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IN REPLY REFER TO:
HAR-EP
1531.98

December 10, 1997

TO: GARY GILL, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: KAZU HAYASHIDA
DIRECTOR OF TRANSPORTATION

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT (EA) AND FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR KAHULUI INTER-ISLAND CARGO FACILITY, TMKS 3-7-08 AND 3-7-10, KAHULUI HARBOR, KAHULUI, MAUI, HAWAII

The State Department of Transportation has revised the draft EA for the subject project to incorporate the requests of the Office of Environmental Quality Control, and anticipates a negative declaration/Finding of No Significant Impact (FONSI) determination. Please publish the notice of availability for this project in the December 23, 1997 OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA/FONSI. Please contact Glenn Soma at 587-2503 if you have any questions.

Enc.

129

1997-12-23-MA-FEA-Kahului Inter-Island Cargo Facility

FINAL ENVIRONMENTAL ASSESSMENT
FINDING OF NO SIGNIFICANT IMPACT

KAHULUI INTER-ISLAND CARGO FACILITY

KAHULUI HARBOR, MAUI

December 8, 1997

TABLE OF CONTENTS

Section **Page**

I. PROJECT OVERVIEW

APPLICANT

State of Hawaii
Department of Transportation
Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

LAND OWNER

State of Hawaii
Department of Transportation
Harbors Division

APPROVING AGENCY

State of Hawaii
Department of Transportation
Kazu Hayashida, Director

A. PROJECT LOCATION, EXISTING USE, LAND USE DESIGNATION

Surrounded by the islands of Hawaii to its east, Molokai on its north, Oahu to the west, Lanai and Kahoolawe on the south, the island of Maui is the State's second largest island. The city of Kahului, which developed around Kahului Harbor, is Maui's center of commerce, industry and transportation.

Kahului Harbor is the island's sole, deep-draft, commercial harbor. It serves to accommodate shipments of essential supplies and the commerce required to sustain Maui's economy. Pier 1 services the larger overseas vessels and container barges, including the sugar ship and the passenger cruise ships. Piers 2 and 3 service the inter-island barge cargo operators carrying general, dry and liquid bulk cargo. Cargo handling operations within the harbor are congested and are further complicated by intermingling customer traffic.

The State acquired a 9.2 acre site to expand the inter-island cargo operations and relieve some of the congestion. The new site is bordered by Wharf Street on the east, Kaahumanu Avenue on the south, and Puunene Avenue on the west.

The new 9.2-acre parcel provides approximately 75% more land area for the inter-island cargo facility. The parcel is presently utilized by several groups.

Canoe Clubs: The north end of the new parcel along the beach front is used by several canoe clubs. These clubs offer recreational and cultural benefits to local youth. The canoe clubs are moving to land granted them by Alexander & Baldwin. They expect to complete the move by October 31, 1997. The canoe clubs' existing communal hale recently suffered severe fire damage. The land area gained by this relocation can be best used for expanded cargo staging/holding as the new 9.2 acre parcel is developed. If the

final development concept results in a westward expansion of Pier 2, this land area would provide excellent vehicular access to the remainder of the new parcel.

Intra-Harbor Traffic: The movement of vehicles and equipment within the proposed 22-acre site is essential to the delivery, pickup, and staging of inter-island cargo. This includes both entry and egress from the site. Any development plan must include sufficient space for this important movement and circulation. Intra-harbor traffic was observed moving through the new 9.2 -acre parcel. This includes the movement of vehicles and equipment to/from the Pier 1 area and occurs over an unpaved access road connecting Wharf Street and Puunene Avenue. The occurrence of intra-harbor traffic is primarily associated with container operations, although some traffic is related to cruise ship operations and pedestrians.

Commercial Operations: Various commercial operations currently take place on the new parcel. The Ota Building houses two retail operations related to feed/grain sales and the sale of irrigation piping, fittings, and components. Several commercial operations under short-term lease agreements also do business on the newly-acquired property. Among these are automobile sales, meat cutting/packing, and the local Chamber of Commerce.

Bikeway: Community discussions have focused on the routing of the proposed Northshore Greenway Bikeway Plan in the immediate vicinity of Kahului Harbor. An optional routing places the 10-foot-wide bikeway within the perimeter of the 9.2 acre parcel along Wharf Street, Kaahumanu Avenue and Puunene Avenue.

The 9.2-acre parcel is generally level at elevations ranging from +6 to +9 feet mean sea level as is found throughout the rest of the harbor. The harbor frontage consists of a natural sand beach. Two significant features on the new property should be noted:

Ota Building: The Ota Building is currently being used for non-maritime commercial purposes. This facility provides approximately 30,000 square feet of covered space and presents a potential opportunity for modification and use as a cargo storage facility.

Drainage Channel: Extending across the entire property from Kaahumanu Avenue to the harbor is a surface water drainage channel. This channel is covered for only 70' of its approximately 900' length, with 550' in open concrete culvert and the remaining 280' in an unlined, irregular channel flowing to the harbor. The U.S. Army Corps of Engineers classifies this 280' as a wetland area. The County storm drain plan calls for enlargement of the channel capacity. Since the capacity will need to more than double, a larger easement is being sought by the County. This easement should either be relocated west of Puunene Avenue or converted to a covered culvert, capable of bearing heavy wheel loads as the site is developed into space for cargo operations.

The Kahului Inter-Island Cargo Facility Plan includes existing facilities and the new property totaling 22 acres of combined pier and land area. Barge berthing is available along 900 feet of Pier 2 and 500 feet of Pier 3. It is important to note, however, that access to the inner 350 feet of Pier 2 is restricted because of the close proximity of Shed 2A.

Land Use Designation:

State Land Use Designation:	Urban
Community Plan:	Harbor
County Zoning:	B-2 Business

B. NEEDS ASSESSMENT

Existing Functional Relationships

The functional operations occurring at Piers 2 and 3 and their current allocated areas are listed below:

Function	Area in Acres
Barge loading/unloading	1.5
Cargo staging - open	2.8
Cargo staging - covered	0.3
Cargo holding - open	2.0
Cargo holding - covered	0.5
Vehicle movement/circulation	4.2
Vehicle entry/departure control	0.1
Administration	0.1
Parking (employee and customer)	0.3
Cement and Petroleum Operations	1.0
Totals	12.8 acres

Insufficient yard space is the primary problem. Other problems are attributed to the configuration of the yard, the location of certain buildings and staging/holding areas, and the circulation patterns for vehicles and equipment. Among the more significant of these problems are:

The location of Shed 2A precludes side loading/unloading of barges.

Vehicle/equipment movement between Pier 2 and Pier 3 is restricted.

The seaward end of Pier 2 is excessively congested.

There is insufficient covered space for cargo staging and holding.

Scheduling conflicts occur between large shippers and small occasional shippers.

Existing perimeter fencing and gate arrangements do not provide adequate control.

Offsite traffic movements need improving.

Projected Facility Needs

Facility needs for general cargo, sand, scrap metal, cement and petroleum operations are estimated for the years 2000, 2010 and 2020. Berthing and land area requirements are determined based on projected cargo volumes. These facility requirements are used to evaluate the viability of various conceptual plans. The considerations in determining berthing and land area requirements are followed by the estimates of facility needs for existing and projected conditions.

Berthing requirements: Berthing needs are based on barge capacities, typical barge loads and weekly volumes of cargo loaded across the wharf. The existing berth utilization was taken from the Pier Assignment Schedules maintained by the Harbors Division Maui District Office. The existing utilization was used to verify typical sailing patterns and barge loads.

Barge capacity information was provided by the shipping companies and compared to the typical barge loads used under existing conditions. The berth requirements were minimized by increasing the barge loads to the full capacity of the barges and reducing the number of sailings.

General Cargo Operations: The land area requirements include access, circulation, loading, staging and holding areas for each operation, including break bulk, neobulk, container and wheeled-cargo areas, open and covered cargo staging/holding. The need for ancillary facility areas, including office space and parking, is added to these requirements.

Cargo Category Breakdown: Inter-island general cargo volumes are segregated into the following categories:

Break-Bulk Cargo (palletized, etc.);
Containers;
Reefers;
Vans (small 8' cubes);
Cars/RoRo;
Neobulk;
Hazardous.

Cargo Area Calculations: Cargo volumes were correlated with land area by measuring the footprints of various barge loads. The most reliable data was obtained for cargo bound for Maui, Kauai and Kawaihae. The value of 22 square feet per revenue ton is used for all uncovered cargo areas and 12.5 square feet per revenue ton for covered cargo areas.

Access, Circulation and Ancillary Facility Space: The above cargo footprint correlations do not include access, circulation or ancillary facility space (office, parking, etc.). The access and circulation requirements are estimated to occupy approximately 44 percent of the land area at the inter-island cargo facility. Approximately one-half acre is estimated to satisfy the ancillary facility requirements.

The existing inter-island general cargo operations occupy approximately 11 acres of land. Based on the above analysis, current operations require at least one additional acre of land to operate efficiently. The existing sheds total 37,000 square feet. Less than half the general cargo can currently be held in the available shed space. It is estimated that 60% of the general cargo should be held in the covered shed. If 60% of the general cargo is stored under cover, then approximately 45,000 square feet of shed is required for existing operations.

The land area required to manage existing cargo volumes at Piers 2 and 3 is approximately 15 acres. With this understanding of current land area requirements, further facility needs can be estimated.

Projected Facility Requirements: The projected land area requirements of the various operations for conditions in the forecast years 2000, 2010, and 2020 are provided below.

Year 2000: Land area requirements total approximately 15.5 acres.

Year 2010: Land area requirements total approximately 17.2 acres.

Year 2020: Land area requirements total approximately 23.1 acres.

Scrap Metal Operations: The requirements for scrap metal operations include loading, staging, access and circulation areas. The operation involves truck delivery of scrap metal and loading onto barges by forklift. The barge loading operation is most efficiently handled with a stern ramp which, given the current wharf configuration, requires loading at Pier 3. Truck access will continue to be provided in the vicinity of Pier 3, either at the end of Wharf Street or through a back gate on Ala Luina Street. This access is provided by Young Brothers circulation roadways and will not require any additional space. The truck unloading will require a staging area estimated at approximately 0.8 acres. The circulation space required to unload trucks and load the barge is estimated to be approximately 0.3 acres. The total land area requirement is 1.1 acres for existing operations and is not expected to grow.

Sand Operations: The only requirements for sand loading operations are for circulation areas. The operation involves truck delivery of sand that is dumped directly onto the barge. As with the scrap metal operation, the barge loading is most efficiently handled with a stern ramp which requires loading at Pier 3 and will not require any additional access areas. The area requirement includes space for the queue of the trucks waiting to drive onto the barge. Aggregate shipments are expected to occur simultaneously. The total land area requirement is 0.1 acres for existing operations which is not expected to grow.

Cement Operations: The requirements for cement operations include the facility footprint and access areas. The operation involves unloading cement from barges to silos by pipeline and delivery of cement to trucks under the silo. The pipeline receptacle is located at Pier 3A and barge unloading must be performed there. Truck access to the facility will be provided at the end of Wharf Street and egress can be accomplished along internal Young Brothers circulation roadways and through a back gate at Wharf or Ala Luina Street. The access area requirement is estimated at 0.5 acres and the facility footprint is approximately 0.6 acres.

The total land area requirement is rounded to 1.2 acres for the existing operations. Although cargo volumes are expected to grow, the area requirements should remain relatively constant. The cement hatch, pipeline and silo, however, are located in the middle of the general cargo operations and should be relocated when the lease comes to term.

Petroleum Operations: The requirements for petroleum operations are satisfied by a hazardous safety arc with a radius of 150 feet, resulting in an area requirement of 0.8 acres.

C. BACKGROUND INFORMATION

The Kahului Inter-Island Cargo Facility project is divided into three phases. Phase 1 is the Concept Plan which addresses the facility needs of port users at Piers 2 and 3. The Phase 2 Master Plan expands the level of detail presented in Phase 1. The Phase 3 Plan describes the final improvements along Kaahumanu Avenue and three potential expansion opportunities.

Kahului Harbor is the only deep draft commercial harbor on the island of Maui. It is the principal origin and destination point for Maui's seaborne cargo. A large percentage of the overall cargo volume is inter-island cargo carried by tug-towed ocean barge. Berthing takes place at Piers 2 and 3 (7.03 acres) with the landside terminal operations occurring on these piers as well as on 5.73 acres of contiguous land. The primary barge cargo operator handling both shipping and stevedoring is Young Brothers, Ltd. Other users include Sause Bros., Hawaiian Cement, Citizens Utilities/GASCO, BHP Petroleum, and Chevron USA. Operations are excessively congested and customers are forced to intermingle with Young Brothers' operational heavy equipment in this congested area.

To provide a means for solving these problems, the State Department of Transportation Harbors Division acquired a tract of land totaling 9.2 acres in March 1994. This property affords the Harbors Division an opportunity to revise its previous 2010 master plan, expanding inter-island operations into this area, promoting efficiency, growth and user satisfaction.

D. PROPOSED ACTION (Note: Environmental Assessments have been completed for individual projects that are currently underway.)

1. Phase 1 Concept Plan

The Phase 1 plan develops the immediate needs action plan which can be completed within three years. In addition to providing additional acreage, it addresses critical needs in the areas defined below. The following is a general description of the planned development of the new parcels and site improvements in general.

Development of the New Parcels

Because of the existing Maui County drainage channel and easement, the new parcels can only be partially utilized at this time. The following projects will make this area usable as quickly as possible.

Bridge Strengthening. Bridge analysis and contingent remedial work has the highest priority to allow continued use of the parcel west of the County's drainage channel.

Demolition, Grading and Site Security: A separate Environmental Assessment (EA) for these projects, HC 3281, resulted in a Finding of No Significant Impact (FONSI). All existing structures on the West Parcel are demolished and utilities disconnected. Palm trees and other flora are relocated and the parcel is grubbed and cleared. Top soil is removed and stockpiled for later use or removed from the site. All existing asphalt and concrete are removed and sent to recycling stockpiles. The new site is graded in preparation for the gravel base as a temporary wearing surface. Grades will allow proper drainage of surface rain water with collection and disposal into surrounding drainage systems. A landscape buffer is planted along Puunene Avenue up to 2nd Street. A perimeter chain link fence is built to secure the area. Temporary security lighting will be installed.

Demolition of Maui Meat Facilities: To provide additional area along Wharf Street, the Maui Meat facilities are demolished and a gravel base is installed. This project will be completed as part of HC 3281.

Removal of Shed 2A: The needs assessment identified certain growth requirements for covered storage of general cargo. There is an urgent need to remove Shed 2A to allow unloading of the barge in the Pier 2/3 corner, which is currently not possible except by stern ramp. A separate EA for this project, HC 3293, resulted in a FONSI. Modifications to the Ota Building (now referred to as the Wharf Street Shed) will replace the covered storage space lost by the removal of Shed 2A.

Wharf Street Shed (former Ota Building) Modifications: The Wharf Street Shed is a relatively new, concrete, tilt-up type warehouse of approximately 30,000 square feet. The Wharf Street Shed cannot be used as is. An EA for these renovations, HC 3298, resulted in a FONSI and include:

Two electrical roll-up doors with clearances of 18'6" wide by 16' high on the makai side of the building. Doors designed to withstand wind loads of 80 miles per hour.

Concrete landing strips at the new door openings, 12 ' wide and 10' on either side of the doors.

Canopies above the landings, cantilevered if possible.

2 concrete ramps, 20' wide at an incline of no more than 7 degrees. Safety curbing along the ramps.

Removal of 5 interior columns and bracing for the remaining structure.

ADA access to the building.

Piers 2 and 3 Modifications

When the Wharf Street Shed is completed, access and pier improvements can begin. The following immediate projects are necessary to improve access to the pier and provide additional terminal space. Pier improvements are listed under other projects.

Immediate Projects (HC 3293): To allow access to the new covered storage facility, paving in the vicinity of the north wall of the Wharf Street Shed must be upgraded for heavy container lift wheel loads. Depending upon the results of a geotechnical evaluation of the existing asphalt and subgrade, this would most likely result in an overlay of the pavement. The existing loading dock will be filled and paved over to allow direct access to the new covered storage facility. Once this is completed, Shed 2A will be demolished and its footprint repaved.

As a corollary project, the operator will be required to relocate the 20-foot reefer operations, electrical transformer and outlets to allow traffic circulation along the western side of Pier 2. Signing and striping the new circulation patterns and delineating the small truck loading area can then proceed.

Other Projects: The load capacity of the existing structure and pavement is listed at 500 pounds per square foot for decks on piling and 1000 pounds per square foot for pavement on fill. The existing pile supported structures appear to be inadequate for heavier wheel loads and will be strengthened to accommodate existing and future heavy equipment planned for use. These projects are listed under HC 3293.

Existing site lighting, especially along Pier 2 will be upgraded.

Site Work and Utilities

Site Work: Certain site work projects will be undertaken to complete the Phase 1 plan. These projects include the following:

Drainage: On-site drainage has been suggested by previous master plans and include a 24-inch slotted drain in Pier 2 and associated pavement modifications.

Utilities: Both the existing site and the new parcel contain underground utilities (with and without easements) and some limited overhead utilities. The new parcel has a number of water and sewer easements as well as the storm water drainage channel easement previously noted. There are a few overhead electrical and telephone house connections to existing structures that must be disconnected.

During preliminary grading design, the existing utilities should be checked for structural capacity to withstand wheel loads. If necessary, the utility lines will be encased. The remaining underground terminal utilities will be checked if use of heavier equipment is intended.

Electrical utility service to the terminal site is adequate for the expansion intended. Certain transformers may need to be relocated or added to provide electrical service to the new parcel.

There are existing 8-inch sewer lines in 10-foot wide easements and 4-inch water lines in 15-foot wide easements from Wharf Street to Puunene Avenue. These easements bisect the future container storage yard. It is assumed that these lines only serve the Wharf Street Shed, various houses and other structures which will be demolished. Any repairs or improvements to these lines will disrupt terminal operations. Consideration will be given to relocating the lines (if needed) down Wharf Street to eliminate the potential disruptions.

Shed 2A is served by an 8-foot wide, 10-foot deep cesspool. This cesspool will be filled in when the building is demolished.

Modern container terminals are now supplied with fire water service and hydrants. While terminal fires are still rare, they have been known to occur. Containerization will help control the spread of any fire that may get started. However, containers themselves may be the source of the combustion, especially if loaded off site. Consideration will be given to providing fire water service to the entire site.

2. Phase 2 Master Plan

Introduction

Phase 2 of the development plan begins when the existing cement operation and drainage channel are available for relocation. These two obstructions must be cleared before any substantial expansion of the terminal can begin. Lease termination for the cement operation is not due until 2007. Maui County's easement does not expire. However, there is a need to add capacity to the channel which could necessitate widening. Advanced planning for the Phase 2 work will continue, especially with regard to environmental permitting which is required to relocate the channel.

Rock Revetment & Chain Link Fence

A rock revetment along the high-tide line delineates the northern boundary of the storage yard. The revetment protects the new parcel from storm surge and other high water events and provides a foundation for security fencing. Later in Phase 2, this revetment will become a retaining structure for the backfill to level the storage yard. Until the drainage channel can be relocated, a portion of the revetment at the channel discharge into the bay must remain open.

New Temporary Bridge

If the existing drainage channel can not be relocated shortly after the beginning of the Phase 2 construction, a new bridge will be constructed across the channel adjacent to the northwest corner of the Wharf Street Shed for access to the West Parcel area. Since the bridge is temporary, alternative construction materials may be suitable, such as timber, secondhand steel, available box culverts (assuming that the hydraulics would allow), etc. Upon relocation of the drainage channel, the temporary bridge would either be abandoned in place or removed.

Relocation of Cement, Propane and Petroleum Operations

The existing Hawaiian Cement operations should be relocated to a new site. The area just across Ala Luina Street from the Pier 3 gate has been suggested. The Phase 2 plan is predicated on a suitable site being found. The existing lease will terminate in 2007, and the State is not obligated to renew it. Some assistance in relocation might be offered to ensure a continuous, uninterrupted supply of this essential building material. New and more powerful pumping equipment will be required if the length of the cement pipeline is extended.

The Phase 2 plan also assumes that new petroleum and propane terminals will be constructed to the east of Pier 3. While not as crucial as removing the cement operations, this relocation allows the eastern half of Pier 3 to be used consistently for any reason without the encumbering 100-foot hazard arc. This area might be used for staging scrap, bulk materials or as a lay berth.

With the relocations, the Pier 2/3 corner is unencumbered, improving access to both side and stern ramps of the barges. The area cab then be used for container staging and other operations.

Expansion and Demolition of the Covered Storage Buildings

With modifications to the Wharf Street Shed completed, adequate covered storage for inter-island general cargo will be provided. Shed 2A will be demolished to allow barge loading/unloading at the head of Pier 2. This project is being accelerated to address the need for more efficient use of Pier 2A. The work to be completed under HC 3293 includes:

Removal of all of Shed 2A. Provision of a comfort station with a drinking fountain at the southeast end of Shed 2B (produce shed) and relocation of the electrical panel to the southeast end of Shed 2B. Matching exterior panels at the juncture of 2A and 2B.

Continuous utility service to Shed 2B and Pier 2. By-pass lines must be provided during construction.

Spot lighting at the end of Shed 2B.

Grade, fill and repave Shed 2A footprint. Fill and pave adjacent loading/sump area.

Pier and Pavement Strengthening. Inter-island general cargo operations are using heavier lift equipment. Pier and pavement strengthening projects to support the heavier loads are also being accelerated and included under HC 3293.

Demolish existing pier structure and construct 158' of strengthened Pier 2A (48' and 110' section). The first 48' section will start at the corner of Pier 2A/3A, and the second 110' section will start 100' from the corner along Pier 2A.

Strengthen pier sections to support CAT 925 and Hyster 920 loading.
Replace existing wooden fendering system along the inner berth of 2A.

Provide continuous water service, even during construction, from the existing 4" waterline.

Pavement strengthening to support CAT 925 and Hyster 920 loading.

Strengthen back-up areas of Piers 2 and 3 for CAT 925 and Hyster 920 movements. Strengthening to be 80 feet from Pier 2 bulkhead and 50 feet from Pier 3's more inland bulkhead, but not to intrude into adjacent fenced cement operations.

Reconstruct existing pavement structures in back-up area to portion of Pier 2 and Pier 3. The reconstruction/strengthening will be done in phases to allow continued cargo operations. Pier 2 and Pier 2 pavement strengthening will occur simultaneously. Pier 3 strengthening will follow.

Replace utility lines as necessary. Utility lines will remain in place and shall be protected by structural elements to accommodate CAT 925 and Hyster 920 loading.

Strengthen existing paved area between Wharf Street Shed and Shed 2A to support 20 ton forklifts.

High-pressure sodium 35' lights, connected by underground line, between the Wharf Street Shed and Pier 2.

If additional covered space for general cargo is required, an addition to the Wharf Street Shed or any new structure will be constructed at this time. The most feasible location is just east of the existing structure. The building should be expanded laterally (east-west), not in depth (north-south). Since the proposed operations have container lifts entering from the north and smaller fork lifts entering from the south, construction at either of these two sides would be disruptive. It is doubtful that the new extension would be contiguous with the existing building without major modifications.

Relocation of Drainage Channel

The existing drainage channel consists of a 6' by 4' box culvert, followed by a 6' by 7' open concrete channel and then by an unimproved channel, discharging into the bay west of the Pier 2 revetment. The channel is within a 16' wide easement which runs from Kaahumanu Avenue to the beach. A portion of Wharf Street drains into the channel via an 18" drain line.

Maui County currently has planned a widening and improvement to this channel. Under current plans, a new box culvert, 35' wide by 8.5' deep will be required. The current location of this channel, even in an improved state, has major adverse impacts on immediate and future terminal operations. The cover, walls and foundations of the channel must be redesigned for heavy wheel loads. The current discharge location precludes widening Pier 2 by landfill (which would block the discharge) requiring a more expensive pile supported deck construction. Any drainage repairs will disrupt terminal operations.

The Phase 1 development plan relocates the drainage channel to the Puunene right-of-way. A diagonal transition is still required across the southwest corner of the west parcel. This is much preferred, however, over the current channel alignment. The new channel will be completely covered and will discharge into the harbor just west of the West Parcel property line. At this location, any Pier 2 widening will not be impacted.

The old channel will be grubbed, mucked and filled in. Geotechnical studies will determine whether the materials beneath the culvert are capable of supporting the weight of the fill and new wheel loads without excessive settlement. The cover of the existing box culvert will be removed to fill the channel in. The temporary bridge will be either removed or abandoned in place, depending upon type of construction. The opening in the revetment will be closed and the drainage area brought to final grade.

Paving and Other Improvements for the West Parcel

With completion of the environmental process, the West Parcel site will be ready for pavement and completion as a container yard. Depending upon the schedule for the channel relocation, this paving could be completed in multiple phases.

Because of the use of the original base course as a temporary wearing surface, the suitability of this material as a base course for the new paving is doubtful. The site requires regrading and additional base course material. The site will be paved with asphalt. The total section will be approximately 18" thick, allowing heavy wheel loads from container lifts on a regular basis.

Lighting improvements will allow work during night and early morning hours. High-mast lighting with high-pressure sodium luminaries is recommended. Electrical improvements include a pad-mounted transformer and outlets for reefer plugs (by operator). Pavement striping to delineate chassis storage stalls and traffic circulation patterns will be provided.

Relocation of Young Brothers Gate & Widening of Wharf Street

With the covered storage addition and the enlargement of the Pier 3 container block, access to the berths via Wharf Street is all but shut off. A new gate and queuing lanes are placed just west of Wharf Street, in what would be an extension of Ala Luina Street. Access to this gate would be by a left-turn from Wharf Street. Exit from the gate will be by right-turn onto Wharf Street. Small truck traffic will proceed straight at the intersection and enter the small truck loading area south of the covered storage. Traffic from Ala Luina will be minimal. A signalized intersection is not required.

The gate will consist of two lanes in each direction with a guard shack in the middle. The lanes will be long enough to allow for modest queuing of trucks without impeding other traffic. Fencing, striping and landscaping completes the gate area.

Consistent with making Wharf Street the primary access, the Phase 2 plan proposes to widen the existing Wharf Street right-of-way to 80'. This allows for two lanes in each direction, plus a left-turn lane and a sidewalk on each side (three 12' center lanes, two 14' side lanes and two 8' sidewalks).

Pier 2/3 Improvements

Additional projects for completion of the Pier 2/3 improvements include signing, striping, and site lighting for the entire area.

Utilities

The remaining electrical overhead utilities along Wharf Street will be placed underground prior to the construction of the covered storage expansion. The foundations for this addition may interfere with existing underground utilities. These utilities will be relocated. Utilities relating to the cement plant operations will be removed. Petroleum pipelines at Pier 3 could be abandoned in place.

3. Phase 3 Plan

Final Development Along Kaahumanu Avenue

In Phase 3 of the development plan, the Valley Isle Motors site and the adjoining portion of the west parcel along Kaahumanu are cleared, grubbed and paved and repaved as necessary. Either a landscape buffer or the proposed Northshore Greenway Bikeway will be constructed along Kaahumanu. In either case the corridor is approximately 15 feet wide. Perimeter and partitioning fences are constructed to enclose these parcels and the existing fencing is removed. Finally, the portion of the lot along Wharf Street is re-striped for the new parking area as shown and a new entry is created. Some additional site lighting and readjustment of existing lighting is required.

Future Possibilities (as referred to in the Master Plan).

Other possibilities for expansion of the terminal area may present themselves in the future. These opportunities will be reviewed at the appropriate times. As the site and vicinity remains congested, any opportunity to expand is welcomed.

The first opportunity is the closing of Ala Luina Street. This road is currently a convenient exit for some of the trucks leaving Pier 1. Due to traffic circulation problems in the area, the Harbors Division prefers not to remove this access until some suitable alternative route is created. When this occurs, the remaining portion of the terminal site will be made available to the port users.

The second opportunity is the acquisition of various parcels now being used for the shipment of sugar. Some of these areas are just across Ala Luina from the Pier 2/3 terminals area and with the closing of Ala Luina Street, would become contiguous. If this becomes a possibility, the proposed new site for the cement operation will be re-evaluated, as it obstructs part of the access.

Finally, if additional berth space is required, and the harbor surge study supports the project, the land fill expansion of Pier 2 with stem ramp configuration will be considered.

II. EXISTING CONDITIONS

A. OCEANOGRAPHIC CONDITIONS

1. **Climate**: Kahului has an equable temperature regime, marked by seasonal variations of rainfall, persistent surface winds for the northeast quadrant and a rarity of severe storms. The monthly average temperature is 75 degrees Fahrenheit with a range of 7 degrees between the warmest month, August, and the coldest month, February. Average annual rainfall is approximately 20 inches with June being the driest month. Heavy rainfall usually occurs between December and February. Humidity at Kahului is moderate to high, with wet season humidities averaging slightly higher (77% in January) than those in the dry season (71% in July). The natural ventilation of the prevailing trade winds provides a pleasant climate even during the warmer months.

2. **Winds**: Kahului Harbor is exposed to prevailing winds from the north and northeast directions. Trade winds from this quadrant, averaging from 8 to 18 miles per hour, prevail most of the time. Sustained wind velocities, ranging between 25 and 35 miles per hour, occur approximately one third of the time.

3. **Storms:** The trade wind conditions which dominate the weather pattern in the Hawaiian Islands result in partly cloudy skies with brief showers prevalent in the mountain areas. Storm conditions usually result from a breakdown of the normal circulation of the trade winds and are relatively infrequent. Storms typically occur during the autumn and winter months, however, intense local convection storms of short duration can occur at any time of the year.

Three classes of disturbances which produce major storms in Hawaii are cold fronts, low pressure passages, and true tropical storms or hurricanes. Cold fronts, which occur one to eight times during the winter, cause spotty rainfall and gusty winds. Low pressure storms, called "Kona" storms, also occur during the winter months. These storms are characterized by strong and persistent southerly and south-westerly winds and intense rainfall. Due to the location of Kahului Harbor on the north side of Maui, however, Kona storms have only a minor effect on the harbor area. Hurricanes with winds greater than 75 miles per hour rarely affect the Kahului area, but tropical storms with winds below hurricane force are more common and pass close to the Hawaiian islands on the average of once every three years. Tropical storms generate very strong winds and intense rainfall.

4. **Waves:** Wave data for the Kahului area were collected from July 1966 to March 1969 from a wave gauge sensor located approximately 1,860 feet north of the head of the east breakwater. The wave gauge sensor recorded wave heights of 9 feet or less 96.1 percent of the time. The highest recorded wave was 28 feet with a period of 16 seconds and occurred during a storm from December 4-6, 1968. Prior to the December 1968 storm, the maximum recorded wave height was 19 feet. Periods of wave gauge equipment outages did not coincide with any known occurrences of storm waves at Kahului Harbor. The U.S. Army Corps of Engineers is performing a harbor surge study.

5. **Currents:** Currents outside the Kahului Harbor breakwaters are predominantly east to west and northward along the coast. Inside the harbor, a clockwise current prevails during flood tide. The current flows counterclockwise during ebbtide. The currents along the west and south shores within the harbor show no definite pattern, but appear to be generally eastward as evidenced by accretion at Pier 2. Except in the dredged areas of the harbor, the water is relatively shallow with average depths of 5 to 10 feet.

6. **Tides:** The primary tidal bench mark for Kahului Harbor is a standard disc, stamped "2 1929" and set in the concrete deck floor at the northeast corner of the warehouse at the shore end of Pier 2. Tidal data based on nine years of records, 1951-1959, and taken by the U.S. Coast and Geodetic Survey are as follows:

Highest Observed Tide (11/12/58 and 6/20/58)	3.6 ft
Mean Higher High Water (MHHW)	2.3 ft.
Mean High Water (MHW)	1.9 ft
Mean Tide Level (MTL)	1.15 ft.
Mean Low Water (MLW)	0.4 ft.
Mean Lower Low Water (MLLW)	0.00 ft.
Lowest Observed Tide (6/19-20/55)	-1.2 ft.

7. **Tsunami**: The history of tsunami in Hawaii includes several phases. In the 19th century, tsunami were reported in newspapers, weeklies and books written by residents and as a result, the cause of the various high wave phenomena was not always known. By the end of the 19th century, seismological stations made it easier to associate a distant earthquake with tsunami in Hawaii. In the early 1900's, tide gauge records were kept to see if distant earthquakes did cause waves in Hawaii. After 1946, the Pacific Tsunami Warning System was established and began gathering tsunami information. In 1869, 1872, 1878, 1903, 1919, 1921 and 1924, locally generated tsunami were associated with earthquakes of Kilauea and Mauna Loa. Since 1946, there have been six significant tsunami in which the maximum wave height recorded at Kahului was 17 feet. A March 1964 tsunami resulted in a run up elevation of 12.1 feet and flooded the shopping center located near the waterfront, causing about $53,000 in damages.

8. **Flooding**: Wave action, high surf and tsunami affect the Kahului area. The inundation of streets and low-lying areas is a continuing problem to the local businesses and residents. The flooding, however, appears to be caused primarily by storm water runoff and inadequate drainage facilities. Most of the harbor is within Zone V23 of the National Flood Insurance Rate Map (100-year coastal flooding with velocity), with some areas within Zone A4 (100-year flooding) and a small portion in Zone C (minimal flooding).

B. ENVIRONMENTAL RESOURCES

1. **Terrestrial Biota**: The terrestrial vegetation of the area consists of landscape planting, widespread weeds, other common native and introduced species, including beach naupaka (Scaevola taccada), Bermuda grass (Cynodon dactylon) and tree heliotrope (Tournefortia argentea). Avifauna observed at the site includes the house sparrow, common mynah, doves, the wandering tattle (Heteroscelus incanus) and ruddy turnstone (Arenraria interpres). The brown and Norway rats are also known to frequent the area. Due to the nature of the existing use of the property, there is no indication of any rare or endangered plants or animals associated with this property.

2. **Marine Biota**: The coral fill at the west breakwater is revetted with armor stone boulders which provide habitat for intertidal organisms such as a'ama crab (Grapsus tenuicrustatus), periwinkles (Littorina spp.), false opihi (Siphonaria normalis), and various algae (Ulva sp.). The substrate in the area of the existing boat launch ramp is dominated by coarse sand and shell fragments with little topographic relief. The primary fish habitats are the interstices of the armor stone revetment and the pilings of the wooden dock. Of particular commercial fishery value are nehu (Stolopherus purpureus), seasonal runs of oama (Mulloides flavolineatus) and halalu (Selar crumenophthalums) observed in the harbor.

3. **Water Quality**: Kahului Harbor is classified as Class II waters under the State Department of Health regulations, Title 11, Chapter 54 - Water Quality Standards. The harbor is part of Kahului Bay and is protected by two breakwaters. No fresh water streams or significant springs enter the harbor, although there is some fresh water seepage into the harbor from the inland basal groundwater body. Storm water runoff from the vicinity flows from outfalls at the project site.

4. **Air Quality**: Normal trade wind patterns in the Kahului area minimize the potential for air quality problems. During times of agricultural burning, levels of particulate matter are increased. The State Department of Health monitors air quality in Kahului along with other sampling stations throughout the State. In most cases, the sampling data did not exceed the State's air quality standards.

5. **Noise Quality**: The Kahului study area is adjacent to the most industrialized portions of Kahului. The deep draft harbor activities and adjacent roadways contribute to a high level of ambient noise. Numerous trucks, loaders, cranes, powered ramps, and other pieces of mechanical equipment work throughout the day and into the night when loading or off-loading ships.

C. LANDSIDE CONDITIONS

Existing conditions on the 22-acre land area were investigated in three primary aspects.

1. **Geotechnical**: A preliminary geotechnical study addressed the general geology of the project site, subsurface conditions, and seismic considerations. It concluded that the proposed site can be adequately developed for the purpose of a cargo transshipment facility to include a possible expanded pier, new building, expanded utilities, and open storage areas for various types of inter-island cargo. The development plan is based on the guidelines and recommendations contained in the report. In addition, a full-scale subsurface investigation of the site will be undertaken prior to the formulation of detailed design and construction plans.

The isthmus of Maui was formed of the convergence of volcanic material from the Haleakala and West Maui volcanoes and by subsequent erosion and natural processes. During the Pleistocene, fluctuations of sea level deposited sand on the isthmus of Maui.

The USDA Soil Conservation service conducted a soil survey of the islands of Kaua'i, O'ahu, Mäui, Moloka'i and Lana'i to classify the types of soil present on the islands. One soil type, Fill Land, is present in the project area. This type is described as:

> ...areas filled with bagasse and slurry from sugar mills. A few areas are filled with material from dredging and from soil excavations. Generally, these materials are dumped and spread over marshes, low-lying areas along the coastal flats, coral sand, coral limestone, or areas shallow to bedrock, areas filled with bagasse and slurry from sugar mills.

The onsite soil was classified as grayish brown silty sand. The silty sand was generally encountered from ground surface to the maximum depths drilled. The soil graded to a gray color below the water level and was mixed with gravel, cobbles and coral fragments. The silty sand was in a medium dense to dense condition with occasional looser sections.

Groundwater was encountered in exploratory borings at depths ranging from approximately 2 to 5.1 feet below existing grade. Variations in the depth of groundwater can be expected due to tidal fluctuations.

The general topography of the site slopes upward in a makai to mauka direction toward Kaahumanu Avenue at an average slope of 0.4 percent. The existing elevations on the site range from 7.2 feet at areas adjacent to Ala Luina Street and Hobron Avenue to 5.6 feet adjacent to Kaahumanu Avenue.

2. **Archaeological Inventory.** The project is located on the windward coast of Maui in Wailuku ahupua'a, Wailuku District, Maui Island. It is bounded on the north by the sea, south by Ka'ahumanu Avenue, west by Pu'unene Street, and east by Wharf Street. A portion of the project area lies within the boundaries of the historic Kahului District.

   Background information indicates that taro was traditionally cultivated in the area around the project area and Wailuku. The presence of Kanaha and Mau'oni fishponds indicates the practice of aquaculture. It is probable that habitation sites related to the exploitation of marine resources were present along the coast.

   The historic sugar industry had a far reaching impact on the island of Maui. In the immediate coastal area of the isthmus where the current project area is located, the majority of prehistoric cultural remains appear to have been extensively impacted. The development of a rail system, modification of the harbor, and the extensive cultivation of sugar cane all adversely impacted the cultural remains.

An archaeological inventory survey was conducted in September 1996 and included surface surveys and excavations of eleven backhoe trenches. No surface cultural remains were identified. Two trenches contained isolated historic remains and a pit feature was encountered in one of the trenches. A charcoal sample of the pit feature is being processed for radiocarbon dating. Archaeological monitoring during grading and other construction-related excavation activities is recommended.

The State Historic Preservation Officer and the County of Maui will be informed immediately should any archaeological features be discovered during grading. Grading operations will then cease until clearance from the State and County is received.

3. **Traffic**: A study of existing traffic conditions in the area near the Port was performed by Julian Ng, Inc. The study focused on the intersections of Kaahumanu Avenue with Wharf Street and Puunene Avenue. Traffic count data was obtained for these two intersections as well as average daily traffic (ADT) estimates for these roadways. An important finding of the study was that nearby roadway improvement projects (Maui Lani Parkway and Puunene Bypass Road) are expected to decrease traffic demand in the general vicinity of the harbor.

Internal yard circulation at Piers 2 and 3 is poorly controlled and congested. The greatest source of congestion, other than the high density of cargo moving through this small terminal, is the intermixing of customer traffic and yard operations traffic. The worst point of congestion is between the Ota Building and the employee parking area, where yard equipment transiting between Pier 2 and Pier 3 directly intermingle with customer traffic in a constricted area with little signage and striping.

A study of Kahului Harbor truck access issues was performed and results submitted in April 1995. The study confirmed that the intersection of Wharf Street and Kaahumanu Avenue have Level of Service (LOS) "A" in both the morning and afternoon peak hours; Puunene Avenue and Kaahumanu Avenue have LOS "B" in the morning peak hour and LOS "C" in the afternoon peak hour. The study addressed four existing problems; 1) difficulty in making southbound left-turns onto Hana Highway from Hobron Avenue; 2) difficulty in making eastbound through-movements at Kaahumanu Avenue and Hana Highway intersection; 3) the short weaving distance on Kaahumanu Avenue from Wharf Street to Puunene Avenue; and 4) the use of Wharf Street and Ala Luina Street to access Pier 1 by eastbound trucks (due to problem number 2 cited above). Kaku Associates identified four modification options to alleviate the proceeding problems. The options suggested modifications to the Hobron Avenue & Hana Highway intersection, truck prohibition on Puunene Avenue, and widening of Wharf Street.

The truck study was conducted to assist in the selection of a gate entrance on Wharf Street or Puunene Avenue. This plan recognizes the four existing problems and selected a gate on Wharf Street, which offers the following advantages:

The ability to widen Wharf Street for added capacity (approach/turning lanes);

More latent capacity than at Puunene Avenue;

Better access for internal harbor circulation;

Provides access from Middle Harbor Road (Kaku Option 3) if implemented;

Allows southbound trucks an alternate egress towards the airport if the weave to Puunene Avenue is too difficult or if truck traffic is prohibited on Puunene Avenue.

4. **Wetlands**: The United States Army Corps of Engineers determined that the 280', unlined portion of the drainage canal/culvert is a wetland area. This portion of the drainage canal consists of mud, weeds, pine trees toward the mouth of the canal, standing water during dry periods and a running stream during rains. A Botanical Resources Assessment Study, Char & Associates, January 1997, lists a hedge of Natal plum (Carissa macrocarpa), shrubs along the concrete ditch to the west, plantings of various shrubs and trees such as ironwood (Casuarina equisetifolia), coconut (Cocos nucifera), Norfolk pine (Araucaria heterophylla) and date (Phoenix sp.) trees, milo (Thespesia populnea), tropic coral (Erythrina variegata cv. "Tropic coral"), Chinese banyan (Ficus microcarpa), sea grape (Coccoloba uvifera), mowed lawn consisting of Bermuda grass (Cynodon dactylon) and St. Augustine grass (Stenotaphrum secundatum) along with several herbaceous weedy species, several scattered patches of taller buffel grass (Cenchrus ciliaris) and green panicgrass (Panicum maximum var. trichoglune) on stony areas or small piles of dirt and rubble which support low shrubs of koa haole (Leucaena leucocephala), guava (Psidium guajava), and pluchea (Pluchea symphytifolia), as well as plants of 'uhaloa (Waltheria indica), Spanish needle (Bidens pilosa), nutrass (Cyperus rotundus), hairy spurge (chamaewyce hirta), smooth rattlepod (Crotalaria pallida), etc.

Wildlife within the canal includes tilapia, mullet, barracuda, toads, brown rats, Norway rats, house sparrows, common mynah and doves. The United States Department of the Interior, after a review of files and maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and the Fish and Wildlife Service's National Wetland Inventory maps, states in their letter of October 18, 1996, that to the best of their knowledge, no endangered or threatened species are within the project area. The State Wildlife Sanctuary Kanaha Ponds, one half-mile east of the project site, provides habitat for the endangered Hawaiian Stilt (Himantopus mexicanus knudseni) and Hawaiian coot (Fulica americana alai).

Construction documents will require the contractor to maintain existing drain conditions to the wetland after completion of construction. During construction, the contractor will be required to provide and maintain a silt fence or gravel berm to prevent construction related debris material from leaving the construction site.

The canal drains storm water from surrounding residential and business properties into Kahului Harbor. The County of Maui plans to increase the channel's capacity and is seeking a larger easement. The easement should be relocated west of Puunene Avenue or converted to to a covered culvert, capable of bearing heavy wheel loads as the site is developed for cargo operations. Similar wetland acreage must be created before this wetland is altered or removed.

D. SOCIO-ECONOMIC ENVIRONMENT

1. Population

The population of the County of Maui has exhibited relatively strong growth over the past decade with the 1995 resident population estimated at 115,200, a 35.4% increase from the County's 1985 population. Growth in Maui County is projected to continue with resident population growth estimated at 140,900 in 2010 and 155,400 in 2020.

The Wailuku-Kahului Community Plan region follows the Countywide pattern of population growth, with the region's 1990 population of 32,816, expected to rise to 40,119 by the year 2000 and to 44,876 by the year 2010.

2. Economy

The Kahului region is Maui's center of commerce. Combined with neighboring Wailuku, the region's economic character encompasses a broad range of commercial, service and governmental activities. The region is surrounded by large agricultural acreage which includes sugar cane fields, pineapple fields, and macadamia nut orchards. The vast expanse of agricultural lands managed by HC&S and Wailuku Agribusiness Company is considered a key component of the local economy.

E. PUBLIC SERVICES

1. Recreational Facilities

The Wailuku-Kahului region encompasses a full range of recreational opportunities, including shoreline, canoe and boating activities at Kahului Harbor and adjoining beach parks, and individual and organized athletic activities offered at numerous County parks and the War Memorial Complex. The harbor is in close proximity to the Kahului Community Center and the County's Kanaha Beach Park.

2. Police and Fire Protection

Police protection for the Wailuku-Kahului region is provided by the County Police Department headquartered at the Wailuku Station, approximately 1.5 miles from the harbor. The region is served by the Department's Central Maui patrol which includes approximately 100 full-time personnel.

Fire prevention, suppression, and protection services for the Wailuku-Kahului region is provided by the County Department of Fire Control's Wailuku Station, located in Wailuku Town, approximately 3 miles from the harbor. The Wailuku Station is staffed by 27 full-time personnel. In addition, the Department completed construction of the Kahului Station (located on Dairy Road approximately 2 miles from the site).

3. Solid Waste

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews is disposed at the County's 55-acre Central Maui Landfill, located four miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

4. Health Care

Maui Memorial Hospital, the only major medical facility on the island, services the Wailuku-Kahului region. Acute, general and emergency care services are provided by the 145-bed facility. In addition, numerous privately operated medical/dental clinics and offices are located in the area to serve the region's residents.

5. Schools

The Wailuku-Kahului region is served by the State Department of Education's public school system as well as several privately operated schools accommodating elementary, intermediate and high school students. Department of Education facilities in the Kahului area include Lihikai and Kahului Schools (Grades K-6), Maui Waena Intermediate School (Grades 7-8) and Maui High School (Grades 9-12). The University of Hawaii's Maui Community College is located on Kaahumanu Avenue, approximately 1 mile away from the harbor. Kaahumanu Hou Schools of Maui (grades K-12), the First Assembly of God Church's private school, is located on Kane Street directly across from Foodland.

F. INFRASTRUCTURE

1. Roadways

The Wailuku-Kahului region is served by a roadway network which includes arterial, collector and local roads. Major roadways include Kaahumanu Avenue (the principal linkage between Wailuku and Kahului), Lower Main/Beach Road, Hana Highway, and Puunene Avenue.

Access to the inter-island cargo yard is provided via Wharf Street and Puunene Avenue. Both Wharf Street and Puunene Avenue are two-lane roadways which intersect Kaahumanu Avenue, a six-lane divided highway which connects to Hana Highway and the Wailuku area.

Concrete curbs, gutters, and sidewalks are provided along Wharf Street. Kaahumanu Avenue has a concrete curb and gutter with a landscaped strip, but a sidewalk is not provided. Puunene Avenue is an asphaltic concrete paved roadway without concrete curb or sidewalk.

Ala Luina Avenue is a two lane roadway which connects Hobron Avenue (Pier 1 area) and Wharf Street (Pier 2/3 area). Ala Luina Avenue and Hobron Avenue provide the two access and egress routes from the project site. The major roadway system serviced by these roadways is Kaahumanu Avenue.

2. Wastewater

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater Reclamation Facility located one-half mile east of Kahului Harbor. The design capacity of the facility is 7.9 million gallons per day (MGD). Average daily flow currently processed through the plant is approximately 5.3 MGD.

A 6" sewer line within a 10' wide easement is located below Second Street and runs from Wharf Street to Puunene Avenue, and connects to an 8" sewer line below Puunene Avenue. A 6" sewer line within a 10' wide easement also crosses the southeast corner lot of Lot 6-A adjacent to Kaahumanu Avenue.

The collector sewer line traverses along Kaahumanu Avenue and connects to an 18-inch line through the Maui Mall. Sewage from the 18-inch line enters the Kahului Sewer Pumping Station on Hana Highway. The pumping station transports sewage through a 20-inch force main to the Wailuku-Kahului Wastewater Reclamation Facility.

3. **Utilities and Drainage**: A utilities research study was undertaken by Cedric D.O. Chong Associates, Inc. The study included both mechanical and electrical utilities as follows:

Mechanical: Water Distribution System
Sanitary Sewer Facilities
Storm Drainage System
Underground Pipelines for Petroleum, Natural Gas, and Cement

Electrical: Primary Power Distribution
Secondary Power Distribution
Telephone
Outdoor Lighting

The investigation revealed no unusual conditions or systems beyond those which would ordinarily be found at a commercial port. The following will be considered when designing additional utility services.

There are no known plans for expansion, modification, or upgrade of any of the mechanical or electrical utility systems which serve the site. However, the County is performing a study of offsite drainage which currently flows through an open culvert on the site.

Water. The Wailuku-Kahului region is served by the Board of Water Supply's (BWS) domestic water system. Water drawn from the Iao Aquifer System is conveyed to this region for distribution and consumption. The Iao Aquifer, which serves the Central Maui region, has a sustainable yield of 20 MGD. Recent estimates place the average withdrawal from the aquifer at over 18 MGD (Council of the County of Maui, December 21, 1990).

Water service to the project site is provided via a 4-inch waterline that is connected to a 12-inch waterline located along Kaahumanu Avenue. A 2.0 million gallon reservoir located on Waiinu Road in Wailuku feeds the distribution system serving Kahului.

A 12" water main runs below Wharf Street and taps into a 12" water main below Kaahumanu Avenue. A 4" water line within a 15' wide easement runs from Wharf Street to Puunene Avenue, and connects to a 4" water line below Puunene Avenue. An 8" water line within a 15' wide water easement crosses the southeast corner of Lot 6-A adjacent to Kaahumanu Avenue.

A 4" water line runs through a northwestern section of the yard which services A&B offices in an adjacent lot.

Drainage. Storm runoff from the existing storage area site generally sheet flows toward Kaahumanu Avenue where it ponds and is intercepted by a grated inlet along Kaahumanu Avenue. It is then conveyed via a series of 18" to 60" drain lines to the ocean.

A 6' by 4' concrete box culvert and a 6' by 7' open concrete storm drainage channel runs in a south/north direction within a 15' wide easement from Kaahumanu Avenue to the ocean between Wharf Street and Puunene Avenue. The drainage channel drains portions of the Kahului business district and residential areas - approximately 510 acres. Another 15' storm drain easement is located on the north side of Lot 3 and runs from Wharf Street to the concrete drainage channel.

Electricity and Telephone. Electrical (Maui Electric Company) and telephone (Hawaiian Telephone Company) services are provided by overhead distribution lines along Kaahumanu Avenue, Wharf Street and Puunene Avenue.

Additional electrical power capacity is available from Maui Electric Company's Kahului Substation No. 8 and Kanaha Substation No. 2 with new feeders and transformers.

III. PROJECT IMPACT ASSESSMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Uses

The project site is located within the midst of Kahului's commercial center. The proposed project is intended to provide badly needed cargo handling and storage facilities. The project is viewed as a positive enhancement to Kahului Harbor and will provide it with additional capacity. The cumulative impact to existing land use of the proposed project is minimal and not anticipated to have any adverse impacts on surrounding land uses.

Impact to the existing land uses is minimal since:

The commercial irrigation pipe business operations of Lot 1 have been relocated to another site during 1997. The existing building will remain to facilitate harbor storage operations.

Current used car sales business will continue on Lot 3.

No business operates on Lot 5.

The Hawaiian Canoe Club and the Na Kai Ewalu Canoe Club were notified of the improvement plans. The clubs are in the process of relocating to another site and the move should be completed by October 31, 1997. The canoe clubs existing communal hale suffered severe fire damage.

Short-term construction related impacts are anticipated. These impacts will last no longer than the construction phase and can be mitigated by proper construction techniques, adherence to generally accepted construction practices and compliance with the Maui County Soil Erosion and Sedimentation Control, OSHA Standards, State Air, Noise and Water Quality Regulations.

2. Flora and Fauna

There are no known significant habitats of rare, endangered or threatened species of flora and fauna located on the project site, nor are there favorable conditions for such species. No significant cumulative impact on plant life is anticipated as a result of the proposed projects.

3. Air Quality

Air quality impacts attributed to the master planned projects will include dust generated by short-term, construction-related activities. Site work such as grading and utilities and construction of the shed, for example, will generate airborne particulates. Dust control measures such as regular watering and sprinkling will be implemented as needed to minimize wind-blown emissions. During the construction of the project, there will be an increase in noise, dust, and internal combustion engine emissions. Emissions from internal combustion engines will dissipate quickly in the open area. These increases of noise, dust, and internal combustion engine emissions will be minimal, intermittent and cease when construction is terminated.

Waterwagons and sprinklers will be used to control construction dust. The proposed project site will be kept moist after working hours and on weekends, if necessary. These requirements will be stated in the construction plans and specifications.

4. Noise

As with air quality, ambient noise conditions will be impacted by construction activities. Heavy construction equipment, such as bulldozers, front end loaders, and materials-carrying trucks and trailers, would be the dominant source of noise during the site construction period. However, once completed, it is anticipated that the project will not have an adverse impact upon existing noise characteristics.

Noise from construction equipment will be kept within the limits permitted by the State, County and OSHA regulations. Construction activities will be restricted to daylight hours. No work will be permitted at night except to complete work activities that would endanger the health and safety of the community if left undone.

Upon completion of the construction of this project, the existing uses of the area will remain unchanged. Therefore, long-term air and water quality will also remain unchanged.

Only short-term impacts associated with noise will be encountered as described earlier. The proposed use of the site will basically remain unchanged, so long-term impacts will be non-existent.

5. Visual Resources

A visual buffer zone will be created through landscaping and the County's proposed Bikeway project along the landside perimeters of the project areas.

6. Historic and Archaeological Resources

The results of the archaeological survey conducted by Aki Sinoto (March 1997) indicate that the potential for significant cultural remains is minimal in the project area. Therefore, further data recovery procedures appear not to be warranted prior to construction. However, due to the possibility of intact cultural deposits, isolated pockets of historic artifacts, and human skeletal remains in the remnant dune and possibly below the water table, archaeological monitoring is recommended during any construction related ground altering activities. The scope and duration of monitoring will be specified in a monitoring plan to be approved by the State Historic Preservation Division (SHPD) of the Department of Land & Natural Resources.

During the background check, the Maui Meat Company facility was found to be over 50 years old and eligible for consideration as a historic property. However, prior to the current inventory survey, documentation and evaluation were completed and the property was deemed no longer significant by the SHPD.

As the remainder of the area appears to have been already extensively impacted by the rail system, modification of the harbor and the extensive cultivation of sugar cane, no impacts to archaeological remains are expected.

Any utility placement will be designed to avoid the area of possible archaeological significance.

The recommendations of the State Historic Preservation Division will be followed. Prior to construction of the storage yard, data recovery work, if necessary, approved by the State Historic Preservation Division, will be completed.

The State Historic Preservation Officer and the County of Maui will be informed immediately should any archaeological features be discovered during grading. Grading operations will then cease until clearance from the State and County is received.

7. Soils

Soil erosion is anticipated to be minimal. An Erosion Control Plan will be prepared to ensure that construction related debris, including construction related soils erosion, is prevented from entering the drainage channel, wetland, and ocean.

The soils at the site are described as fill land by the United States Department of Agriculture. The existing topography of the site ponds excess runoff within the property along Kaahumanu Avenue and the existing ground is stabilized by its topping of A.C. pavement and gravel. The contractor will be required to keep the graded areas moist by means of waterwagons or temporary sprinkler systems and to have all exposed areas paved, grassed or landscaped immediately upon completion of finished grading. No adverse environmental impact is anticipated due to soil erosion.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Local Economy and Population

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

On a long-term basis, the Inter-Island Cargo Yard Facility will provide greater employment opportunities as more and more cargo is brought into and processed through Kahului Harbor. Job opportunities for shippers, container freight stations, cargo carriers, stevedores, other dockworkers, truckers and the businesses that receive and use the cargo will increase. As indicated by the Economic Impact Assessment of Hawaii's Harbors, (SMS 1997) every sector of the economy is affected by the efficiency of the State's commercial harbor system. Modernizing and improving Kahului Harbor's cargo yard will benefit the island's economy with greater efficiency, timely supply of essential items, and reasonable cost of goods.

The proposed project will enhance the delivery of goods (food, clothing, building materials, automobiles, fuel, etc.) upon which Maui's residents are so dependent. The State imports 80% of everything it uses. 96% of the imported goods come through the commercial harbor. The projects proposed in the master plan provide the necessary improvements that will enable Kahului Harbor to accommodate the growing level of commerce required by Maui's growing population.

While the project may not have a direct effect on the island's level of population, the project will support Maui's projected population growth.

2. Public Services

The proposed project is not anticipated to adversely affect public services such as police, fire protection or medical services in terms of service area. Solid Waste collection service for the proposed site will be provided by private collection companies.

C. INFRASTRUCTURE

1. Traffic

Harbor traffic is heaviest on barge days - Mondays, Wednesdays, Thursdays and Saturdays.

Moving the general cargo access to Puunene will help make it easier for truckers to cross Kaahumanu and turn into the far left lane.

No serious impacts to the surrounding roadway system are anticipated during the construction phase since the activity will be confined within the proposed project site. Minor traffic inconvenience may be experienced along Ala Luina Street. All applicable safety precautions will be adhered to for the safety of motorists and pedestrians.

2. Wastewater system

The proposed improvements will not generate effluent, thus completion of this project will not have an impact on sewage disposal in the area.

3. Water System

Other than for fire protection, the proposed project does not have the need for domestic water service. Thus, no impact is anticipated.

4. Drainage

The development of the project is not expected to increase the onsite runoff. The lot will slope away from the south embankment at about 2.0% toward the low area of detention created at the lot's center by the berms. The capacity of the detention basin would be greater than the expected total increase in runoff resulting from the project and future runoff would be prevented from following the driveway to Kaahumanu Avenue.

The proposed project is not anticipated to have any impact upon the existing hydrologic conditions and adjoining or downstream properties.

All graded areas will either be paved or permanently landscaped. Long-term grading impacts will be non-existent.

The completion of the projects will result in a negligible increase in runoff due to the fact that impervious area will increase only marginally. Proposed improvements to the existing drainage system in the area will be able to handle the additional runoff.

All graded areas will allow sheet flow off the site similar to the existing conditions. Since the area is flat, the crushed-rock finish will continue to allow drainage to occur. Runoff from the site is not expected to increase from the current conditions.

A silt fence and/or combination silt fence/construction barrier will be installed at the project limits to minimize debris or silt from leaving the project site and from entering the shoreline area and streets during construction. During the construction period, the contractor will be required to provide and maintain a silt fence and/or gravel berm to prevent construction related debris from leaving the construction site and entering the wetland areas. Thus, long-term drainage impacts will be non-existent.

IV. SPECIAL MANAGEMENT AREA EXEMPTION

Under HRS 266-2, the State Department of Transportation is not subject to the County of Maui's Special Management Area objectives, policies or guidelines.

V. FINDINGS AND CONCLUSIONS

The proposed project will provide the required expansion and improvement of Kahului Harbor's existing inter-island cargo yard.

The proposed project will involve earthwork and building construction activities. In the short-term, these activities may generate nuisances normally associated with construction activities. All construction activities are anticipated to be limited to normal daylight working hours. Impacts generated from construction activities are not considered adverse.

From a long-term perspective, the proposed project is not anticipated to result in adverse environmental impacts. The proposed project site is located primarily in Zone V23 and will be designed to meet the National Flood Insurance Program Requirements. The project will have "no effect" on significant historic sites.

Thc project will have a beneficial rather than adverse impact on employment opportunities. The project will not have an adverse impact upon local population levels. Public service needs such as police, medical facilities and schools will not be adversely impacted by the project. Impacts upon roadways, water, wastewater, drainage, and other infrastructure systems are not considered significant.

In light of the foregoing findings, it is concluded that the proposed action will not result in any significant impacts.

Environmental Assessment Checklist:

Involve an irrevocable commitment to loss or destruction of any natural or cultural resources, except for the labor and materials related to the construction of this project.

> In the coastal area of Maui's isthmus, the majority of prehistoric cultural remains appear to have been extensively impacted by the sugar industry's operations. Studies of the soil in this area indicate USDOA classification as fill land. Therefore, no loss or destruction of any natural or cultural resources is anticipated.

Conflict with the State's long-term environmental policies, goals, or guidelines.

> The proposed projects will be compatible with the surrounding uses of the area.

Substantially affects public health and safety.

> The proposed projects are not expected to cause any detrimental effect on the well-being of the public. There are minimal impacts to public safety as a result of this project. During the construction phase the contractor will be responsible for the safety of the public affected by his operations.

Substantially affect the economic or social welfare of the community or State.

> The proposed developments will provide short-term employment during the period of construction. Most or all of these short-term impacts will affect the contractors and material suppliers that will be involved in this project. The completion of the storage yard and temporary storage yard will likely enhance the island's economic and social welfare.

Involve a substantial degradation of environmental quality.

The proposed projects do not involve activities that will lower the existing quality of the environment in the area.

Substantially affect any rare, threatened or endangered species of flora or fauna or habitat.

No endangered species of flora or fauna are known to exist within the project site.

Detrimentally affect air or water quality or ambient noise levels.

There will be no long-term effects on air quality due to the proposed project. Short-term impacts on air and water quality, as well as noise, will occur during the construction period, but will be mitigated by normal construction practices which will be regulated and imposed within the plans and specifications.

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

The proposed projects do not have considerable effect upon the environment. Therefore an EIS is not being considered and a Finding of No Significant Impact (FONSI) is anticipated.

VI. REPRODUCTION OF COMMENTS ON THE DRAFT EA AND RESPONSES

All written comments received on the draft EA during the review period have been carefully reviewed and carefully considered.

The comment letter received is reprinted on the following page. Responses to these comments follow the letter. Sections which require revision are addressed in each response.

BENJAMIN J. CAYETANO
GOVERNOR

FILE COPY

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
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December 3, 1997

Mr. Glenn Soma
Department of Transportation
State of Hawai'i
79 South Nimitz Highway
Honolulu, Hawai'i 96813

Dear Mr. Soma:

We submit for your agency's response our comments on a draft environmental assessment (DEA) for the Kahului Interisland Cargo Facility, TMK: 03-07-08 and 03-07-10. The Office of Environmental Quality Control published notice of availability of this DEA in the November 8, 1997, edition of the *Environmental Notice.*

1. **WETLANDS.** Page 24 briefly mentions wetlands. Please include in the final environmental assessment a biological survey of plants and animals in the wetland area, a discussion of the wetland's relationship to the nearby Kanaha Pond waterfowl refuge, a description of the functional value of the wetland (i.e., flood control, etc.). In light of proposed activities in the masterplan please discuss impacts to the wetlands and possible mitigative measures.

2. **PHOTOGRAPHS AND MAPS.** Please include photographs of the harbor area, including the wetland area, in the final environmental assessment. Also please include a larger regional map showing the pier area in relation to Kanaha pond.

3. **ALIEN SPECIES INTRODUCTION.** Because interisland cargo international and national ports, please describe what precautions the Department will take to avoid the introduction of alien species.

Please include this letter and your response to it in the final environmental assessment for this project. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at 586-4185. Thank you for the opportunity to comment.

Sincerely,

GARY GILL
Director

Responses to OEQC comments dated December 3, 1997.

Response to Item 1: **WETLANDS.**

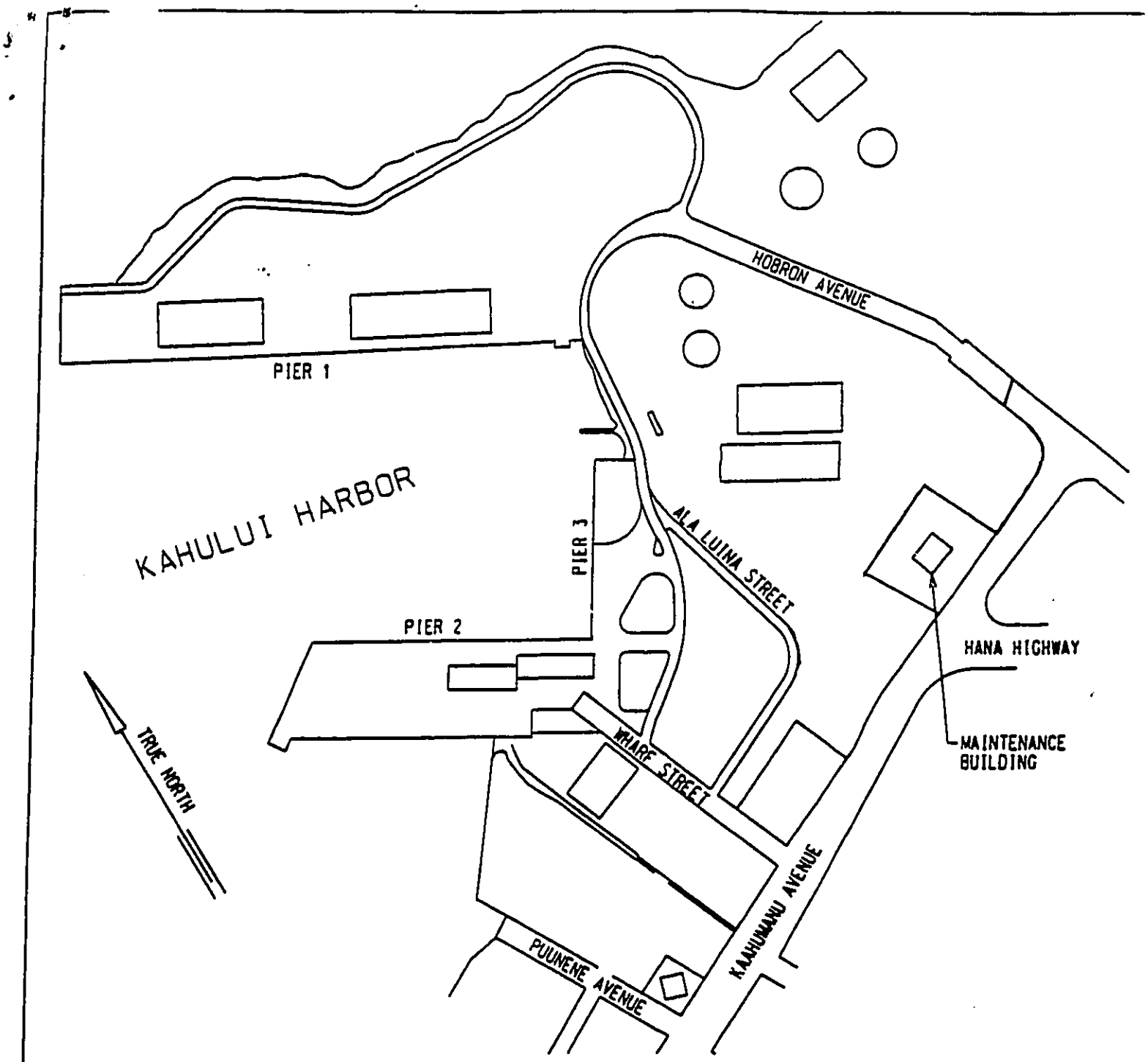
The text in section II. C. 4. has been revised to address OEQC's request for additional information.

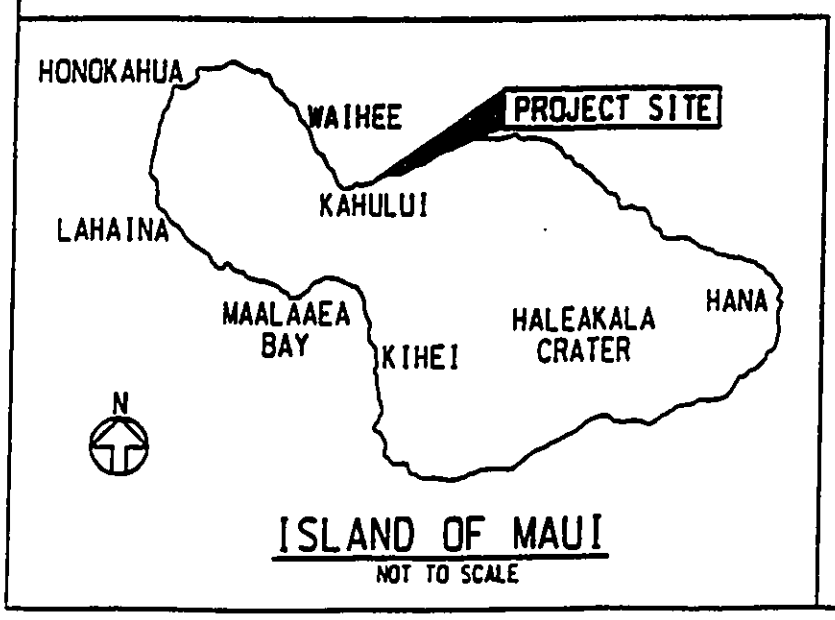
Response to Item 2: **PHOTOGRAPHS AND MAPS.**

The requested photographs are included as Figures 3, 4 and 5.

Response to Item 3: **ALIEN SPECIES INTRODUCTION.**

The United States Department of Agriculture monitors, inspects, quarantines and certifies cargo from foreign ports to stem the introduction of any alien species. The State Department of Agriculture monitors, inspects, quarantines and certifies cargo traveling both inter-state and intra-state for alien species. The Harbors Division, State Department of Transportation is participating in a task force to monitor and resolve the potential introduction of alien species through ships' ballast.





ISLAND OF MAUI
NOT TO SCALE

VICINITY MAP

NOT TO SCALE

FIGURE 1

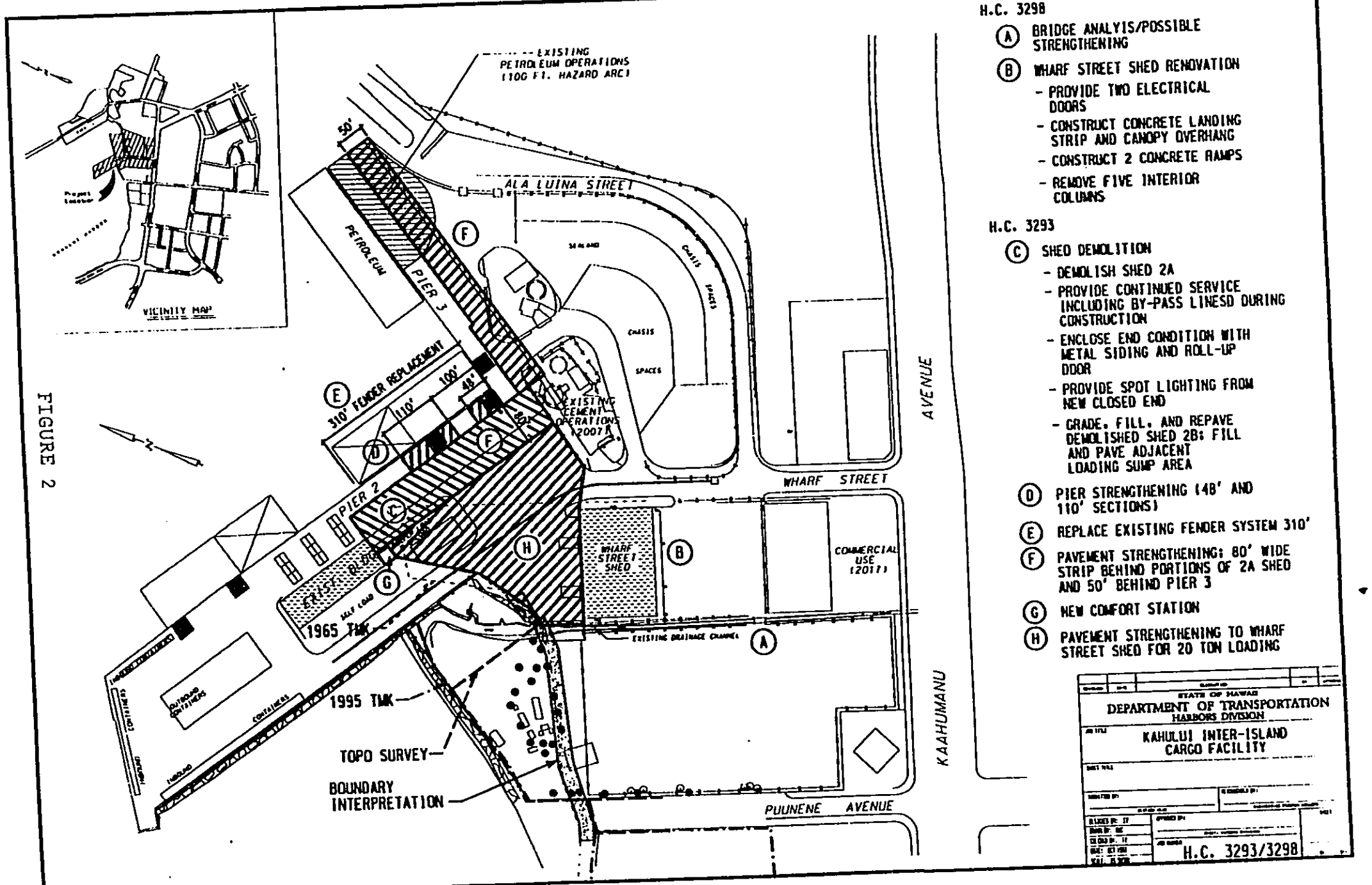


FIGURE 2

H.C. 3298

(A) BRIDGE ANALYIS/POSSIBLE STRENGTHENING

(B) WHARF STREET SHED RENOVATION
- PROVIDE TWO ELECTRICAL DOORS
- CONSTRUCT CONCRETE LANDING STRIP AND CANOPY OVERHANG
- CONSTRUCT 2 CONCRETE RAMPS
- REMOVE FIVE INTERIOR COLUMNS

H.C. 3293

(C) SHED DEMOLITION
- DEMOLISH SHED 2A
- PROVIDE CONTINUED SERVICE INCLUDING BY-PASS LINESD DURING CONSTRUCTION
- ENCLOSE END CONDITION WITH METAL SIDING AND ROLL-UP DOOR
- PROVIDE SPOT LIGHTING FROM NEW CLOSED END
- GRADE, FILL, AND REPAVE DEMOLISHED SHED 2B; FILL AND PAVE ADJACENT LOADING SUMP AREA

(D) PIER STRENGTHENING (48' AND 110' SECTIONS)

(E) REPLACE EXISTING FENDER SYSTEM 310'

(F) PAVEMENT STRENGTHENING; 80' WIDE STRIP BEHIND PORTIONS OF 2A SHED AND 50' BEHIND PIER 3

(G) NEW COMFORT STATION

(H) PAVEMENT STRENGTHENING TO WHARF STREET SHED FOR 20 TON LOADING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

KAHULUI INTER-ISLAND CARGO FACILITY

H.C. 3293/3298

	RM 36	11.54	1.5 inch pipe in concrete on approximate center of sand and rock mound on east side of Iao Stream.
	RM 37	72.50	At Puunene, 200 feet north of plantation office and 100 feet southeast of railroad station, in top of south railing of small concrete bridge over ditch, a copper nail painted 73.
STREET	RM 38	7.10	0.8 mile east of Kahului, about 100 feet east of junction of Kula Road and railroad, a copper nail in top of milepost 5, painted U.
ONA STREET	RM 39	25.65	1.5 mile east of Kahului, .25 mile east of power station, on south side of Haleakala Highway, a copper nail in top of milepost 5, painted U.
ALU STREET	RM 40	49.140	50 feet south of Spreckelsville Theatre, in northeast abutment of concrete bridge over railroad tracks, a bronze tablet stamped 50.

NE V23

[1] National Geodetic Vertical Datum of 1929

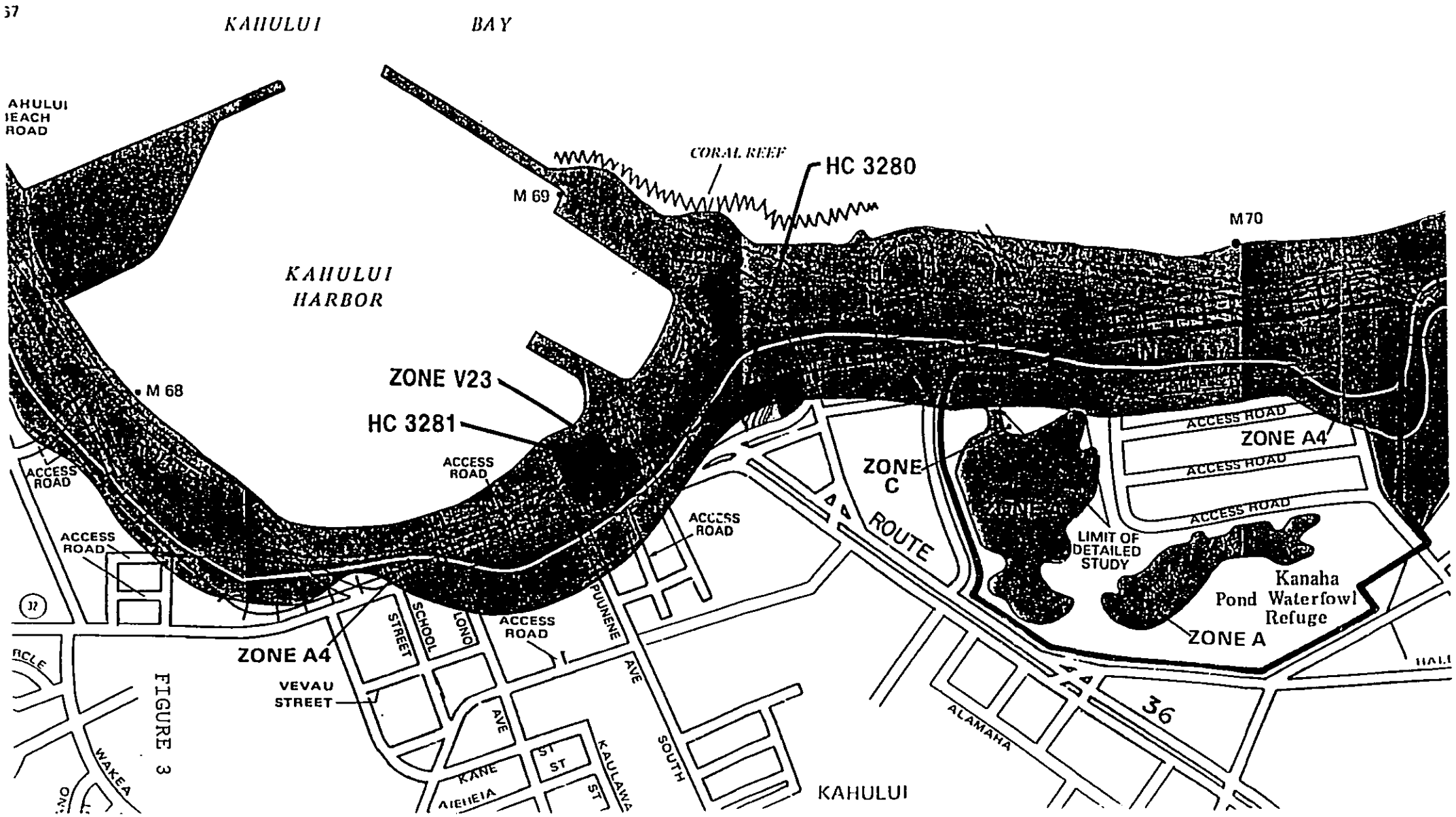


FIGURE 3

COUNTY OF MAUI DRAINAGE CHANNEL

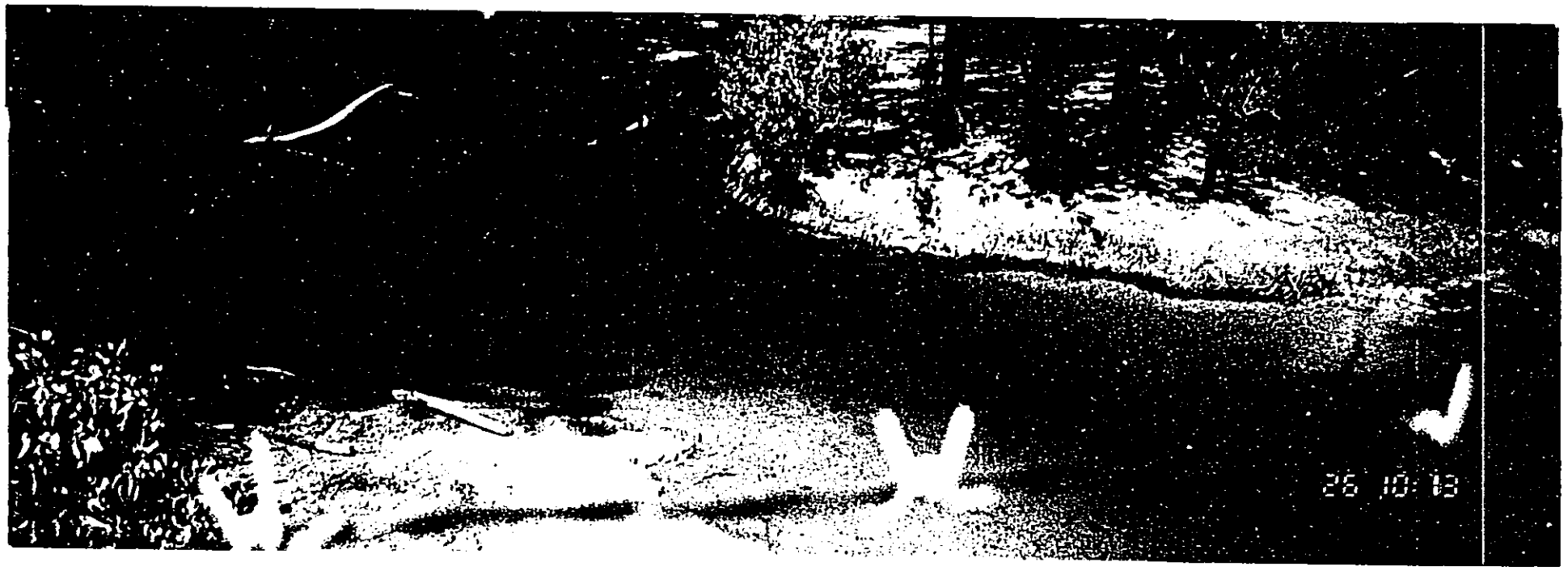


FIGURE 5

COUNTY OF MAUI DRAINAGE CHANNEL