferred Alternative is not expected to produce any additional light emissions or any significant impacts on night-flying birds.**

Second Harbor Alternative

Any second commercial harbor development must account for safe night working conditions, adequate security lighting levels and proper illumination of navigational aids. The operational and security lights will likely be mounted on poles to provide the requisite visibility. Mitigating measures must be incorporated into the design and construction phases of the lighting projects for any second harbor development. These mitigation measures are critical, as any second commercial harbor development will occur on Maui's coastline, where the potential for attracting seabirds is significantly higher. *The Newell's Shearwater Light Attraction Problem* guidelines apply. Measures to minimize any spillover effects of the lighting system include shielding and proper direction. These measures reduce the impacts of harbor lights on adjacent areas. The lighting system must comply with all applicable lighting codes and standards.

West Breakwater Terminal Alternative

The West Breakwater Terminal Alternative must similarly account for safe night working conditions, adequate security lighting levels and proper illumination of navigational aids. The operational and security lights will likely be mounted on poles to provide the requisite visibility. Mitigating measures must be incorporated into the design and construction phases of the lighting projects for any second harbor development. These mitigation measures are critical, as the west breakwater terminal development will occur on the outer reaches of Kahului Bay, where the potential for attracting seabirds is significantly higher. It is recommended that the designers follow the guidelines contained in DLNR's publication, *The Newell's Shearwater Light Attraction Problem*. Measures to minimize any spillover effects of the lighting system include shielding and proper direction. These measures reduce the impacts of harbor lights on adjacent areas. The lighting system must comply with all applicable lighting codes and standards.

No-Action Alternative

No new lighting will be provided and existing light emission levels will remain unchanged.

4.15 WATER SUPPLY

4.15.1 EXISTING CONDITIONS

The County of Maui Department of Water Supply (DWS) administers and operates the water systems on Maui. The Central Water System (CWS), one of five island systems, serves the urban and rural areas of Wailuku-Kahului, Kihei-Makena and the smaller portions of Paia. The CWS draws water from four aquifers: Kahakuloa, Waihee, Waikapu, and Iao. The Iao aquifer supplies the water for the two A&B parcels.

The Iao aquifer has an estimated sustainable yield of 20 mgd. As of July 21, 2003, the state Commission on Water Resource Management (CWRM) designated the Iao aquifer as a Groundwater Management Area. Based on a 12-month moving average from October 2003 to September 2004, the total pumpage was 16.65 mgd (Reference 14).

As noted above, the DWS has estimated that the Iao aquifer has a sustainable yield of 20.1 mgd. DWS has also estimated that the future average demand for all uses will be 30.5 mgd. As the forecast future demand for all uses exceeds the estimated aquifer yield, the County has initiated the development of other water sources in East Maui. The existing water system serving the two A&B parcels is made up of a network of pipelines with diameters ranging between four to eight inches. The system is connected to a 12-inch water main under Kaahumanu Avenue.

4.15.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **Full redevelopment of the two parcels will be scheduled once the Harbors Division completes the purchase of the properties, the *Kahului Commercial Harbor 2030 Master Plan* with the two parcels included in the recommendations, and the HRS 343 environmental analysis for the 2030 master plan. To provide the requisite space for the inter-island cargo carrier's full range of existing cargo services, including its LCL cargo operations, the Harbors Division may implement minor, Chapter 343 exempt projects in the interim. The Preferred Alternative is not expected to produce any additional demands for water and or any significant impacts on Maui's water supply.**

Second Harbor Alternative

The proposed sites for the Second Harbor Alternative are largely undisturbed locations of the island's coastline. The design and construction phases of any second commercial harbor project must therefore address the additional water requirements for the new maritime facility. The new commercial harbor may result in a doubling of the water requirements that exist with Kahului Commercial Harbor's current operations. To minimize water use in the new commercial harbor, the proposed improvements should be constructed in accordance with sustainable building guidelines. Recommended measures may include the use of water saving devices. An increase in the short-term use of water is further associated with the construction phase of this alternative.

West Breakwater Terminal Alternative

As with the Second Harbor Alternative, the West Breakwater Terminal Alternative may result in a doubling of Kahului Commercial Harbor's current water requirements, as the new terminal will replicate the existing operating conditions of Maui's sole commercial harbor. The West Breakwater Terminal Alternative will similarly produce an increase in short-term water consumption during the project's construction phase.

No-Action Alternative

The water demand will increase in relationship with the forecast passenger demand. The increased water demand, however, is not expected to create any significant impacts on water demand or the supply system.

4.16 SOLID WASTE

4.16.1 EXISTING CONDITIONS

Solid waste from A&B's tenants and operations on its two parcels is collected by a private firm. Garbage and waste materials are transported to the Central Maui Landfill for disposal.

4.16.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative, the acquisition of the two A&B parcels by the Harbors Division **and the implementation of minor, Chapter 343 exempt projects to create space for the inter-island cargo carrier's full range of existing services, including its LCL cargo operations,** will not result in any foreseeable increase in the volume of solid waste generated by the tenants and operations within the two parcels. No solid waste impacts are anticipated to result from the implementation of the Preferred Alternative.

Second Harbor Alternative

As implementation of the Second Harbor Alternative will result in a replication of Kahului Commercial Harbor's operations at a separate, distinct site, this alternative will present the opportunity for a significant increase in the volume of solid waste generated by commercial harbor operations in Maui. Although the composition of the waste is not expected to differ much from the current makeup of waste materials, the additional volume may be of concern.

A short-term increase in waste materials will be generated during the construction of the new commercial harbor. In the design of the proposed improvements, and in accordance with the County of Maui rules, the Contractor will need to submit a plan for construction waste disposal and recycling. Due to the short-term nature of the construction project, the increase in waste materials is not expected to create any significant impacts.

Dredging activities for the second harbor's entrance channel, turning basin and berths will create a large volume of excess material. If the dredged spoils are to be disposed at sea, the disposal

would occur at an Environmental Protection Agency (EPA) designated disposal area. The dredged spoils require testing to insure acceptability of the material prior to ocean disposal. If the dredged spoils do not pass the tests for ocean disposal, the excess material will be transported to an approved landfill site for disposal. Both the dredging and ocean disposal of the spoils require permits issued by the U.S. Army Corps of Engineers. All applicable conditions imposed by the U.S. Army Corps of Engineers will be followed. Proper disposal of the dredged material will ensure that no significant impacts are realized.

Although no demolition projects are anticipated, the contractor(s) will be responsible for proper transport and disposal of any hazardous wastes or asbestos-containing building materials whenever these materials are encountered during demolition activities.

West Breakwater Terminal Alternative

As implementation of the West Breakwater Terminal Alternative will similarly result in a replication of Kahului Commercial Harbor's operations at an alternate site, this alternative will present the opportunity for a significant increase in the volume of solid waste generated by commercial harbor operations in Maui. Although the composition of the waste is not expected to differ much from the current makeup of waste materials, the additional volume may be of concern.

A short-term increase in waste materials will be generated during the construction of the new terminal. In the design of the proposed improvements, and in accordance with the County of Maui rules, the Contractor will need to submit a plan for construction waste disposal and recycling. Due to the short-term nature of the construction project, the increase in waste materials is not expected to create any significant impacts.

Dredging activities for the West Breakwater Terminal's turning basin and berths will create a large volume of excess material. If the dredged spoils are to be disposed at sea, the disposal would occur at an Environmental Protection Agency (EPA) designated disposal area. The dredged spoils require testing to insure acceptability of the material prior to ocean disposal. If the dredged spoils do not pass the tests for ocean disposal, the excess material will be transported to an approved landfill site for disposal. Both the dredging and ocean disposal of the spoils require permits issued by the U.S. Army Corps of Engineers. All applicable conditions imposed by the U.S. Army Corps of Engineers will be followed. Proper disposal of the dredged material will ensure that no significant impacts are realized.

Although no demolition projects are anticipated, the contractor(s) will be responsible for proper transport and disposal of any hazardous wastes or asbestos-containing building materials whenever these materials are encountered during demolition activities.

No-Action Alternative

The No-Action Alternative is not expected to create any significant solid waste impacts. The volume of solid waste generated by commercial harbor operations will increase as will the forecast cargo and passenger counts. The anticipated increase in maritime cargo and passengers is not expected to create significant solid waste impacts.

4.17 WASTEWATER COLLECTION, TREATMENT AND DISPOSAL

4.17.1 EXISTING CONDITIONS

The two A&B parcels are served by the Wailuku-Kahului Wastewater Reclamation Facility (WRF), which is the primary County wastewater treatment facility, located to the east of the Kahului Commercial Harbor. WRF is a secondary, activated-sludge treatment facility that has a design capacity of 7.9 mgd. Effluent is disposed of through eight (8) injection wells located north of the treatment plant. In addition, the plant also has a storage pond available to accommodate peak flows. Because of its location in the tsunami inundation zone and the high maintenance costs resulting from its location near the ocean, the plant is not scheduled to undergo any further expansion at this time.

The major wastewater collector lines are on Wharf Street, Puunene Avenue and along the old Second Street alignment (parallel to Kaahumanu Avenue). The County of Maui has plans to replace the sewer line along the old Second Street alignment with a new force main.

4.17.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **Full redevelopment of the two parcels will be scheduled once the Harbors Division completes the acquisition, the *Kahului Commercial Harbor 2030 Master Plan* and the 2030 master plan's HRS Chapter 343 environmental analysis. In the interim, the Harbors Division may implement minor, Chapter 343 exempt projects within the parcels to provide additional space for the inter-island cargo carrier's continuance of its full range of existing cargo services that includes its LCL cargo operations.** This alternative is not expected to impact the County of Maui's wastewater collection, treatment and disposal systems.

Second Harbor Alternative

The proposed sites for the Second Harbor Alternative are largely undisturbed locations of the island's coastline. New, nonexistent wastewater infrastructure is necessary for proper functioning of the new harbor. The design and construction phases of any second commercial harbor project must therefore address the additional wastewater requirements for the new maritime facility. The new commercial harbor may result in a doubling of the wastewater requirements that exist with Kahului Commercial Harbor's current operations. To minimize water use and thus wastewater generation in the new commercial harbor, the proposed improvements should be constructed in accordance with sustainable building guidelines. Recommended measures may include the use of water saving devices. An increase in the short-term use of water is further associated with the construction phase of this alternative. Best management practices must be implemented to control construction runoff.

West Breakwater Terminal Alternative

The West Breakwater Terminal Alternative will similarly require new, currently nonexistent wastewater infrastructure for proper functioning of the new terminal. The design and construction phases of the new terminal project must therefore address the additional wastewater requirements for the new maritime facility. The new terminal may result in a doubling of the wastewater requirements that exist with Kahului Commercial Harbor's current operations. To minimize water use and thus wastewater generation in the new terminal, the proposed improvements should be constructed in accordance with sustainable building guidelines. Recommended measures may include the use of water saving devices. An increase in the short-term use of water is further associated with the construction phase of this alternative. Best management practices must be implemented to control construction runoff.

No-Action Alternative

The No-Action Alternative is not expected to create any significant impacts on the County of Maui's wastewater collection, treatment and disposal systems. The volume of wastewater generated by commercial harbor operations will increase as will the forecast cargo and passenger counts. The anticipated increase in maritime cargo and passengers is not expected to significantly raise the volume of wastewater generated by these maritime operations.

4.18 POLICE AND FIRE SERVICES AND PUBLIC SAFETY

4.18.1 EXISTING CONDITIONS

The County of Maui's police services are provided to the Wailuku-Kahului and Central Maui areas from the police station located within the Wailuku Civic Center. The County of Maui's fire services are provided from the Kahului and Wailuku Fire stations, located approximately two and three miles, respectively, from the two A&B parcels.

4.18.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative will not produce any impacts on police, fire or public safety services.

Second Harbor Alternative

Under U.S. Coast Guard regulations, the State's commercial harbors must develop, implement and update Maritime Security (MARSEC) facility security plans as a means of protecting maritime facilities, operators and passengers from terrorist acts. Contract security officers and Harbors Division staff provide the requisite security services during normal operating conditions, MARSEC Level I. During heightened and escalating MARSEC Levels, additional security forces from the State Department of Land & Natural Resources, the State Department of the Attorney General, the State Department of Public Safety and the Maui County Police Department are tasked to report to the commercial harbor. As Maui's commercial harbor is deemed a lower-risk facility and not a prime target of terrorists, the activation of additional security forces will only occur infrequently or rarely. The Second Harbor Alternative will not produce any significant impacts on police, fire or public safety services.

West Breakwater Terminal Alternative

Under U.S. Coast Guard regulations, the State's commercial harbors must develop, implement and update Maritime Security (MARSEC) facility security plans as a means of protecting maritime facilities, operators and passengers from terrorist acts. Contract security officers and Harbors Division staff provide the requisite security services during normal operating conditions, MARSEC Level I. During heightened and escalating MARSEC Levels, additional security forces from the State Department of Land & Natural Resources, the State Department of the Attorney General, the State Department of Public Safety and the Maui County Police Department are tasked to report to the commercial harbor. As Maui's commercial harbor is deemed a lower-risk facility and not a prime target of terrorists, the activation of additional security forces will only occur infrequently or rarely. The West Breakwater Terminal Alternative will not produce any significant impacts on police, fire or public safety services.

No-Action Alternative

The No-Action Alternative will not produce any significant impacts on police, fire and public safety services.

4.19 HEALTH CARE FACILITIES

4.19.1 EXISTING CONDITIONS

Health care and hospital services are provided by Maui Memorial Medical Center, the island's only full service hospital for acute care. Maui Memorial Medical Center is licensed for 196 beds, and is a state hospital being operated by the Hawaii Health Systems Corporation. Other private facilities treat long-term and specialty care patients. Tertiary services are provided on Oahu and/or the mainland. Private clinics, such as Kaiser Clinic and the Maui Medical Group, as well as private physicians, also provide health care services to island residents and visitors.

Maui Memorial Medical Center, as with other state and private health care providers, is subject to insufficient funding, shortages of acute care beds and difficulties in hiring staff. The shortage of acute care beds is critical, with occupancy generally over 90 percent. Visitors to Maui use approximately 5 to 10 percent of the total beds at the hospital.

4.19.2 ALTERNATIVE ANALYSIS

The Preferred Alternative, the Second Harbor Alternative, the West Breakwater Terminal and the No-Action Alternative will not have an impact on Maui's health care system.

4.20 SCHOOLS

4.20.1 EXISTING CONDITIONS

The State Department of Education (DOE) administers the Baldwin educational complex in the Wailuku-Kahului area and Maui High School. These facilities consist of elementary, intermediate and high schools. In 1990, the Baldwin complex had an enrollment of 6,400

students. Projected enrollment for the Baldwin complex for 1996 is 8,358 students. The 1990 total island-wide school capacity was 13,789 students, while total projected enrollment for 1996 is 17,066 students. The DOE projects additional classroom facilities will be required to accommodate the forecast student population. New elementary schools in Wailuku are helping to alleviate some of the shortfall in classrooms.

4.20.2 ALTERNATIVE ANALYSIS

The Preferred Alternative, the Second Harbor Alternative, the West Breakwater Terminal Alternative and the No-Action Alternative will not have an impact on the school system.

4.21 RECREATIONAL FACILITIES

4.21.1 EXISTING CONDITIONS

Most recreational activities in the vicinity of the two A&B parcels are ocean-related and occur along the coastline. The existing beaches, such as Hoaloa Park, are within Kahului Harbor and used for fishing, beachcombing, and canoe paddling. Spear-fishing and fish collecting occur when water conditions allow. An active canoe racecourse is adjacent to Kahului Commercial Harbor's Pier 2, offshore of Hoaloa Park.

Kahului Harbor Park, located on the fill area of the west breakwater, is maintained by the Maui County Department of Parks and Recreation. A small boat ramp is also located near the park. Pole fishermen, surfers and limu pickers generally use this area of the harbor. Swimming is not popular in the harbor due to the murky water conditions and rocky bottom. During the interview process of this study, it was noted that the water appeared cleaner now that Maui Land and Pine is no longer discharging agricultural waste into the harbor. Maui County also owns and maintains Keopuolani Park which is located south of and across the street from Kahului Harbor Park, stretching from Kahului Beach Road to Kaahumanu Avenue.

There are currently conflicts between the canoe paddlers and maritime operations. These existing impacts will continue to worsen as both maritime operations (cargo shipments, luxury cruises, vessel calls, security zones) and the canoe clubs' (Hawaiian Canoe Club, Na Kai Ewalu) memberships increase. Both commercial operations and recreational activities are vying for the same areas of Kahului Commercial Harbor[7].

Part of the canoe paddlers' concerns are that the U.S. Coast Guard maritime security regulations require security zones around specified vessels and terminals, which prohibit recreational access and use of piers, berths, the turning basin and portions of the entrance channel.

[7] Under the Hawaii Revised Statutes Chapter 266-1, a commercial harbor "*means a harbor or off-shore mooring facility which is primarily for the movement of commercial cargo, passenger and fishing vessels entering, leaving or traveling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers and vessels.*

4.21.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **The acquisition of the property will produce no impacts on any recreational activities. Similarly, any implementation of minor projects such as those listed in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000, will not produce any impacts on any recreational activities. These minor projects will provide the requisite space for the inter-island cargo carrier's continuance of its full range of existing cargo services, including its LCL cargo operations.**

Second Harbor Alternative

The potential sites for the Second Harbor Alternative are largely undisturbed areas of Maui's popular coastline. These areas entertain a wide range of recreational activities, including fishing, gathering, diving, snorkeling, surfing, boogie boarding, sailing, boating, water skiing, jet skiing, swimming, sunbathing, beachcombing and picnicking. Development and operation of the proposed second harbor would curtail much of the recreational activity in the area. Such an impact on recreational activities is perceived as being significant.

West Breakwater Alternative

The West Breakwater Terminal Alternative requires extensive breakwater construction, extensive dredging of the turning basin and the berth. The breakwater construction is suggested as a means of attenuating the wave energy that enters the harbor and that would potentially disrupt the vessel maneuvering, cargo and passenger loading/unloading operations at the West Breakwater Terminal's berth. The wave energy that enters the harbor, however, creates ideal conditions for a significant contingent of recreational surfers within the harbor. The extensive dredging necessary for the West Breakwater Terminal Alternative would further destroy the shallow reef shelf that helps to create these surfing conditions. Significant impacts to the coral reef ecosystem within the harbor and the reef ecosystem at the site of the new breakwater are anticipated as a result this alternative. Fish populations may be reduced by these impacts to the coral reef ecosystems. The currents within the harbor would be similarly impacted by the massive dredging, breakwater and pier construction, which, in turn, may significantly impact the sand deposits at Hoaloha Beach. The West Breakwater Terminal Alternative is thus expected to produce significant impacts to the recreational activities in the harbor.

No-Action Alternative

The existing conflicts between maritime operations and recreational activities within Kahului Commercial Harbor will continue and could possibly worsen with the forecast growth of cargo volumes, vessels calls and passenger counts.

4.22 SURFACE TRANSPORTATION SYSTEM

4.22.1 EXISTING CONDITIONS

The major surface streets in the vicinity of the two A&B parcels are Kaahumanu Avenue, Puunene Avenue, Hobron Avenue and Hana Highway. Other surface streets include Wharf Street, Ala Luina Street and Second Street (See Figure 4). Hana Highway and Kaahumanu Avenue function as the major roadways in the area, serving both regional and local vehicular traffic. The following is a brief description of the existing roadways.

- Hobron Avenue. Hobron Avenue is a short two-lane roadway connecting Hana Highway and Kaahumanu Avenue to Kahului Commercial Harbor (through Ala Luina Street). A number of commercial harbor-related vehicles utilize this street, with resultant large volumes of truck traffic. Access to the Hobron Avenue area is awkward, with left-turns into the area permitted via the Hana Highway-Kaahumanu Avenue intersection and left-turns out of the area restricted to the Hobron Avenue-Hana Highway intersection. Right-turns in/out are permitted at both intersections.

- Puunene Avenue. Puunene Avenue is a State roadway that extends from the Kahului Commercial Harbor area south to the Puunene community. In Puunene, it connects to Mokulele Highway to provide access between the Kihei-Wailea area and Kahului. The roadway provides one lane in each direction for most of its length.

- Wharf Street. Wharf Street is a short two-lane roadway that serves as one of the primary entrances to the Kahului Commercial Harbor from Kaahumanu Avenue.

- Ala Luina Street. Ala Luina Street is Kahului Commercial Harbor's internal roadway that links Hobron Avenue and Wharf Street. It is a two-lane roadway that snakes through the commercial harbor connecting Piers 1, 2 and 3 with the external circulation roadways.

- Perimeter Road. The Perimeter Road provides access along the coastline from Hobron Avenue/Ala Luina Street to the container storage yard on Pier 1.

Table 4-1 lists the intersections in the vicinity of the proposed projects and identifies the traffic controls at the present time.

TABLE 4-1
MAJOR INTERSECTIONS NEAR KAHULUI HARBOR

Intersection	Control Device
Hobron Avenue / Ala Luina Street	Stop Sign
Hobron Avenue / Amala Street	Stop Sign
Hobron Avenue / Kaahumanu Avenue	Signalized
Kaahumanu Avenue / Wharf Street	Signalized
Kaahumanu Avenue / Puunene Avenue	Signalized
Kaahumanu Avenue/Maui Beach Hotel & Maui Palms Hotel/Lono Avenue	Signalized

The Maui Long-Range Land Transportation Plan (1997) presents recommendations to the roadway network near the two A&B parcels that should be in place by 2020. These improvements include:

- The widening of Puunene Avenue to four lanes from Kaahumanu Avenue to Mokulele Highway; and

- The widening of Hana Highway to six lanes from Kaahumanu Avenue to Dairy Road.

The analysis of existing ground traffic conditions is presented for the morning and afternoon commute peak hours. The commute peak hours represent the highest traffic volumes on most major roads within the vicinity of the two A&B parcels. The analysis for roadway intersection is based on the *Highway Capacity Manual,* which uses a calculation of a volume capacity ratio and delay to relate to a Level of Service (LOS). The LOS has six levels, A through F, which relate to driving conditions from best to worst. LOS A represents free-flow conditions with no congestion, while LOS F represents severe congestion with stop and go conditions. LOS D is typically considered acceptable peak hour conditions in urban areas.

Past studies have found that the major roadway intersections in the vicinity of this area are operating at a relatively acceptable level of service. In 1994, the Kahului Airport traffic study found that the intersection of Hobron Avenue/Kaahumanu Avenue had a LOS A during the morning peak hour and a LOS B for the afternoon peak hour. This intersection LOS would remain the same even with the 2010 forecast (Airport's traffic study) increase in traffic. A study in 1995 and 1997 found that the Wharf Street/ Kaahumanu Avenue intersection was operating at a LOS A for both morning and afternoon peak hours. The 1995 study also found that the intersection of Puunene Avenue/Kaahumanu Avenue had a LOS B for the morning peak hour and a LOS C for the afternoon peak hour. In 2000, a study of the signalized intersection of Kaahumanu Avenue/Maui Beach Hotel & Maui Palms Hotel Driveway/Lono Avenue operated at LOS B in the morning peak hour and LOS C during the afternoon peak hour.

The results shown in Table 4-2 are from the Hobron Triangle Retail Development (Reference 12) for the intersection at Kaahumanu Avenue and Hobron. The study showed that the intersection peak hour movements occurred from 6:30 a.m. to 8:30 a.m. and from 3:00 p.m. to 5:30 p.m. The survey data was recorded in October 2002.

TABLE 4-2
LEVEL OF SERVICE ANALYSIS FOR
KAAHUMANU AVENUE AND HOBRON AVENUE
(from Hobron Triangle Retail Development)

	Morning Peak Hour			Afternoon Peak Hour		
	Volume	Delay (sec.)	LOS[1]	Volume	Delay (sec)	LOS
Northbound Left, Thru & Right	138	7.5	A	167	8.0	A
Southbound Left, Thru & Right	110	7.6	A	275	7.5	A
Westbound Left, Thru & Right	2	10.2	B	4	11.8	B
Eastbound Left & Thru	106	12.5	B	89	15.7	C
Eastbound Right	13	8.7	A	32	9.9	A

1. Level of Service (LOS) is calculated using the operations method described in the *Highway Capacity Manual*. LOS is based on delay.

The internal roadway, Ala Luina Street, links the internal traffic to Hobron Avenue and to Wharf Street. Congestion within the commercial harbor is localized and dependent on the vessel arrival, type of cargo or passengers, and volume. The major congestion areas are at Pier 1 with the cruise ship traffic and unloading of the overseas cargo vessels, and at Pier 2 during the unloading and loading of the inter-island barge.

4.22.2 ALTERNATIVE ANALYSIS

Preferred Alternative

The Preferred Alternative is the acquisition of the two A&B parcels by the Harbors Division. **The acquisition of the property will produce no impacts on the surface transportation system in the area. Full redevelopment of the two parcels will be scheduled once the Harbors Division completes the acquisition, the *Kahului Commercial Harbor 2030 Master Plan* and the master plan's HRS Chapter 343 environmental analysis. The 2030 master plan will recommend the most advantageous maritime use of the two parcels as well as a permanent berth and operating area for the Hawaii Superferry. The potential impacts of these recommendations will be analyzed in accordance with the tenets of HRS Chapter 343. In the interim, the Harbors Division may implement minor, Chapter 343 exempt projects such as those contained in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation*, Amended, November 15, 2000, to enable the inter-island cargo carrier's continuance of its full range of existing cargo services, including the LCL**

cargo operations. As the minor, Chapter 343 exempt projects simply enable the continuance of existing cargo operations, no new vehicular traffic will be generated by these projects. The implementation of these minor, Chapter 343 exempt projects will not produce any significant impacts on the area's surface transportation system.

Second Harbor Alternative

The Second Harbor Alternative will cause a discernible increase in traffic on the surface transportation system of the selected area. If the site selected for Maui's second commercial harbor is on the island's west side, the traffic impacts may result in a degradation of the existing LOS. The resultant impacts of a second commercial harbor may require an acceleration of traffic mitigation measures (e.g., traffic controls, signalized intersections, stacking lanes, bypasses, overpasses, etc.).

West Breakwater Terminal Alternative

The West Breakwater Terminal Alternative will likewise add commercial harbor vehicle traffic to the surface transportation system near the new terminal. Container trucks, buses, rental cars, personal vehicles and taxis may add to roadway congestion, degrading the existing LOS in the area. Traffic mitigation measures may be required if the surface transportation impacts of the West Breakwater Terminal Alternative are significant.

No-Action Alternative

The No-Action Alternative will not produce any significant impacts on the surface transportation system. The existing problems and congestion will remain. Traffic will increase due to the forecast increase in population, passengers and cargo shipments to Maui.

5.0 DETERMINATION, FINDINGS, AND REASONS SUPPORTING DETERMINATION

The proposed acquisition of the two A&B parcels by the DOT Harbors Division (Preferred Alternative) will not produce any significant environmental impacts. The preparation of an Environmental Impact Statement is therefore not required. The Preferred Alternative is compatible with the existing and future land uses and activities in the area. The DOT Harbors Division will comply with all applicable statutes, ordinances and rules of the Federal and State governments. This document constitutes a Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI). The "Significance Criteria," Section 12 of the Hawaii Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules" were reviewed and analyzed. The following findings are based on a thorough analysis of the potential impacts for the prescribed criteria (italicized).

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.

The proposed acquisition of the two, fully developed, A&B parcels by the Harbors Division will not involve irrevocable commitments to loss or destruction of any natural or cultural resource.

Both A&B parcels (TMK: 3-7-10:001 and TMK 3-7-10:036) are located in an urbanized, industrial setting and surrounded by the town of Kahului. Kahului is the center of Maui's industrial and commercial operations. The State Land Use designation for the area surrounding the parcels is Urban District, and both parcels are zoned M-2, Heavy Industrial District. The Wailuku-Kahului Community Plan designates Heavy Industrial operations for the area.

Both parcels are fully developed with structural improvements and parking areas. The building on 55 Kaahumanu Avenue is a two-story, wood-frame on concrete-slab structure that was built circa 1904. The three buildings on 101 Kaahumanu Avenue are concrete-block on concrete-slab structures that were built circa 1923. The four buildings house various retail, office and storage operations.

Selection of the Second Harbor Alternative or the West Breakwater Terminal, however, will result in irrevocable commitments to loss or destruction of natural and cultural resources. Undisturbed coastal areas would be dredged, large breakwater structures would cover marine habitats and benthic communities, shorelines would be transformed into piers and terminals, the new commercial harbor or breakwater terminal would become off-limits to cultural activities, and maritime operations would affect Maui's famed ocean water quality.

(2) Curtails the range of beneficial uses of the environment.

The Preferred Alternative will not curtail the range of beneficial uses of the environment. The two A&B parcels are properly zoned and located in designated industrial districts. The properties are fully developed with structural improvements and paved parking areas. The existing retail, office and storage operations will remain in place through their lease periods.

The Second Harbor and West Breakwater Terminal Alternatives, however, will curtail a wide range of beneficial uses of the environment. Significant acreages of submerged and fast lands would be converted from their natural, undisturbed state to maritime facilities. The wide array of recreational and cultural activities occurring in the potential project sites would be affected by the development and operation of the second harbor and the west breakwater terminal. Maritime security regulations may even prohibit cultural practices and the enjoyment of recreational activities in/near the second harbor and west breakwater terminal.

(3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The Preferred Alternative does not conflict with the State's long-term environmental policies or goals and guidelines. The State's environmental policies, goals and guidelines are set forth in Chapter 344, Hawaii Revised Statues, "State Environmental Policy." Two broad policies are espoused - conservation of natural resources and enhancement of the quality of life.

The Preferred Alternative is the acquisition of two A&B parcels by the Harbors Division. With the purchase of these properties, the Harbors Division will begin the *Kahului Commercial Harbor 2030 Master Plan*, which will recommend the appropriate redevelopment of the two parcels for maritime purposes. Once the 2030 master plan is completed, the Harbors Division will process the HRS Chapter 343 environmental analysis of the master plan, which will include the recommendations for maritime redevelopment the two A&B parcels. **The two parcels will be scheduled for full redevelopment once the Chapter 343 environmental analysis is properly completed. The Harbors Division may implement minor projects in the interim to enable the inter-island cargo carrier's continuance of its full range of existing cargo services, including its LCL cargo operations. These minor projects will be carefully selected from the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000. Both parcels are currently fully developed with structural improvements and paved parking areas. The Preferred Alternative will not create any conflicts with the state's policies, goals and guidelines on conservation of natural resources.**

Similarly, the proposed purchase of the two A&B parcels will not detrimentally affect the state's policies, goals and guidelines on enhancement of the quality of life. All existing A&B tenants will remain in their respective units throughout their negotiated lease periods.

Selection of the Second Harbor Alternative or the West Breakwater Terminal Alternative, however, will conflict with the state's policies, goals and guidelines on conservation of natural resources as large acreages of the island's natural coastline and near-shore waters will be impacted by the construction and operation of these alternatives' maritime facilities.

(4) Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.

The Preferred Alternative will not affect the economic welfare, social welfare or cultural practices of the either the community or the State. **The DOT Harbors Division proposes to acquire the two parcels from A&B for commercial harbor expansion purposes. The Harbors Division will subsequently master plan the proper maritime redevelopment of the two parcels and process the HRS Chapter 343 environmental analysis for the master plan and parcel redevelopment prior to initiating the full redevelopment project. In the interim, the Harbors Division may implement minor, Chapter 343 exempt projects such as those contained in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000, to enable the inter-island cargo carrier's continuance of its full range of existing cargo services, including its LCL cargo operations. The purchase of the two parcels and the implementation of any minor projects will not affect the community's or State's economic welfare, social welfare, or cultural practices. The Harbors Division commits to honoring all leases in place at the time of purchase. No tenants/occupants will be improperly displaced. No cultural practices exist within the current mix of retail, office and storage operations.**

The Second Harbor Alternative and the West Breakwater Terminal Alternative are viewed as projects to enhance the community's and the State's economic and social welfare. Maui's ever increasing demands for food, clothing, building materials, cars and fuel will be satisfied by the expansion of commercial harbor facilities. The development and operation of these alternatives, however, will come at the sacrifice of the cultural activities being practiced at the proposed development sites.

(5) Substantially affects public health.

If pursued, the Preferred Alternative will result in a change of the parcels' ownership from A&B to the State of Hawaii. The two parcels' zoning will not change. Kahului Commercial Harbor's maritime operations are consistent with the parcel's zoning. The Preferred Alternative and maritime expansion into the two parcels will not impact public health or public health facilities.

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

The Preferred Alternative is not expected to produce any secondary impacts, such as population changes or effects on public facilities. The Harbors Division proposes to acquire the two A&B parcels, which represent a total area of approximately 3.96 acres. The purchase of the property or any expansion of commercial harbor operations into the property will not affect the island's population or impact public facilities (e.g., schools, parks, government offices, etc.).

(7) Involves a substantial degradation of environmental quality.

The Preferred Alternative is the proposed acquisition of two A&B parcels by the Harbors Division and the possible implementation of minor, Chapter 343 exempt projects such as those contained in the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000, for the continuance of the inter-island cargo carrier's full range of existing cargo services, which include LCL cargo operations. The change in ownership from A&B to the State of Hawaii and the implementation of the minor projects will not involve any degradation of environmental quality.

The Second Harbor Alternative and the West Breakwater Terminal Alternative, however, require extensive dredging, breakwater construction, and construction of piers, terminals and roadways. These alternatives' construction projects and maritime operations are expected to substantially degrade the environmental quality at their sites.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.

The Preferred Alternative is the first step in the process of expanding the operational acreage of Kahului Commercial Harbor. **While the acquisition of the two A&B properties will not produce any environmental impacts, it is possible that the full redevelopment of the two parcels for maritime purposes may create significant environmental impacts. The following will thus be completed prior to the start of the parcels' full redevelopment efforts:**

- The Harbors Division will undertake and complete the *Kahului Commercial Harbor 2030 Master Plan,* which will include the two new parcels and the recommendations for their appropriate maritime redevelopment.
- The Harbors Division will undertake and complete the *Kahului Commercial Harbor 2030 Master Plan* Environmental Assessment/Impact Statement, which will analyze the cumulative impacts of the master plan's recommendations in accordance with the requirements of HRS Chapter 343.

To enable the inter-island cargo carrier's continuance of its full range of existing cargo services, including its LCL cargo operations, the Harbors Division may implement minor, Chapter 343 exempt projects within the two parcels in the interim. These projects will be carefully selected from the *Comprehensive Exemption List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000, and are thus not expected to create any significant environmental impacts.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat.

No rare, threatened, or endangered species or habitats will be affected by the proposed acquisition. The two A&B parcels are located in the island's commercial and industrial district and are fully developed with structural improvements and paved parking areas. There are no rare, threatened or endangered species or habitats within the properties.

The Second Harbor Alternative and the West Breakwater Terminal Alternative are likely to produce significant impacts on rare, threatened and endangered species and habitats. The Corps of Engineers' *Maui Second Commercial Harbor Navigation Study* reported the likelihood of the U.S. Fish & Wildlife Service's filing of a jeopardy opinion against the construction of a second commercial harbor on Maui's south or west coastline. The breakwater construction and dredging of turning basin and berths for the West Breakwater terminal will obliterate large acreages of reef.

(10) Detrimentally affects air or water quality or ambient noise levels.

The Preferred Alternative will not detrimentally affect air or water quality or ambient noise levels. If pursued, the Preferred Alternative will result in a change of the two parcels' ownership, from A&B to the State of Hawaii, and the possible implementation of minor, Chapter 343 exempt projects. As the minor projects are proposed as a means of enabling the inter-island cargo carrier's continuance of its existing cargo operations, no significant impacts on air or water quality are anticipated. The high ambient noise environment of the area will remain.

The Second Harbor Alternative and the West Breakwater Terminal Alternative are likely to produce significant impacts on the air quality, water quality and ambient noise levels in the area. Construction activities may also have the potential to affect air quality, water quality and ambient noise levels on a short-term basis. Engineering controls would be incorporated into the proposed project to minimize the impacts and to ensure regulatory compliance. While proper grading would normally ensure that there would be no runoff, runoff from piers is anticipated. Best management practices will therefore be implemented to the maximum extent practical to control storm-water runoff and to prevent pollutants from discharging off the project site during construction and during maritime operations.

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

The Preferred Alternative is the proposed acquisition of two A&B parcels that are in Flood Zones V23 (coastal high hazard area), A-4 (areas of 100-year flood with base flood elevations and flood hazard factors determined), and C (areas of minimal flooding). **Should the Harbors Division complete the acquisition of both parcels, the Harbors Division will ensure that the parcels, their structural improvements and any minor projects implemented to enable the inter-island cargo carrier's continuance of its full range of existing cargo services, including its LCL cargo operations, are in compliance with the development standards for flood and tsunami zones.**

The Second Harbor Alternative and the West Breakwater Alternative would create maritime facilities that would be likewise situated in coastal high hazard areas (Zone V23). The projects' design and construction efforts must address compliance with the development standards for flood and tsunami zones.

(12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.

The Preferred Alternative is the proposed acquisition of two A&B parcels by the Harbors Division. Both parcels are fully developed with structural improvements and paved parking areas. **The only changes resulting from the implementation of the Preferred Alternative is the change in ownership of the two parcels and the possible implementation of minor projects such as those contained in the *Comprehensive List for the State of Hawaii Department of Transportation,* Amended, November 15, 2000, which will enable the inter-island cargo carriers' continuance of its full range of existing cargo services, including its LCL cargo operations.** There will be no impacts to scenic vistas or viewplanes identified in county or State plans and studies.

The Second Harbor Alternative and the West Breakwater Alternative will place large, industrial harbor facilities on undisturbed areas of Maui's coveted south or west coastline, and a new terminal with large ships and barges berthing at the extremely visible west breakwater of Kahului Commercial Harbor. These alternatives are thus expected to produce substantial impacts on scenic vistas and county/State identified viewplanes.

(13) Requires substantial energy consumption.

The Preferred Alternative will not require substantial energy consumption. **Full redevelopment of the two parcels will follow completion of the Chapter 343, HRS, environmental analysis of the *Kahului Commercial Harbor 2030 Master Plan*. Minor projects may be implemented in the interim to enable the continuance of the inter-island cargo carrier's existing cargo operations. The Harbors Division's purchase of the property and interim implementation of any minor, Chapter 343 exempt projects will thus not significantly add to existing energy requirements.**

The Second Harbor Alternative and the West Breakwater Terminal Alternative, however, would require substantial energy consumption. A significant amount of energy would be required during construction. As these alternatives would replicate the maritime operations at Kahului Commercial Harbor, the additional energy consumption could be significant. Energy-conserving measures should be incorporated into the projects' design and construction phases, as practical.

6.0 REFERENCES

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2. A&B Properties, Inc.,*A Counseling Report Covering An Evaluation of the Fee Simple Interest in the Land and Improvements Located at 55 Kaahumanu Avenue, Island of Maui, State of Hawaii,* ACMConsultants Inc., October 10, 2005.

3. A&B Properties, Inc.,*A Counseling Report Covering An Evaluation of the Fee Simple Interest in the Land and Improvements Located at 101 Kaahumanu Avenue, Island of Maui, State of Hawaii,* ACMConsultants Inc., October 10, 2005.

4. State of Hawaii, Department of Transportation, Harbors Division, *Kahului Commercial Harbor, 2025 Master Plan*, September 2000.

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7. SMS Research and Marketing Services, Inc., *Economic Impact Assessment of Hawaii's Harbors*, 1997.

8. U.S. Department of Transportation, Federal Aviation Administration and State of Hawaii, Department of Transportation, Airports Division, *Final Environmental Impact Statement*, September 1997.

9. Letter State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division to International Archaeological Research Institute, Inc., Log No. 2003.1980, Doc. No. 0310MK06.

10. Letter State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division to Department of Transportation, Harbors Division, Log No. 2004.0954, Doc. No. 0403st17, March 31, 2004.

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12. R.M. Towill Corporation, "*Final Environmental Assessment, Kahului Commercial Harbor, Pier 1C Mooring Dolphin,*" March 2004.

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17. Ernest K. Hirata and Associates, Inc, "*Soils Investigation Barge Terminal Improvements Phase IB & II, Kahului Harbor, Kahului, Maui, Hawaii*," November 5, 1997.

18. Walter Lum Associates, Inc., "*Bulkhead and Other Improvements at Kahului Harbor, Maui, Job H.C. 3046, Soil Exploration Report*," December 12, 1975.

7.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

PRE-ASSESSMENT CONSULTATION

The individuals, agencies and organizations listed below were sent correspondence (dated April 27, 2006) requesting their comments. A copy of DOT's April 27, 2006 correspondence follows the listing. The comments received are included in Appendix E.

Matson Navigation Company
Pier 1, Kahului Harbor
Kahului, Hawaii 96732

Young Brothers, Inc.
65 Wharf Street
Kahului, Hawaii 96732

Hawaiian Cement
97-607 Malakole Street
Kapolei, Hawaii 96707

Norwegian Cruise Lines America
700 Bishop Street, Suite 900
Honolulu, Hawaii 96813

State Historic Preservation Division
State Department of Land & Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Hawaiian Canoe Club
P.O. Box 5053
Kahului, Hawaii 96732

Na Kai Ewalu
87 Lae Street
Paia, Hawaii 96779

Hawaii SuperFerry
One Waterfront Plaza, Suite 302
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

Alexander & Baldwin Properties, Inc.
822 Bishop Street
Honolulu, Hawaii 96813

Mr. & Mrs. Joel Stuart
55 Kaahumanu Avenue, No. A
Kahului, Hawaii 96732

Lightning Bolt Maui, Inc.
55 Kaahumanu Avenue, No. B
Kahului, Hawaii 96732

Mr. & Mrs. Scott Emerzian
55 Kaahumanu Avenue, No. D
Kahului, Hawaii 96732

Fabric Mart
55 Kaahumanu Avenue, No. D
Kahului, Hawaii 96732

Island Beauty Supply, LLC
55 Kaahumanu Avenue, No. G
Kahului, Hawaii 96732

Mr. Gary Guenther
55 Kaahumanu Avenue, No. M
Kahului, Hawaii 96732

LF & Sons Landscape Maintenance
55 Kaahumanu Avenue, No. 1
Kahului, Hawaii 96732

Mr. Charles Buckingham
55 Kaahumanu Avenue, No. 4
Kahlui, Hawaii 96732

Global Travel Center
55 Kaahumanu Avenue
Kahului, Hawaii 96732

Mr. Carl Incerto
101 Kaahumanu Avenue, No. AA
Kahului, Hawaii 96732

Four Star Mortgage Corp.
101 Kaahumanu Avenue, No. A-B/C
Kahului, Hawaii 96732

Ms. Linda Austin
101 Kaahumanu Avenue, No. B-DE
Kahului, Hawaii 96732

Mr. John Schweiner
101 Kaahumanu Avenue, No. B-FGHI
Kahului, Hawaii 96732

CB Richard Ellis, Hawaii, Inc.
101 Kaahumanu Avenue, No. C-J1
Kahului, Hawaii 96732

Boskoff Construction, Inc.
101 Kaahumanu Avenue, No. C-J1
Kahului, Hawaii 96732

Mr. & Mrs. Roger Strong
101 Kaahumanu Avenue, No. C-K
Kahului, Hawaii 96732