

# HILO BAYFRONT TRAILS

MASTER PLAN



**HAWAI'I**  
TOURISM AUTHORITY

Prepared for  
County of Hawai'i,  
Department of Research and Development

Prepared by  
Helber Hastert & Fee, Planners

June 2009

# HILO BAYFRONT TRAILS

MASTER PLAN



**HAWAII**  
TOURISM AUTHORITY

Prepared for  
County of Hawai'i,  
Department of Research and Development

Prepared by  
Helber Hastert & Fee, Planners

June 2009

## ACKNOWLEDGMENTS

*This project was completed by Helber Hastert & Fee, Planners (HHF) under the provisions of Consultant Services Contract No. C.001244(B), as amended, and Consultant Services Contract No. C.001244(A), as amended, for Hilo Bayfront Trails Phase I: Planning Phase. The project was administered by Ms. Elizabeth Dykstra of the Hawai'i County Department of Research and Development. HHF is grateful to Ms. Dykstra for the leadership and support she provided for this project and her patience to ensure that the development of the plan presented herein received the widespread public review and input it deserved. HHF is also grateful to the Stakeholder Advisory Committee for attending the eight committee meetings and three community meetings held during the project and for providing such insightful and positive critique of work products and offering their own ideas about the trails plan. In particular, HHF would like to recognize the efforts of Mr. Glenn Mayeda, Hilo Agent for Wailoa Sampan Basin and Boat Harbor, Department of Land and Natural Resources, who passed away earlier this year. Glenn's contributions to this process added significantly to the product, and we know he will be missed by friends and family. Finally, HHF is grateful to Hilo residents for their keen interest in what happens within their beautiful community and their willingness to participate in the creation of this plan that provides opportunities for them and for visitors to Hilo. Mahalo.*

# TABLE OF CONTENTS

- 1. PROJECT OVERVIEW ..... 1-1**
  - Goals ..... 1-1
  - Funding ..... 1-1
  - Stakeholder Advisory Committee ..... 1-2
  - Project Area..... 1-2
  - Project Phases ..... 1-2
  - Planning Criteria ..... 1-3
  - Planning Team ..... 1-3
  
- 2. PLANNING PROCESS ..... 2-1**
  - Data Gathering ..... 2-1
  - Public Meeting 1 ..... 2-2
  - Draft Conceptual Trails Plan ..... 2-4
  - Public Meeting 2 ..... 2-5
  - Draft Schematic Trails Plan ..... 2-7
  - Public Meeting 3 ..... 2-7
  - Master Plan ..... 2-8
  
- 3. HISTORY & EXISTING CONDITIONS ..... 3-1**
  - Project Area History..... 3-1
  - Project Area Today ..... 3-3
    - Economy ..... 3-3
    - Government ..... 3-3
    - Transportation ..... 3-3
    - Education ..... 3-4
    - Visitor Accommodations ..... 3-4
    - Parks and Recreation Areas ..... 3-5
    - Sports and Recreation Activities ..... 3-5
    - Public and Cultural Events ..... 3-7
    - Historic Structures and Education Venues ..... 3-8
    - Vegetation..... 3-8
    - Waterways ..... 3-12
    - Trail-Related Amenities ..... 3-12
    - Sports and Recreation Activities ..... 3-5
  - Existing Conditions and the Master Plan..... 3-13
  
- 4. THE PLAN ..... 4-1**
  - Master Plan Overview ..... 4-1
  - Trail Alignments ..... 4-2
  - Trail Amenities ..... 4-4
  - Area-Specific Descriptions of the Master Plan..... 4-7

Future Trail Destinations ..... 4-17

Conclusion ..... 4-18

**5. PLAN IMPLEMENTATION ..... 5-1**

    Planning Phase Implementation..... 5-1

    Phasing and Cost of Trail Actions ..... 5-5

    Design Phase Implementation..... 5-10

    Construction Phase Implementation ..... 5-11

    Implementation Ideas ..... 5-11

**6. DESIGN GUIDELINES..... 6-1**

    Trail Alignments ..... 6-1

    Trail Amenities ..... 6-7

    Area-Specific Design Guidelines..... 6-11

**7. APPENDICES..... 7-1**

    A. List of Stakeholder Advisory Committee Members

    B. Tasks and Schedule (by Phase) for Completion of Hilo Bayfront Trails

    C. Schedule of Meetings for Hilo Bayfront Trails Planning

    D. *Hilo Bayfront Trails: Historical Uses Within the General Project Area*, by Robert B. Rechtman

    E. Compilation and Analysis of User Survey Responses

    F. Trail Actions by Area and TMK/Right-of-Way

    G. Order-of-Magnitude Cost Estimate for Design and Construction of Trail Actions

    H. Grant of Easement Number S-4533 at Waiākea Villas

    I. Ordinance No. 04-97 for District Reclassification of Property TMK 2-1-7:9

**8. REFERENCES ..... 8-1**

**Back Pocket: Folded Hilo Bayfront Trails Master Plan at 1" = 300'**

**LIST OF FIGURES**

1.1 Wa’a Kauhi (Maui’s Canoe) and the Wailuku River..... 1-1

1.2 Aerial image of the project area..... 1-2

2.1 Bandstand at Mo’oheau Park..... 2-1

2.2 Project area plan showing parcel ownership, rights-of-way, and major features ..... 2-2

2.3 Group discussion and group presentation at Public Meeting 1..... 2-3

2.4 Public Meeting 1 group plan ..... 2-3

2.5 List of important points composed by community members at Public Meeting 1 ..... 2-4

2.6 Draft Conceptual Trails Plan presented at Public Meeting 2..... 2-5

2.7	Group discussion and group presentation at Public Meeting 2.....	2-6
2.8	Public Meeting 2 group comments and recommendations for rain shelters / pavilions.....	2-6
2.9	Community votes for trailhead signage and trail marking concepts.....	2-7
2.10	Draft Schematic Trails Plan presented at Public Meeting 3.....	3-1
3.1	Wailoa River State Recreation Area.....	3-1
3.2	1891 Hilo Town and Vicinity map.....	foldout
3.3	Pier 1 at Hilo Harbor.....	3-3
3.4	Mo‘oheau Bus Terminal, the hub of mass transit in Hilo.....	3-3
3.5	Visitor accommodations along Banyan Drive.....	3-4
3.6	Existing / planned public amenities.....	foldout
3.7	Picnic pavilion and rest room facility on Mokuola.....	3-4
3.8	View of Hilo Bay from Kaipalaoa Landing.....	3-5
3.9	Wailoa Sampan Basin and Boat Harbor.....	3-5
3.10	Mullet fishermen at Waiākea Pond.....	3-6
3.11	Soccer at Waiolama Canal Area.....	3-6
3.12	Driving range at Naniloa Golf Course.....	3-7
3.13	Historic Structures and Cultural and Education Venues.....	foldout
3.14	Banyan tree planted by actor Leo Carrillo in October 1933.....	3-11
3.15	Hydroelectric plant along Wailuku River.....	3-11
3.16	Existing interpretive signage in the project area.....	3-12
4.1	Hilo Bay from Mokuola.....	4-1
<b>4.2</b>	<b>Hilo Bayfront Trails Master Plan.....</b>	<b>foldout</b>
4.3	Community’s preferred trailhead concepts.....	4-4
4.4	Community’s preferred interpretive signage concept.....	4-4
4.5	Community’s preferred trail marking concept.....	4-5
4.6	Project area <i>ahupua‘a</i> / <i>‘ili</i> .....	foldout
4.7	Plaque concept for <i>ahupua‘a</i> / <i>‘ili</i> boundaries.....	4-5
4.8	Photographic depiction of interpretive signage in Downtown Hilo.....	4-7
4.9	Master Plan main pedestrian loop in Downtown Hilo.....	4-8
4.10	Shared use path near bandstand at Mo‘oheau Park.....	4-9
4.11	Shared use path along makai edge of Mo‘oheau Park.....	4-9
4.12	Shared use path loop <i>mauka</i> of Waiolama Canal.....	4-10
4.13	Shared use path bridge over Waiolama Canal.....	4-10
4.14	Shared use path alignment at the Pi‘opi‘o Street bridge.....	4-11
4.15	Aerial of Wailoa River State Recreation Area showing Master Plan alignments and amenities.....	4-12
4.16	Shared use path on <i>makai</i> side of the Wailoa Bridge.....	4-13
4.17	Section elevation of Banyan Drive.....	4-14
4.18	Photographic depiction of trail marking on Mokuola existing pedestrian walkway.....	4-14
4.19	“Before” and “after” Hilo Bayfront Trails improvements on Kalaniana‘ole Street.....	4-15
4.20	Plan showing context of shared use path within former.....	4-15
4.21	View from shoreline at Kūhiō Kalaniana‘ole Park toward trail bridge location within railroad right-of-way.....	4-16
4.22	Sketch showing where the shared use path might pass through Kūhiō Kalaniana‘ole Park.....	4-16
4.23	Sketch showing the shared use path on the former railroad embankment.....	4-16
4.24	On Kūhiō Street, the Master Plan includes trail markings on existing paving, a bicycle route, interpretive signage, and supplementary planting....	4-17
4.25	Short-term pedestrian alignment for connecting the passenger terminal shed at Pier 1 with the main gate at Kūhiō Street.....	4-17
4.26	Long-term trail alignments on Huipū Street connect the Kalaniana‘ole Street trail segments with Hilo Harbor and the shared use path aligned within the former railroad right-of-way.....	4-18

5.1	Kūhiō Kalanianaʻole Park .....	5-1
5.2	County zoning, SMA, tsunami evacuation area in the project area .....	foldout
5.3	Project Area Flood Hazard Areas .....	foldout
5.4	State land use designations in the project area .....	foldout
5.5	Rights-of-way ownership .....	5-4
5.6	Property Identification for Trail Actions .....	foldout
5.7	Portion of Exhibit B in the Grant of Easement No. S-4553 (Waiākea Villas) .....	5-8
5.8	Existing improvements fronting TMK 2-1-7:9 on Kalanianaʻole Street .....	5-9
6.1	Former railroad right-of-way embankment .....	6-1
6.2	Section elevation for shared use paths.....	6-2
6.3	Structural section for shared use paths .....	6-3
6.4	Design guidelines for <i>ahupuaʻa</i> / <i>ʻili</i> plaques.....	6-4
6.5	Existing zigzag striping at Kamehameha Avenue and Mamo Street.....	6-5
6.6	Arched bridges in Wailoa River State Recreation Area as design inspiration..	6-6
6.7	Trailhead signage concept .....	6-7
6.8	Existing identification signs in the project area .....	6-7
6.9	Interpretive signage concept.....	6-8
6.10	Interpretive panel on Mokuola installed by the Pacific Tsunami Museum.....	6-8
6.11	Trail logo medallion .....	6-9
6.12	Existing bicycle-shaped bicycle rack in Downtown Hilo.....	6-9
6.13	Ring-style bicycle racks at Moʻoheau Park .....	6-10
6.14	Existing benches in the project area .....	6-10
6.15	Existing water fountain in the project area .....	6-11
6.16	Potential bicycle rack location behind Moʻoheau Park .....	6-11
6.17	Recommended parking lot adjustments at Moʻoheau Park .....	6-12
6.18	Alignment of Moʻoheau Park shared use path in relation to existing parking lots .....	6-12
6.19	Concept for shared use path along Kamehameha Avenue at Waiolama Canal Area.....	6-13
6.20	Existing and proposed conditions for the shared use path on Wailoa Bridge.	6-14
6.21	Plans showing existing and proposed conditions for the shared use path on Wailoa Bridge.....	6-15
6.22	Drainage area at corner of Kamehameha Avenue and Lihikai Street.....	6-16
6.23	Four existing conditions of Banyan Drive right-of-way.....	6-16
6.24	Location of the four conditions the Banyan Drive right-of-way .....	6-17
6.25	Trail improvements to pedestrian infrastructure at Banyan Drive-Banyan Way intersection.....	6-18
6.26	Concept for cantilever boardwalk and viewing deck at Kanakea Pond.....	6-18
6.27	Existing and proposed conditions within the Kalanianaʻole Street right-of-way.....	6-19
6.28	Shared use path aligned on former railroad embankment.....	6-20

## LIST OF TABLES

3.1	Historic structures and cultural and educational venues in the project area .....	3-8
3.2	Exceptional trees in the project area .....	3-11
4.1	Types and definitions / descriptions of trail alignments .....	4-3
4.2	Interpretive sites of the Hilo Bayfront Trails Master Plan.....	4-6
5.1	Summary of the order-of-magnitude cost estimate for design and construction of trail actions, by area.....	5-6
5.2	Potential maintenance schedule for bicycle facilities .....	5-13



# 1. PROJECT OVERVIEW

*“Celebrate Hilo history and cultural and natural resources.”\**

Hilo Bayfront Trails is a County of Hawai‘i three-phase project to plan, design, and construct a path system from the Wailuku River at Reed’s Island to Hilo Harbor’s cruise ship terminal so that residents and visitors can better enjoy the beautiful shoreline features along Hilo Bay by walking, biking, or using other non-vehicular modes of travel. The project was conceived as a system of paths to connect existing recreational sites along the Hilo Bayfront area, both *mauka* and *makai* of Kamehameha Avenue.



*Figure 1.1: Sharing legends about Wa‘a Kauhi (Maui’s Canoe) and other culturally significant bayfront sites is a mission of the interpretive component of the Hilo Bayfront Trails project.*

## Goals

The need for a comprehensive trails plan was identified and supported by extensive stakeholder outreach. The Hilo community determined the following overarching goals:

- Enhance the area’s natural beauty
- Increase access for residents and visitors
- Highlight the site’s cultural significance
- Protect the fragile coastline and waterways surrounding the Hilo bayfront

## Funding

The Department of Research and Development sought funds to support the realization of a system of bayfront trails. In June 2006, the County of Hawai‘i was awarded a grant from the Hawai‘i Tourism Authority (HTA) Natural Resources Program to partially fund the project. The goals of the trails project are well aligned with the goals of the HTA’s Natural Resources Program, which are to:

- Improve value-added amenities at natural resource sites.
- Explore innovative means to repair, maintain, and improve Hawaii’s natural resources.
- Raise awareness of all stakeholders about the responsible use of natural resources.
- Increase collaboration among government agencies, the visitor industry, and the community.

HTA funds were supplemented by funds from the Hawai‘i County Council and the Department of Research & Development county tourism budget for the first part of the planning process.

Funding has been secured for the next portion of the planning process, which is the preparation of the Environmental Assessment (EA) and the Special Management Area (SMA) Use Permit. This work will begin in mid-2009 and will require approximately one year to complete.

*\*Each chapter opening page includes a user survey response that communicates a common desire for the Hilo Bayfront Trails project. The captions for bayfront images at the beginning of each chapter describe how the trails project will achieve these goals.*

## Stakeholder Advisory Committee

With initial funding in place, an informal advisory committee was selected by the Department of Research and Development to lay the foundation for the entire project. Members of the committee represented county, state, and federal agencies as well as key community groups and organizations (see Appendix A for the list of members).

In coordination with the Department of Research & Development, the committee mapped the extent of the project area; determined the project phasing and schedule; defined the planning criteria; and selected the planning consultant.

## Project Area

The project area is shown in Figure 1.2. Stretching nearly three miles from Reed's Island at the Wailuku River to the piers of Hilo Harbor, the area comprises over 700 acres in close proximity to the Hilo Bay. Most of the area is publicly owned open space under the jurisdiction of either the County of Hawai'i's Department of Parks and Recreation or the State of Hawai'i, Department of Land and Natural Resources, State Parks Division.

## Project Phases

The Hilo Bayfront Trails Project is divided into three phases: planning, design, and construction. The culmination of the first portion of the planning phase is the Master Plan, which is presented in this report.



Figure 1.2: Aerial image of project area for Hilo Bayfront Trails.

This plan will be used to support the entitlement portion of the planning phase, which will include an Environmental Assessment (EA), a Special Management Area (SMA) use permit application, and a Conservation District Use Application (CDUA). Trail design will also be guided by this master plan. The Hawai‘i County Resource Center—within the Department of Research & Development—is managing the planning phase in close collaboration with the County of Hawai‘i Departments of Parks & Recreation, Public Works, and Planning. The design and construction phases will be overseen by other County of Hawai‘i departments. Appendix B outlines the tasks and schedule for each phase of the project.

## Planning Criteria

The Stakeholder Advisory Committee, in collaboration with the County of Hawai‘i, established the following planning criteria for the project:

- Develop the plan through active solicitation of and input from government agencies, the Stakeholder Advisory Committee, and the general public via three public meetings.
- Connect significant landmarks and destinations.
- Provide an aesthetic experience.
- Where practical, provide safety from vehicles, natural hazards, and crime.
- Minimize impacts to the environment, landowners, and businesses.
- Foster business opportunities.
- Keep the plan cost-effective.

## Planning Team

The planning team comprised Helber Hastert & Fee, Planners; Rechtman Consulting, LLC; Hilo Engineering, Inc.; and Alice Moon & Company. Helber Hastert & Fee led the team and is the primary author of the Master Plan. Rechtman Consulting, LLC, which specializes in archaeological, cultural, and historic studies, applied their broad knowledge of and experience in the Hilo area to recommend the natural and cultural resources that should be recognized by and protected in the plan. Hilo Engineering, Inc., provided civil engineering expertise for alignment selections and design alternatives and assisted with a preliminary cost estimate for design and construction. The Hilo public relations company Alice Moon & Company handled the logistics for the three public meetings, including identifying stakeholder groups and individuals to bring into the process; maintaining a contact list of community participants; notifying participants of upcoming meetings; and arranging for a public notice to publicize each public meeting.



## 2. PLANNING PROCESS

*“Consider other activities presently in the area.”*

Development of the Master Plan for Hilo Bayfront Trails occurred in several stages over a period of twenty-four months, beginning with site visits and culminating in this Master Plan document.

Public meetings and regular consultation with the Stakeholder Advisory Committee was an integral part of the master planning process (see Appendix C for the schedule of meetings). Committee members assisted in the compilation of all Hilo bayfront planning efforts, past and current; served as community resources to the planner; and kept their respective stakeholder constituents informed about progress of the project. The planner and Stakeholder Advisory Committee met together six times over the course of the master planning process.

Three public meetings were held in the project area at Auntie Sally Kaleohano’s Lū’au Hale (Ho’olulu Complex) to seek ideas, suggestions, and comments for the trails project as it evolved from a “blank slate” to a Draft Schematic Trails Plan. After each meeting, public input was assessed from a written compilation of all community comments from the meeting. A list of recommendations for the trails was generated from an assessment of these comments, and the recommendations were then reviewed and discussed with the Stakeholder Advisory Committee. Recommendations approved by the committee on behalf of the County of Hawai‘i were incorporated into the next iteration of the trails plan. A public meeting record formally documents the proceedings of each public meeting, and these records have been made available on the Hawai‘i County Resource Center website (<http://www.hcrc.info/community-planning/hilo/bayfront-trails/>).

The following is a summary of the planning process.

### Data Gathering

Planning began with gathering data pertinent to the project area. Initially, the planning team observed the bayfront on foot and by bicycle to become familiar with existing conditions: natural features, views, activities, buildings, and existing infrastructure (especially the circulation systems for vehicles and pedestrians).

The planning team also researched historical uses of the project area. Rechtman Consulting produced the document *Hilo Bayfront Trails: Historical Uses Within the General Project Area*, which discusses legendary, precontact and early postcontact, and nineteenth- and early twentieth-century habitation and uses of the project area (see Appendix D).



*Figure 2.1: The shared use path in Mo‘oheau Park will provide an alternate means for people to reach events held at the bandstand and other Downtown Hilo venues.*



Figure 2.2: This project area plan showing parcel ownership, rights-of-way, and major features was used by community members at Public Meeting 1 to map their trail alignment preferences.

To gain an understanding of the uses, needs, and desires of current, regular users of the project area, a user survey was distributed at the first public meeting. The survey was also available on the Hawai'i County Resource Center website (see Appendix E for the compilation and analysis of survey responses).

Construction documents for existing infrastructure and videologs for streets in the bayfront were reviewed extensively during the data gathering and planning processes. Pertinent planning documents and applicable codes, rules, and regulations, including the applicable requirements of Hawaii Revised Statutes Section 103-50 and the Americans with Disabilities Act, were also reviewed.

*Bike Plan Hawaii 2003*, the State of Hawai'i master plan for integrating bicycling into the state's transportation system, was a valuable reference for determining the status and needs of bicycle facilities in the project area.

In the process of synthesizing information about the project area, the planning team developed a list of opportunities and constraints to present at the first public meeting.

## Public Meeting 1

Eighty-nine community members attended Public Meeting 1 on October 9, 2007, and were formally introduced to the Hilo Bayfront Trails project. Following an illustrative slide presentation of the project



Figure 2.3: Group discussion (left) and group presentation of trail alignments and lists of important points (right) at Public Meeting 1.



Figure 2.4: This Public Meeting 1 group plan shows potential multimodal paths in red and pedestrian sidewalks in blue. Black squares signify potential structures (interpretive, rain, comfort station, or viewing). Significant sites in the project area are circled in pencil.

area's opportunities and constraints for trail alignments, five groups of meeting attendees—each with their own facilitator—mapped their preferred trail alignments with special symbols on a parcel plan of the project area and listed important points of their group discussion on easel pads (see Figures 2.2 through 2.5). All the groups then presented their plans and lists of important points to meeting attendees.

## Draft Conceptual Plan

Community suggestions and ideas from Public Meeting 1 and from project user survey responses were considered in relation to the following alignment criteria established by the Stakeholder Advisory Committee:

- Property ownership.
- Future expansion or connection to destinations outside the specific project scope, (such as the University of Hawai'i at Hilo campus).
- Connectivity to significant landmarks, sites, and destinations.
- Provision and location of supporting trail components and amenities such as trailheads, parking, comfort stations, covered rest areas, and other similar complementary features.
- Relationships with adjoining and nearby residential, commercial, and industrial uses.
- Creation of an aesthetic experience that incorporates the natural beauty and scenery of the Hilo waterfront and the built environment of downtown Hilo.
- Safe separation and integration (where necessary) of vehicular, bicycle, and ambulatory modes of travel.
- Impacts to the environment, landowners, and businesses.
- Needs and desires of *kama'aina* and *malihini* alike.
- Nature of alignments in relation to the character and vernacular of Hilo.
- Adherence to applicable laws, rules, and regulations.
- Ease and cost of maintenance as well as long-term repairs and replacement issues.
- Cost-effectiveness of construction.
- Compatible relationship with the Department of Parks and Recreation's Hilo Bayfront Beach Park Master Plan, the potential for realignment of the Bayfront Highway, and the viable concepts and interpretations of all past County and State planning documents addressing the Hilo Downtown area, City of Hilo, and the Keaukaha shoreline as provided by the Department of Research and Development.



Figure 2.5: A list of important points composed by community members and presented at Public Meeting 1.

With guidance from the Stakeholder Advisory Committee—at meetings on December 13, 2007, and February 22, 2008—the Draft Conceptual Trails Plan was ready for presentation at Public Meeting 2.

## Public Meeting 2

Seventy-four community members attended Public Meeting 2 on April 16, 2008. The agenda included:

- Recap of Public Meeting 1
- Assessment of responses to the user survey
- Presentation of the Draft Conceptual Trails Plan alignments and potential interpretive sites and themes (Figure 2.6)
- Small group activity (Figure 2.7)
- Small group presentations (Figure 2.7)
- Large group question-and-answer session and discussion of the next steps of the planning process

For the small group activity, five groups of community members adjusted / refined the trail alignments shown on the Draft Conceptual Trails Plan and provided input on locations of major trail amenities: (1) public rest rooms; (2) rain shelters / pavilions; and (3) “additional trail features,” including parking, trailheads and staging areas, supplemental lighting, and interpretive sites (Figure 2.8).

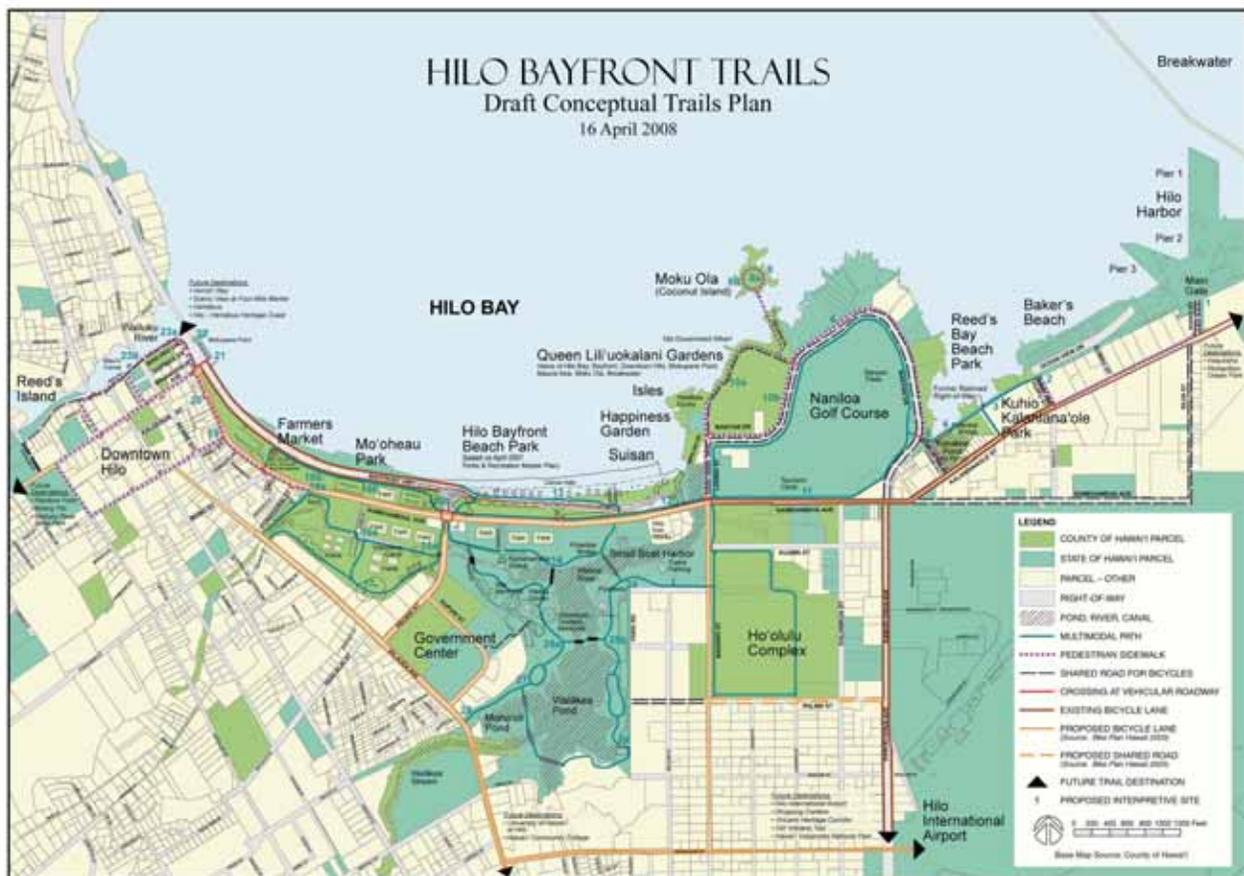


Figure 2.6: Draft Conceptual Trails Plan presented at Public Meeting 2, with trail alignments based on public input from Public Meeting 1 and user survey responses.



Figure 2.7: Group discussion (left) and presentation by a group representative (right) during Public Meeting 2.



Figure 2.8: Public Meeting 2 group comments on and recommendations for rain shelters / pavilions in the project area.

## Draft Schematic Trails Plan

For the next iteration of the trails plan—the Draft Schematic Trails Plan—the community’s preferred trail alignments and trail features, as communicated at Public Meetings 1 and 2, were tested in relation to the project planning criteria developed by the Stakeholder Advisory Committee (see page 2-4). Utilizing construction documents for existing conditions, trail alignments and locations of trail amenities were analyzed in more detail and renderings were produced to illustrate planning concepts. In preparation for Public Meeting 3, a list of all tasks required to implement the Hilo Bayfront Trails was compiled, and an order-of-magnitude cost estimate for the design and construction of all elements identified in the Draft Schematic Trails Plan was prepared.

The plan, renderings, tasks, and cost estimate were presented at Public Meeting 3.

## Public Meeting 3

The third of three public meetings was held on December 10, 2008, with 60 community members in attendance. The Draft Schematic Trails Plan and eleven additional display panels illustrating trail alignments and features by area were exhibited for review and described during the meeting. Each community member was then asked to complete a feedback form with four tasks:

1. Comment on the content of the Draft Schematic Trails Plan and the display panels highlighting various parts of the plan, providing at least one comment per display panel. This task included voting on options for trailhead signage, interpretive signage, and trail marking concepts.
2. List phasing preferences for trail implementation
3. Evaluate the trail planning process
4. Document how you would like to contribute your energies to the trails project

Responses on feedback forms, verbal comments during the large group question-and-answer session, and votes cast for trail signage and marking concepts (Figure 2.9) were the basis for developing the master plan.

Public Meeting 3 concluded the community outreach portion of the planning process, but incorporation of public input into the Hilo Bayfront Trails project continued in the development of the Master Plan.

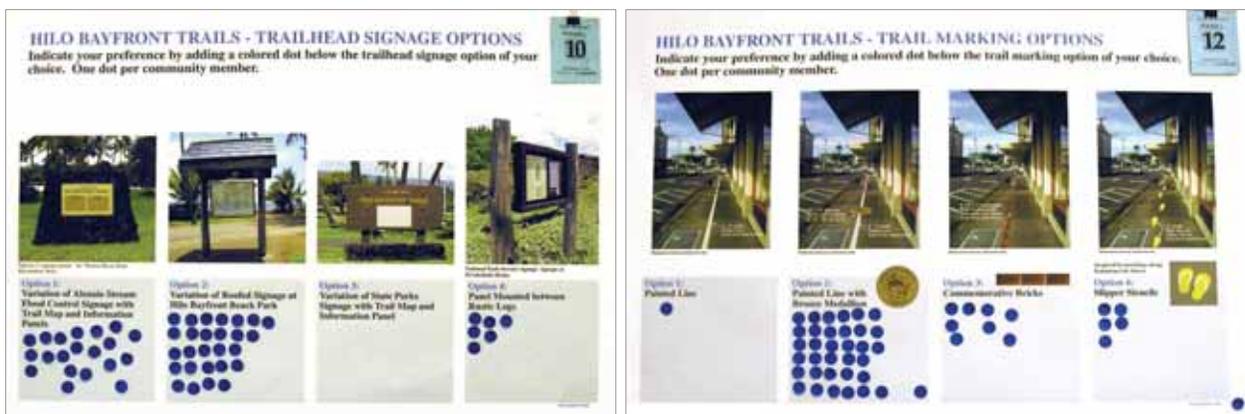


Figure 2.9: Community votes for trailhead signage and trail marking concepts.



Figure 2.10: The Draft Schematic Trails Plan presented at Public Meeting 3.

## Master Plan

Community comments from Public Meeting 3 were compiled and assessed, and a list of recommendations was prepared for consideration by the Stakeholder Advisory Committee on behalf of the County of Hawai'i. Following the last meeting of the planning team and the committee on January 9, 2009, the planner set to work on preparing the Draft Hilo Bayfront Trails Master Plan and the draft version of this document, which was revised based on comments from the Stakeholder Advisory Committee.

Here in final form is the Hilo Bayfront Trails Master Plan, the foundation of which is the dedication, perceptiveness, and creativity of Hilo community members who participated in the community outreach process, many of whom attended all three public meetings. Down every path of the Master Plan is an idea, a suggestion, a comment, or a story of someone who loves the Hilo bayfront.

### 3. HISTORY & EXISTING CONDITIONS

*“Establish interesting loops.”*

The 700 acres of the Hilo Bayfront Trails project area include the scenic Hilo Bay coastline; views of the bay breakwater and ocean beyond; rivers and streams; fishponds and canals; passive parks and recreational areas; historic Downtown Hilo; and spectacular views of Mauna Kea and Mauna Loa.

The project area also comprises elements not visible to the eye. Six *ahupua‘a*—historic Hawaiian land divisions—stretch from the mountain ridges to the ocean. The *‘ili* (a smaller historic land division) of Pi‘opi‘o—now part of Wailoa River State Recreation Area—was where the future King Kamehameha the Great lived while preparing a fleet of canoes to conquer the other Hawaiian islands. The names of streets and neighborhoods hint at the significant cultural and contextual meanings of the bayfront. Legends indicate that Hilo was renowned for its rain and fertility and that its inhabitants were expert in *hula*, fighting, and traditional competitions, including riddle solving.



*Figure 3.1: The Master Plan includes a shared use circuit around Waiākea Pond and in the Waiolama Canal Area. A pedestrian loop in Downtown Hilo passes by historical building and artifacts.*

The wealth of natural and cultural resources in the project area is the focus of, not the backdrop for, the Hilo Bayfront Trails Master Plan.

#### Project Area History

##### **Precontact and Early Postcontact Period**

Hilo was one of the earliest Polynesian settlement areas, possibly going as far back as 1,500 years ago. The shoreline areas near the Wailoa River, Alenaio Stream and the Waiolama wetlands, and the Wailuku River would have provided locations suitable for establishing village settlements. Eventually, these natural waterways and wetlands were modified as fishponds and planting areas. The Waiolama marsh was used for a unique type of cultivation (*kīpi*) whereby taro was grown in floating organic rafts.

By the 1500s, Hilo was the center of power for early chiefs battling for control. Success in battle was linked to religious observance and resulted in religious prosperity, indicated by the existence of at least six *heiau* in the Hilo Bay area.

Mokuola (Coconut Island) was known as both a healing center, with its curative spring water, and a *pu‘uhonua* (place of refuge) for *kapu* breakers.

The *‘ili* of Pi‘opi‘o became a royal precinct, and fish grown in ponds constructed in this area were off-limits to all but *ali‘i*. When Captain George Vancouver arrived in Hilo Bay in 1794, Kamehameha was living at Pi‘opi‘o and preparing his fleet of canoes for his conquest of the other Hawaiian islands.

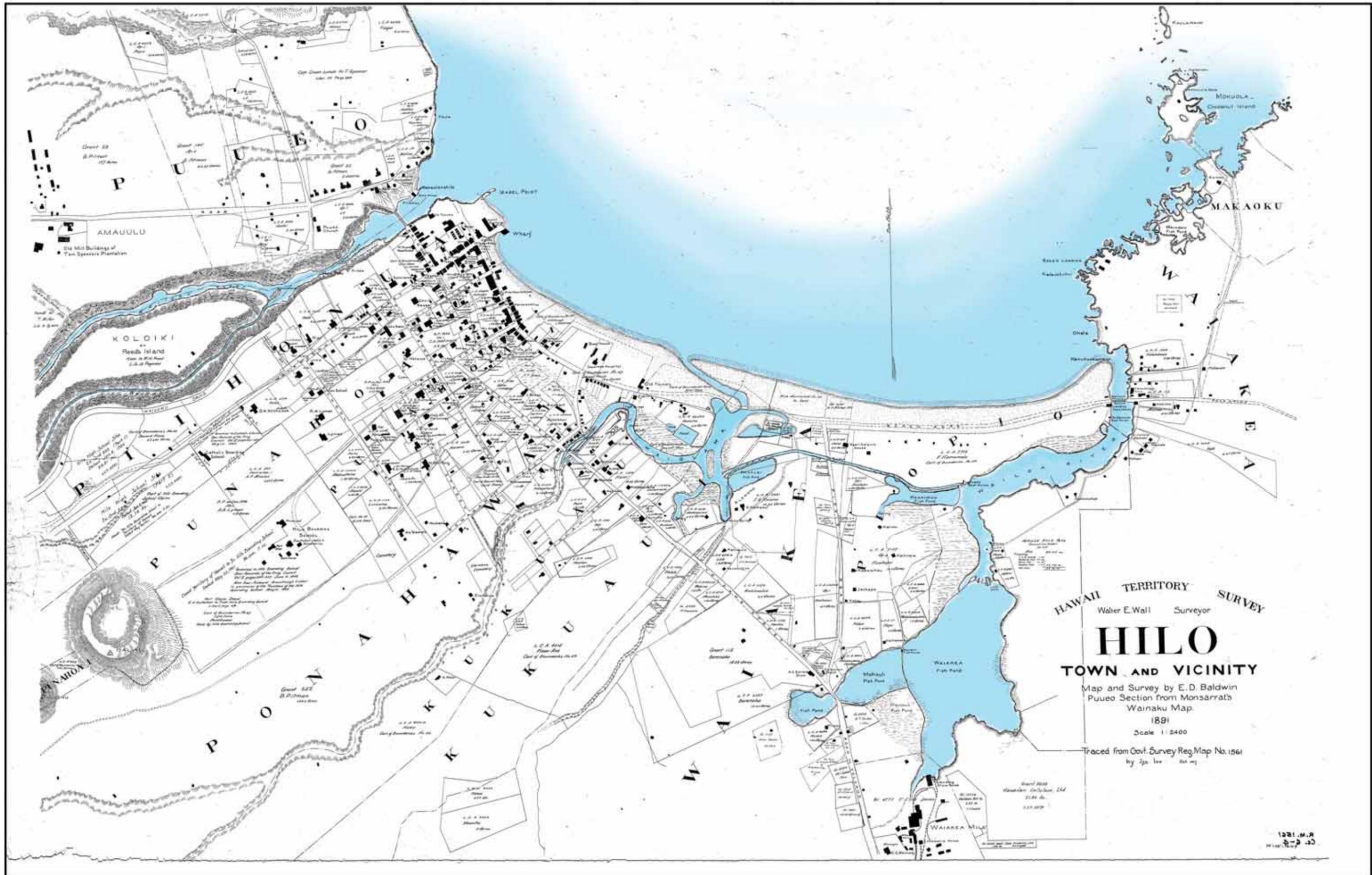


Figure 3.2

### **Nineteenth- and Twentieth-Century Period**

Between 1824 and 1848, Hilo became a significant center for foreign activities, mostly as a result of the establishment of religious mission stations by American missionaries. The first mission station was located within the *'ili* of Pi'opi'o. The first vocational school in the United States was established in Hilo in 1837.

Measles and smallpox epidemics decimated a significant proportion of the local resident population and led to a consolidation of settlement along the northern half of the bay. A pier built in 1863 near the mouth of the Wailuku River became the focus for trade and commerce. During this time, Hilo Bay was the third most frequented port in Hawai'i for whaling vessels needing repairs and re-provisioning. By 1874, Hilo was the second largest population center in the Hawaiian islands. In 1905, Hilo was designated the center of county government. The 1891 map of Hilo town and vicinity in Figure 3.2 shows a concentration of settlement in what is now Downtown Hilo. Note that at this time, Waiolama Stream (in the center of the image) flowed to the bay.

Fertile uplands, plentiful water supply, and a good port destined Hilo to become a major center for sugarcane production and export. Up until the 1970s, commercial cultivation and sugar production were the central economic focus in the Hilo area. Between 1879 and 1948, Waiākea Mill Company conducted mill operations at Waiākea Pond. Bagasse—a by-product of sugarcane—became a secondary industry, first as a fuel for the mills' boilers and then as the main ingredient for a wallboard product patented as canec. A canec plant opened in 1932 near the Waiākea Mill and flourished until a devastating 1960 fire ceased operations.

Between 1899 and 1946, railroad infrastructure was built and maintained in the bayfront—first by Hilo Railroad Company and later by Hawaii Consolidated Railway, Ltd.—to transport sugarcane, lumber, stones, and passengers. There were tracks across the bayfront (where Bayfront Highway is now aligned), bridges over the Wailoa and Wailuku Rivers, wharves at Waiākea, and a roundhouse near Ho'olulu Complex. The destruction of much of this infrastructure by the 1946 *tsunami* was so massive that Hawaii Consolidated Railway was forced to liquidate, and railroad operations ended in the bayfront.

Construction of the Hilo breakwater on Blonde Reef took place between 1908 and 1929. Pier 1 was completed in 1913, Pier 2 in 1922, and Pier 3 in 1927.

In its history, Hilo has experienced repeated inundation by *tsunami*, most notably in 1868, 1923, 1946, and 1960. The open spaces, park areas, and recreational fields that predominate in the bayfront today are reminders of the devastation of the 1946 and 1960 *tsunami*, which destroyed low-lying Downtown Hilo; the Shimachi section, now part of Wailoa River State Park; and the once-thriving town on the Waiākea peninsula.

### **Project Area Today**

Today, approximately one-third of Hawai'i Island residents live in and around Hilo, the only metropolitan area on the island. The 2000 census counted nearly 48,000 people. The County of Hawai'i resident population in mid-2008 was estimated to be nearly 176,000.

### **Economy**

Hilo supports a diversified Hawai'i Island economy of agriculture, aquaculture, ranching, trade, tourism, education, and government, and more than 75,000 people purchase goods and services at retail establishments in and around Hilo.

## Government

Hilo is the seat of the County of Hawai‘i government, comprising courts, city council chambers, East Hawai‘i district offices, and County offices located at Aupuni Center overlooking Wailoa River State Park and the Waiolama Canal.

## Transportation

Visitors arriving on both commercial airlines and passenger ships visit and /or pass through the project area on their way to such destinations as Hawai‘i Volcanoes National Park and the Hāmākua Coast.

**Airport:** Hilo International Airport (General Lyman Field) is adjacent to the project area, and next to the airport is Foreign Trade Zone (FTZ), Site V, which encompasses 31 acres zoned for commercial and light industrial uses.

**Harbor:** Hilo Harbor (Figure 3.3), located on the eastern edge of the project area, is one of two deep-draft harbors on Hawai‘i Island. In 2008, Hilo received 418,600 visitors from 219 domestic and foreign ship calls. A large volume of goods flows to and through the project area from Hilo Harbor.

More than four-fifths of the state's fruit (other than pineapples) is produced on Hawai‘i Island. Hilo is the center for the world's largest tropical flower industry, which translates to a major export of fresh cut flowers, sprays, and potted plants from various farmer cooperatives and flower farms in the Hilo area.

**Bus Terminal:** Mo‘oheau Bus Terminal (Figure 3.4) is the main hub of mass transit in the project area. The County Mass Transit Agency provides public transportation from here to destinations throughout the island on the Hele-On bus. Stops in and near the project area include Banyan Drive, Aupuni Center, Hilo Public Library, St. Joseph’s School, Hilo Shopping Center, Hilo Community College, University of Hawai‘i at Hilo, and Prince Kūhiō Plaza. On “boat days,” Hele-On buses include service at Hilo Harbor. Hele-On buses are capable of transporting bicycles, either on board or in an underneath storage space.

Adjacent to the bus terminal is a large parking lot for motorized vehicles and limited bicycle parking.

**Roadways:** Across the bayfront, the main transportation arteries are Bayfront Highway (State Hwy. 19) and Kamehameha Avenue (portion of State Hwy. 11). Kalaniana‘ole Street connects with Kamehameha Avenue and is the main route for traffic to and from Hilo Harbor. The highest volume of traffic in the project area is at the intersection of Kamehameha Avenue and Kanoelehua Avenue (State Hwy. 11); Kanoelehua Avenue continues to



Figure 3.3: Pier 1 at Hilo Harbor.



Figure 3.4: Mo‘oheau Bus Terminal, the hub of mass transit in Hilo.

Hawai'i Volcanoes National Park. Waiānue Avenue, which originates in Downtown Hilo, connects upslope with Kaumana Drive, which connects with Saddle Road (State Hwy. 200).

**Bicycle Facilities:** Matching bicycle lanes are located on Kanoiehua Avenue and matching bikeways are located on Kalaniana'ole Street and a portion of Kamehameha Avenue. Bicycle parking is available at Mo'ohau Bus Terminal and at various locations in Downtown Hilo.

**Pedestrian Walkways:** Pedestrian walkways are located on at least one side of almost every roadway in the project area and within parks and recreation areas. Some walkways are asphalt concrete; others are Portland cement concrete with curb and gutter. Walkway width varies from four feet to ten feet.

### Schools

The University of Hawai'i at Hilo, just south of the project area, is one of the largest schools in the University of Hawai'i system. The newest addition to the Hilo campus is the Imiloa Astronomy Center. Hawai'i Community College, located even closer to the project area on East Kawili Street, is one of seven community colleges in the state and the only community college on Hawai'i Island. Near the University of Hawai'i at Hilo campus are the Waiākea Elementary, Intermediate, and High Schools. Hilo Union Elementary, Hilo Intermediate, and Hilo High Schools, St. Joseph's School, and Connections Public Charter School are all located in the Downtown Hilo area. Chiefess Kapiolani Elementary School is on Kilauea Avenue adjacent to Waiākea Stream.

### Visitor Accommodations

Over 1,000 visitor accommodations, including hotels and bed-and-breakfast accommodations, are located in the project area, mostly along on Banyan Drive (Figure 3.5).



Figure 3.5: Visitor accommodations along Banyan Drive.

### Parks and Recreational Areas

The project area has numerous parks and recreational areas (see Figure 3.6). This abundance extends east of the project area to Kealoha, Keaukaha, Leleiwi, and Ohekahakaha Beach Parks and Richardson Ocean Park. To the south, Wailuku River State Park features Rainbow Falls, Boiling Pots, Pe'epe'e Falls. To the west is the dramatic Hāmākua coastline—including the popular Honoli'i surfing area. To the south is Hawai'i Volcanoes National Park.

The open spaces of the project area and their respective wealth of natural resources provide the backdrop for numerous organized and informal outdoor activities throughout the year, despite over 130 inches of rainfall annually in the Hilo area (see Figure 3.7). Responses to the project user survey indicate that outdoor activities in parks—including walking, strolling, bicycling, and picnicking—are the most frequently occurring activities in the project area.



Figure 3.7: Picnic pavilion and rest room facility on Mokuola.



Figure 3.6

## Sports and Recreational Activities

### *Water-Based Sports and Recreational Activities:*

Outrigger canoe paddling and racing are the most frequently occurring water activities in the project area according to responses on the project user survey. These activities are considered cultural practices as well as sports and recreational activities and have important historical connections to Kamehameha and a long and prominent presence in Hilo Bay. The bayfront is the home to the following members of the Moku O Hawai'i Outrigger Canoe Racing Association of the Big Island: Kailana, Kamehameha, Keaukaha, and Puna. During the paddling season, these clubs practice and host regattas in Hilo Bay.



*Figure 3.8: View of Hilo Bay from Kaipalaoa Landing.*

Paddle sports are also popular in Hilo Bay. The Hawaii Island Paddlesports Association (HIPA) is the solo and duo paddlesports association for Hawai'i Island, and their members—over 200—participate in paddling events throughout the season in Hilo Bay.

In the project area, waters off Kaipalaoa Landing are the most popular among surfers (Figure 3.8).

Boating facilities are available at the Wailoa Sampan Basin and Boat Harbor (Figure 3.9), which is under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation



*Figure 3.9: Wailoa Sampan Basin and Boat Harbor.*

(DLNR DOBOR). Located on the Wailoa River are 50 moorings, 2 boat ramps, vessel washdown facilities, trailer and car parking, and a comfort station. DLNR DOBOR also oversees 25 moorings for boats at Reed's Bay.

Na Hoa Holomoku of Hawai'i Yacht Club promotes all forms of boating in East Hawai'i and is working toward setting up a permanent base for sailing activities in Hilo. They sponsor monthly sail days commencing at Hilo Bayfront Beach Park. The University of Hawai'i at Hilo Sailing Team started in 2001 and thrived for several years until the founder and the coach left Hawai'i Island. In the fall of 2006, one of the former team members reinstated the program.

Historically, the Hilo Yacht Club (founded in 1913) was originally located in the project area, first at the C. C. Kennedy home near Reed's Bay, then operated from the present site of the Naniloa Hotel from 1920 to 1939.

Boating also occurs on the waters of the Wailoa River State Recreation Area. Motor boats are permitted from the boat harbor to the arched bridges. Beyond the double arched bridges, only wooden, non-fossil fueled fishing boats are allowed. Since August 1990, Hui Okinawa has sponsored the annual Haari Boat Festival at the Wailoa River in the Wailoa River State Recreation Area. Local school children are taught how to sail a double-hulled Hawaiian canoe on the Wailoa River, and the canoe escorts special visiting



Figure 3.10: Mullet fishermen at Waiākea Pond.



Figure 3.11: Soccer at Waiolama Canal Area.

tribes up the Wailoa River during the annual Hilo Inter-Tribal PowWow. The river has also become a popular site for stand up paddling.

Mullet fishermen are a common site at Waiākea Pond (Figure 3.10). In fact, there are two regulated fishing areas in the bayfront; both are under the jurisdiction of the Department of Land and Natural Resources Division of Aquatic Resources. The Waiākea Public Fishing Area is in Wailoa River State Recreation Area, and the Hilo Harbor Fishery Management Area (FMA) comprises Hilo Bay, the Wailoa River, and the Wailuku River.

**Land-Based Sports and Recreational Activities:** Soccer is the most prominent land-based sports and recreational activity in the bayfront (Figure 3.11). Fields located at Waiolama Canal Area, Wailoa River State Recreational Area, and Mo‘oheau Park are well-utilized by AYSO and HYSA (Ha‘aheo) soccer clubs for season play as well as for tournaments.

Also prominent in the project area are individual bicyclists and members of bicycling clubs, such as the People’s Advocacy for Trails Hawaii, the Hawaii Cycling Club, and Hawai‘i Island Bicycle System Advocates.

Baseball games take place in the project area at Mo‘oheau Park as well as at the Walter Victor Baseball Complex in Ho‘olulu Complex. Hilo Little League was Senior (ages 14-16) League Baseball World Series Champion in 2003. In 2007, Hilo advanced to the World Series in Bangor, Maine. The Hilo baseball team won the Cal Ripken 12 and Under World Series tournament in 2006.

The largest running event in the project area is the Big Island International Marathon; the twelfth annual event occurred in March 2009. Although the race commences in Pepe‘eko, runners travel on many roadways in the project area, including Bayfront Highway, Kamehameha Avenue, Banyan Drive and Banyan Way, Kanoelehua Avenue, roadways adjacent to the Hilo International Airport, Silva Street, and Kalaniana‘ole Street. The finish line is at Hilo Bayfront Beach Park.

The annual January Hilo to Volcano Ultramarathon / Relay Races begin in the project area at Mokuola and end at Cooper Center in Volcano. The Big Island Road Runners Club (BIRRC) sponsors “fun runs” in the project area, and many fund raising walks, such as the American Cancer Society Relay for Life, take place along the bayfront.

In 1994, the Hawai‘i Castaways Disc Club founded the Wailoa State Championship Course for disc golfing at Wailoa River State Recreational Area. Their course is located in and around Wailoa Center on both sides of the Wailoa River.

The Naniloa Golf Course on Banyan Drive is a prominent green space on the Waiākea peninsula (Figure 3.12).

Ho‘olulu Complex and the Hilo Armory host numerous other sports and recreational activities in the bayfront.

### Public and Cultural Events

Responses to the Hilo Bayfront Trails user survey indicate that public and cultural events are some of the most frequent **and** favorite activities in the project. Popular venues are the Mo‘oheau Bandstand and the Palace Theater.



Figure 3.12: Driving range at Naniloa Golf Course.

Perhaps the most well-known cultural event is the Merrie Monarch Festival, a world-renowned hula festival that occurs annually during the week following Easter at the Edith Kanaka‘ole Multi-Purpose Tennis Stadium in Ho‘olulu Complex. Founded in 1963, *halau* from all over the world are invited to participate. The Merrie Monarch Royal Parade winds through Downtown Hilo on Saturday morning of the festival.

The Hilo Orchid Society holds its annual show and sale at the Edith Kanaka‘ole Multi-Purpose Tennis Stadium. The event celebrated its fifty-seventh anniversary in 2009.

Located at the corner of Mamo Street and Kamehameha Avenue in historic Downtown Hilo, the Hilo Farmers Market features over one hundred local farmers and crafters who sell their produce, crafts, gift items, and tropical flowers every Wednesday and Saturday. The market first opened in 1988.

The Chinese New Year Festival is an annual event (seventh annual in 2009) held at Kalākaua Park in Downtown Hilo featuring food booths, cooking demonstrations, music, and a keiki Chinese costume contest.

At Queen Lili‘uokalani Gardens, the annual (tenth annual in 2009) He Hali‘a Aloha O Lili‘uokalani Festival honors Hawai‘i’s last reigning monarch with music, hula, crafts, food, and fishing.

Hawai‘i’s World Heritage Festival is held annually (sixth annual in 2009) at Mo‘oheau Park and Bandstand. The annual KWXX-sponsored Aloha Festivals Ho‘olaulea also occurs in the vicinity of Mo‘oheau Park and Bandstand. This year will mark the sixteenth year of the event.

For Black & White Night, on the first Friday of November, residents and visitors dress in their finest black and white clothing for music, dancing, food, and entertainment in Downtown Hilo. This event was founded in 1985 by a group of merchants to help revitalize Hilo’s historic downtown.

### Historic Structures and Cultural and Educational Venues

Table 3.1 lists the numerous built treasures in the project area, the locations of which are indicated by site number in Figure 3.13. Responses to the project user survey indicate that views of Downtown Hilo are regarded by many Hilo residents among the most important in the bayfront, ranking nearly as high as views of Hilo Bay and Mauna Kea and Mauna Loa.

**Table 3.1: Historic Structures and Cultural and Educational Venues in the Project Area.**

Site Number	Venue Name	Description
1	Naha Stone and Pinao Stone	Located at the Hilo Public Library. The Naha Stone—weighing about 3.5 tons—is reputed to have been moved by Kamehameha the Great, fulfilling prophecies about his future as a great leader. The Pinao Stone is said to have been the entrance pillar of the Pinao Temple, thought to be located near the Wailuku River.
2	Hilo Union Elementary School	Placed on the Hawai‘i Register of Historic Places in 2002.
3	Lyman House Memorial Museum	The restored home of missionaries David and Sarah Lyman is located at 276 Haili Street in Downtown Hilo. Exhibits provide educational lessons in both the cultural and natural history of Hawai‘i. Placed on both the Hawai‘i and National Registers of Historic Places (as the Rev. D. B. Lyman House) in 1977 and 1978, respectively.
4	Waiākea Mission Station, or Haili Church	This church structure was placed on both the Hawai‘i and National Registers of Historic Places in 2001 and 2002, respectively.
5	Michael Victor Houses	Placed on the Hawai‘i Register of Historic Places in 1987.
6	Hawaiian Telephone Building	Located on Kalākaua Avenue, C. W. Dickey, renowned Hawai‘i architect, designed this building for Mutual Telephone Company
7	Hilo High School	Placed on the National Register of Historic Places in 1981 and the Hawai‘i Register of Historic Places in 2002.
8	District Courthouse and Police Station	Located at 141 Kalākaua Street across from Kalākaua Park, this historic structure houses the East Hawai‘i Cultural Center, which features works by local artists and presents live theater, dance, and special performances. The building itself was placed on both the Hawai‘i and National Registers of Historic Places in 1979.
9	Korean War Memorial	On the <i>makai</i> edge of Kalākaua Park is a pergola and reflecting pool to honor Hilo residents who died in the Korean War. In the late nineteenth century, the namesake of the park, King David Kalākaua, designed the first county complex at this site. Some of the trees in the park are thought to have been planted during his lifetime. A bronze statue and plaque have been placed in the park to honor him.
10	Hilo Masonic Lodge	Placed on both the Hawai‘i and National Registers of Historic Places in 1993 and 1994, respectively. This building was constructed in 1908. As the First Trust Building, the building was used mostly for estate, real estate, insurance matters, and as a Masonic meeting hall. Now named the Toyama Building.
11	Burns Building and the Pacific Building	On Keawe Street, these wooden buildings are typical of many buildings constructed in Hilo in the early twentieth century.
12	Wailuku Building	This building, on the corner of Kamehameha Avenue and Shipman Street, was built in 1915 and used for meat packing. In 1990, the exterior was restored and the interior remodeled to house professional office spaces.
13	Koehnen's Building	Located on Kamehameha Avenue, this structure was built for the Hackfield Company in 1910 with interior walls of <i>koa</i> and floors of ‘ <i>ōhi‘a</i> .

Table 3.1 continued.

Site Number	Venue Name	Description
14	Volcano Block	Placed on both the Hawai'i and National Registers of Historic Places in 1992 and 1993, respectively.
15	Pacific Tsunami Museum	Located at 130 Kamehameha Avenue in a c.1930 building designed for Bishop First National Bank by renowned Hawai'i architect C. W. Dickey, the museum houses exhibits, interactive computer technology, and personal accounts by tsunami survivors that explain tsunami and their deadly impact on people and property. This building survived both the 1946 and the 1960 tsunami.
16	S. H. Kress Co. Building	This Art Deco style building on Kamehameha Avenue was constructed in 1932 and restored in 1995. It now houses Connections Public Charter School, a fourplex movie theater, and an ice cream parlor.
17	Palace Theater	Built in 1925 on Haili Street, restoration began in 1991. This building was placed on both the Hawai'i and National Registers of Historic Places in 1991 and 1993, respectively, and is still in active use for cultural performances, movies, plays, chamber music, and tap dancing lessons.
18	Taishoji Soto Mission	Established on Kilauea Avenue in 1913 by Zen Buddhists.
19	A.O.F. Building	Built in 1925 in Renaissance Revival style and located on Keawe Street, this building is still used by the Ancient Order of Foresters (AOF). The fraternal order's purpose is to assist members in times of need. King Kalākaua was a member.
20	S. Hata Building and Mokupāpapa	Renaissance revival style building constructed in 1912 and placed in both the Hawai'i and National Registers of Historic Places in 1989 and 1991, respectively. The National Oceanographic and Atmospheric Administration (NOAA) Discovery Center opened in 2003 in this building and interprets the natural science, culture, and history of the Northwestern Hawaiian Islands and surrounding marine environment.
21	Mo'ohau Bandstand	Located in Mo'ohau Park between Bayfront Highway and Kamehameha Avenue, many community functions take place here, such as monthly concerts by the Hawai'i County Band; the Aloha Festivals Ho'olaulea; peace rallies and observances on Martin Luther King, Jr., Day; election rallies; fund/awareness raising walks such as WalkAmerica; and the Hawai'i World Heritage Festival.
22	King Kamehameha Statue	Installed and unveiled on June 10, 1997, as a result of efforts of the East Hawai'i-Māmalahoe Chapter of the Kamehameha Schools Alumni Association. The alumni association received a grant from the Department of Land and Natural Resources to install two interpretive signs in 2003. One sign depicts Kamehameha on the shore of Hilo Bay in 1801, below which is a timeline of important events in Kamehameha's life. The second sign displays an annotated map showing Hawaiian place names and <i>ahupua'a</i> boundaries.
23	Vietnam Memorial	This memorial to Hilo residents who died in the Vietnam War is located in Wailoa River State Recreation Area adjacent to Wailoa Center.

**Table 3.1 continued.**

Site Number	Venue Name	Description
24	Wailoa Center	Funded by the State of Hawai'i, this center for art and culture is located in Wailoa River State Recreational Area. The center features a permanent exhibit and videos on the historic tsunami as well as rotating exhibits about the cultural and historical aspect of Hilo.
25	Shimanchi Tsunami Memorial	The memorial was erected in memory of the Shinmachi residents who died in the 1946 tsunami. Tadashi Sato created the floor mural entitled, "Submerged Rocks and Water Reflections."
27	United Community Church	Located at 1110 Kino'ole Street, this church structure was placed on the Hawai'i Registers of Historic Places in 1994.
28	Hilo Iron Works	This building, designed by C. W. Dickey and located at 1266 Kamehameha Avenue, was placed on the National Register of Historic Places in 1981. The Hilo Art Museum opened its doors at this historic venue in 2007 and offers tours of its collection of paintings, drawings, furnishings, sculpture, and mixed media art; art classes; and workshops.
29	Suisan Fish Market	In 2001, after 94 years of business, the Fish Auction Market of Suisan Company closed. It was one of only two open fish auctions in Hawai'i.
30	Waiākea Social Settlement Clock	The clock was one of the few landmarks to withstand the destruction of Waiākea Town (also known as Yashijima) by the May 23, 1960, tsunami. Located on Kamehameha Avenue between Banyan Drive and Lihiwai Street, the clock was re-erected in this location in May 1984.
31	Hilo Breakwater	Built between 1908 and 1929 using 65 tons of locally quarried stone per linear foot. Placed on the National Register of Historic Places in 1980.

## Vegetation

Hilo bayfront vegetation comprises mostly introduced species, and large grassy areas predominate. Clusters of ironwood trees are common at many parks, including Hilo Bayfront Beach Park, Reed's Bay Beach Park, and Kūhiō Kalaniana'ole Park. Groves of coconut trees were planted many years ago between Bayfront Highway and Kamehameha Avenue and along Waiolama Canal. More recently, rainbow shower street trees were installed along along Kamehameha Avenue in the bayfront. Of note are the "exceptional trees" of Hilo and the banyan trees of the "Hilo Walk of Fame."

**Exceptional Trees:** Under a 1984 county ordinance (Ord. No. 84-22, sec. 1; Am. 1992, Ord. No. 92-12, sec. 1; Am. 2004, Ord. No. 04-69, sec. 10), several exceptional trees in the project area are protected from destruction (Table 3.2). By definition, *exceptional tree* means "a tree or grove of trees with historic or cultural value, or which by reason of its age, rarity, location, size, aesthetic quality, or endemic status has been designated by the council as worthy of preservation."

**Banyan Drive:** The banyan trees that line Banyan Drive are a distinctive element within the project area. In 1933, several park commissioners decided that it would be a good idea to have celebrities plant banyan saplings on Waiākea Peninsula. Initially, eight trees were planted in October 1933 (Figure 3.14). At the time, Banyan Drive was a crushed coral drive through the trees. Forty trees were planted between 1934 and 1938, and five more trees were planted between 1941 and 1972. In 1991, a tree lost to a tsunami was replaced. Plaques are mounted in front of the trees with the names of the celebrities who planted the trees, including Cecille B. DeMille, George Herman "Babe" Ruth, President Franklin D. Roosevelt,

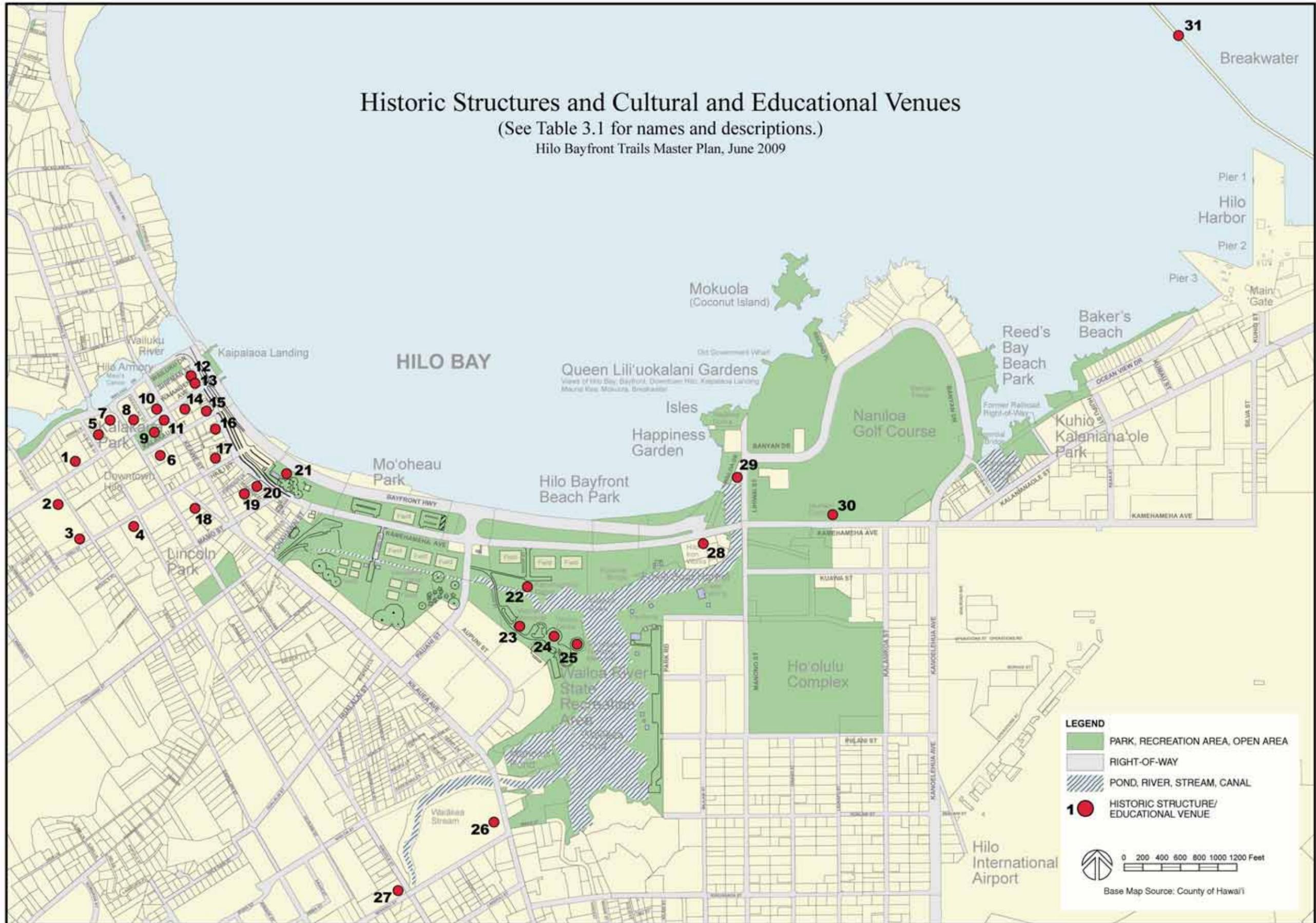


Figure 3.13

**Table 3.2: Exceptional Trees in the Project Area.**

Tree Name: Common and Botanical	Location
Gold Tree ( <i>Cybistrax donnell-smithii</i> )	Forestry Arboretum (TMK 2-2-7:01)
Surinam Cherry ( <i>Eugenia uniflora</i> )	Hilo United Methodist Church (TMK 2-3-14:07)
False Kamani ( <i>Terminalia catappa</i> )	Haili Church (TMK 2-3-12:09)
Coconut Palms ( <i>Cocos nucifera</i> )	Waiolama Canal (TMK 2-2-4:02)
Monkeypod ( <i>Samanea saman</i> )	Suisan Company, Lihikai Street (TMK 2-1-03:27)
Bo or Peepul Tree ( <i>Ficus religiosa</i> )	Old Riverside School (TMK 2-3-15:1)
Indian Banyan ( <i>Ficus benghalensis</i> )	Kalākaua Park (2-3-05:1)
Loulou Palm ( <i>Pritchardia becariana</i> )	Kalākaua Park (2-3-05:1)
Divi-Divi ( <i>Caesalpinia coriaria</i> )	Kalākaua Park (2-3-05:1)
Grove of Monkeypod Trees ( <i>Samanea saman</i> )	Kamehameha Avenue and Pauahi Street (TMK 2-2-04:35)
Grove of Monkeypod Trees ( <i>Samanea saman</i> )	Kamehameha Avenue and Pauahi Street (TMK 2-2-04:56)

Amelia Earhart, and Senator Richard M. Nixon. These trees have withstood natural disasters, such as the tsunami that devastated much of the bayfront in 1946 and 1960.

**Waterways**

Water is a unifying element along the bayfront, and Hilo Bay is the water feature common to all parts of the project area. The western edge of the project area is defined by the Wailuku (“water of destruction”) River, with waters powerful enough to generate electricity (Figure 3.15). The waters of the Alenaio Stream, Waiolama Canal, and Hoakimau Pond as well as the waters Waiākea Stream and Pond and Moho’uli Pond converge at the Wailoa River. Spring-fed ponds abound in the eastern portion of the project area, including Kanakea Pond (Ice Pond).



Figure 3.14: Banyan tree planted by actor Leo Carrillo in October 1933.

**Trail-Related Amenities**

Figure 3.5 indicates the location of existing and planned amenities—rest room facilities, parking, outdoor structures, and interpretive signage—in the Hilo Bayfront Trails project area. The *planned* amenities are those included in the County’s Department of Parks and Recreation in-progress plans for Hilo Bayfront Beach Park and Reed’s Bay Beach Park.

**Rest Room Facilities:** The project area is well-equipped with rest room facilities, and these facilities are relatively evenly distributed across the bayfront. Existing rest room facilities at Kūhiō Kalaniana’ole Park, Reed’s Bay Beach Park, and the Isles are



Figure 3.15: Hydroelectric plant along Wailuku River.



Figure 3.16: Interpretive signage installed by the Pacific Tsunami Museum (left top and bottom), Māmalahoe Chapter of the Kamehameha Schools Alumni Association (center top and bottom), and Destination Hilo (top right). Informative signage at Hilo Harbor's main gate (bottom right).

portable toilets. Permanent rest room facilities are planned for Hilo Bayfront Beach Park, Reed's Bay Beach, and Kalanian'ole Park (Phase 2 of Reed's Bay Beach Park improvements).

**Parking:** Dedicated surface parking is available at most parks and at the Wailoa River State Recreation Area. The scope of improvements at Hilo Bayfront Beach Park and Reed's Bay Beach include new parking areas.

**Outdoor Structures:** Existing outdoor structures for picnics and gatherings are located at Wailoa River State Recreation Area and Queen Lili'uokalani Gardens, including Mokuola. Existing structures at Hilo Bayfront Beach Park are canoe *hale*. The Department of Parks and Recreation plans include pavilions at Hilo Bayfront Beach Park and Reed's Bay Beach Park. A footbridge to connect Kuhio Kalaniana'ole Park to Reed's Bay Beach Park is also included in the scope of work for Reed's Bay Beach Park improvements.

**Interpretive Signage (Figure 3.16):** Signage installed by the Pacific Tsunami Museum on Mokuola, at Wailoa River State Recreation Area near the King Kamehameha statue, and adjacent to the boat harbor interprets tsunami-related events. The museum also plans to install additional signage linked with a tsunami walking tour brochure.

The Māmalahoe Chapter of the Kamehameha Schools Alumni Association installed two interpretive signs near the King Kamehameha statue. One sign depicts Kamehameha on the shore of Hilo Bay in 1801,

below which is a timeline of important events in Kamehameha’s life. The second sign displays an annotated map showing Hawaiian place names and *ahupua‘a* boundaries.

At Hilo Harbor’s Pier 1 shed, Destination Hawaii operates the Aloha Room, which has walls filled with maps, photographs, paintings, and interpretive information about Hilo and vicinity. A large sign at the main gate on Kuhio Street says “Welcome to Hilo” and includes a map showing directions to Banyan Drive, Mokuola, Queen Lili‘uokalani Gardens, and Historic Downtown Hilo.

Potential sites for interpretive signage to be implemented through the EnVision Downtown Hilo Living Action Plan include Kalākaua Park, Mo‘oheau Bandstand, the Naha and Pinao Stones at the Hilo Public Library, Wailuku River, and Kaipalaoa Landing.

## Existing Conditions and the Master Plan

Becoming familiar with the project area was a constant process during the twenty-four months of developing the Master Plan. Before or after each meeting in Hilo, the consultant studied and photographed the project area and the Hilo environs on different days of the week, different times of day and night, and with varying weather conditions. “Walking in the shoes” of Hilo residents and visitors, and observing conditions reported by community members in public meetings, facilitated the evolution of the Hilo Bayfront Trails Master Plan.

## 4. THE PLAN

*“Sensitivity to what is already there—trees and views.”*

When the Hilo Bayfront Trails project is implemented, Hilo residents and visitors will enjoy a system of linked paths connecting Downtown Hilo, parks and recreational areas, Hilo Bay, and Hilo Harbor, and there will exist a foundation for connections to future destinations. The trail alignments and amenities will enhance existing recreational activities along the bayfront; integrate with the existing vernacular of the bayfront; and increase trail users’ knowledge and appreciation of the area’s rich cultural heritage and natural beauty.

This chapter presents the Hilo Bayfront Trails Master Plan, which is the outcome of a lengthy public input and review process. It will be the basis for designing and constructing the alignments and amenities of the trail system. The first part of the chapter provides a general overview of the plan, including definitions and descriptions of the various types of trail alignments and amenities included in the plan. The second part of the chapter provides descriptions and illustrative sketches and photographs for discrete areas of the bayfront. Specific design guidelines for trail alignments and amenities are discussed in Chapter 6.



*Figure 4.1: Since existing pedestrian walkways at Waiākea Peninsula already provide easy access to treasured views and scenery of the bayfront, they will be “adopted” by the Hilo Bayfront Trails.*

### Master Plan Overview

The Hilo Bayfront Trails Master Plan is presented in Figure 4.2 (see also folded plan in back cover pocket). The trail area is generally defined by Hilo Bay to the north, Hilo Harbor to the east, Kilauea Avenue to the south, and the Wailuku River to the west, with future destinations beyond. On the Master Plan, trail elements—alignments and amenities—are overlaid on a parcel plan showing parcel ownership (County, State, other). Most alignments and amenities are located close to the bayfront and occur predominantly on public lands: County and State transportation rights-of-way and County and State lands. A few trail segments will require land purchases or easements.

Trail alignments provide the physical means by which to travel from one location to another within the project area. Trail amenities are located near the trail alignments to provide basic resources, trail information, and educational information about the natural and cultural resources of the project area. Some trail elements will be new to the project area; other trail elements already exist in the project area and will be “adopted” by the Hilo Bayfront Trails. Some trail elements comprise infrastructure in separate ongoing Department of Parks and Recreation projects: Wailuku Riverwalk, Hilo Bayfront Beach Park Master Plan, and Reed’s Bay Beach Park improvements (which include elements for Kūhiō Kalaniana‘ole Park).

# HILO BAYFRONT TRAILS

## Master Plan

June 2009

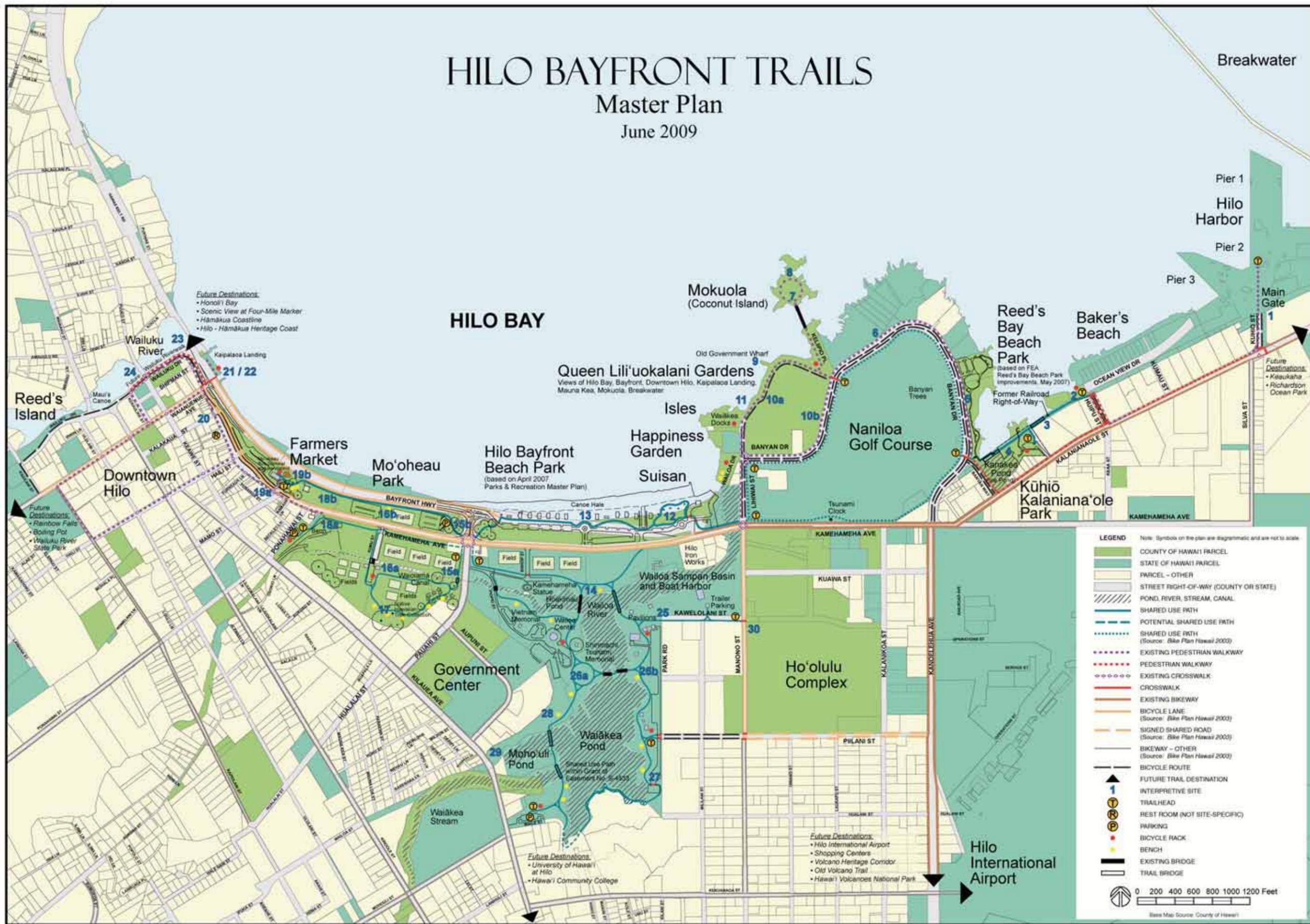


Figure 4-2

## Trail Alignments

The Hilo Bayfront Trails Master Plan accommodates pedestrians, bicycles, and other non-motorized vehicles with a variety of trail alignments. As a collection, the alignments are called *trails* to emphasize their recreational purpose and role in providing access to and enhancing views of the natural resources of the project area. As implemented, all alignments will be paved. Links between types of alignments have been carefully considered to maximize connectivity of the entire network. Hilo Bayfront Trails has adopted existing infrastructure wherever possible, and new infrastructure will be compatible with Hilo's favorite features. The types of trail alignments in the Hilo Bayfront Trails Master Plan are listed and defined in Table 4.1.

**Shared Use Paths:** Although some existing infrastructure in the bayfront is currently shared by pedestrians, bicycles, and other non-motorized vehicles, the Hilo Bayfront Trails shared use paths will be the first of their kind in the bayfront to be specially designed for accommodating multiple uses. The Master Plan includes over **six miles** of shared use paths, which provide a continuous alignment from Mo'ohau Bus Terminal in Downtown Hilo to the future cruise ship passenger gate at Hilo Harbor. This system of off-road alignments is intended primarily for recreational walkers, joggers, bicyclists, in-line skaters, skateboarders, wheelchairs (motorized and non-motorized), and other non-motorized vehicles as permitted by County code and park regulations. A special symbol is used on the Master Plan to distinguish the proposed shared use path that is incorporated from *Bike Plan Hawaii 2003*. Potential shared use paths are dependent on the purchase of privately owned parcels, which may require later implementation. An important connector for the shared use path system is the segment over the *makai* side of the Wailoa Bridge, which was strongly supported by the community.

**Bicycle Facilities:** On-road road trail alignments for bicycles include bike lanes, bicycle routes, bikeways, and signed shared roads. Potential locations for bicycle facilities were informed by public input, site observations, analysis, and a review of alignments proposed in *Bike Plan Hawaii 2003*. All bicycle facilities that were proposed for the project area in *Bike Plan Hawaii 2003* are shown on the Master Plan, but not all of them have been highlighted for implementation by the Hilo Bayfront Trails project. The Master Plan has incorporated existing bicycle facilities: bikeways (signed shoulders for use by bicycles) along Kalaniana'ole Street and Kamehameha Avenue and bike lanes along Kanoehua Avenue. In total, the Master Plan comprises four miles of bicycle lanes, nearly a mile of signed shared roads, and almost four miles of bicycle routes. On-the-road bicycle facilities connect with the shared use paths in several locations. Except on Wailuku Drive, all on-road bicycle facilities are located on both sides of the street. Except in name, bicycle routes and signed shared roads are essentially the same; the County uses the term *bicycle route*, and *Bike Plan Hawaii 2003* uses the term *signed shared road*.

**Pedestrian Walkways:** Pedestrian walkways are a combination of over three miles of existing walkways and nearly one mile of new walkways. Nearly all pedestrian walkways are located in transportation rights-of-way, and both existing and new walkways will be identified as components of Hilo bayfront by special horizontal trail markings. Pedestrian walkways connect with the shared use paths in many locations and may be used interchangeably.

**Crosswalks:** Existing crosswalks are utilized by trail alignments wherever possible to link trail segments across streets; new crosswalks are located at intersections only. Of note is the proposed crosswalk between the Waiānuenu Avenue-Kamehameha Avenue intersection and Bayfront Highway, which received widespread community support at all three public meetings because it will provide a legal connection to / from Kaipalaoa Landing and Bayfront Highway.

**Table 4.1: Types and Definitions /Descriptions of Trail Alignments.**

Type	Definition / General Description
<b>Shared Use Path</b>	A trail alignment—within a transportation right-of-way or an independent right-of-way—that is physically separated from motorized vehicular travel by an open space or barrier for shared use by pedestrians, bicyclists, and other allowable nonmotorized vehicles, with minimal cross flow by motor vehicles (based on descriptions of shared use paths in <i>Guide for the Development of Bicycle Facilities</i> and <i>Bike Plan Hawaii 2003</i> ). The <i>proposed</i> shared use path is incorporated into Hilo Bayfront Trails from <i>Bike Plan Hawaii 2003</i> . The potential shared use paths are on privately owned parcels or are long-term alignments for the trail system.
<b>Bicycle Lane</b>	"That portion of any highway which has been set aside for the preferential or exclusive use of bicycles" (per Hawaii County Code, Section 24-3a).
<b>Bicycle Route</b>	"Any highway that is designated to be shared by bicycles and pedestrians or motor vehicles, or both (per Hawaii County Code, Section 24-3a).
<b>Bikeway</b>	"A bicycle lane, bicycle path, bicycle route, or bicycle/walk path, or any traffic control device, shelter, parking facility, or other support facility to serve bicycles and persons using bicycles" (per Hawaii County Code, Section 24-3a). Existing bikeways include bicycle lanes on Kanoelehua and a bicycle route on Kalaniana'ole Street and Kamehameha Avenue. "Proposed Bikeway - Other" comprises <i>Bike Plan Hawaii 2003</i> alignments that will not be implemented as part of the Hilo Bayfront Trails project.
<b>Signed Shared Road</b>	A shared roadway that has been designated by signing as a preferred route for bicycle use (per <i>Bike Plan Hawaii 2003</i> glossary of terms and acronyms).
<b>Pedestrian Walkway</b>	A trail alignment—within a transportation right-of-way or an independent right-of-way—for the exclusive use of pedestrians. Where indicated on the plan, existing pedestrian walkways will be "adopted" by Hilo Bayfront Trails and marked for identification and wayfinding.
<b>Crosswalk</b>	"(A) That portion of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absences of curbs, from the edges of the traversable roadway; (B) Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface (per Hawaii County Code, Section 24-3a). Where indicated on the plan, existing crossings would be utilized as is for the Hilo Bayfront Trails. New crosswalks will conform with County requirements.

NOTE: See design guidelines in Chapter 6 for more specific descriptions of trail alignments.

**Bridges:** Water is a constant visual element throughout the bayfront, and five new bridges and a bridge expansion will increase accessibility in the project area and enhance the experience of crossing waterways in the project area. In Waiolama Canal Area, a shared use path bridge will facilitate the connection between an upper loop path and a path running parallel with Kamehameha Avenue. A bridge expansion at Kumu Street will accommodate a shared use path with separation barrier as well as the existing vehicular lanes and sidewalk. At Wailoa River State Recreation Area, three new bridges are the key ingredients to a complete circuit around Waiākea Pond within the park: one bridge is located at the end of Moho‘uli Pond; a second spans Waiākea Stream; and a third crosses the Wailoa River.

A shared use path bridge within the former railroad right-of-way adjacent to Reed’s Bay connects Kūhiō Kalaniana‘ole Park with the future Hilo Harbor cruise ship passenger gate egress near Huipū Street. The linkage provided by this bridge and a bridge included in the Reed’s Bay Beach Park improvement plan (at Kanakea Pond), provides a scenic alternate route to trail alignments along Kalaniana‘ole Street.

### Trail Amenities

Several types of trail amenities have been incorporated into the Hilo Bayfront Trails Master Plan to complement and supplement the many existing park amenities that are already available along the trail alignments. The following are definitions and descriptions of trail amenity concepts. Site-specific details regarding amenities are included in the trail area-specific descriptions in the second part of this chapter. Design guidelines for trail amenities are presented in Chapter 6.

**Trailhead Signage:** The Master Plan includes 13 trailhead signs to identify the entrances to shared use paths of the Hilo Bayfront Trails. The concept options in Figure 4.3 were preferred by community members at Public Meeting 3, the roof for the protection of the signage and trail users reading the signage and the lava rock concept for its aesthetic relationship with the preferred interpretive signage concept. The challenge for locating these signs is that some shared use paths are located within well-established parks that have their own existing entrance signs. Hilo Bayfront Trails trailhead signs will not duplicate the existing park identification signage. For these areas, **trail markings** will be used to identify Hilo Bayfront Trails alignments.

**Interpretive Sites with Signage:** Thirty sites have been selected for interpretation along the Hilo Bayfront Trails. This is one of the most important contributions of the



Figure 4.3: The basis of these preferred trailhead signage concepts are existing signs in the project area: Hilo Bayfront Beach Park (top) and Alenaio Stream flood control (bottom).



Figure 4.4: The concept of a horizontal lava rock monument with a framed photographic interpretive panel is preferred by community members.

trails project. Signage will be placed near the physical locations where significant events have occurred and at the best locations for respectfully viewing the cultural and natural resources being interpreted. Table 4.2 lists and describes each site by the number indicated on the Master Plan. Figure 4.4 depicts how the community’s preferred interpretive signage concept would look at Interpretive Site 2.

**Trail Markings:** Along shared use paths, on-road bicycle facilities, and pedestrian walkways, special markings will be used to identify the trail alignments. Horizontal markings—instead of vertical signage—will minimize the visual impact of trail identification on the natural beauty of the bayfront. Community members at Public Meeting 3 preferred the trail marking concept of bronze trail logo medallions and painted line connectors (Figure 4.5).

Distance markings will also be applied to trail alignments, and maps on trailhead signs will include mileage information for the entire trail system.

**Ahupua‘a / ‘Ili Plaques:** Figure 4.6 shows the boundaries of the six *ahupua‘a* and *‘ili* Pi‘opi‘o overlaid on the Hilo Bayfront Trails Master Plan. In several locations along the bayfront, shared use paths and pedestrian walkways of the Hilo Bayfront Trails cross the boundaries of these historic Hawaiian land divisions. To identify the *ahupua‘a* and *‘ili* and enrich the connection of past and present, plaques will be embedded in trail paving at each boundary, informing trail users which land division they are entering and which they are leaving (see Figure 4.7). Interpretive signage near these boundaries will describe the significance of each *ahupua‘a* / *‘ili*.

**Bicycle Racks:** The availability of safe and convenient parking is as critical for bicyclists as it is for motorists. Thus, the Master Plan provides thirteen bicycle rack locations across the bayfront. All but two are sited adjacent to motorist parking to create “staging areas” for bicyclists, and each location is intended to accommodate several bicycles and possibly more than one bicycle rack, depending on the conditions at each site.

**Benches:** The number of benches included on the Master Plan will greatly increase the quantity of benches in the project area. Benches have been sited to take advantage of scenic views as well as and activities. The Master Plan includes a provision for the community to donate memorial benches with engraved plaques (see Chapters 5 and 6).

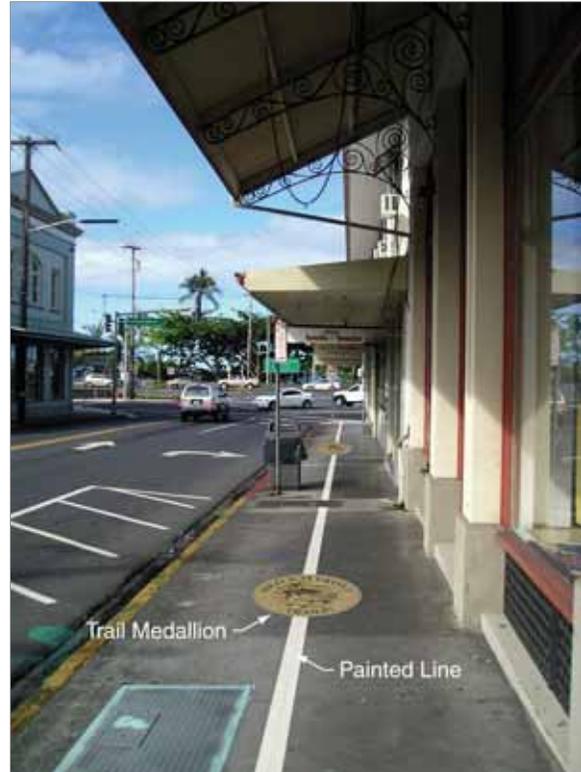


Figure 4.5: Depiction of bronze trail logo medallions with painted line connectors as they would look on a Waiānuenue Avenue existing pedestrian walkway in Downtown Hilo.



Figure 4.7: Plaque concept to mark *ahupua‘a* and *‘ili* boundaries on shared use paths.

**Table 4.2: Interpretive Sites of the Hilo Bayfront Trails Master Plan.**

Site Number	Theme(s) / Subjects for Interpretation
1	<b>Hilo Harbor:</b> Hilo's early trade and commerce. Development of harbor facilities. Sugar trade.
2	<b>Abandoned Railroad Right-of-Way:</b> 1878 act signed by King Kalākaua promoted the construction of railroads. Railroad important for carrying passengers as well as goods, most importantly sugarcane. Tsunami of April 1, 1946, shut down the railroad in Hilo.
3	<b>Fishponds:</b> Ancient uses and historic uses.
4	<b>Kanakea/Ice Pond:</b> Traditional and modern uses.
5	<b>Banyan Drive:</b> Known as “Hilo Walk of Fame.” Trees planted starting in 1933. Significant community project.
6	<b>Makaokū:</b> Traditional name for the area. Once the location of a significant and unique <i>heiau</i> . Discussion of <i>heiau</i> and associated ritual.
7	<b>Mokuola (general):</b> Pu‘uhonua, healing waters.
8	<b>Mokuola (specific):</b> Kaula‘ināiwi, Pua‘akāheka.
9	<b>Mauna Kea/Hilo Town:</b> Clear day sign to see the entire landscape from coastal zone to mountain peak (from the realm [ <i>wao</i> ] of man to the realm of the gods).
10a / 10b	<b>Queen Lili‘uokalani Gardens:</b> Traditionally, Waihonu Pond. History of modern gardens.
11	<b>Breakwater:</b> Designed to calm the waters of the harbor, not as a protective measure against tsunami. Constructed between 1908 and 1929.
12	<b>Hilo Iron Works Building:</b> Hilo Iron Works in business from 1865 and ends 1983. Building is a C. W. Dickey design.
13	<b>Hilo Bay:</b> Traditionally called Hilo one. Hilo, the first moon phase, is mirrored in the shape of the bay, which housed Kamehameha’s canoe fleets and remains the location of a recreational canoe fleet.
14	<b>‘Ili Pi‘opi‘o:</b> Hilo residence of Kamehameha. Later Japanese community of Shinmachi, which was devastated by the April 1, 1946, tsunami. Never rebuilt and now used for sports fields.
15a / 15b	<b>Waiākea/Kūkūau 1:</b> <i>Ahupua‘a</i> boundary.
16a / 16b	<b>Kūkūau 1/Kūkūau 2:</b> <i>Ahupua‘a</i> boundary.
17	<b>Agricultural (kipi) Area:</b> River diversion into channel and unique form of agriculture.
18a / 18b	<b>Kūkūau 2/Ponohawai:</b> <i>Ahupua‘a</i> boundary.
19	<b>Ponohawai/Punahoa 2:</b> <i>Ahupua‘a</i> boundary and <i>Ahupua‘a</i> Punahoa 1. Waiolama, former marsh.
20	<b>Punahoa 2/Pi‘ihonua:</b> <i>Ahupua‘a</i> boundary.
21	<b>Hilo Landing/Pier:</b> Built and rebuilt between 1863 and 1890 at the foot of Waiānuenuenu Avenue.
22	<b>Kaipalaoa Heiau:</b> Located in this general vicinity. Tied to ‘Umi and Kamehameha I and Liholiho. Destroyed in Kuakini’s (1820s) time.
24	<b>Pi‘ihonua/Wailuku River:</b> <i>Ahupua‘a</i> boundary. Wailuku means “waters of destruction.” Accurate physical description and distinction. Home to Hina.
24	<b>Maui’s Canoe:</b> Maui/Mo‘o Kuna story.
25	<b>Wailoa River/Small Boat Harbor:</b> Former estuary area of the Waiākea Stream. Currently the Wailoa Sampan Basin and Small Boat Harbor.
26a / 26b	<b>Chiefly Hawaiian Fishponds:</b> Waiākea-Moho‘uli-Waiāhole-Kalepolepo. Collectively these ponds were stocked with the favorite fishes of the ruling chief and were considered to be significant places reserved for royal use.
27	<b>Waiākea Mill:</b> Mill established in 1879. History of operation and use of pond. Brief sugar history. Modern pond use.
28	<b>Waiākea Mill/Moho‘uli Pond:</b> Mill established in 1879. History of operation and use of pond. Brief sugar history. Modern pond use. Wall dividing traditional pond boundaries.
29	<b>Kalepolepo:</b> <i>Ili</i> boundary with Pi‘opi‘o. Location of a former fishpond. Legendary competition grounds for Hilo chiefs. Ka-Miki story.
30	<b>Ho‘olulu Complex:</b> History of recreational facilities in this location, starting with the opening of Ho‘olulu Park in 1900 and including the Merrie Monarch Festival venue: the Edith Kanaka‘ole Multi-Purpose Stadium.

**Note:** Sites with a and b designations have two signs, one for each distinct alignment of the trail (see Figure 4.6).

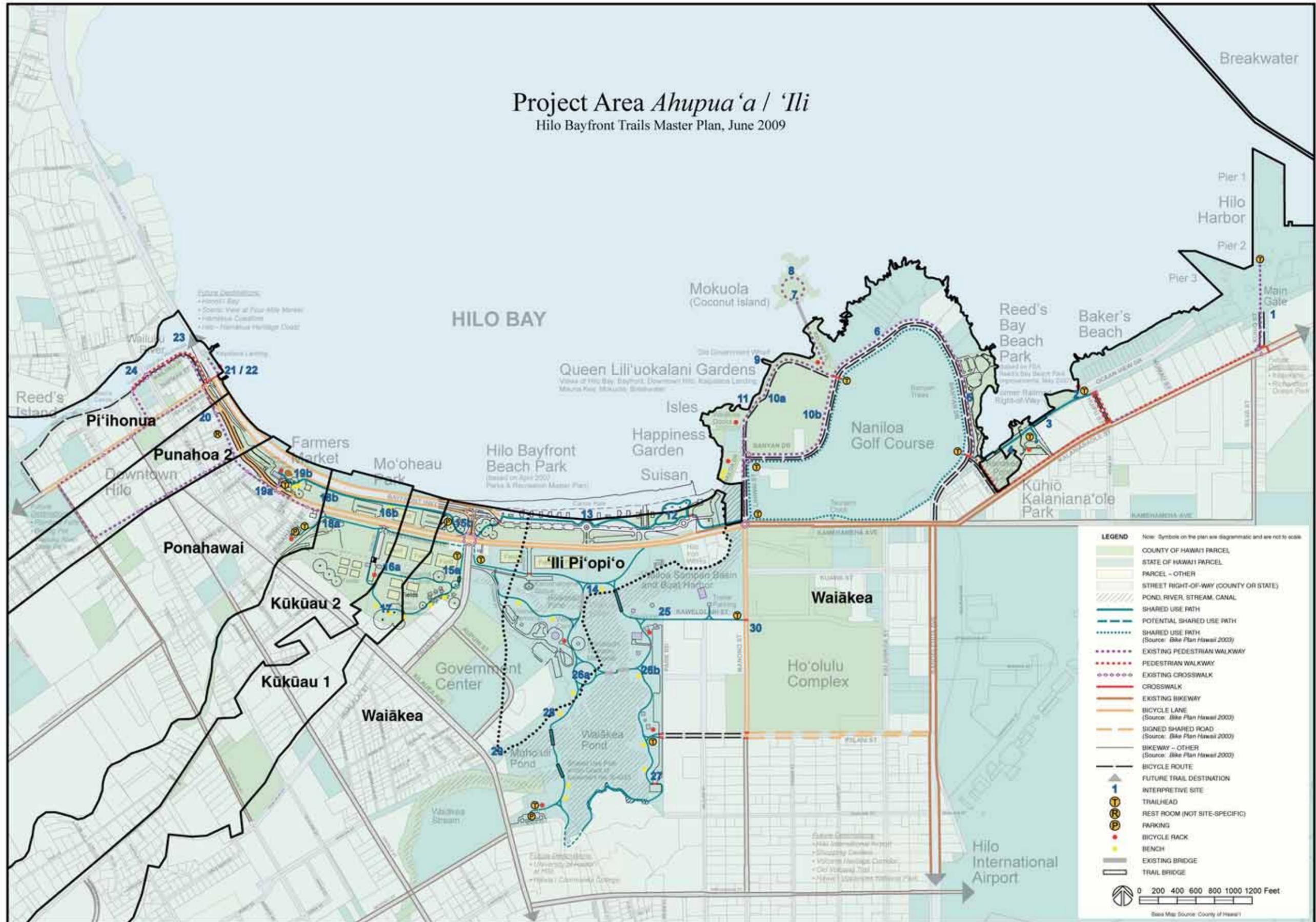


Figure 4.7

**Rest Room Facilities:** As noted in Chapter 3, the project area is well-equipped with rest room facilities that are located evenly across the bayfront (see Figure 3.5). In addition, three new rest room facilities are included in Department of Parks and Recreation projects: Hilo Bayfront Beach Park, Reed’s Bay Beach Park, and Kūhiō Kalaniana‘ole Park. Based on this assessment and the community’s concern about the security and maintenance of existing facilities, the Master Plan includes only one additional rest room facility in Downtown Hilo, the plan for which is to utilize an existing facility through a public-private agreement (see discussion in Chapter 5).

**Supplementary Parking:** Incorporated into the Hilo Bayfront Trails Master Plan are two supplementary parking lots in addition to a parking renovation for accommodating the shared use path at Mo‘oheau Park. The parking lot at Waiolama Canal Area along Ponahawai Street was a community proposal that received broad support for trail use as well as for use by soccer participants /spectators and shoppers going to Hilo Farmers Market. The parking lot accessed from Maile Street is part of a trailhead for the shared use path around Waiākea Pond and an additional entry for the Wailoa River State Recreation Area.

**Supplementary Water Fountains:** The Master Plan includes water fountains at existing rest room facilities that are not already equipped with these amenities (see design guidelines in Chapter 6).

**Supplementary Planting:** Although the project area abounds with planting, including exceptional trees protected by County ordinance, there are locations where supplementary planting is incorporated into the Hilo Bayfront Trail Master Plan to enhance the trail setting while at the same time complementing the existing beauty of the project area. Of note on the Master Plan is a native Hawaiian tree collection along the upper edge of Waiolama Canal Area. This planting will be a cultural resource in the project area to educate trail users about what was likely growing in the project area before the land was used for agriculture and other development. Interpretive Site 17 in this location could incorporate an explanation about the tree collection. The trees will also create a shade amenity for spectators of nearby recreational activities and those appreciating views of the bayfront from this elevated vantage point. Additional supplementary planting is discussed in the area-specific descriptions of the Master Plan.

**Supplementary Lighting:** A variety of considerations resulted in the decision not to include supplementary lighting in the Master Plan: (1) most destinations along the trail are parks with daytime usage hours; (2) trail alignments are intended for daylight hours; and (3) additional lighting represents significant additional cost and maintenance. Many community members were in favor of human-scale solar lighting, which could be implemented unit by unit as a separate project.

## Area-Specific Descriptions of the Master Plan

Although the character of trail elements implemented throughout the bayfront should be consistent, each portion of the project area possesses unique site characteristics and features. Descriptions of site-specific features of the Hilo Bayfront Trails are presented below.

**Downtown Hilo:** The dominant trail presence in Downtown Hilo is marked pedestrian walkways, which function as guides for visitors to experience a representative cross-section of the downtown area and as wayfinding devices for trail users who diverge from the trail to explore other parts of the downtown area. The main feature of this pedestrian network in Downtown Hilo is a loop that passes by many significant sights via



Figure 4.8: Photographic depiction of interpretive signage along the Kamehameha Avenue existing pedestrian walkway.



Figure 4.9: The main pedestrian loop (purple dots) comprises pedestrian walkways along Kamehameha Avenue, Waiānuenuenu Avenue, Kapi'olani Street and Haili Street and passes by many significant sights in Downtown Hilo. (See Figure 4.2 for a complete symbols legend.)

some of the oldest streets in Hilo (see Figure 4.9). Another smaller pedestrian loop along Wailuku Drive and Kekaulike Street connects back to the larger downtown loop. When the Department of Parks and Recreation Wailuku Riverfront plan is implemented, the Wailuku Drive pedestrian walkway alignment will be replaced by alignments on Wailuku Riverfront pedestrian walkways.

Bicycle facilities in Downtown Hilo include a scenic bicycle route on Wailuku Drive and bicycle lanes on Waiānuenuenu Avenue, which provide links to future destinations of the trails. Both alignments connect with bicycle facilities on Kamehameha Avenue and Bayfront Highway, which are the main routes across the bayfront.

**Mo'ohaeu Park:** The bus terminal at Mo'ohaeu Park is the premier trailhead for the Hilo Bayfront Trails, since it is equipped with parking for motorized vehicles, rest room facilities, a covered seating area, an information center, and access to Hele-On buses. The shared use path, bicycle facilities, and marked pedestrian walkways of Hilo Bayfront Trails are all linked to the bus terminal (Figure 4.10). The Master Plan also includes the installation of bicycle racks and benches adjacent to the bus terminal.

Mo'ohaeu Park provides an important off-road link between the bus terminal and Hilo Bayfront Beach Park and continuous visual access to Hilo Bay (Figure 4.11). The alignment of this path on the Master Plan has been coordinated with existing recreational fields, parking lots, coconut palms, and the grove of monkeypod trees near the corner of Kamehameha Avenue and Pauahi Street. Supplementary planting is included to screen the existing fence. If Bayfront Highway is closed at some point in the future



Figure 4.10: The Master Plan includes a shared use path in Mo'ohau Park that links Hilo Bayfront Beach Park to the bus terminal.



Figure 4.11: Illustrative sketch showing the shared use path along the makai edge of Mo'ohau Park looking toward Hilo Bayfront Beach Park.



Figure 4.12: A shared use path loop mauka of Waiolama Canal meanders around the existing soccer fields.



Figure 4.13: A shared use path bridge spans Waiolama Canal near Pauahi Street to facilitate a connection with the shared use path paralleling Kamehameha Avenue.

(a course of action included in the *County of Hawaii General Plan*), the alignment may be relocated *makai* and enhanced with spurs to the shoreline.

**Waiolama Canal Area:** The shared use paths in the Waiolama Canal Area are carefully aligned to preserve the existing large open lawn areas used for soccer activities (Figures 4.12 and 4.13) and the coconut palms along the *makai* side of the canal. A cluster of benches beneath the trail's supplementary planting of native Hawaiian trees provide shade for soccer spectators and respite for trail users. An

expanded Kumu Street Bridge and a new shared use path bridge near Pauahi Street facilitate connections between the *mauka* loop path and the shared use path paralleling Kamehameha Avenue. Supplementary trail parking and bicycle racks at Ponahawai Street provide a trailhead and staging area for walking and bicycling in the Waiolama Canal Area and beyond.

**Wailoa River State Recreation Area:** A contiguous, meandering shared use path provides a complete perimeter path around Waiākea Pond. This full circuit is created by utilizing a grant of easement at Waiākea Villas; aligning potential shared use path segments on the privately owned Maile Street and through a privately owned adjacent parcel; and locating three new accessible bridges: one at the end of Moho‘uli Pond, a second across Waiākea Stream, and across Wailoa River. The shared use path also spans the existing Pi‘opi‘o Street bridge (Figure 4.14), which is outfitted with a barrier to separate pedestrians and nonmotorized vehicles from cars and trucks entering / exiting the parking area near Wailoa Center. Shared use path segments connect with the existing arched bridges, but crossing these bridges is not necessary in order to complete the circuit of the Wailoa Pond.

Seven interpretive sites pay tribute to the rich cultural heritage of this area, from the time when the future Kamehameha the Great lived in ‘ili Pi‘opi‘o to the establishment of Waiākea Mill. Four trailhead signs are located at shared use path entries to the recreation area; the Maile Street trailhead is equipped with trail parking and bicycle racks. Supplementary bicycle racks and benches are located throughout this expansive open space (Figure 4.15).

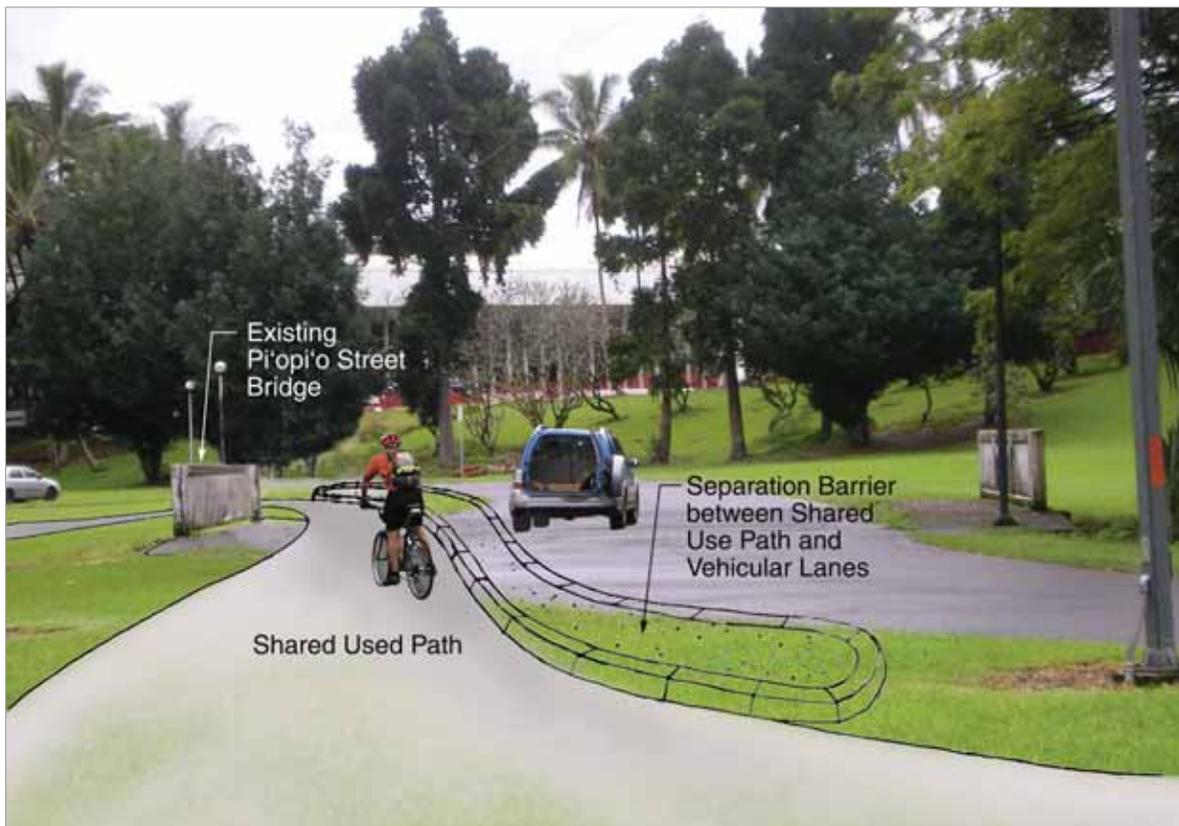


Figure 4.14: Shared use path with separation barrier at the Pi‘opi‘o Street bridge in Wailoa River State Recreation Area.

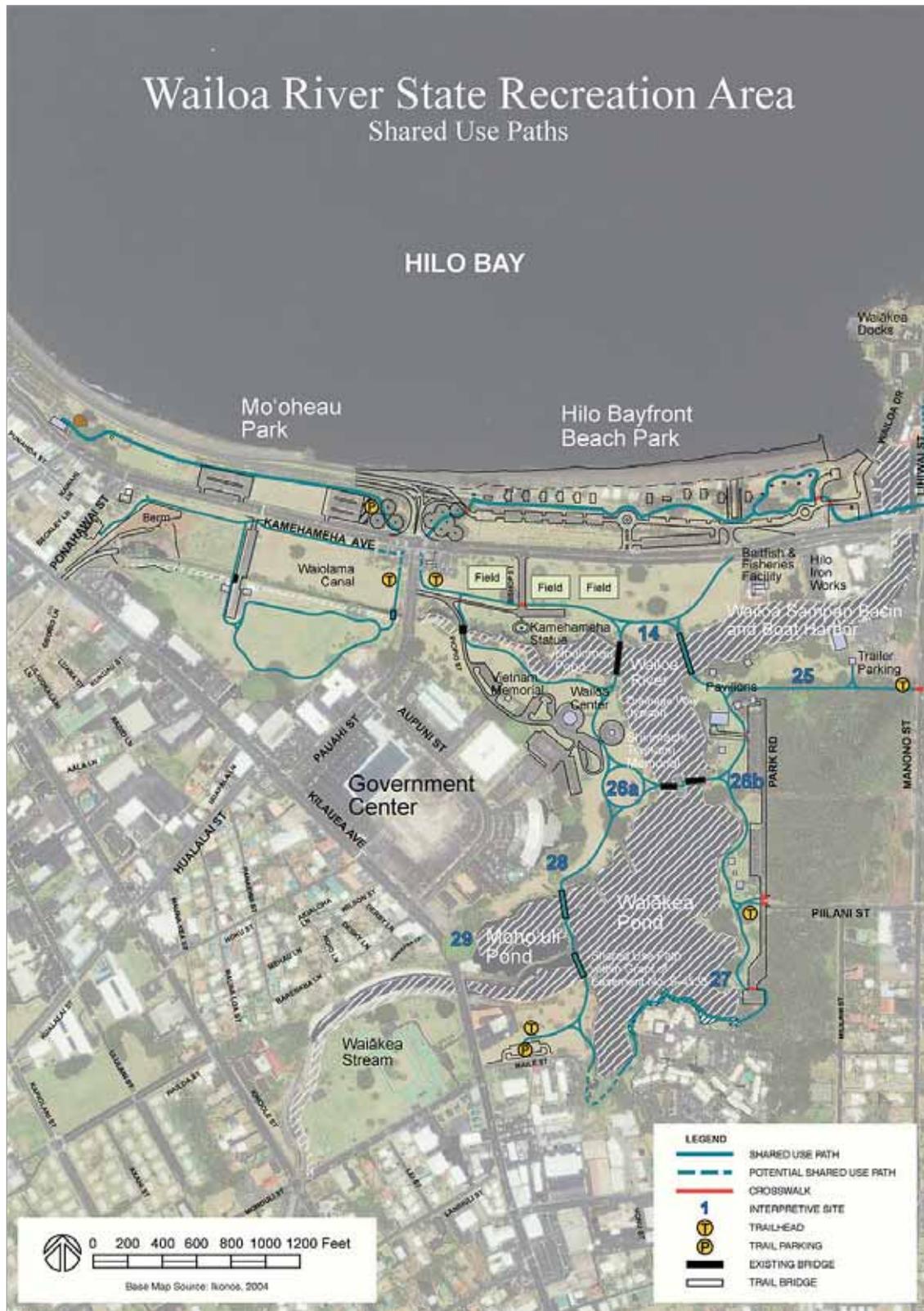


Figure 4.15: The Master Plan shared use paths are superimposed on an aerial photograph of the recreation area to show how trail alignments and amenities have been coordinated with existing waterways, vegetation, and structures.



Figure 4.16: Shared use path on the makai side of the Wailoa Bridge.

Shared use paths within the Wailoa River State Recreation Area—comprising **40 percent** of the total linear feet of shared use paths on the Master Plan—and new bridges represent **approximately 30 percent** of the order-of-magnitude cost for design and construction of the Hilo Bayfront Trails project (see Appendix G). Despite the large cost, the community strongly supports these improvements.

**Wailoa Bridge:** The shared use path on the *makai* side of the Wailoa Bridge represents a trail alignment that was mapped by community members at both Public Meetings 1 and 2 and that was supported throughout the community review process. This segment provides an important link between Waiākea Peninsula and the bayfront. A barrier separates the path from motor vehicle traffic on Kamehameha Avenue (Figure 4.16).

**Waiākea Peninsula:** With a wealth of open space and a broad, less traveled roadway (the widest right-of-way in the project area), Waiākea Peninsula is a haven for trail use. A shared use path hugs the perimeter of the Naniloa Golf Course, where trail users may enjoy the deep shade of existing banyan trees (Figure 4.17). Bicycle routes on Banyan Drive and along the one-way drive through Queen Lili‘uokalani Gardens provide spectacular views of the bay. Pedestrian alignments are located on existing walkways along Lihiwai Street, on Mokuola, and along Banyan Drive. Trail markings will be installed to identify existing facilities as trail alignments (Figure 4.18).

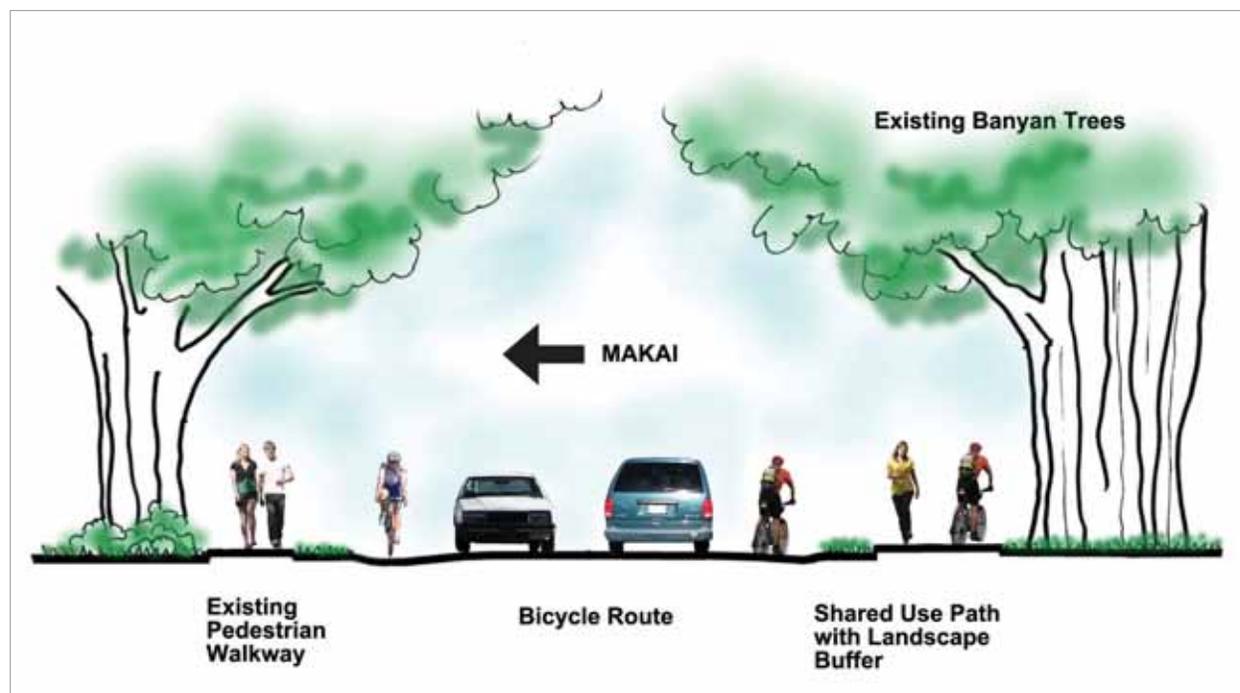


Figure 4.17: This section elevation of Banyan Drive illustrates the various trail alignments located at Waiākea Peninsula (from left to right): marked existing pedestrian walkway, two-way bicycle routes, and a shared use path around the perimeter of the Naniloa Golf Course.

Eight interpretive sites are located on Waiākea Peninsula, including one to tell the story of the “Walk of Fame” banyan trees.

A new crosswalk links the shared use path circuit around the golf course to the trail bicycle and pedestrian facilities on Banyan Drive and / or in Reed’s Bay Beach Park. A new pedestrian walkway and bicycle route on Banyan Way link the trail to Kalaniana‘ole Street.

**Kalaniana‘ole Street:** In addition to being the main route for cargo to / from facilities at Hilo Harbor, Kalaniana‘ole Street is the only route to Keaukaha and many popular beach parks, including Richardson Ocean Park. To accommodate this important link between Kanakea Pond and the harbor and beaches beyond, the Master Plan includes a new marked pedestrian walkway on the *makai* side of the street and adopts the bikeways on both sides of the street. Supplementary planting, comprised of small vertical trees and ground cover, are located on both sides of the street (Figure 4.19). New crosswalks at the intersection of Kalaniana‘ole Street and Kūhiō Street will guide trail users to the existing pedestrian walkway that provides access to the beaches beyond.



Figure 4.18: Photographic depiction of trail markings on an existing pedestrian walkway at Mokuola.



Figure 4.19: “Before” (left) and “after” (right) Hilo Bayfront Trails improvements on Kalaniana‘ole Street.

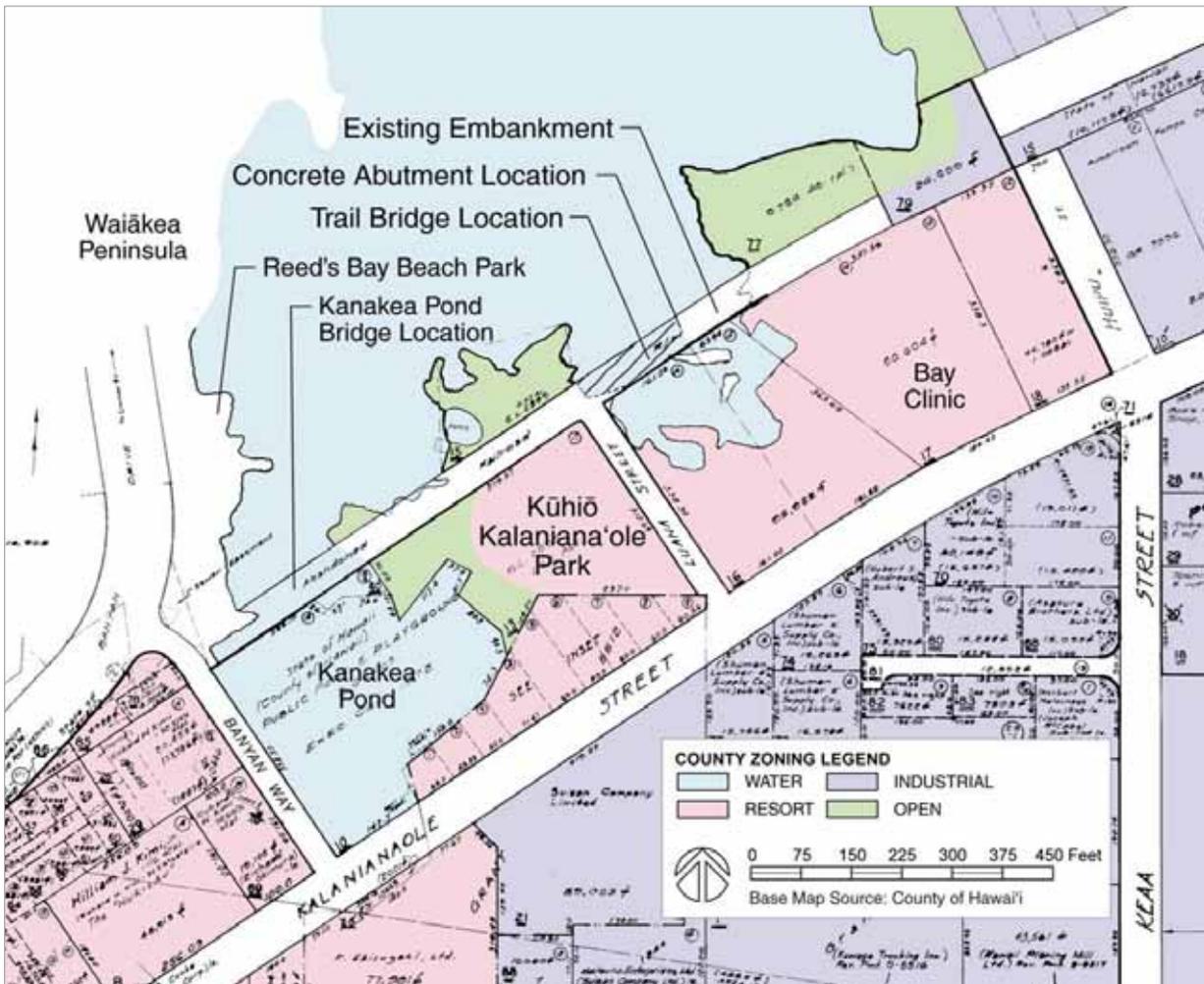


Figure 4.20: Plan showing context of shared use path within the former railroad right-of-way.



Figure 4.21: View from the shoreline at Kūhiō Kalanianaʻole Park toward trail bridge location within railroad right-of-way.



Figure 4.22: Sketch showing where the shared use path might pass through Kūhiō Kalanianaʻole Park.

**Former Railway Right-of-Way:** The shared use path within the former railroad right-of-way will provide a scenic link between Waiākea Peninsula and the gate to the future Hilo Harbor passenger terminal, extending from Reed’s Bay Beach Park to Huipū Street. The Kanakea Pond bridge linkage is part of Phase 2 of the Reed’s Bay Beach Park improvements project of the Department of Parks and Recreation. A trail bridge crosses another pond farther north, and between the two bridges, the shared use path crosses Kūhiō Kalanianaʻole Park (Figures 4.20, 4.21, 4.22, and 4.23). At the trailhead near Huipū Street, a design of supplementary planting will be installed to enhance the setting of Interpretive Site 2 and views of Reed’s Bay (see Figure 4.4).

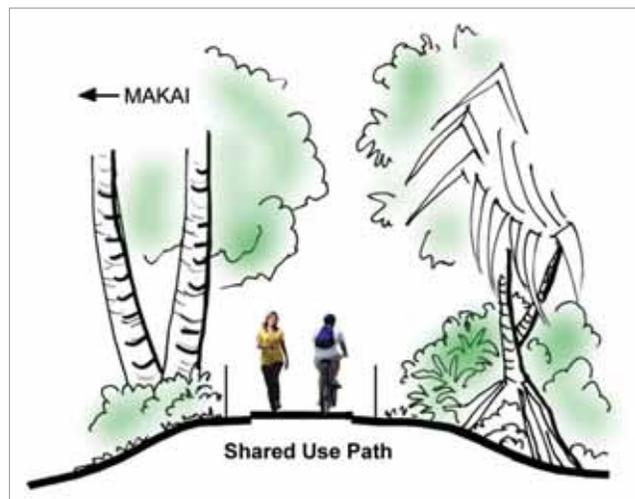


Figure 4.23: Sketch showing the shared use path on the former railroad embankment.

**Hilo Harbor Connections:** Master Plan connections to Hilo Harbor comprise short-term alignments on Kūhiō Street and long-term alignments on Huipū Street. The short-term pedestrian walkway and bicycle route will be used for cruise ship passengers until a new cruise ship passenger terminal is completed. Adjacent to the pedestrian walkway along Kūhiō Street, supplementary planting will screen existing property line fencing and industrial activities and enhance the setting of the interpretive signage just outside the Kūhiō Street gate (Figure 4.24). Once the Huipū Street pedestrian walkways and bicycle route are implemented, the Kūhiō Street pedestrian walkway will become a trail spur to the interpretive signage, which would remain in this location for the long-term.



Figure 4.24: On Kūhiō Street, the Master Plan includes trail markings on existing paving, a bicycle route, interpretive signage, and supplementary planting.

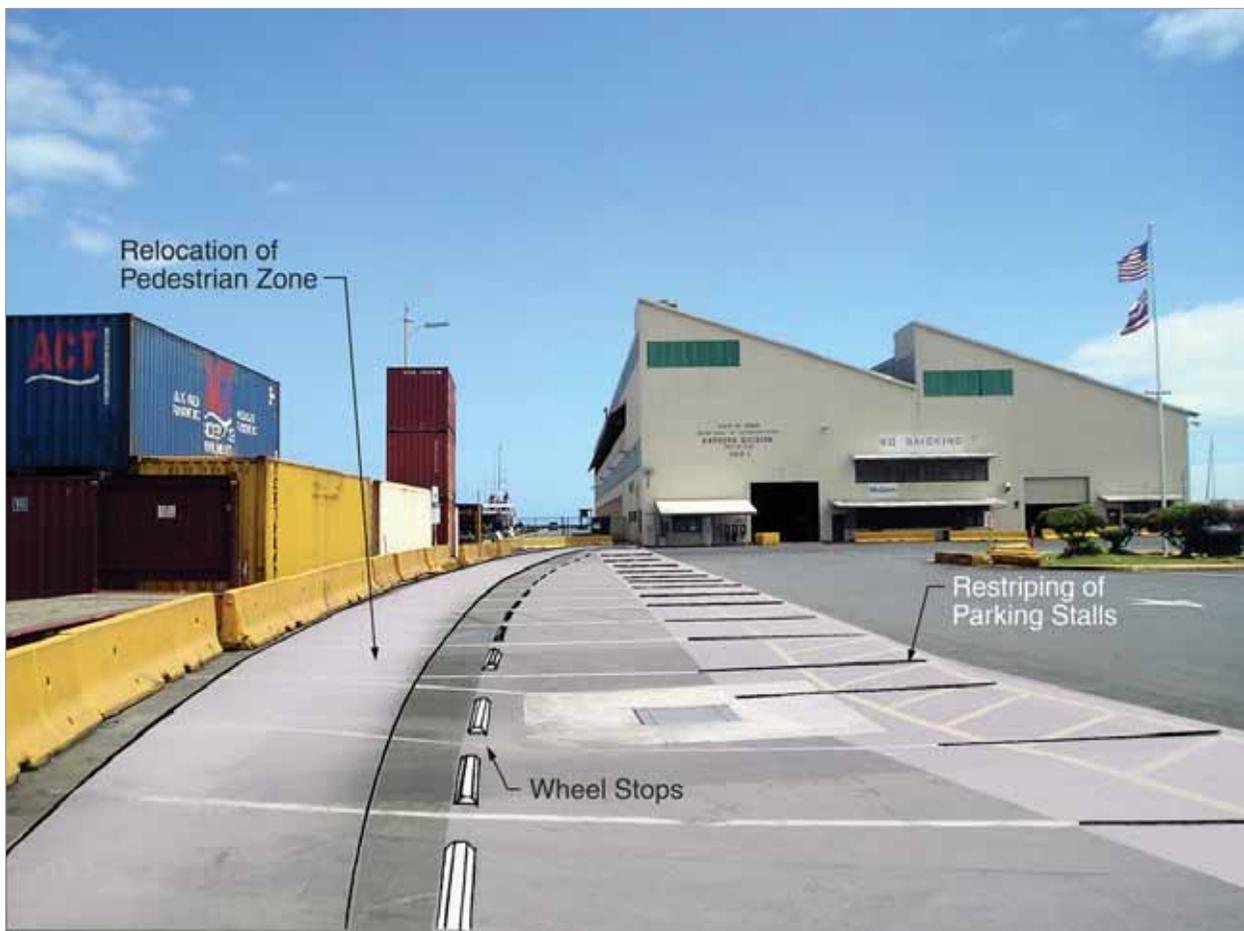


Figure 4.25: Short-term pedestrian alignment for connecting the passenger terminal shed at Pier 1 with the main gate at Kūhiō Street.

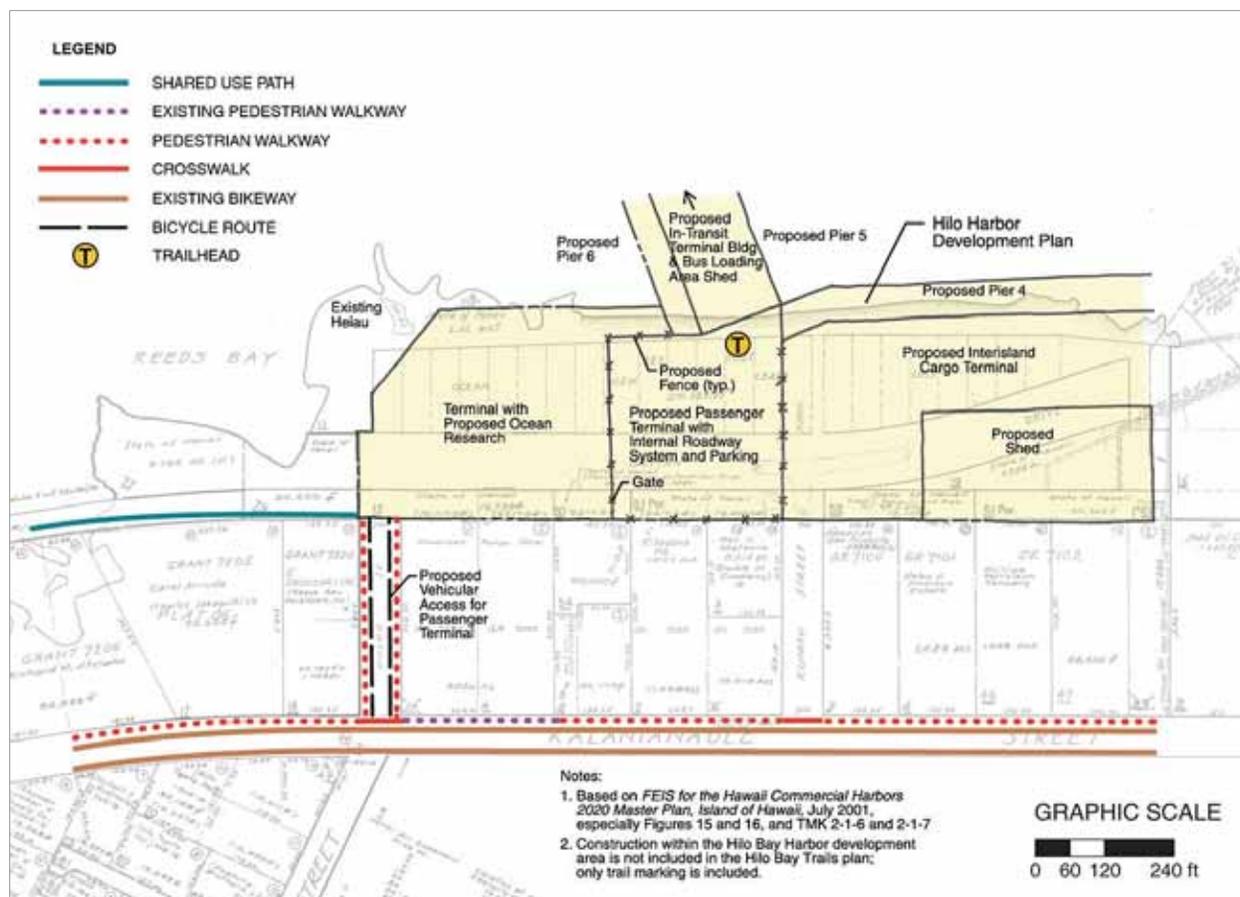


Figure 4.26: Long-term trail alignments on Huipū Street connect the Kalaniana'ole Street trail segments with Hilo Harbor and the shared use path aligned within the former railroad right-of-way.

Short-term trail improvements within Hilo Harbor include relocating the existing pedestrian zone between the Pier 1 shed and the Kūhiō Street main gate (Figure 4.25). A trailhead sign at the passenger terminal—the Pier 1 shed in the short-term and the passenger terminal at Pier 5 in the long-term—is desired for informing cruise ship passengers about the trails.

Long-term improvements within Hilo Harbor implemented by the State Department of Transportation, Harbors Division, will connect with trail alignments outside of the harbor on Huipū Street (Figure 4.26).

## Future Trail Destinations

The future destinations of the Hilo Bayfront Trails are the result of community input at public meetings and responses to the project user survey. The most often mentioned destination was the University of Hawai'i at Hilo to the south. The Master Plan bicycle lanes on Manono Street could facilitate future connection to bicycle facilities that have already been constructed on East and West Kawili Streets near the university. From Downtown Hilo, the Master Plan bicycle lanes on Waiānuenu Avenue would connect with bicycle facilities proposed in *Bike Plan Hawaii 2003* on Kino'ole Street, which would link with existing bike facilities on West Kawili Street.

The second and third most popular future destinations for the trail are Richardson Ocean Park and Keaukaha to the east of the project area. The Master Plan includes connections to existing pedestrian and bicycle facilities beyond Hilo Harbor.

Alignments to future trails destinations west of the project area, including Honoli'i Bay and the Hāmākua Coastline, could occur from the bicycle facilities on Kamehameha Avenue or Bayfront Highway or via the bicycle route on Wailuku Drive.

Links to Wailuku River State Park could be made via the Master Plan bicycle facilities on Waiānuenu Avenue and Wailuku Drive.

## Conclusion

The Hilo Bayfront Trails Master Plan represents the vision expressed by Hilo residents and stakeholders during the public community meetings and Stakeholder Advisory Committee meetings. While it may seem ambitious, the plan provides a fully-integrated and coordinated tool that the Hilo community can utilize for implementing short-term and long-term projects as funding is available.

The next chapter, Chapter 5, is a step-by-step guide for implementing the Hilo Bayfront Trails Master Plan.



# 5. PLAN IMPLEMENTATION

*“Involve all local audiences: sports, culture, history, business.”*

This chapter focuses on the implementation process that will commence now that the Hilo Bayfront Trails Master Plan has been prepared. Topics covered include project area jurisdiction; implementation requirements by phase; implementation phasing and cost of trail actions; and site-specific implementation issues. The information is organized by order of implementation, from completion of the planning phase to construction.

In addition to the Department of Research and Development, implementation of the Master Plan will require coordination with public agencies that have jurisdiction over the various parcels and rights-of-way comprising the project area, including the County Departments of Planning, Public Works, and Parks and Recreation; the State of Hawai‘i Department of Transportation, Harbors Division and Highways Division; and the State of Hawai‘i Department of Land and Natural Resources, Division of State Parks, Division of Boating and Outdoor Recreation, and Land Division. In addition, approvals will be required from several State and County entities. The state-owned parcel occupied by the Naniloa Golf Course is “ceded land,” and the status of this parcel could change during the implementation of the Hilo Bayfront Trails project.



*Figure 5.1: Kūhiō Kalaniana‘ole Park, from where this image of Reed’s Bay was taken, is one of the newest bayfront parks, spearheaded by local Rotary clubs in commemoration of Rotary’s one hundredth anniversary.*

## Planning Phase Implementation

With the completion of the Master Plan for the trails, emphasis will shift to achieving land use entitlements and other agency approvals for the project. These actions must precede and be completed before the final design and construction phases of the project can commence. The major elements of this phase include an Environmental Assessment (EA) and a Special Management Area (SMA) Use Permit. The Hilo Bayfront Trails Master Plan will be used as the basis for preparing these submittals as well as other approvals that may be required.

The Hawai‘i County Resource Center, within the Department of Research and Development, will continue to manage the planning phase of the Hilo Bayfront Trails project in close collaboration with other County departments.

### **Chapter 343, Hawai‘i Revised Statutes**

Under the provisions of the State Environmental Impact Law (Chapter 343, Hawai‘i Revised Statutes [HRS]), the use of State or County lands or the expenditure of State or County funds requires a project to undergo review under the authority of Chapter 343, HRS. This review is intended to determine the extent of any anticipated environmental impacts and proposed mitigation measures to ameliorate those impacts.

# County Zoning / SMA / Tsunami Evacuation

## Hilo Bayfront Trails Master Plan, June 2009

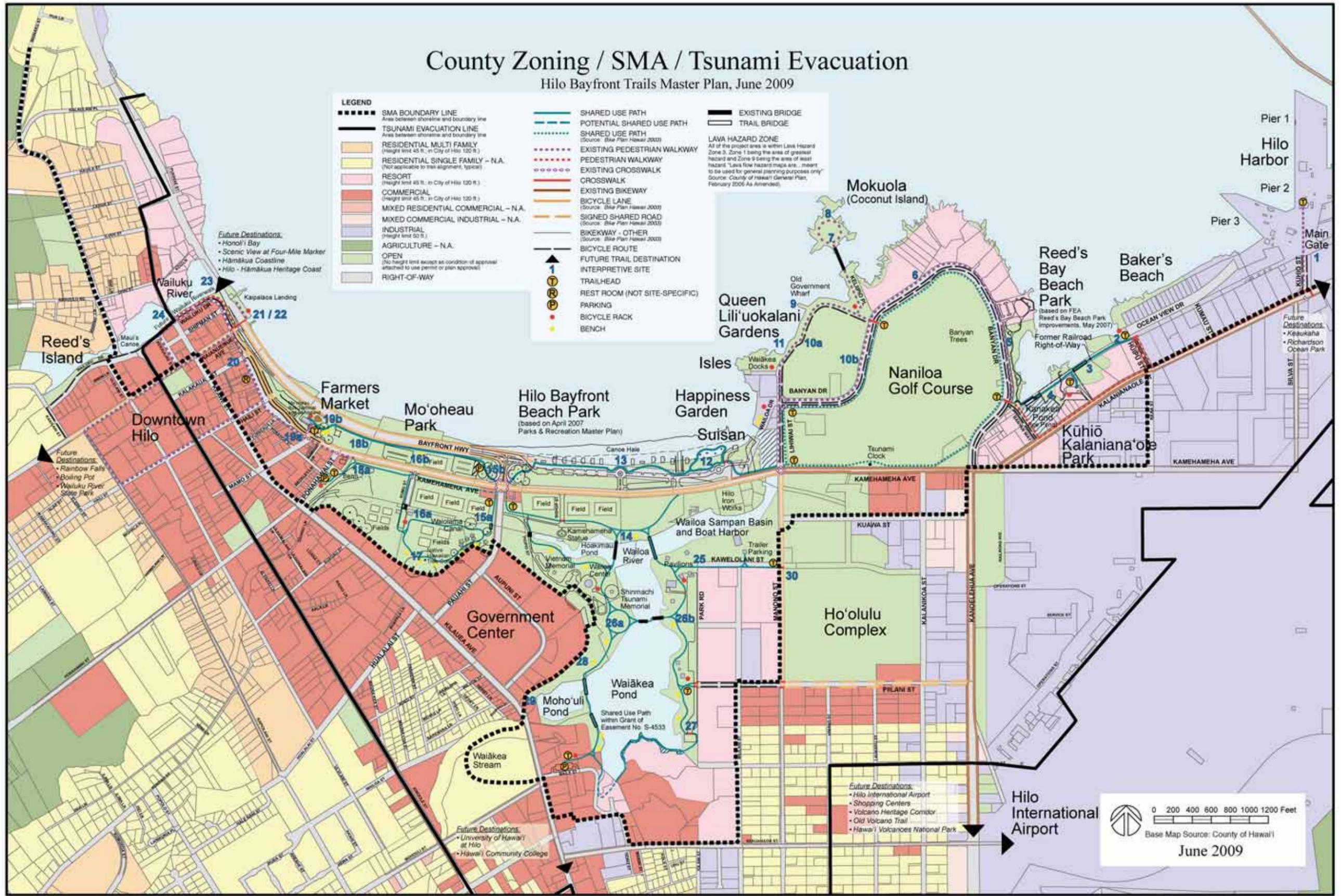


Figure 5.2

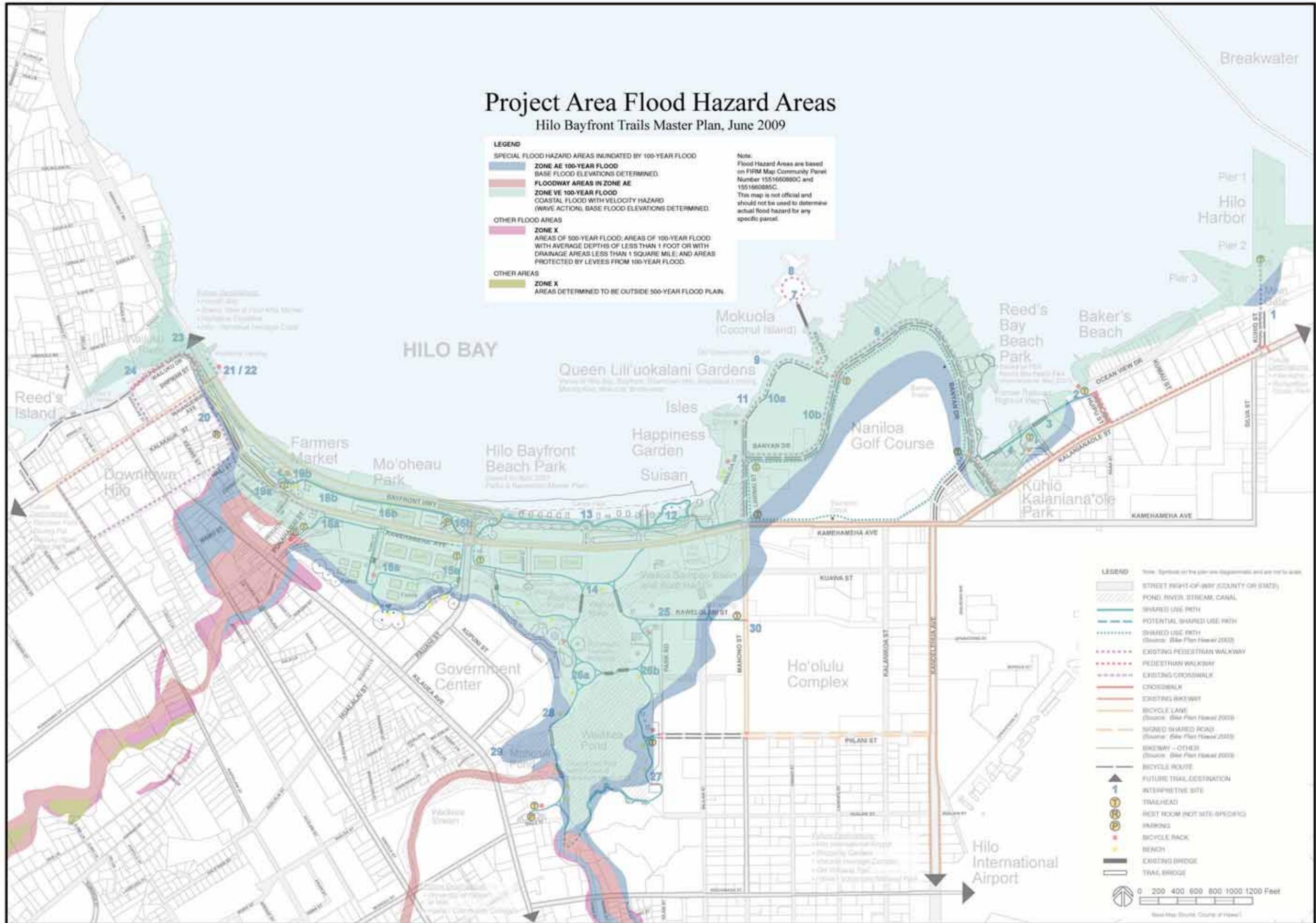


Figure 5.3

The scope of this review results in the preparation of either an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). It is anticipated that an EA will be adequate for this project. The duration of the EA process can vary from 6 months to 9 months, and will include the following elements: (1) an early consultation period; (2) preparation of a draft EA; (3) a 30-day public review and comment period; (4) the preparation of a final EA; and (5) a final determination of EA acceptance/rejection by the agency accepting authority. Further, all project phases or increments of the larger total undertaking need to be treated as a single action and cannot be segmented. This means that smaller sections of the trail, which individually might be exempted from environmental and / or permit review, must be considered part of the larger whole and cannot be implemented until the entire environmental review is completed.

### **Special Management Area (SMA) Use Permit**

Special management areas were designated by the Hawai‘i County Council under the provisions of Chapter 205-A, HRS, and are governed at the County level by Rule 9 (Special Management Area) of the Planning Commission Rules of Practice and Procedure. Nearly all of the alignments and amenities documented on the Hilo Bayfront Trails Master Plan are located within the SMA (as shown on Figure 5.2). SMA Use Permits (Major) are processed by the Hawai‘i County Planning Department and are reviewed and either approved, approved with conditions, or denied by the Hawai‘i County Planning Commission. An accepted EA is necessary for the SMA Use Permit, if required by Chapter 343, HRS.

### **Shoreline Setback Variance**

The Shoreline Setback Rules and Regulations for Hawai‘i County are administered under the provisions of Rule 8 of the Planning Commission Rules of Practice and Procedure. The overarching purpose for the Shoreline Setback Rules is to ensure that natural beach processes are not interfered with by human activity. The rules are also intended to ensure that there is adequate separation between the established shoreline and any development projects defined by the rules. Any activity proposed within the Shoreline Setback Area, unless exempted, must receive approval for a Shoreline Setback Variance. Portions of the trail alignment may be located within the Shoreline Setback Area; however, the extent of this encroachment will not be known until a survey of the shoreline is conducted and certified by the State Surveyor. These areas include property in the vicinity of Kūhiō Kalaniana‘ole Park and Reed’s Bay Beach Park. The requirements to process a Shoreline Setback Variance include a review (EA) under Chapter 343, HRS, and the certification of a shoreline survey.

### **Shoreline Certification**

The certification of a shoreline survey is a separate process that involves the State Department of Land and Natural Resources and the land survey administrator of the survey division of the State Department of Accounting and General Services. A shoreline survey may also be required for portions of the alignments located within the SMA, under the discretion of the Director of the County Department of Planning. The certification of a shoreline survey is valid for a period of one year, so it will be important to consider the timing of applications for building and other construction permits with the timing of shoreline certifications.

### **Flood Hazard Regulations**

Rules relating to floodplain management are contained in Chapter 27 of the Hawai‘i County Code and are administered by the Department of Public Works. A large majority of the Hilo Bayfront Trails system is located within one of several different flood hazard areas, including floodplain (AE), floodways (AE floodway), and tsunami inundation (VE). Under Section 27-22(c)(1), public nonstructural recreational facilities may be allowed in floodways on a case-by-case basis. Certification may be required documenting that new facilities do not increase the regulatory flood. Figure 5.3 shows the extent of the project area affected by flood hazard areas.



Figure 5.4

### **State Conservation District Use Permit (CDUP)**

There are two state land use designations within the Hilo Bayfront Trails project area: Urban and Conservation (Figure 5.4). The County has jurisdiction over the Urban District, and the State Department of Land and Natural Resources (DLNR) has administrative responsibility and jurisdiction for the Conservation District. The Conservation District allows a very limited amount of uses, and most uses require a Conservation District Use Permit (CDUP) from the Board of Land and Natural Resources (BLNR), a seven-member board appointed by the State governor. When land is in both the Conservation District and the SMA, the requirements of the County SMA rules must be satisfied thirty (30) days prior to board action on a Conservation District Use Application (CDUA).

The Conservation District is further subdivided into five subzones, and each subzone has a different set of uses permitted for that specific subzone. Within the Resource Subzone of the Conservation District in the project area, the following actions are proposed:

1. Trail markings on existing pedestrian walkways and interpretive signage (2) on Mokuola (Coconut Island)
2. Trail markings and two-way bike route on existing paving at Queen Lili'uokalani Gardens
3. Bridges over Moho'uli Pond, Waiākea Pond, and the Wailoa River and possibly shared use path segments in Wailoa River State Recreation Area
4. Boardwalk and viewing deck within the bounds of Kanakea Pond
5. Bridge in former railroad right-of-way over pond fronting TMK 2-1-6:16

Further clarification from the Department of Land and Natural Resources may be required to determine whether these improvements are actually within the State Conservation District. According to Hawai'i Administrative Rules (HAR) Section 13-5-22, replacement or reconstruction of existing structures and facilities as identified in the exempt classes of actions established in Title 11 Chapter 200-8 of the Environmental Impact Statement Rules and Regulation do not require a permit from DLNR. This section of the rules exempts "*Operations, repairs, or maintenance of existing structures, facilities, equipment or topographical features, involving negligible or no expansion or change of use beyond that previously existing.*" This language suggests that sections of the trail system within the State Conservation District that currently exist and are being proposed for modification may not be required to obtain approval from DLNR. It is strongly recommended that discussions with DLNR be held during the EA phase of the project to determine processing requirements under the State Conservation District Rules and Regulations (Chapter 13-5, Hawai'i Administrative Rules). Finally, signs, including safety signs, danger signs, no trespassing signs, and other informational signs, are a permissible land use in the Conservation District with the following stipulations: "No signs shall exceed twelve square feet in area and shall be non-illuminated. All signs shall be erected to be self-supporting and be less than or equal to eight feet above finished grade." Signs require site plan approval from DLNR.

### **Additional Consultation with State Agencies Having Jurisdiction in the Project Area**

Significant portions of the trails system are located on land owned by various State agencies. As identified earlier in this chapter, these include the State of Hawai'i Department of Transportation, Harbors Division and Highways Division, and the State of Hawai'i Department of Land and Natural Resources, Division of State Parks, Division of Boating and Outdoor Recreation, and Land Division. Early consultation with these state landowners is essential. Fortunately, a representative of each agency has served as a member of the Stakeholder Advisory Committee, and they are knowledgeable about the history of the project. Various agreements can be sought with these State agencies to formalize the allowance of the trail improvements, including a Memorandum of Agreement (MOA), a Memorandum of Understanding (MOU), or an easement. Given the scale of the improvements, an Executive Order (EO) of the governor transferring ownership of the property to an appropriate County agency is unlikely. It will be

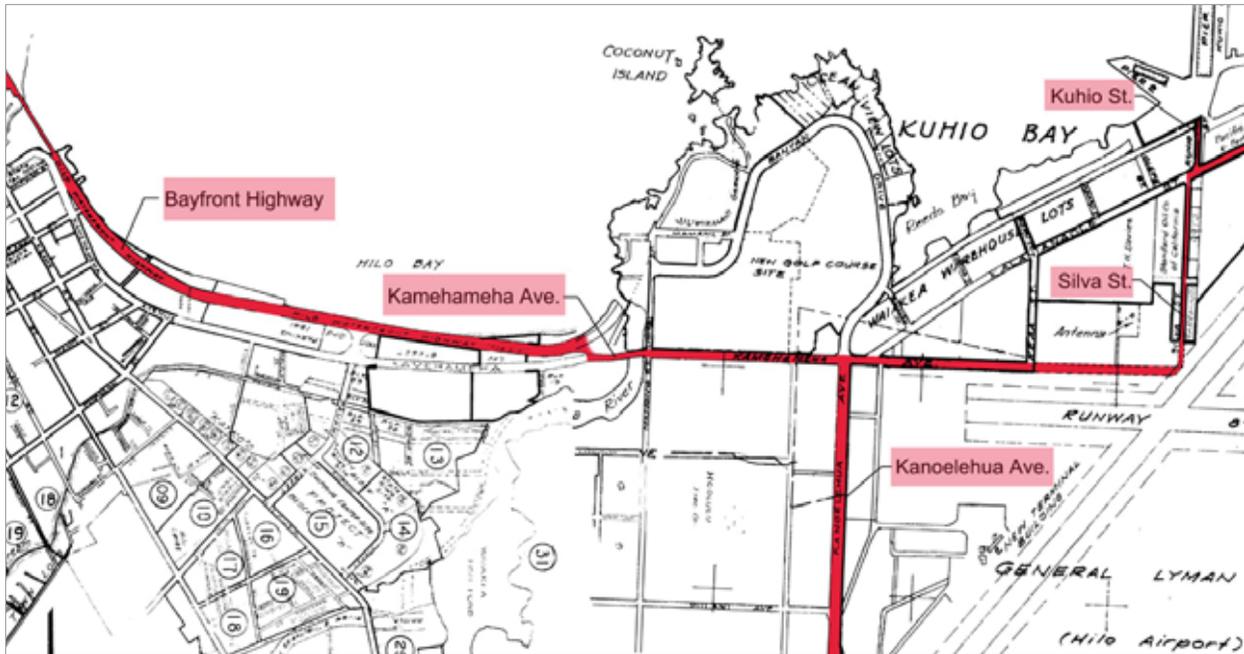


Figure 5.5: Rights-of-way highlighted in red are State-owned and State-maintained. Consultation with the State Department of Transportation, Highways Division, is required for implementation of trail actions within these rights-of-way.

important for these agreements to be made well in advance of design, so the County is assured of the State’s cooperation in a timely manner.

### **Ceded Lands**

Segments of the shared use path around the Naniloa Golf Course are aligned within “ceded lands” under the jurisdiction of the Department of Land and Natural Resources, Land Division. In January 2008, the State of Hawai‘i and the Office of Hawaiian Affairs reached a settlement of a lawsuit based on the State’s ability to sell ceded lands. The transfer of the golf course property was included in the settlement agreement. However, the State Legislature did not accept the settlement agreement, and the transfer of the land was not realized. As of May 2009, the State Legislature passed SB 1677 (SD1, HD2, CD1), which requires a two-thirds vote of the Legislature before the State can sell ceded lands. The bill is now pending the governor’s signature. At this time, there is no proposal for the ceded lands within the project area to be transferred or sold. However, consultation with DLNR and OHA may be necessary before this section of the trail can be implemented.

### **Review by Disability and Communication Access Board (DCAB), Department of Health**

The Hilo Bayfront Trails Master Plan should be submitted to the Facility Access Unit of DCAB for review and recommendations in order to ensure compliance with Hawaii Revised Statutes (HRS) 103-50 and Hawai‘i Administrative Rules (HAR) Chapters 11-216 and 11-217. Timely submittal and review is important.

### **U.S. Army Corps of Engineers, Department of the Army Section 10 Permit**

There are six bridges proposed as part of the Master Plan. One each crosses Waiākea Stream, Moho‘uli Pond, and Wailoa River in Wailoa River State Recreation Area. Two are located within the Waiolama Canal Area, one of which is an expansion of the existing bridge at Kumu Street. A sixth bridge is located within the former railroad right-of-way over the pond fronting TMK 2-1-6:16. It is probable that these

bridges will require approval from the U.S Army Corps of Engineers Pacific Division, Regulatory Branch. The Corps derives its regulatory authority over waters of the United States from the two Federal laws that are central to the Corps' regulatory program. Section 10 of the Rivers and Harbors Act of 1899 applies to all navigable waters of the United States, and Section 404 of the Clean Water Act applies to all waters, including wetlands, that have sufficient nexus to interstate commerce. Waters of the United States include essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

The Corps does not determine whether a Section 10 Permit is required without submittal of a formal written request. It is highly recommended that the Regulatory Branch be contacted during the preparation of the EA (808 438-9258) and that a formal request be made as to the authority of the Corps for portions of the trails. The Regulatory Branch website is also a useful resource: <http://www.poh.usace.army.mil/ec-r/EC-R.htm>.

### **Coastal Zone Management (CZM) Consistency Determination**

The national Coastal Zone Management Act (CZMA) requires direct Federal activities and development projects to be consistent with approved State coastal programs to the maximum extent practicable. Also, federally permitted, licensed, or assisted activities occurring in, or affecting, the State's coastal zone must be in agreement with the Hawai'i CZM Program's objectives and policies. Federal agencies cannot act without regard for, or in conflict with, State policies and related resource management programs that have been officially incorporated into State CZM programs (Code of Federal Regulations, 15 CFR 930). If any portion of the Master Plan receives federal funding, or requires Federal permit approvals (such as the Section 10 Army Corps Permit), the project must undergo a Consistency Determination for the CZMA, processed by the State Office of Planning.

### **Stream Channel Alterations**

The Commission on Water Resource Management is attached to the State of Hawai'i's Department of Land and Natural Resources. The Commission administers the State Water Code, which was created by the 1987 Hawai'i State Legislature. The Commission's general mission is to protect and enhance the water resources of the State of Hawai'i through wise and responsible management. The Commission's staff is comprised of the Surveying, Planning, Ground-Water Regulation, and Stream Protection and Management Branches. The Stream Protection and Management Branch receives and processes permit applications for stream channel alterations, well drilling, pump installations, and diversion works construction. A stream Channel Alteration Permit would be required for any construction within the banks of any stream; it is probable that Waiākea Pond and Moho'uli Pond—where trail bridges are proposed—would be considered streams for this project. A Stream Channel Alteration Permit may also be required if temporary scaffolding is placed in a stream to accommodate construction activities. It is strongly recommended that the Commission on Water Resource Management be consulted during the preparation of the Environmental Assessment.

### **Phasing and Cost of Trail Actions**

Once the overall project requirements of Chapter 343, HRS, are met (accepted EA or EIS) and an SMA Use Permit has been issued, implementation may occur on a project-by-project basis in various parts of the bayfront. Implementation priorities will need to be determined based on many factors, including available funding, ongoing design and construction projects by the State and County, and even unexpected circumstances.

### **Community Implementation Priorities**

As a community-based project, Hilo residents were asked at Public Meeting 3 to indicate which three parts of the trails project they would like to see implemented first. Most community members

**Table 5.1: Summary of the Order-of-Magnitude Cost Estimate for Trail Action Design and Construction, by Area (see Appendix G).**

<b>Area</b>	<b>Cost</b>
<b>Kalanianaʻole Street: Banyan Way-Kūhiō St.</b>	\$737,900.00
<b>Waiolama Canal Area</b>	\$2,018,392.14
<b>Downtown Hilo (rights-of-way)</b>	\$323,070.58*
<b>Wailoa Bridge (State right-of-way)</b>	\$87,526.95
<b>Kaipalaoa Landing</b>	\$7,490.00
<b>Moʻoheau Park</b>	\$496,338.40
Wailoa River State Recreation Area	\$8,106,478.33
Hilo Bayfront Beach Park	\$16,000.00
Nanioloa Golf Course	\$746,399.56
Happiness Garden	\$2,190.00
Isles	\$790.00
Queen Liliʻuokalani Gardens	\$50,104.21
Mokuola	\$29,200.00
Reed's Bay Beach Park	\$9,200.00
Kanakea Pond Boardwalk and Deck	\$182,000.00
Kūhiō Kalanianaʻole Park	\$113,561.17
Reed's Bay Area Parcel 2-1-6:79	\$115,365.31
Hilo Harbor: Short-Term	\$6,093.50
Hilo Harbor: Long-Term	\$500.00
Bayfront Highway	\$1,032,447.94
Kamehameha Avenue: State Right-of-Way	\$5,407.99
Kawelolani Street	\$154,726.98
Piʻilani Street	\$21,161.84
Manono Street	\$131,039.12
Lihiwai Street: Kamehameha Ave.-Queen Liliʻuokalani Gardens	\$17,099.87
Banyan Drive: Lihiwai St.-Banyan Way	\$795,803.45
Banyan Drive: Banyan Way-Kamehameha Ave.	\$7,053.95
Banyan Way: Banyan Dr.-Kalanianaʻole St.	\$48,047.50
Former Railroad Right-of-Way	\$1,240,514.64
Huipū Street	\$8,400.00
Kūhiō Street	\$17,826.97
<b>Total (including design and construction contingencies)</b>	<b>\$19,013,099.93</b>

\*This cost includes improvements on Kamehameha Avenue from Waiānuenu Avenue to the state-owned portion of Kamehameha Avenue. It does not include the crosswalk from Bayfront Highway to Waiānuenu Avenue (\$1 million), which is included with Bayfront Highway trail actions.

selected “parts” of the trail based on how the project was presented in the meeting: Downtown Hilo, Mo‘oheau Park, Waiolama Canal Area, Wailoa River State Recreation Area, Wailoa Bridge, Waiākea Peninsula, Kalaniana‘ole Street, Hilo Harbor Connections (Huipū Street, Kūhiō Street, and inside the gate at Hilo Harbor), trailhead signage, interpretive signage, and trail markings. Following the meeting, their preferences were compiled into an overall hierarchy by adding the number of times each community member listed parts of the project area as well as by adding the number of times each part received first, second, third, etc., priority. The following is a list of the community’s collective implementation priorities:

1. First Priority: Trail alignments/features along Kalaniana‘ole Street and near Hilo Harbor
2. Second Priority: Trail alignments/features in Waiolama Canal Area
3. Third Priority: Trail alignments/features in Downtown Hilo
4. Fourth Priority: Trail alignments/features on Wailoa Bridge and associated with Kaipalaoa Landing
5. Fifth Priority: Trail alignments/features in Mo‘oheau Park
6. Sixth Priority: Trail signage and markings

### **Trail Actions and Order-of-Magnitude Cost Estimate for Design and Construction**

Figure 5.6 identifies the parcels in which actions of the Hilo Bayfront Trails Master Plan will be implemented. As a companion to Figure 5.6, Appendix F textually describes these actions by area and then by parcel or right-of-way. Based on these documents, an order-of-magnitude cost estimate (Appendix G) was prepared to further guide the implementation of the Hilo Bayfront Trail Master Plan. Table 5.1 is summary of the design and construction cost estimate, with the community’s collective implementation priorities listed first, followed by the remaining areas and rights-of-way as they are ordered in Appendix G.

To put the various costs in perspective, bridges represent nearly 40 percent of the total cost; shared use paths are over 30 percent of the grand total; and all of the trail actions in Wailoa River State Recreation Area represent approximately 45 percent of the total.

### **Implementation Phasing Considerations**

Various considerations will determine the actual phasing of implementation. For example, the relationship of available funding to the cost of implementing discrete projects may affect timing. The ease or difficulty of agency coordination may also impact implementation order. Coordination with other design and construction projects in the bayfront—particularly the Department of Parks and Recreation’s Reed’s Bay Beach Park improvement, Hilo Bayfront Beach Park redevelopment, and Wailuku Riverfront development—will affect the timing of trail implementation. Parcel and right-of-way ownership will affect implementation order as well. Potential shared use paths in Waiolama Canal Area and Wailoa River State Recreation Area will require obtaining the use of private property. This could occur as condemnation or negotiation of an easement, or these parcels could be made available for purchase by the owners. Ease of implementation may result in some project being designed and constructed long before other trail action can move forward. The members of the Stakeholder Advisory Committee could be reactivated to make recommendations regarding implementation priorities. As a multi-agency group that has worked well together in the planning phase of the Hilo Bayfront Trails project, they are equipped with expertise and direct knowledge of and experience with the trails project.

The following are area-specific implementation considerations.

***Downtown Rest Room Facility:*** As noted earlier, the project area is well-equipped with public rest room facilities, both existing and planned, that are regularly distributed across the bayfront (see Figure 3.5). Based on this analysis and the public’s concern (expressed at public meetings and in responses to the user

# Property Identification for Trail Actions

(See Appendix F for table of trail actions. See Figure 55 for transportation right-of-way ownership.)

Hilo Bayfront Trails Master Plan, June 2009

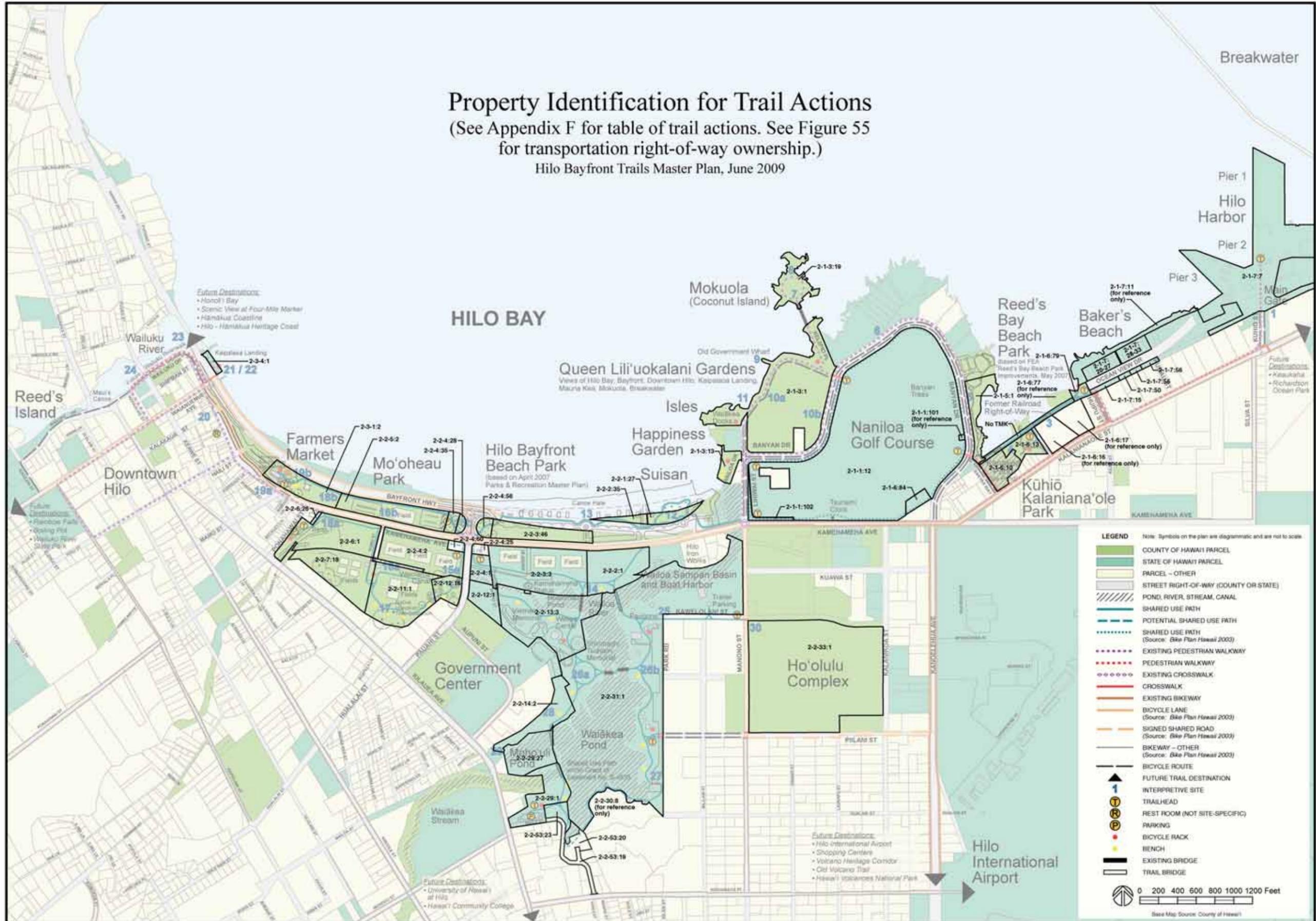


Figure 5.6

survey), the Master Plan includes only one additional rest room facility. The plan for the Downtown Hilo rest room is to make an existing facility available through a public-private agreement. A location adjacent to a downtown trail alignment (preferably Kamehameha Avenue) and availability during daytime hours is recommended.

**Bayfront Highway:** On January 23, 2009, Governor Linda Lingle unveiled a \$4.2 billion, six-year Highway Modernization Plan. This statewide plan would implement highway projects and programs aimed at reducing traffic congestion, improving highway safety, maintaining roads, and saving motorists time and money. Included in the plan are several projects on Hawai‘i Island, one of which is a \$2.26 million shoreline protection project for the Hilo Bayfront Highway. Although budget shortfalls have caused this program to be reconsidered, it could have some impact in the future on the implementation of the bicycle lanes proposed for the Bayfront Highway.

**Wailoa River State Recreation Area:** The complete circuit around Waiākea Pond included in the Master Plan assumed that an easement would be available along the shoreline at Waiākea Villas (Figure 5.7 and Appendix H). Dated May 6, 1977, and signed by the State of Hawai‘i, Board of Land and Natural Resources (grantor) and Waiakea Corporation (grantee), Grant of Easement No. S-4553 includes a sixty-five-year term, non-exclusive landscape easement in which Waiakea Corporation was to provide “a public pedestrian pathway or walkway across its adjoining land connecting portions of Wailoa River State Park as part of its improvements.”

The grant of easement includes provisions for the grantor to terminate the easement. Design considerations related to the easement are included in Chapter 6.

**Waiākea Peninsula Shared Use Path:** As noted in the discussion on ceded lands earlier in this chapter, segments of the shared use path around the golf course at Waiākea Peninsula will be aligned within the golf course parcel, which is ceded land. The path should be aligned inside the street right-of-way as much as feasible, the extent to which will need to be determined by a survey of this area. For further discussion, refer to the design guidelines for this alignment in Chapter 6.

**Reed’s Bay Beach Park Improvements:** If the Department of Parks and Recreation decides not to implement the bridge at Kanakea Pond, then it may not make sense to implement the shared use path and bridge in the former railroad right-of-way.

**Kalaniana‘ole Street:** In 1998, the *Hawaii Long Range Land Transportation Plan*—prepared by the State in coordination with the County of Hawai‘i to identify land transportation improvements to support the County’s projected growth to the year 2020—listed the following improvement for Kalaniana‘ole Street (Hwy. 137) as a Tier 1 (1998-2005) project: “Widen existing two-lane highway to four lanes with separate turning lanes at major intersections” (as described in plan’s Table 7-3). This improvement was also recommended in the traffic analysis report of the 2001 *Final Environmental Impact Statement (FEIS) for the Hawaii Commercial Harbors 2020 Master Plan Island of Hawaii, Hawaii* (hereafter called the

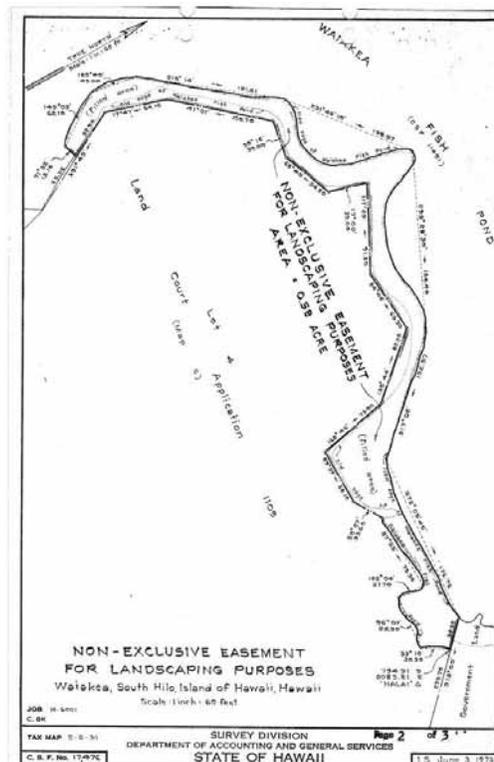


Figure 5.7: Portion of Exhibit B in the Grant of Easement No. S-4553.

2020 Master Plan). The County of Hawaii General Plan (2005, as amended), referenced the Hawaii Long Range Land Transportation Plan, but this improvement for Kalanianaʻole Street was not included as a course of action for South Hilo.

The State is in the process of updating the 1998 Hawaii Long Range Land Transportation Plan, and this update may impact the trail alignments on Kalanianaʻole Street.

Improvements fronting TMK 2-1-7:9 are an anomaly along the stretch of Kalanianaʻole Street between Banyan Way and Kūhiō Street (Figure 5.8). A 2004 zoning district reclassification (General Industrial, MG-1a) for this parcel was conditioned on “curb, gutter, and sidewalk improvements . . . in accordance with the requirements of the Department of Public Works” (see Section 2F of Ordinance No. 04-97 in Appendix I). The Department of Public Works should be consulted about the extent to which this requirement applies to the Kalanianaʻole Street right-of-way.



Figure 5.8: Existing Improvements fronting TMK 2-1-7:9 on Kalanianaʻole Street.

The supplementary landscaping included in the Master Plan within the Kalanianaʻole Street right-of-way will require approval from the County Director of Public Works. The County requires a two-foot minimum clear zone for roadways with curb and gutter and a ten-foot minimum clear zone for roadways without curb and gutter.

The Master Plan recommendation for curb and gutter installation on the *makai* side of Kalanianaʻole Street does not preclude installation of curb and gutter on the *mauka* side. If roadwork will occur on the *mauka* side, the existing shoulder should be widened to 5 feet to create a more generous bikeway.

The Rules of Practice and Procedures from the County of Hawaii, Department of Planning (Rule 17-6c), require the following front yard landscaping for parcels in the general industrial districts (MG):

*“Provide a minimum 10 foot wide landscaped strip with a minimum of one (1) tree and ten (10) shrubs per 35 linear feet of frontage, excluding driveway openings. Where the plantings required would result in an inappropriate or impractical design due to underground utilities, overhead wires, or other factors, 5 shrubs may be substituted for 1 tree.”* In addition, “the landscaped strip may not include any paved area, except pedestrian sidewalks or trails which cross the landscaped strip.” By enforcing this rule whenever appropriate, the County of Hawaiʻi could significantly enhance the trail experience along Kalanianaʻole Street.

**Hilo Harbor Connections:** As of May 2009, there is no funding in place for the proposed implementation of the Pier 5 cruise ship passenger terminal included in the 2001 *FEIS Hawaiʻi Commercial Harbors 2020 Master Plan*. However, work is moving forward on reducing the size of the existing shed at Pier 1. According to the 2020 Master Plan, the scope of work will include office space, ground transportation, rest rooms, a waiting room, a holding area, and a dedicated passenger walkway to the existing parking area. This work may be completed before the entitlement phase of the Hilo Bayfront Trails project is completed. If not, these improvements could provide the opportunity to coordinate implementation of a trailhead sign and trail markings for cruise ship passengers.

Plans are also moving forward for the interisland cargo terminal at Hilo Harbor. According to the *2020 Master Plan* and Harbors Modernization Plan (announced by Governor Lingle in December 2007), this scope of work includes dredging, construction of a new pier (Pier 4) and handling yard, and acquisition of property to establish access for commercial activity via Kumau Street. Once the Kumau Street improvements are made, Kūhiō Street will be used less frequently for cargo purposes.

The preparation of the *Hawai‘i Commercial Harbors 2035 Master Plan* for Hilo Harbor is in progress.

## Design Phase Implementation

The design of trail elements will occur based on the implementation priorities established by the County. The design phase of the project will be managed by the County Department of Public Works. Once completed, construction documents must be submitted for another round of approvals and permits.

The size and scope of a particular project will affect what land use permits are required. Applications for grubbing and grading permits at the County level and National Pollutant Discharge Elimination System (NPDES) permits at the State level (Department of Health) may need to be submitted.

### Accessibility

During the design phase, if there is little likelihood of being able to accomplish accessibility for portions of the trail for the reasons that follow, then a design consultant and overseeing agency must submit a Technical Infeasibility Statement Notice to the Disability and Communication Access Board, State Department of Health. This does not apply to existing conditions.

The Americans with Disabilities Act Accessibility Guidelines (ADAAG) contain a provision relating to “technical infeasibility” for an alteration to be in conformance with the guidelines. *Technical infeasibility* means that with respect to an alteration of a building or a facility, there is little likelihood of being able to accomplish accessibility because existing structural conditions would require removing or altering a load-bearing member which is an essential part of the structural frame; or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features, which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

### Signage

Trailhead and interpretive signage will more than likely be located outside the boundaries of the State Conservation District; however, if they are located inside this district, they will need to meet the requirements of and receive site plan approval from the Department of Land and Natural Resources.

Trailhead and interpretive signage located within rights-of-way and within the State Urban District will require approval from the appropriate governing agency: the State Department of Transportation, Highways Division, or the County Department of Public Works.

Based on the Hawai‘i County Code (Section 3-3), the preferred concept for trailhead signage is defined as a “wall sign” mounted on a structure. The preferred interpretive signage is a ground sign. Although the signs themselves may be allowed without permits, since they are of a “public, noncommercial nature . . . indicating scenic or historical points of interest” (Section 3.8a.2), it is recommended that designers attempt to conform to applicable County district requirements and submit sign plans to the Department of Public Works for assessment. Signage regulations vary by district. Since trailhead signage is a structure with a wall sign, a sign plan should be submitted with a building permit application to the Department of Public Works.

The placement of required regulatory signage on construction drawings should be coordinated with governing agencies.

## Construction Phase Implementation

Corresponding with the phasing of design projects, construction will occur based on the implementation priorities established by the County. The construction phase of the Hilo Bayfront Trails project will likely be managed by the Department of Public Works.

## Implementation Ideas

Based on community enthusiasm and input, the following ideas are presented as ways to involve individuals and groups in the ongoing implementation of the Hilo Bayfront Trails project.

### **Friends of Hilo Bayfront Trails**

Responses to feedback forms distributed at Public Meeting 3 indicate that many community members are willing to support the trails project in many ways. The following is a compilation of their offers:

- Our office would find much merit in serving in some kind of advisory capacity. We would also be interested in getting involved in the design process.
- Not sure how I could help. Litter pick up.
- While I'm interested in Hilo Bayfront Trails, I'm especially interested in impacts (if any) to canoe club sites.
- Willing to help with addressing ADA compliance for the whole project and specifically regarding water sports activities for disabled citizens.
- Call on me on any further planning or for implementation of specific elements. There are many local clubs and organizations we can tap to help complement these.
- Landscaping scheme.
- I show up and contribute opinions and ideas if they be heard.
- With notification, I volunteer to any manageable labor/manual hands on physical labor: planting, weeding, etc.
- Write letters to the county council supporting the project.
- I am willing to stay involved; not sure in what capacity.
- I will be a caretaker of Kaipalaoa Landing.
- Will do whatever is needed in personal labor when possible.
- Keep in touch through e-mail.
- Am willing to volunteer for "hands on" work.
- Design bare foot path insignia, interpretive signs, archaeology.
- We have begun to take back the Kaipalaoa Landing by cutting grass, trimming shrubs and trees, and picking up rubbish. A community group of volunteers called the Kaipalaoa Working Group will continue to maintain it.
- Volunteer help will be available at any time (nontechnical).
- Historical interpretations for signage.
- I would be interested in finding ways in which Hawaii Community College students could contribute to the trails project. Also, personally as an architect, I would also be interested in volunteering on a committee. Thank you!
- Could help with a fund raiser/concert.

Such enthusiastic volunteers could be part of a support organization for the trails project called “Friends of Hilo Bayfront Trails.” Local inspiration for such a trails organization also comes from the Kauai Path, or Ke Ala Hele Makalae, which is a 17-mile multi-use path stretching from Lihue to Anahola on Kaua‘i. The project is strongly supported by community members who do auxiliary work during construction and maintenance after construction as Friends of the Path and Path Ambassadors. Even younger members participate as Junior Ambassadors (see website references in Chapter 8 of this document).

### **Community Design Participation Ideas**

Although community members were receptive to the planner’s concepts for trailhead and interpretive signage and trail logo medallions, they were also enthusiastic about opportunities for the Hilo community to refine and develop designs for these trail components. Suggestions included inviting local artists and artisans to create designs and organizing a public design competition for the trails logo.

### **Interpretive Program Development**

The compilation of interpretive information is essential to develop appropriate language and imagery for the thirty interpretive sites in the project area. Information may include writings, photographs, maps, and oral histories. Based on input at the public meetings, Hilo residents possess a wealth of information about their bayfront, including several stories or interpretations of the same event or site, the diversity of which should be embodied in the final interpretive panels along the trails. The descriptions included in the table of interpretive sites (Table 4.2) are intentionally general to encourage sharing by the community.

Interpretive information may be collected through research, by recording oral histories at neighborhood workshops, or even via an internet website that enables community members to input stories and upload photographs.

The Hilo Bayfront Trails interpretive program should utilize as many local resources as possible, including respected *kupuna* and educational venues such as the Lyman Museum, the Pacific Tsunami Museum, and the University of Hawai‘i campuses in Hilo.

The information collected for interpretive signage should be archived for the development of trails-related educational curricula and the training of Hilo residents as trails docents.

### **Funding**

Responses to the project user survey indicate that community members consider funding to be one of the biggest challenges for the Hilo Bayfront Trails project. The County, which is responsible for obtaining funds for trail implementation, is looking at several potential sources, including capital improvement project funding, grants, and perhaps federal monies; not all funding is intended to come from local taxpayers.

Community members at public meetings were enthusiastic about the fund raising potential of donated memorial benches and custom-engraved bricks for trail marking.

Recreation-related activities, such as fun runs or “Walks for the Trails,” could also be organized to raise funds as well as awareness about the purpose and benefits of the trails system.

Fund raising could be integrated with the interpretive component of the trails project by organizing a lecture series on the history of the bayfront and collecting donations at the door.

Many parks and public facilities across the country are at least partially funded through non-profit conservancies, which receive funds from individuals and corporations. The largest conservancy is the

**Table 5.2: Potential Maintenance Schedule for Bicycle Facilities.**

Maintenance Activity	Recommended Frequency
<b>On-Road Bicycle Facilities</b>	
Inspect and identify needed repairs	2 times per year
Respond to reports of hazardous pavement failure	As needed
Sweep street with bike lanes and highway shoulders	4 times per year (once a quarter)
Maintain street traffic markings	As needed, at least every 3 years
Repair or replace signs and pavement markings	As needed
Control landscaping encroachment	As needed
Sweep during construction	Daily
<b>Off-Road Bicycle Facilities</b>	
Inspect and identify needed repairs	2 times per year
Sweep paved bicycle facilities	2 times per year
Repair paths	As needed
Repair or replace signs and pavement markings	As needed
Control landscaping encroachment	As needed
Resurface paths	10-12 years

Based on the State of Hawaii, *Bike Plan Hawaii 2003*, Table 7-1, page 7-21.

Central Park Conservancy in New York City, which since 1981 has raised private funds for improvements and maintenance in Central Park. A memorandum of understanding defines the working relationship between the conservancy and the city’s Department of Parks and Recreation.

In addition to supporting a trails conservancy, local businesses could support the implementation of specific elements of the trails, such as interpretive signage or street trees.

Federal funding could also be sought through the National Scenic Byways Program, which was mandated by the Intermodal Surface Transportation Act of 1991 (ISTEA). To be designated as a National Scenic Byway, a road should have at least one of six regionally significant scenic byway intrinsic qualities: scenic, natural, historic, cultural, archeological, or recreational. The County of Hawai‘i Department of Research and Development has already actively supported various organizations on Hawai‘i Island in laying groundwork for eligibility in this program.

**Maintenance Issues**

Community members who responded to the project user survey indicated overwhelmingly that maintenance and security of trail alignments and amenities will be big challenges for the Hilo Bayfront Trails project.

“Friends of Hilo Bayfront Trails” and a trail conservancy could be instrumental in supplementing County funds and manpower for trail maintenance.

Developing an annual maintenance schedule and maintenance chain-of-command will also facilitate trail maintenance. Community members should be encouraged to report conditions of the trails that require special attention. Table 5.2 could be used as a basis for a County schedule of maintenance. Contact information for reporting hazards on trail alignments could also be posted on trailhead signs.

### **Education Programs**

In addition to cultural education programs related to the interpretive component of the trail, Hilo Bayfront Trails could implement transportation-related educational programs for drivers as well as pedestrians and bicyclists. These programs should promote a share-the-road perspective that welcomes increased use of alternative transportation in the bayfront.

*Bike Plan Hawaii 2003* recommends the following types of educational programming for bicycling:

- Supporting bicycle education programs for all ages.
- Increasing awareness of the needs and rights of bicyclists into driver education programs.
- Increasing awareness about the health and fitness benefits of bicycling.

Other trails-related educational programming could be geared toward health and recreation topics. Community fitness activities utilizing trail alignments and parks in the bayfront should be an integral part of community outreach via the Hilo Bayfront Trails project.

## 6. DESIGN GUIDELINES

*“Preserve the natural beauty.”*

Designing the components of the Hilo Bayfront Trails will require what one community member called “internalizing the beauty and significance of the bay area.” Every part of the trails system should enhance the natural and cultural resources of the project area.

This chapter discusses the functional and aesthetic aspects of the various trail elements. Design guidelines for trail alignments are presented first, followed by design guidelines for trail amenities. The chapter concludes with design considerations for specific parts of the project area.



*Figure 6.1: The design for the shared use path within the former railroad right-of-way needs to be responsive to the small scale and fragility of this area.*

### Trail Alignments

Hilo Bayfront Trails Master Plan trail alignments—shared use paths, pedestrian walkways, and bicycle facilities (which may be bicycle lanes, signed shared roads, or bicycle routes)—shall be designed in conformance with the following standards:

- Requirements of the U.S. Department of Transportation, State Department of Transportation, and the County of Hawai‘i.
- Requirements of Hawaii Revised Statutes Section 103-50 and the American with Disabilities Act (ADA).
- Design guidelines established by the American Association of State Highway and Transportation Officials (AASHTO), in particular the *Guide for the Development of Bicycle Facilities* (1999).
- U.S. Department of Transportation, Federal Highway Administration, *Manual on Uniform Traffic Control Devices* (MUTCD), in particular Part 9: Traffic Controls for Bicycle Facilities (2003 Edition). For website information, go to <http://mutcd/fhwa.dot.gov/>.

By reference, these standards, and amendments thereto, are made a part of the Hilo Bayfront Trails Master Plan.

In April 1979, the County of Hawai‘i adopted *The Bikeway Plan* (Ord. No. 435), which was prepared by the Department of Planning in response to growing concerns for bicyclists and in consideration of other plans and programs, such as the *Bike Plan Hawaii: A State of Hawaii Master Plan*. As progressive as the plan may have been in 1979, some of the content is outdated by today’s standards and should be reviewed with a critical eye. A policy in the County of Hawai‘i General Plan (Section 13.2.3p) requires that this plan be updated to include the development of a safe and usable bikeway system throughout the island.

Designers of Hilo Bayfront Trails bicycle facilities should research whether this update is available when their work commences.

### Shared Use Paths

All shared use paths should be designed for two-way travel of pedestrians, bicycles, and other non-motorized vehicles. Figure 6.2 illustrates general guidelines for the design of shared use paths that are discussed in the AASHTO *Guide for the Development of Bicycle Facilities* (1999). Shared use paths should also conform to the following design guidelines:

- Shared use paths should be a minimum of 5 feet from roadways (per AASHTO guidelines), with a landscape buffer, barrier, or grade difference reinforcing the separation.
- Shared use paths should be a reasonable distance from the edges of water bodies. Seasonal/tidal variations in water level should be factored in to the location of the paths.
- The alignment of shared use paths should respect the location of existing trees and landscape features. Path should be located a reasonable distance from tree trunks to minimize root damage during construction.
- Tests should be conducted on representative samples of soil to determine their level of stability and the presence of expansive soils. The weight of maintenance, emergency, and other heavy vehicles that may need to utilize or cross shared use paths should be taken into consideration in the design of shared use paths.
- Shared use path alignments should respect existing drainage patterns.

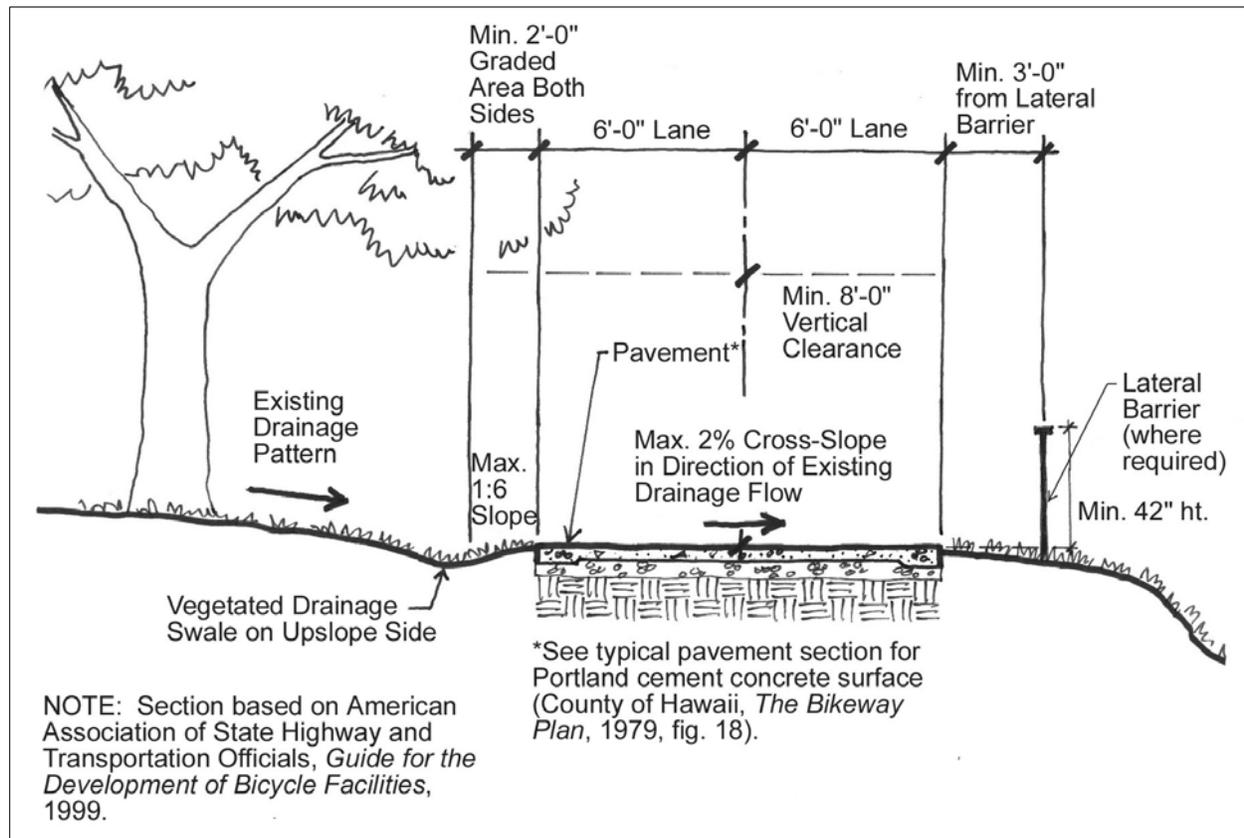


Figure 6.2: Section elevation illustrating design guidelines for shared use paths.

- The approaches of shared use paths to roadways should be designed in close coordination with the Department of Public Works and the State Department of Transportation, Highways Division, as path-roadway intersections are often the most critical issue in shared use path design.
- Adequate approach distances should be provided at bridges.

Additional guidance regarding design speed, horizontal alignment, grade, sight distance, and path-roadway intersections is provided in the *Guide for the Development of Bicycle Facilities*. Regulatory signage and markings are covered in the *Manual on Uniform Traffic Control Devices*. Site-specific design considerations for shared use paths are discussed later in this chapter. The design of shared use paths should be carefully coordinated with the Department of Public Works, especially since there are no precedents for shared use paths on Hawai‘i Island.

**Materials and Finishes:** Figure 6.3 illustrates a structural section for shared use paths utilizing Portland cement concrete, which is recommended over asphaltic concrete for its smoothness and durability. Added thickness at the paving edges will also increase durability. The path should have a smooth riding surface, including joints and any utility access panel that must be installed at shared use path locations. For skid resistance, a broom finish or burlap drag surface is suggested in the *Guide for the Development of Bicycle Facilities*. The use of integral color or a concrete stain may be considered to give the shared use paths a unique character or to match existing finishes in the project area.

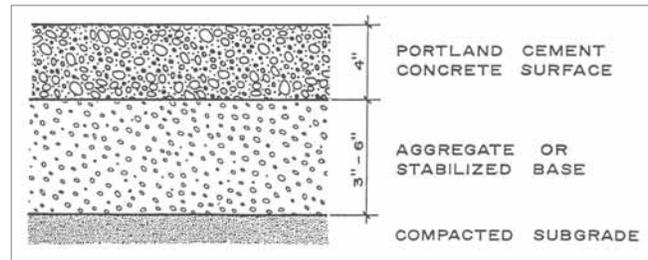


Figure 6.3: Structural section for shared use paths.  
Source: The Bikeway Plan (County of Hawai‘i, 1979).

**Design of Separation Barriers:** Separation barriers will need to be designed for the shared use path segments at Wailoa Bridge (Figure 4.14), the Pi‘opi‘o Street bridge in Wailoa River State Recreation Area (Figure 4.16), along the potential shared use path on Maile Street, and on the Kumu Street bridge extension. Each barrier will require a site-specific design solution. Design of the Wailoa Bridge barrier will need to be coordinated with the State Department of Transportation, Highways Division, since it is located on a state-owned roadway.

**Shared Use Path Design in Relation to Surroundings:** The horizontal and vertical alignments of shared use paths should reflect the topographic character of the surroundings. Where shared use paths are located in broad open spaces and parks, they should be more meandering than straight, although site-specific conditions may limit the amount of meandering possible. Shared use path alignments should also enhance views of natural and cultural features, both near and far. More area-specific design guidelines are provided later in this chapter.

**Incorporation of Trail Markings:** Trail markings should be incorporated into the design of shared use paths. The design of trail markings should occur as a separate activity preceding the design of shared use paths. Refer to the discussion of trail markings in the trail amenities section of this chapter for guidelines on incorporating trail identification with shared use paths.

**Incorporation of Ahupua‘a / ‘Ili Plaques:** The design for *ahupua‘a* / *‘ili* plaques (see Figure 4.7 concept sketch) should occur as a separate activity preceding the design of shared use paths. Figure 4.6 indicates generally where shared use paths cross the *ahupua‘a* / *‘ili* boundaries of the bayfront, and Figure 6.4 provides guidelines for installation of plaques on shared use paths at these historic Hawaiian district

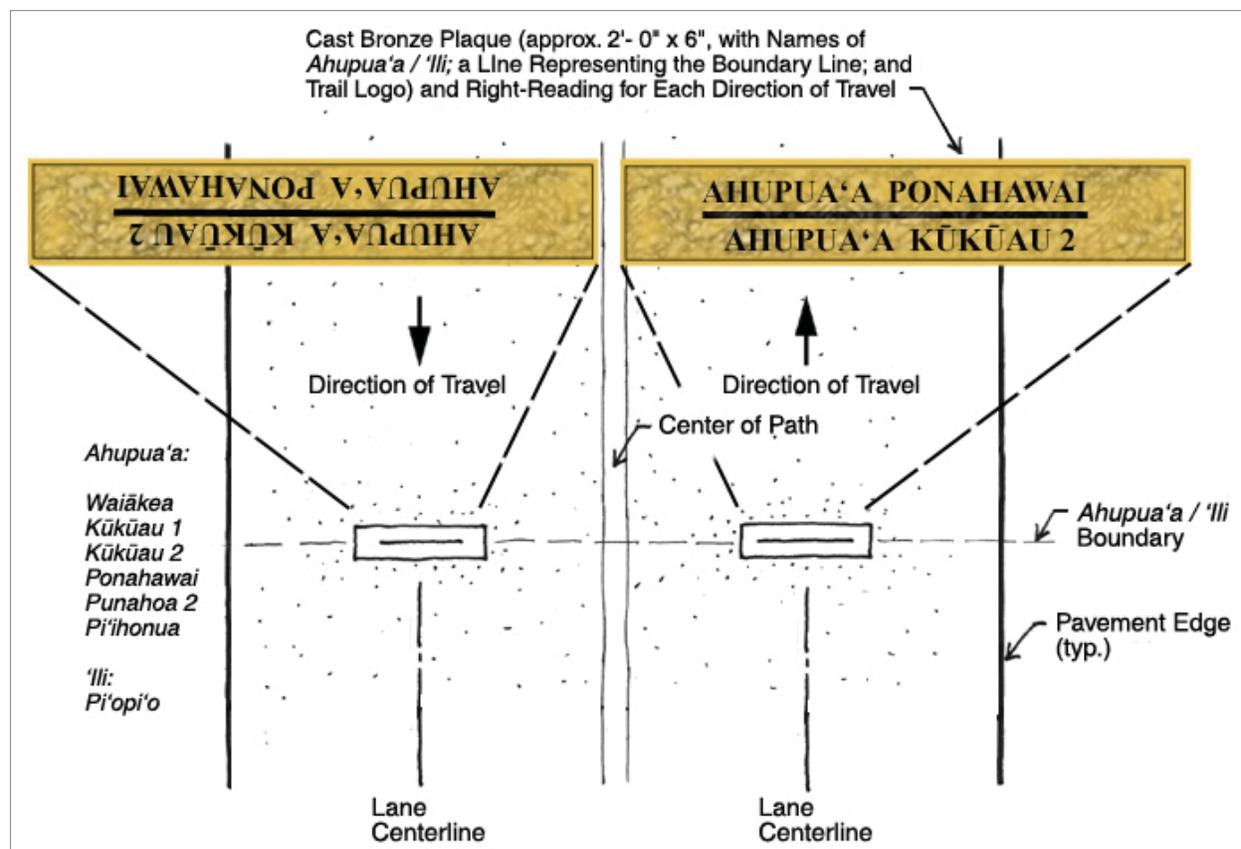


Figure 6.4: Design guidelines for layout, size, and placement of ahupua'a / 'ili plaques at shared use paths.

boundaries. Plaque design for *ahupua'a* boundaries along pedestrian walkways in Downtown Hilo may need to address readability for two-way pedestrian traffic in a different way from plaques for shared use paths.

### Bicycle Facilities

New on-road bicycle facilities incorporated into the Hilo Bayfront Trails Plan include bike lanes, signed shared roads, and bicycle routes. The design of all on-road bicycle facilities should be in conformance with the AASHTO *Guide for the Development of Bicycle Facilities* (1999) and the *Manual on Uniform Traffic Control Devices* (MUTCD) for traffic signage and markings.

*Bike Plan Hawaii 2003*, the State of Hawai'i master plan for integrating bicycling into the state's transportation system, may also be used as a resource, particularly Chapter 7: Bicycle Facility Planning and Design. When the design phase commences, bicycle facilities designers should check for and refer to any new or updated bicycle facilities plans that include the project area, such as an update of *Bike Plan Hawaii 2003* or *The Bikeway Plan* of 1979. Coordination with the County of Hawai'i Department of Public Works and the State Department of Transportation, Highways Division, is essential for bicycle facilities within their respective rights-of-way.

Trail markings for on-road bicycle facilities are discussed in the amenities section of this chapter.



Figure 6.5: Zigzag striping placed by the Department of Public Works at the crosswalk near the intersection of Kamehameha Avenue and Mamo Street, looking in the Puna direction.

### **Pedestrian Walkways**

New pedestrian walkways included in the Hilo Bayfront Trails Master Plan along Kalanianaʻole Street, Huipū Street, and Banyan Way rights-of-way will require design effort. New pedestrian walkway within the Wailuku Drive rights-of-way will be designed as part of the scope of the Department of Parks and Recreation Wailuku Riverwalk project. Existing pedestrian walkways will require design effort related to the retrofit installation of trail markings.

The design of trail markings should occur as a separate activity preceding the design of new pedestrian walkways and may include a design charrette or competition. The width and condition of existing pedestrian walkways should be factored into the final design. The design of trail markings is discussed in the trail amenities section of this chapter.

New pedestrian walkways should be constructed using Portland cement concrete. Their design should be consistent with existing pedestrian walkways in the same context. More specific design guidelines for new facilities are presented by trail area later in this chapter.

### **Crosswalks**

New crosswalk are located within rights-of-way—either County-owned or State-owned—and thus fall under the jurisdiction and scope of the County Department of Public Works or the State Department of Transportation, Highways Division.

The County of Hawaiʻi Department of Public Works has devised and installed zigzag markings near several crosswalks in the Hilo area, including the Kamehameha Avenue-Mamo Street crossing in the project area (see Figure 6.5). The State and County should consider placing these markers near other appropriate crosswalks included in the Hilo Bayfront Trails Master Plan.

### **Bridges**

Bridges are a common sight in the project area, and the arched bridges at Wailoa River State Recreation Area are distinctive visual icons in the bayfront (see Figure 6.6). Community input strongly supported retaining these bridges despite their challenging multiple slopes and the opportunity to replace them with accessible bridges. Many community members recommended that new bridges in the project area be inspired by these arched bridges.

These arched bridges—as well as those in Queen Lili‘uokalani Gardens—reference a Japanese style, and the arches provide clearance for boats permitted in the waterways of the Wailoa River State Recreation Area.

Other existing bridges in the project area are less notable for their aesthetic characteristics: Wailoa Bridge, the bridge to Mokuola, the Pi‘opi‘o Street and Kumu Street bridges, and even the inconspicuous bridge spanning Waiolama Canal at Pauahi Street. However, the bridge to Mokuola is a very important precedent as an accessible bridge in the bayfront, with its ramp and stair options.

The following are new bridges in the Hilo Bayfront Trails Master Plan:

- 2 bridges in the Waiolama Canal Area, one an expansion of the existing bridge at Kumu Street.
- 3 bridges within the Wailoa River State Recreation Area.
- 1 bridge within the former railroad right-of-way.

The bridge within the former railroad right-of-way at Kanakea Pond is within the scope of the Department of Parks and Recreation Reed’s Bay Beach Park improvements, although cost considerations have moved the Department to reconsider this facility at this time.

The design of all new bridges should be informed and inspired by existing features in the project area. Inspiration to be drawn from the existing bridges in Wailoa River State Recreation Area may be the arch translated into accessible parameters. The maximum flow of water in Waiolama Canal should be factored into the design of bridges in that area. The design of bridges in Wailoa River State Recreation Area should factor in water level variations due to tides and storm surges as well as the types of boats permitted in various waterways. Water level variation is also an important design consideration for the new bridge within the former railroad right-of-way, which should span the existing concrete abutments as well as the pond outlet (see Figure 4.20).

## Trail Amenities

Within the wealth of parks and open spaces in the bayfront, there are numerous examples of existing outdoor amenities from which to draw inspiration for the Hilo Bayfront Trails. It is far more important for the design and placement of trail amenities to harmonize with the existing surroundings than for them



*Figure 6.6: Arched bridges in Wailoa River State Recreation Area are iconic visual features in the project area. New bridge designs should be inspired by them but should not copy them.*

to be distinctly different. Consistency of design for trail amenities throughout the trail system is also an important consideration.

Overall, trail amenities should be of high quality, durable, vandal-resistant, and corrosion-resistant. Whenever possible, amenities should be made and /or manufactured locally using local materials. The participation of local artists and artisans should be built into the design process.

**Informational / Identification Signage and Markings**

As noted earlier, community members at Public Meeting 3 registered their preferences among several concept options for trailhead signage, interpretive signage, and trail markings (see Figures 4.3, 4.4, and 4.5). These preferences should be factored into the design of signage and markings. As discussed in Chapter 5, the public as well as local artists and artisans may be involved with developing and refining the designs of trail signage and markings.

The orientation of signage and markings will be determined by the direction in which viewers are most likely to approach the signage and markings. The size of text and / or graphics should be appropriate for the distance from which trail users are expected to view the signage and markings.

Lighting is not a component of trail signage or markings.

The designs for trailhead and interpretive signage should conform to Chapter 3 of the County Code, relating to signs, including limits on location, size, and height.

**Trailhead Signage**

The structure for the trailhead sign (Figure 6.7) is intended to be the only prominent vertical feature—besides bridges—of the Hilo Bayfront Trails project. The scale of this identification / informational signage should be comparable to existing identification signage for Wailoa State Recreation Area and County parks (see Figure 6.8) and should be consistent throughout the project area.

Sign content should include the trails name (Hilo Bayfront Trails) and logo; a map of the trails system; rules and regulations of the trails as well as those for parks and recreation areas in which the trails are located; and textual using the “back” side of trailhead signs for supporting



*Figure 6.7: Trailhead signage concept preferred by community members at Public Meeting 3. A lava base could be incorporated into this concept.*



*Figure 6.8: Existing identification signage in the project area should inform the scale of the trailhead signs for Hilo Bayfront Trails.*

information, although this would impact the total allowable size of the sign.

The trail map should include the location of interpretive sites and major trail amenities (such as parking and rest room facilities) facilities); a “you are here” marker; and distances for various trail routes that relate to distances marked on the trail alignments themselves.

The trailhead sign could be framed to match interpretive signage.

As site-specific conditions allow, the roof for some trailheads could be expanded to accommodate trail users, a suggestion shared by several community members.

Any wood used for signs needs to be rot- and termite-resistant and meet fire-resistive requirements (see County Code Section 3-27 for complete details).

### Interpretive Signage

The cultural and historical information—text and images—for Hilo Bayfront Trails interpretive sites should be collected and compiled prior to the design of the interpretive signage, as outlined in Chapter 5. Thus, interpretive signage can be designed to accommodate variations in the amount of interpretive material for each site. Regardless of such variation, the general design of interpretive signage should be consistent throughout the project area (Figure 6.9).

The interpretive **panel** most recently installed at Mokuola by the Pacific Tsunami Museum is a good precedent for the Hilo Bayfront Trails interpretive panels (see Figure 6.10). Panels should be resistant to ultraviolet light to minimize fading, and they should be waterproof to prevent leaking and condensation. If possible, the color of the interpretive panel frame should match frames, if any, of the trailhead signs, and the color of the trail medallion / logo used for trail marking.

Content for the interpretive signage should include historic photographs and maps as well as text.

The final location of interpretive signage should be coordinated with other interpretive signage installations in the bayfront that have occurred since the publication of this Master Plan, including signage placed by the Pacific Tsunami Museum and the Downtown Improvement Association.

### Trail Markings

Development of trail markings should occur early so that their design may be incorporated into the design of trail alignments. The size and material of trail logo medallions (Figure 6.11) may vary as needed from location to location and according to trail alignment type. Spacing between medallions, however, should be consistent in each area. Although the community liked the elegance of bronze medallions, stenciling



*Figure 6.9: Interpretive signage concept preferred by community members at Public Meeting 3.*



*Figure 6.10: Interpretive panel recently installed at Mokuola by the Pacific Tsunami Museum.*

logo medallions with paint is a less expensive option, especially for the lengthy shared use paths in the project area. Painted medallions are highly recommended for on-road bicycle facilities to keep the riding surface smooth. Metal medallions should be designed to be set securely and level with all trail surfaces. The final cost of trail medallions will not only be dependent on the materials used but also the size and spacing of medallions.

As noted in Chapter 4, community members at Public Meeting 3 strongly favored bronze medallions, but they had mixed comments on the connectors between medallions. If medallions were spaced closely enough to be seen as a “line,” a connector element could be avoided altogether. A simple painted line could function as a connector; however, white lines are discouraged, especially in Downtown Hilo, since they may be confused with regulatory striping. Custom engraved bricks in a line could be used for fund raising purposes, or locally produced cut basalt pavers could be installed in a line between medallions. The material used for the connectors between medallions may vary from location to location. On shared use paths, the centerline could potentially be used as the connector between medallions.

Trail markings on pedestrian walkways should be a consistent distance from the curb and should avoid the sloped portion of driveways. Any trail markings on a crosswalk would require approval from the appropriate governing agency.

Distance markings may be stenciled with paint or could be made of metal to match trail medallions. With so many trail route options available for users, these markings make the most sense along trail loops. Distance markings on trail alignments and on trailhead signage maps should be coordinated.

### Bicycle Racks

The Master Plan provides thirteen bicycle rack locations across the bayfront. All but two are sited adjacent to motorist parking to create “staging areas” for bicyclists. Each location is intended to accommodate several bicycles and possibly more than one bicycle rack.

At minimum, bicycle racks should provide a means for locking the frame and both wheels of a bicycle and should accommodate a range of bicycle shapes and sizes. In addition, bicycle racks should:

- Be located a sufficient distance from pedestrian walkways so as not to impede pedestrian traffic (a minimum of 5 feet of clearance is recommended) and a sufficient distance from motor vehicles to prevent damage to either bicycles or motor vehicles.
- Accommodate high-security U-shaped bike locks.
- Have as few moving parts as possible.

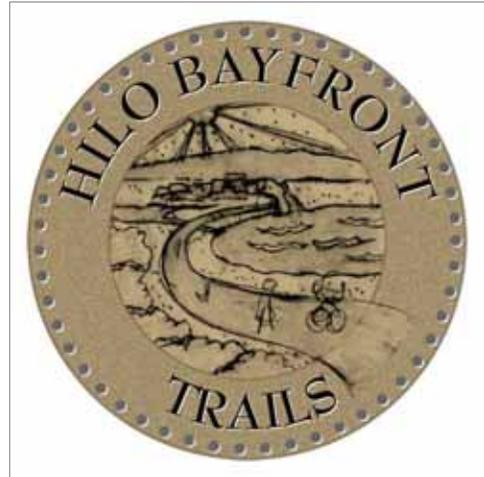


Figure 6.11: Community members at Public Meeting 3 preferred the trail logo medallion concept for trail markings.



Figure 6.12: Existing bicycle-shaped rack in Downtown Hilo.



Figure 6.13: Ring-style bicycle racks are located at Mo‘oheau Bus Terminal (above) and Downtown Hilo.

- Be visible to passersby to promote usage and enhance security.
- Provide easy access for locking and unlocking bicycles without damaging wheels or other bicycle parts.

Metal bicycle racks should have a powdercoat finish to protect the metal from corrosion. The ground surface on which bicycle racks are installed should be an all-weather and drainable material that matches adjacent trail alignments.

Two types of bicycle racks are currently located in the project area: bicycle-shaped racks and metal rings (Figures 6.12 and 6.13). The style of bicycle rack chosen need not match these existing racks but should be consistent in each bicycle rack location.

Signage may be included to inform users that the bicycle racks are for short-term use during daylight hours only.

### Benches

Existing bayfront benches—made of plastic wood—are shown in Figure 6.14 for reference. The type of benches may vary from area to area but should be consistent within each area. As noted in Chapter 5, memorial benches may be a form of fund raising for the trails project, and memorial plaques may be included in the scope of bench design.

Benches should be adjacent to trail alignments but not obstruct access. It is recommended that they be permanently attached to a hardscape surface that matches adjacent pedestrian walkways.

### Supplementary Planting

Supplementary planting is incorporated in the Master Plan in five locations:

- Screening shrubs at Mo‘oheau Park on the *mauka* side of the fence along Bayfront Highway
- Native Hawaiian tree collection at Waiolama Canal Area
- Small vertical trees and ground cover on both sides of Kalaniana‘ole Street between Banyan Way and Kūhiō Street.
- At the end of Huipū Street adjacent to Interpretive Site 2
- At the Kūhiō Street gate of Hilo Harbor adjacent to fencing and Interpretive Site 1.



Figure 6.14: Existing benches located at Queen Lili‘uokalani Gardens. Memorial plaques may be affixed to donated benches.

Native Hawaiian plant species are preferred, but contextual appropriateness is important as well. Invasive species should be avoided (go to <http://lichawaii.com/invasive-species.asp> for more information about Hawaii’s invasive plant species). More specific information about supplementary planting is included in the area-specific design guidelines.

### Water Fountains

Water fountains should be installed at the following existing permanent rest room facilities that do not currently possess such an amenity:

- Mo‘oheau Bus Terminal
- Waiolama Canal Area
- Wailoa River State Recreation Area at the rest room facility adjacent to large pavilion
- Hilo Bayfront Beach Park
- Lili‘uokalani Gardens
- Mokuola



Figure 6.15: Existing water fountain near the bridge to Mokuola.

Water fountains—comparable to the existing water fountain in Figure 6.15—should be:

- connected to existing water lines at these facilities.
- accessible.
- a sufficient distance from the entrances of rest room facilities to avoid obstructing access.

## Area-Specific Design Guidelines

While the preceding design guidelines provide a basis for continuity of the Hilo Bayfront Trails, each part of the project area possesses unique characteristics and special features that need to be considered in the design and location of trail alignments and amenities.

### Downtown Hilo

**Interpretive Signage:** Serious consideration should be given to locating signage for interpretive sites 19a and 20 in planting areas along Kamehameha Avenue as close to the *ahupua‘a* boundaries as possible (see Figure 4.8).

**Trail Marking Alignment:** On pedestrian walkways, connectors between trail medallions should be located on level paving above driveway ramps and a sufficient distance from utility poles and vertical signage.

### Mo‘oheau Park

**Bicycle Rack Location:** Consider installing bicycle racks on the existing concrete slab adjacent to where existing bicycle lock-ups are located (Figure 6.16).



Figure 6.16: Bicycle racks could be installed on existing paving behind the bus terminal.

**Parking Lot Relocation:** By popular demand, the Mo‘oheau Park shared use path can be accommodated with the **relocation** of only a minimum number of existing coconut palms if parking in the easternmost parking lot is redistributed (see Figures 6.17 and 6.18). Coconut palms should be relocated in the same general area.

**Alignment at Ball Fields:** The shared use path should be aligned as far *makai* as possible to provide maximum clearance of the ball fields and with adequate clearance from the existing fence.

**Supplementary Planting:** Shrubs species selected to screen the fence along the *makai* side of the park should attain a natural mature height equal to the fence height to minimize maintenance requirements. Species should be compatible with the existing hibiscus and spider lilies planted near the fence and bandstand.

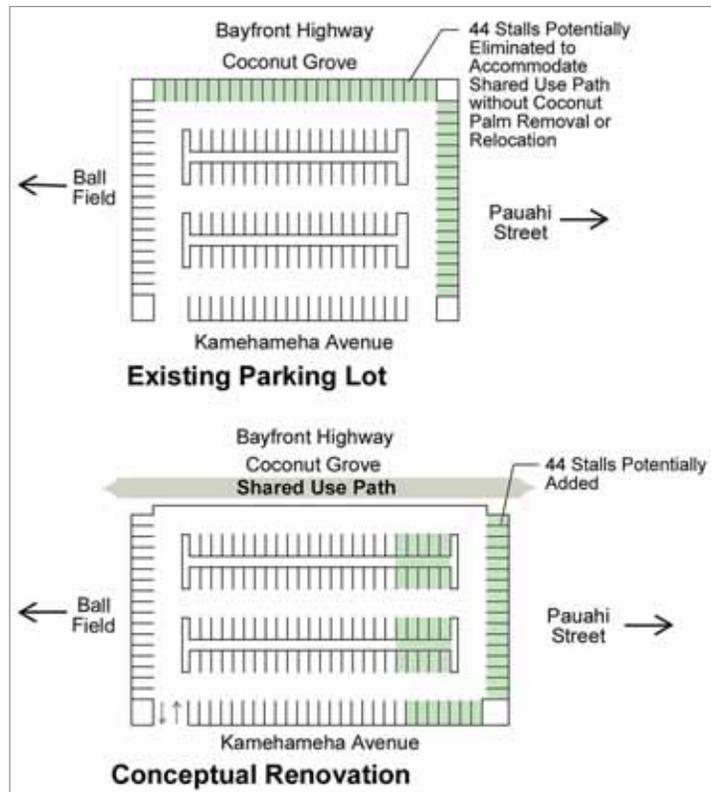


Figure 6.17: Recommended adjustments to the easternmost parking lot to accommodate the shared use path with a minimum number of coconut palm relocations.

**Waiolama Canal Area**

**Flood Control Berm:** The design of trail alignments and amenities should not involve the existing flood control berm in any way. Any disturbance in the area should be a minimum of 15 feet from the base of the berm.

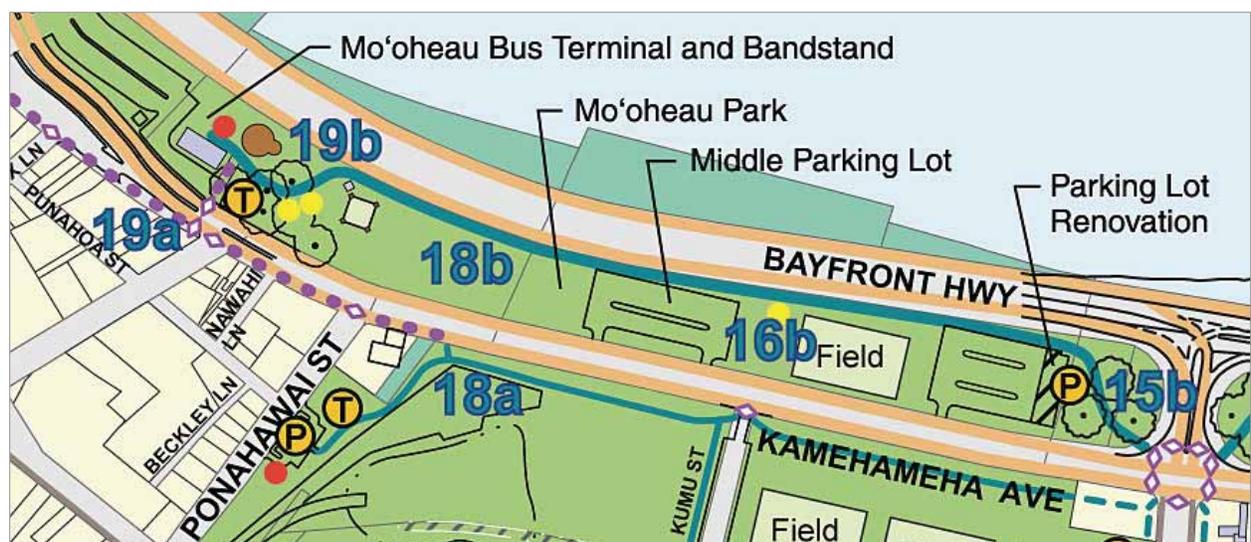


Figure 6.18: Alignment of Mo‘oheau Park shared use path alignment in relation to existing parking.

**Sediment Basin:** Do not design any trail elements in the sediment basin behind the Waiolama Canal Area flood control berm.

**Ponahawai Street Parking Lot:** The concept for this parking includes a one-way paved driveway, approximately 20 stalls constructed of pervious paving, and a connection with the shared use path. The parking lot design should minimize the *relocation* of existing coconut palms, and all relocated palms should be planted in the general vicinity.

**Soccer Fields:** The alignment of shared use paths and the locations of amenities should respect the location of existing soccer fields. Coordination with the Department of Parks and Recreation is recommended.

**Shared Use Path Parallel with Kamehameha Avenue:** Figure 6.19 illustrates the concept for aligning the shared use path along Kamehameha Avenue near the existing fence line. Existing rainbow shower street trees between the berm and the avenue may need to be *relocated*; or an alternative may be to split the shared use path around the trees.

**Shared Use Path between Kamehameha Avenue and the Mauka Loop:** Design of this shared use path segment should accommodate the existing canvas roofed structure and consider adjustments to the configuration of the gravel parking area.

**Shared Use Path on Mauka Slope:** The shared use alignment on the *mauka* side of this area may require cuts in the slope.

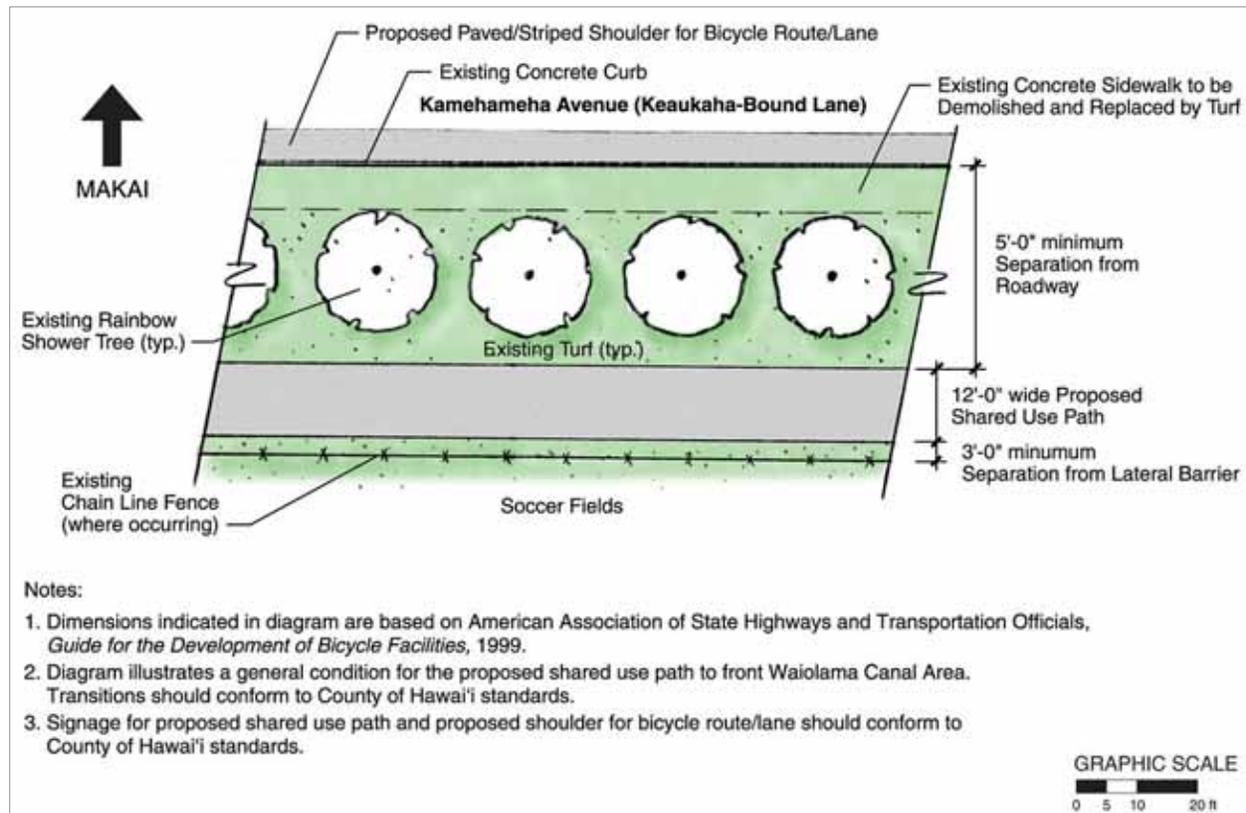


Figure 6.19: Concept for shared use path alignment along Kamehameha Avenue at Waiolama Canal Area.

**Native Hawaiian Tree**

**Collection:** The layout of trees should be coordinated with the alignment of the shared use path and location of benches on the slope. The ensemble of these elements should provide enjoyable places to view recreational activities in the area as well as the Hilo Bay panorama.

**Bridges:** The designs for the Kumu Street bridge expansion and the new shared use path bridge near Pauahi Street should be responsive to flood conditions in this area.

**Wailoa River State Recreation Area**

**Migratory Water Fowl Resting Areas:** The alignment of shared use paths and location of bridges in this area should respect the migratory water fowl resting areas. Consultation with the Department of Natural Resources Division of Forestry and Wildlife is recommended prior to design.

**Bridges:** Bridges should be designed to accommodate natural fluctuations in water level and the passage of permitted boats. Motor boats are permitted from the boat harbor to the arched bridges. Beyond the double arched bridges, only wooden, non-fossil fueled fishing boats are allowed. Since August 1990, Hui Okinawa has sponsored the annual Haari Boat Festival on the Wailoa River. Local school children are taught how to sail a double-hulled Hawaiian canoe in this location, and the canoe escorts special visiting tribes up the Wailoa River during the annual Hilo Inter-Tribal PowWow. Stand up paddling is also popular on the river.

**Shared use Path within Kawelolani Street Right-of-Way:** The shared use path in this right-of-way should be aligned on the mauka edge to provide as much separation as possible from trailer parking at the boat harbor.

**Maile Street Parking Lot:** The concept for this parking includes a one-way paved driveway, approximately 40 stalls constructed of pervious paving, and a connection with the shared use path.

**Maile Street Shared Use Path:** The potential shared use path in the Maile Street parcel will likely require a railing at the storm drain outlet and a separation barrier between the path and vehicular lanes.

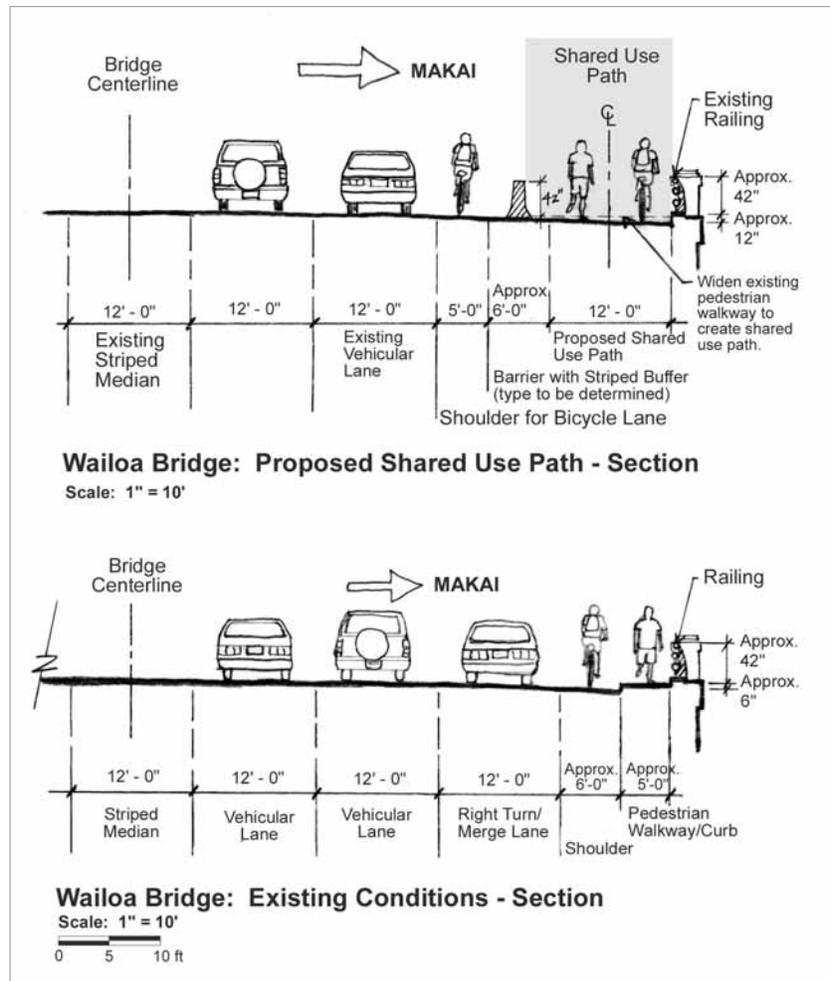


Figure 6.20: Existing and proposed conditions for the shared use path on the Wailoa Bridge.

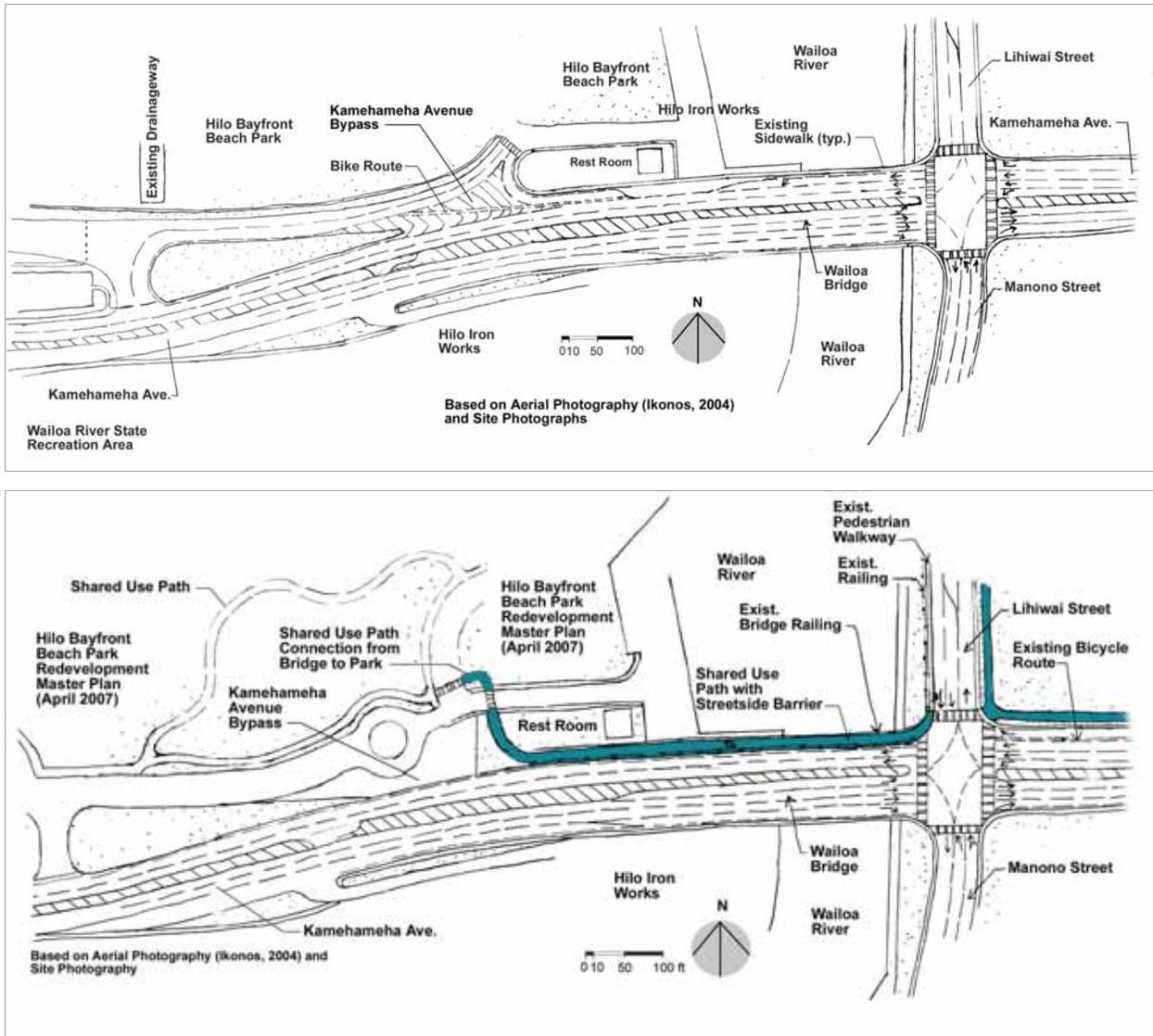


Figure 6.21: Plans showing existing conditions (below) and proposed alignment (above) for the shared use path on the Wailoa Bridge.

**Alignment in the Grant of Easement at Waiākea Villa:** Since the current configuration of the shoreline may have changed since the easement was surveyed in 1975, a new survey should be taken before design commences on the shared use path in this area. In the event that the easement is more water than land, a shared use boardwalk should be considered.

### Wailoa Bridge Shared Use Path

The design of the shared use path on the *makai* side of the Wailoa Bridge will require close coordination with and oversight by the State Department of Transportation, Highways Division. The linkage of the bridge path with Hilo Bayfront Beach Park paths should be coordinated with plans for the beach park and should not interfere with the emergency bypass from Kamehameha Avenue (see Figures 6.20 and 6.21).

### Waiākea Peninsula

As noted in the discussion on ceded lands in Chapter 5, segments of the shared use path around the golf course at Waiākea Peninsula may need to be located within the golf course parcel when space is insufficient in the Banyan Drive right-of-way. Figure 6.23 illustrates the four existing conditions of the right-of-way, two of which have the potential to accommodate the shared use path; the plan in Figure 6.24 indicates the locations of these conditions. The extent to which the path can be accommodated will need to be determined by a survey of this area. The girth of existing banyan trees and the presence of aerial roots may be a limiting factor.

Preservation of the historic banyan trees should be a priority of path design in this area. The area survey should also be used to verify distances between the perimeter shared use path alignments and golf activities, particularly along the second fairway; protective netting, similar to that existing along the third fairway should be considered.



Figure 6.22: A railing may be required at the edge of this drainage area at the corner of Kamehameha Avenue and Lihikai Street.

At the corner of Kamehameha Avenue and Lihikai Street, a railing may be required at the edge of the existing drainage area (Figure 6.22).

### Banyan Way

Figures 6.25 and 6.26 illustrate design concepts that would not only provide adequate width and clearly defined alignments for pedestrians and bicyclists but the opportunity for trail users to more fully appreciate the natural setting around Kanakea Pond. Just beyond the Banyan Drive-Banyan Way intersection, a new concrete pedestrian walkway provides a transition between the existing pedestrian walkway and the viewing deck and boardwalk. At the corner of Bay Way and Kalanianaʻole Street, the cantilever of the boardwalk provides right-of-way width for bicyclists to transition from a shoulder on Kalanianaʻole Street to the bicycle route on Banyan Way. Implementation of this concept would result in the loss of approximately three parallel

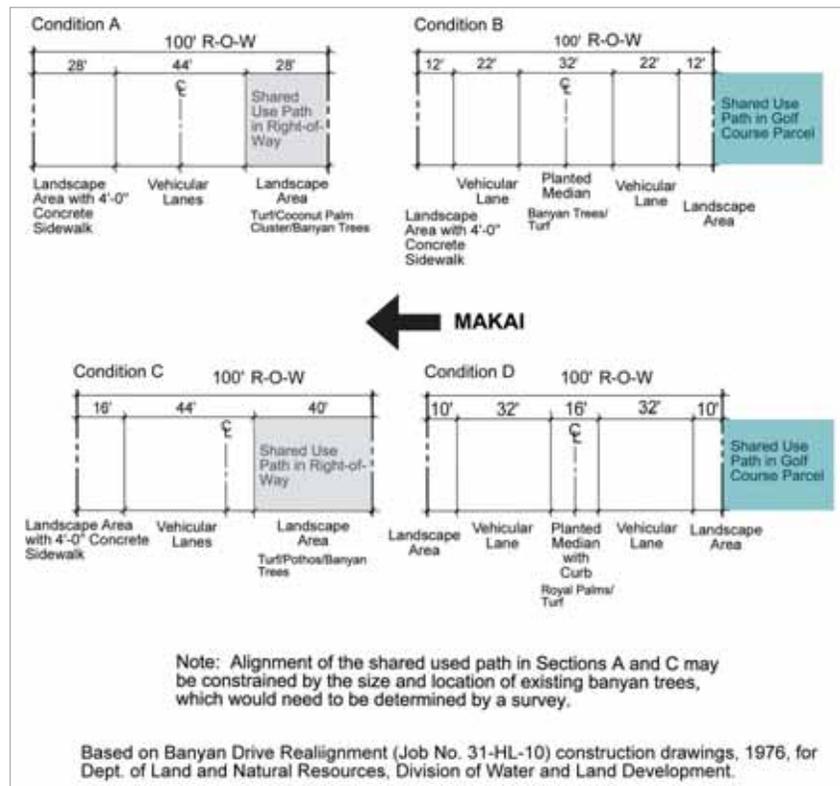


Figure 6.23: Four existing conditions of the Banyan Drive right-of-way.

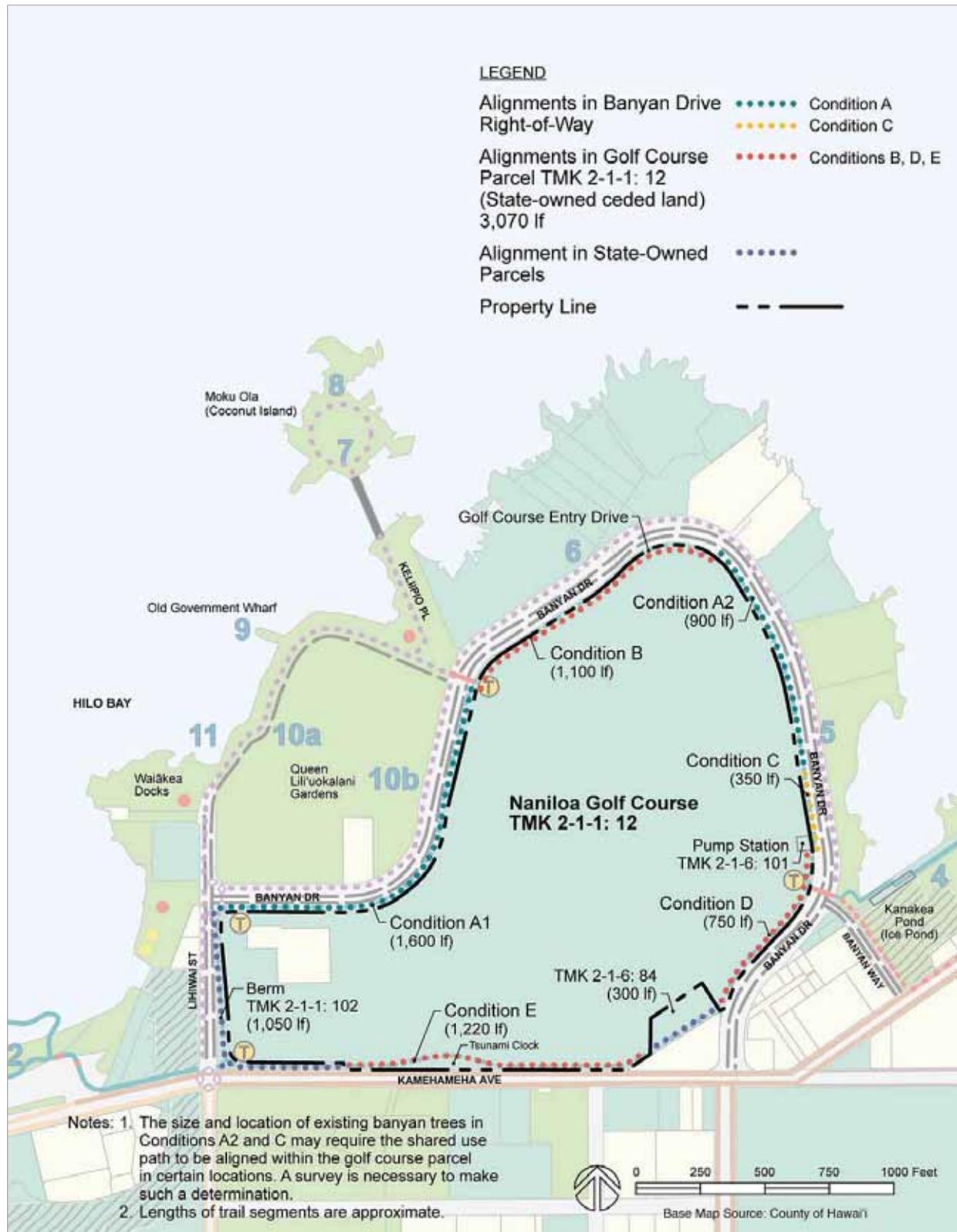


Figure 6.24: Location of the four existing conditions of the Banyan Drive right-of-way.

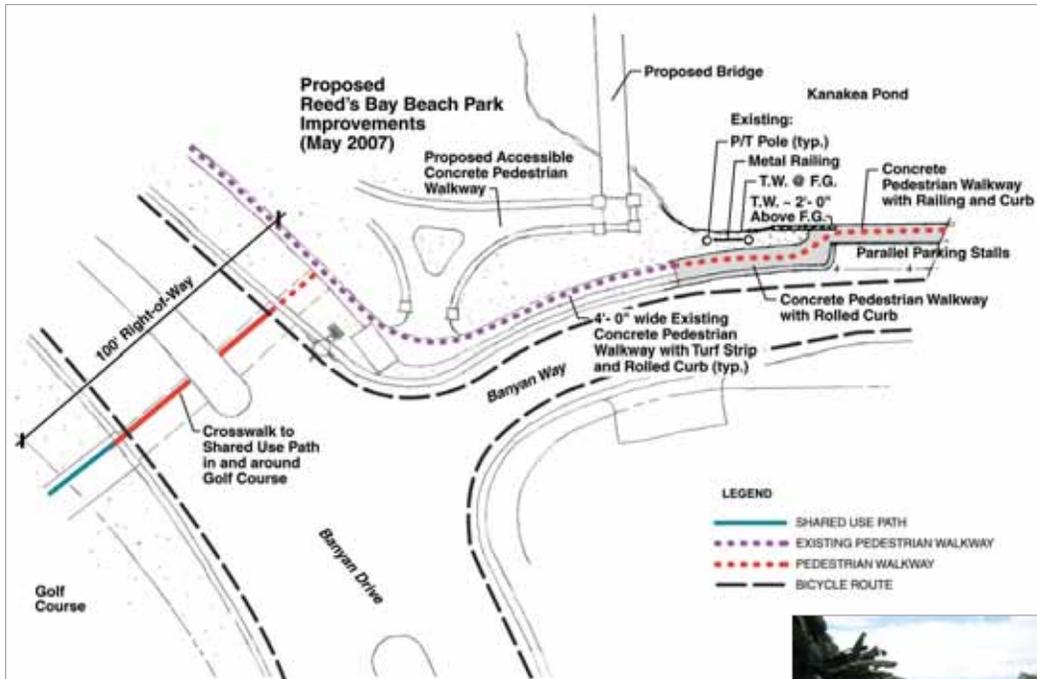


Figure 6.25: Trail improvements to pedestrian infrastructure at the Banyan Drive-Banyan Way intersection.

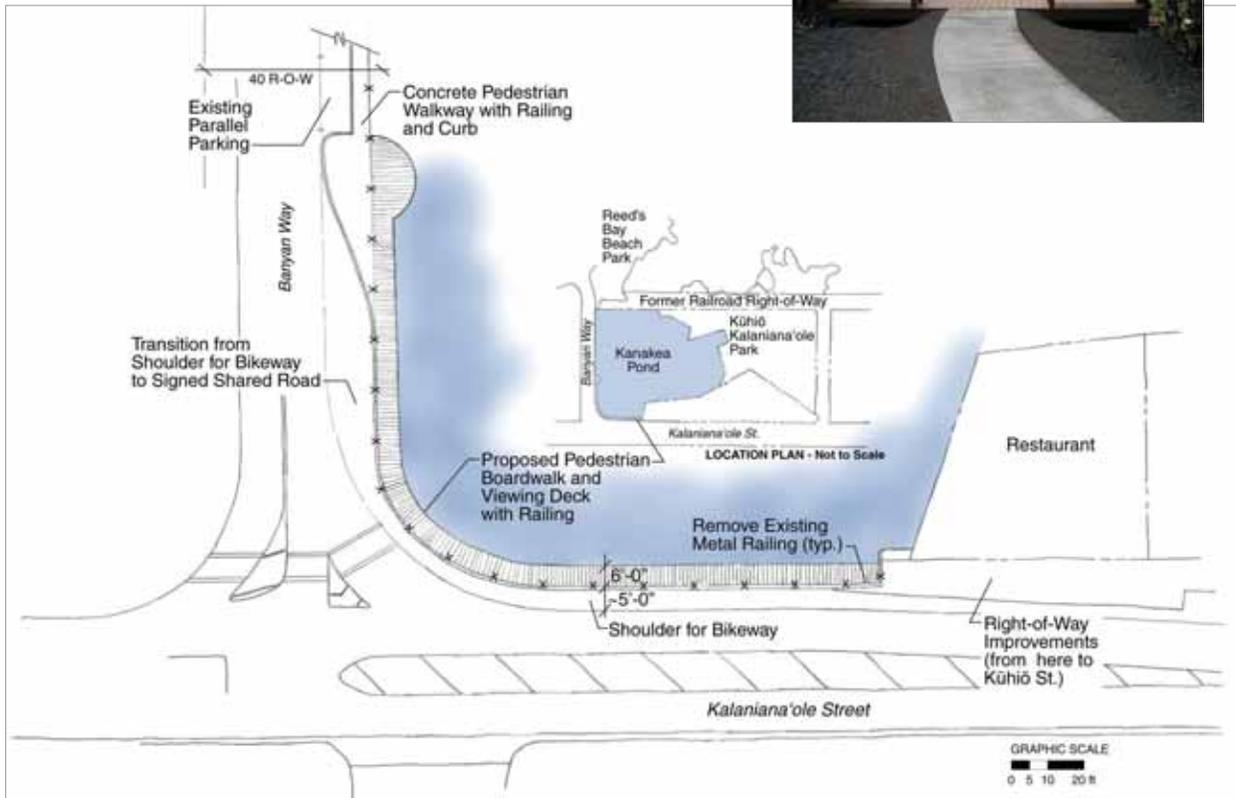


Figure 6.26: Concept for a cantilever boardwalk and viewing deck at Kanakea Pond. Design inspiration could come from the existing viewing deck at Kūhiō Kalanianaʻole Park (see inset).

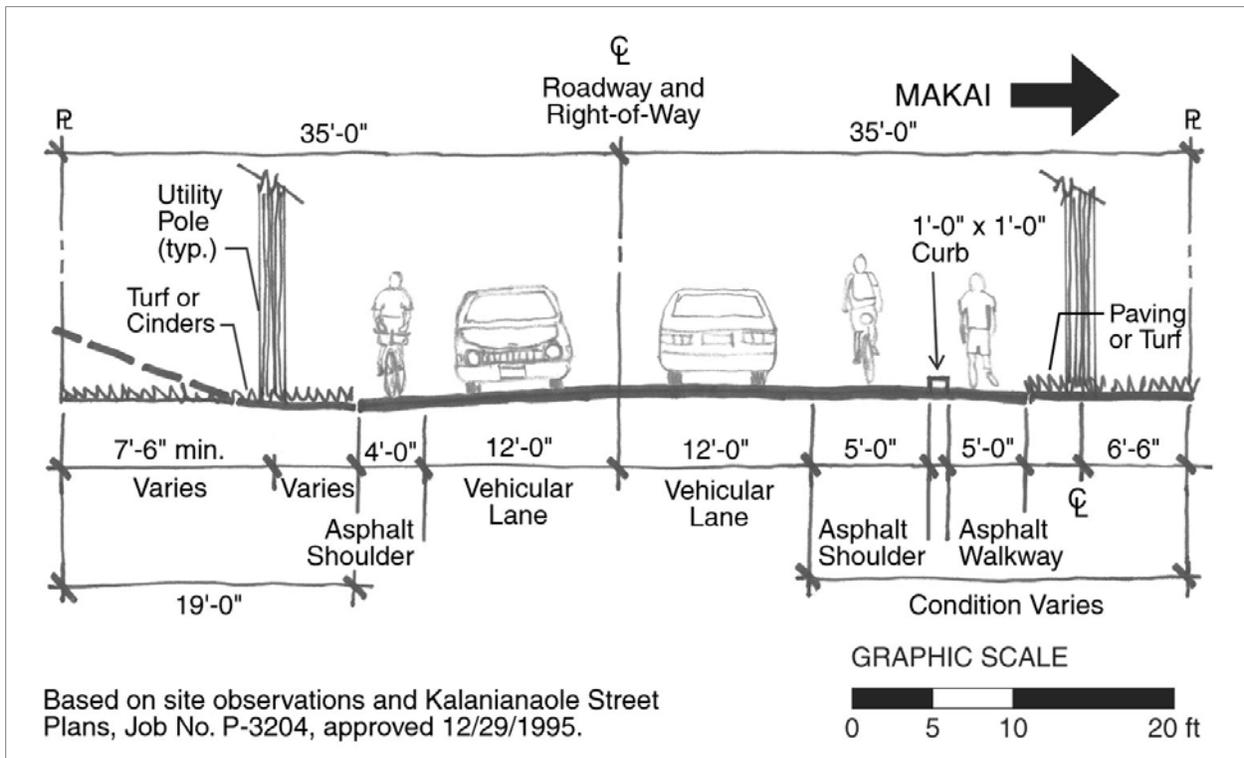
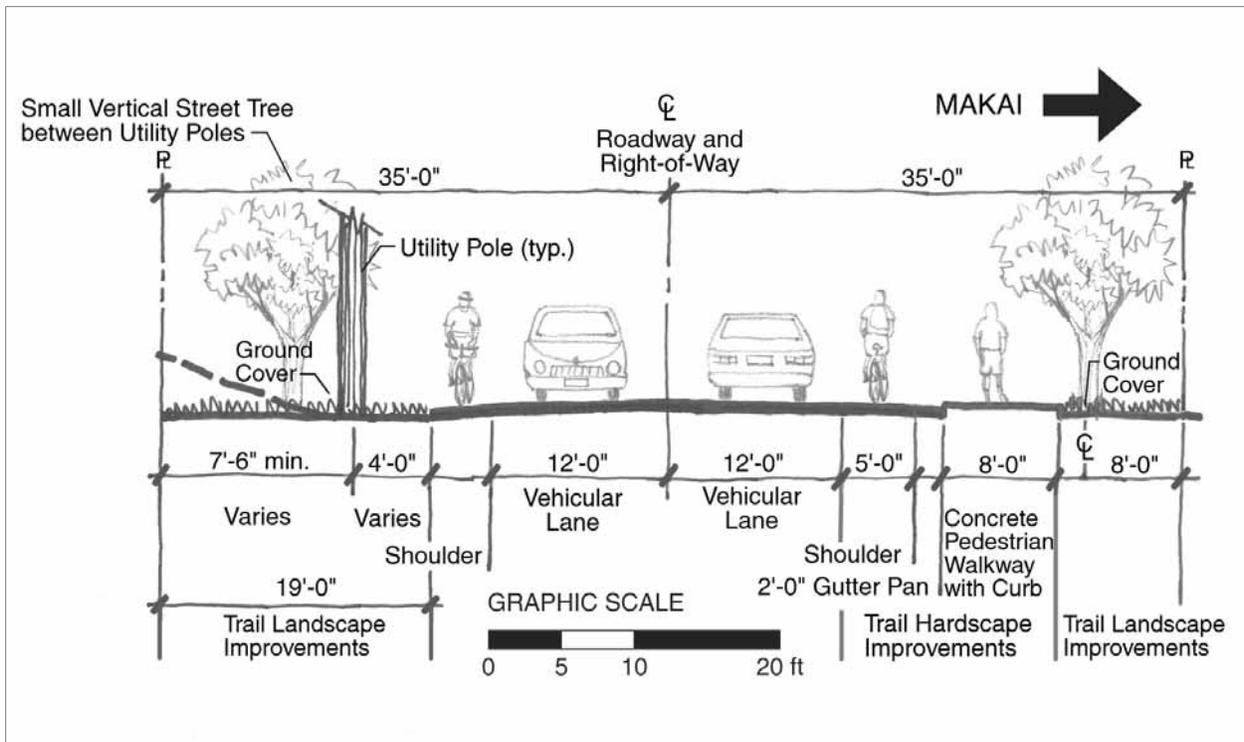


Figure 6.27: Illustrative sections showing existing conditions (below) and trail improvements (above) within the Kalaniana'ole Street right-of-way.

parking stalls adjacent to Kanakea Pond.

The boardwalk and viewing deck is located outside of the Banyan Way and Kalanianaʻole Street rights-of-way and within the bounds of Kanakea Pond. As stated in Chapter 5, this would most likely require a Conservation District Use Permit, since the pond is within the State Conservation District, Resource Subzone. A design alternative—which would need to be coordinated with the County Department of Public Works—is to eliminate the left turn lane on Kalanianaʻole Street and reapportion the right-of-way to allow space for a pedestrian walkway and shoulder to extend the existing bikeway within the right-of-way.

Wood material for the boardwalk and viewing deck should be evaluated based in part on the amount of preservatives present (see entry for U.S. Dept. of Agriculture research paper in References).

It should be noted that vehicles currently are not permitted to make left turns from Banyan Way to Kalanianaʻole Street. A change in this regulation would require action by the Department of Public Works.

If the bridge at Kanakea Pond is not implemented as part of the Department of Parks and Recreation Reed’s Bay Beach Park improvements, then trail alignments on Banyan Way will provide the primary connections between Waiākea Peninsula and Kalanianaʻole Street.

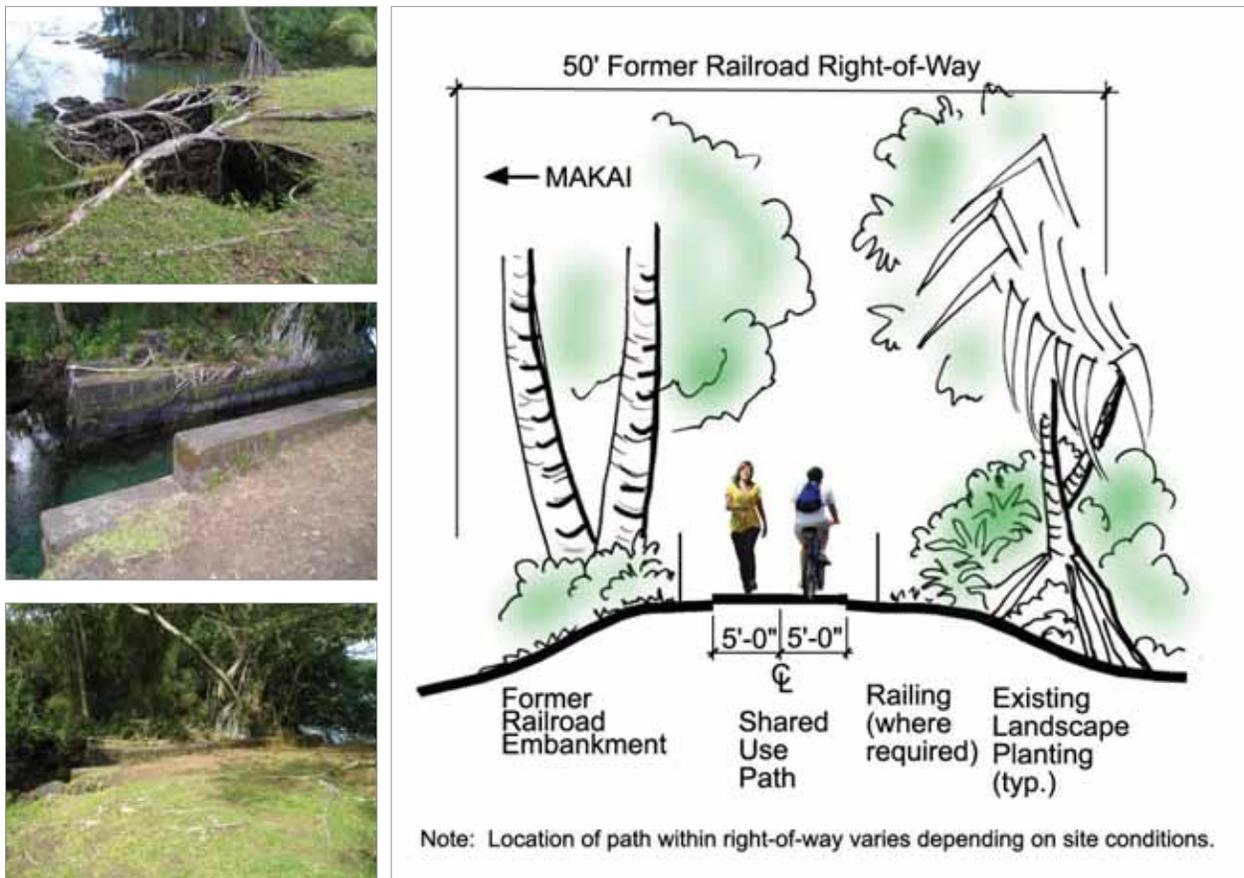


Figure 6.28: Illustrative section of the shared use path alignment on the former railroad embankment (right). The images show the effects of erosion (top left) and the existing concrete abutments that would be spanned by a new bridge (center and bottom left).

### **Kalanianaʻole Street**

The improvements for the trail alignments along Kalanianaʻole Street (Figure 6.27) were inspired by, but do not match, the improvements fronting TMK 2-1-7:9. If consultation with the Department of Public Works validates the precedent of these improvements, the design for the trails pedestrian walkway should include transitional segments on either end of these improvements.

The Department of Public Works should also be consulted regarding an official or desired street tree species for the proposed small vertical street trees.

### **Former Railroad Right-of-Way**

Based on the fragile and intimate scale of this area, the shared use path within this right-of-way should be a minimum recommended width. Figure 6.28 shows the relative scale of a ten-foot-wide path on the former railroad embankment. The former railroad embankment has suffered serious shoreline erosion over the years and would require restoration in some areas as part of the scope of design for this segment of shared use path. Railings on both sides of the shared use path on the embankment may also be necessary. Some tree removal (mostly *Ficus* species) would be necessary to clear an alignment for the trail bridge.

### **Hilo Harbor Connections**

The design and construction of infrastructure for trail alignments within the currently unimproved Huipū Street right-of-way are not included in the scope of this project. Vehicular lanes, shoulders, and pedestrian walkways should be design considerations for implementation when the new cruise ship passenger terminal is constructed. Through coordination between the County and State Department of Transportation, Harbors Division, matching pedestrian and bicycle facilities should be implemented both within the Huipū Street right-of-way and inside the Hilo Harbor boundary to facilitate the movement of ship passengers between the passenger terminal and trail alignments. On Huipū Street, concrete pedestrian walkways on both sides of the right-of-way (with trail markings and medallions) and generous vehicular lanes for bicyclists to share with motorized vehicles are recommended (see Figure 4.26).

The trailhead sign for Hilo Harbor may be different from other trailhead signs in the project area to satisfy site-specific conditions. The design should factor in the need to relocate the trailhead sign to the new passenger terminal.

## **Conclusion**

These design guidelines should be the basis for the design of all trail alignments and amenities. Although variations will be necessary to address site-specific conditions and / or to establish contextual relationships, there should be a high level of continuity among trail elements, especially for trail alignments. Since design will be phased at a project level and will be implemented by different consultants, drawing files could be archived together to make them easily accessible to all trail designers.



## 7. APPENDICES

**Appendix A:** List of Stakeholder Advisory Committee Members (referenced in Chapter 1)

**Appendix B:** Tasks and Schedule (by Phase) for Completion of Hilo Bayfront Trails (referenced in Chapter 1)

**Appendix C:** Schedule of Meetings for Hilo Bayfront Trails Planning (referenced in Chapter 2)

**Appendix D:** *Hilo Bayfront Trails: Historical Uses Within the General Project Area*, by Robert B. Rechtman (referenced in Chapter 2)

**Appendix E:** Compilation and Analysis of User Survey Responses (referenced in Chapter 2)

**Appendix F:** Trail Actions by Area and TMK (referenced in Chapter 5)

**Appendix G:** Order-of-Magnitude Cost Estimate for Design and Construction of Trail Actions (referenced in Chapter 5)

**Appendix H:** Grant of Easement Number S-4533 at Waiākea Villas (referenced in Chapter 5)

**Appendix I:** Ordinance No. 04-97 for District Reclassification of Property TMK 2-1-7:9 (referenced in Chapter 5)

---

## Appendix A

### Hilo Bayfront Trails Stakeholder Advisory Committee

<b>Name</b>	<b>Organization</b>	<b>Title</b>
Crysttal Atkins	County of Hawai'i (COH), Department of Planning	Balanced Transportation Coordinator
Ian Birnie	Dept. of Transportation (DOT), Harbors Division	Hawai'i District Manager
Sandy Bonk	Hawai'i Island Bicycle System Advocates	Member
Leonard Bisel	Leonard Bisel Associates, LLC	Landscape Architect
William Brihante	COH Corporation Counsel	Deputy Corporation Counsel
David Brown	American Youth Soccer Organization	Member, Hilo Region 274
Tom Brown	Downtown Improvement Association (DIA) / County Mass Transit Agency	President / Mass Transit Administrator
Kaholo Daguman	Connections Public Charter School / DIA Beautification Committee	Teacher / Member
David Deluz, Jr.	Hawai'i Island Chamber of Commerce	Past President
Laura Dierenfield	Hawai'i County Bicycle and Pedestrian Committee / Peoples Advocacy for Trails Hawai'i (PATH)	Chair / Member
Elizabeth Dykstra	COH Department of Research and Development	Grants Specialist
Patricia Engelhard	COH Department of Parks and Recreation	Director
Neil Erickson	VisionKeepers / Bicycle Advocate	Member
Alex Frost	COH Department of Research and Development	Hawai'i County Resource Center (HCRC) Coordinator
Susan Gagorik	COH Department of Planning	Long Range Planner
Donald Ikeda	COH Council	District 2 County Councilor
Eric Kapon	Keaukaha Community Association	Member
John Kekua	Hawaiian Canoe Racing Association	President
Troy Kindred	COH Civil Defense	Administrator
James Komata	COH Department of Parks and Recreation	Park Planner
Peter Kubota	Hawaii Island Bicycle System Advocates	Member
Brad Kurokawa	COH Department of Planning	Deputy Director
James Leonard		Bicycle Advocate
Molly Lugo	COH Corporation Counsel	Deputy Corporation Counsel
Diane Ley	COH Department of Research and Development	Deputy Director
Wesley Matsunaga	State of Hawai'i, Dept. of Land and Natural Resources, Land Division	Land Agent
Glenn Mayeda	State of Hawai'i, Dept. of Land and Natural Resources, Small Boat Harbors	Hilo Agent for Wailoa Sampan Basin and Boat Harbor
Amy Miwa	COH Council District 2	Legislative Assistant
Pamela Mizuno	COH Department of Parks and Recreation	Deputy Director
Nancy Murphy	State of Hawai'i, Dept. of Land and Natural Resources, Small Boat Harbors	Hawai'i District Branch Manager
Paul Nash	VisionKeepers	Past Chair
Diane Noda	COH Corporation Counsel	Deputy Corporation Counsel
Shelly Pelfrey		Student
Sam Pulu'ole	Hilo Downtown Improvement Association	Executive Director

<b>Name</b>	<b>Organization</b>	<b>Title</b>
Lukela Ruddle	Office of Hawaiian Affairs	Hawai'i Island Community Resource Coordinator
Lawrence Scadden	Mayor's Committee on People with Disabilities	Vice Chair
Linda Schubert	Papahānaumokuākea Marine National Monument Discovery Center (NOAA)	Manager
Renee Schoen	COH Corporation Counsel	Deputy Corporation Counsel
Stephen Skipper	Big Island Resource Conservation and Development Program	Program Coordinator
Glenn Taguchi	State of Hawai'i, Dept. of Land and Natural Resources, State Parks	Parks District Superintendent
Roy Takemoto	COH Mayor's Office	Executive Assistant
Nimr Tamimi	Kanoelehua Industrial Area Association	Member
Stanley Tamura	State Department of Transportation, Highways Division	Manager
Jane Testa	COH Department of Research and Development	Director
Alan (Keone) Thompson	COH Department of Public Works	Civil Engineer
Ed Torrison	East Hawai'i Kiwanis Club	Past President
James Weller	State of Hawai'i, Department of Land and Natural Resources, Division of Conservation and Resource Enforcement	Conservation Resources Enforcement Officer
Harry Yada	COH Department of Finance	Property Manager

**Note:** Committee members served for various lengths of time; most members served for the duration of the master planning process.



## Appendix C

### Schedule of Meetings for Hilo Bayfront Trails Planning

Date / Venue	Type of Meeting	Agenda
August 31, 2006 Aupuni Center Conference Room	Stakeholder Advisory Committee Meeting 1	Committee reviewed geographical extent of project, consultant's work tasks, trail planning criteria, county's responsibility, and project work products and schedule. Participated in activity to answer the following questions: (A) What is it you love about Hilo? (B) Describe your vision of the best possible Bayfront. (C) Describe what the Hilo Bayfront Trail would look like within that vision.
September 28, 2006 County Council Chambers	Stakeholder Advisory Committee Meeting 2	Committee reviewed results of the August meeting's exercise; finalized geographical extent of project, discussed qualifications for consultant, and reviewed the scope of work; and chose members of the consultant selection committee.
February 9, 2007 Mokupapapa Discovery Center	Stakeholder Advisory Committee Meeting 3	Project planner (Helber Hastert & Fee, Planners) introduced project team, provided company profile, discussed proposed work plan and schedule.
July 20, 2007 Aupuni Center Conference Room	Stakeholder Advisory Committee Meeting 4	Project planner shared status planning progress; presented first impressions of project area; discussed user survey and preparations for Public Meeting 1.
September 7, 2007 Department of Parks & Recreation Conference Room	Ad Hoc Meeting with Departments of Public Works and Parks & Recreation	Stakeholder Advisory Committee members and project planner met with department representatives to discuss and coordinate trail plans with future park and public works plans.
October 9, 2007 Aunty Sally's Lū'au Hale	Public Meeting 1	Project manager and planner introduced project; presented project area opportunities and constraints; facilitated public input on trail alignments; and distributed and collected user surveys.
December 13, 2007 County Council Chambers	Stakeholder Advisory Committee Meeting 5	Project planner reviewed proceedings of Public Meeting 1; discussed recommendations from public input; shared and discussed resulting Draft Conceptual Trails Plan (dated December 13, 2007).
February 22, 2008 County Council Chambers	Stakeholder Advisory Committee Meeting 6	Committee provided feedback on the revised Draft Conceptual Plan (dated February 22, 2008) in preparation for presentation at Public Meeting 2.
April 16, 2008 Aunty Sally's Lū'au Hale	Public Meeting 2	Project planner provided recap of Public Meeting 1; shared results of user survey; presented Draft Conceptual Trail Plan (based on input from Public Meeting 1 and user survey responses); including potential trail interpretive sites; facilitated public input on trail alignment revisions and locations of trail amenities.

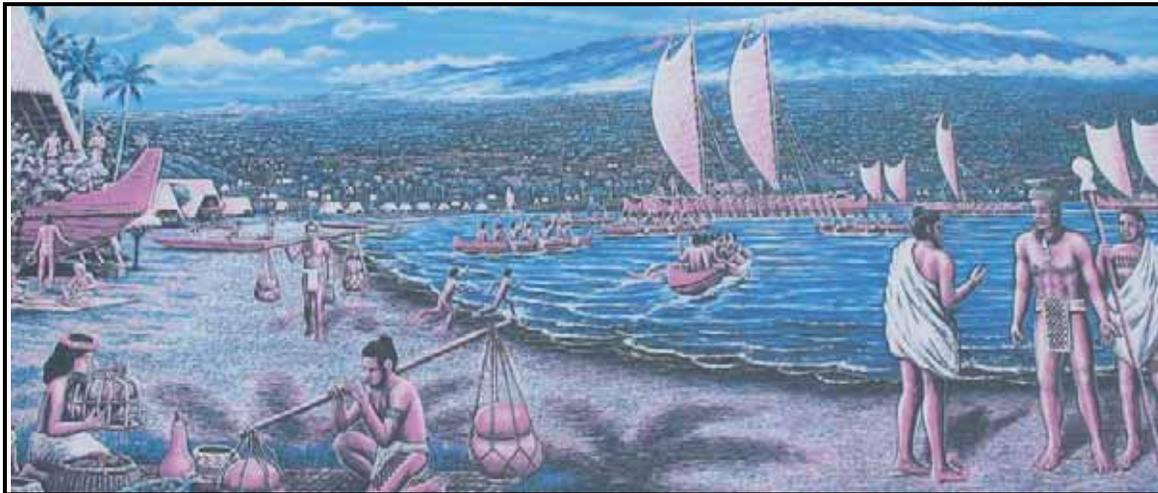
<b>Date / Venue</b>	<b>Type of Meeting</b>	<b>Agenda</b>
June 20, 2008 County Council Chambers	Stakeholder Advisory Committee Meeting 7	Committee members and project planner discussed community input from Public Meeting 2; reviewed recommendations generated by public input; assessed the feasibility of specific recommendations; discussed a variety of mechanisms for funding trail implementation.
December 10, 2008 Aunty Sally's Lū'au Hale	Public Meeting 3	Project planner presented Draft Schematic Trails Plan (based on input from Public Meeting 2), including more detailed information about alignments and trail features, design and construction costs, and implementation phasing; facilitated community comments on 12 displays panels highlighting various areas of the the bayfront and question-and-answer session.
January 9, 2009 County Council Chambers	Stakeholder Advisory Committee Meeting 8	Project planner provided recap of Public Meeting 3 and shared assessment of public input. Planner and committee members discussed unresolved issues and tasks required to complete the Hilo Bayfront Trails master plan.

## APPENDIX D

*Hilo Bayfront Trails: Historical Uses Within the General Project Area*, by Robert B. Rechtman  
(referenced in Chapter 2)

# HILO BAYFRONT TRAILS

## Historical Uses Within The General Project Area\*



PREPARED BY:

Robert B. Rechtman

September 2007

### **RECHTMAN CONSULTING, LLC**

HC 1 Box 4149 Kea'au, Hawai'i 96749-9710

phone: (808) 966-7636 fax: (808) 443-0065

e-mail: bob@rechtmanconsulting.com

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL STUDIES

\*All of the images in this document (except original photographs) have been used without expressed permission.

## Legendary Habitation and Uses

- **Hilo and its People:** Legendary sources indicate that Hilo was, among other things, renown for its rain and fertility, and that its inhabitants were expert in *hula*, fighting, and other traditional competitions including running, fishing debating, and solving riddles. The names of the legendary rulers of the area are identified with the place names for the several land units (both the *ahupua'a* and their component *'ili*) that make up Hilo.
- **Hilo Place Names:** Many of these names survive today, but only as localities or street names; their cultural and contextual meanings are rarely if ever conveyed. These include, but are not limited to Waiākea, Pana'ewa, Pi'ihonua, Haili, Kalepolepo, Kāwili, 'Ohele, Ūpēloa, Kaūmana, Hilo-Hanakahi.
- **Sections of Hilo:** The greater Hilo area was divided into three sections, which have their origins in legendary times: Hilo-Hanakahi, Hilo-one, and Hilo-pali-ku.
- **Ancient Trails:** Walking the ancient trails of legendary times, travelers often encountered obstacles that they had to overcome through both ingenuity and competition.



Traditional place names and their locations in the Hilo Bay vicinity

## Precontact and Early Postcontact Habitation and Uses

- **Polynesian Settlement:** Hilo is likely to have been one of the first Polynesian settlement areas on Hawai‘i Island, perhaps as many as 1,500 years ago. Early settlers would have found a protected bay, surrounded by fertile lands for agriculture, and well watered by regular rainfall and natural springs, the runoff from which entered the bay in three places: in the eastern part of the bay at the Wailoa River, in the central part of the bay from the confluence of the Alenaio Stream and Waiolama wetlands, and the western part of the bay at the Wailuku River.
- **Habitation Areas:** The shoreline areas near the mouths of these waterways would have been provided locations suitable for establishing village settlements. Through time the landscape would have been increasingly modified to accommodate the needs of an expanding population.
- **Development of Traditional Society:** Natural waterways and wetlands were modified to create fishponds and planting areas. Access to and control over these resources supported, reinforced, and enhanced the existing social and religious distinctions that were present within the population. Society became highly stratified with a ruling elite and a priestly class with specialists to support them, and commoners for the ruling classes to govern. A system of prohibitions (*kapu*) relating to all aspects of life was embraced by all.
- **Establishment of Ruling Elite:** By the 1500s the ruling elite of Hawai‘i Island were battling for power and control. Hilo was a power center for many of these early chiefs’ conquests. Success in battle was linked to religious observance and resulting in religious prosperity. At least six *heiau* (religious temples) were known to exist in the Hilo Bay area, these include Pinao, Kaipalao, Kinailoa, Kānoa, ‘Ohele, and Kahinihini‘ula.
- **Wetland Agriculture:** The marsh area at Waiolama was also developed into a fishpond and was used for a unique type of cultivation (*kipi*) whereby taro was grown in mounded organic rafts that were floating in the marsh.
- **Spiritual Awareness:** Mokuola (Coconut Island) in the eastern portion of Hilo Bay was known both as a healing center with its curative spring water and also as a *pu‘uhonua* (place of refuge) for *kapu* breakers.



A modern view of Mokuola

- **Royal Residence:** The *'ili* area of Pi'opi'o in Waiākea Ahupua'a with its complex of fishponds damming a portion of the Wailoa River became a royal precinct and the residence of ruling elite.
- **Consolidation of Chiefly Power:** Hilo became a base of operations for the ruling chiefs who through a series of intrigues, changing alliances, and direct confrontation consolidated power and gained control over the entire island.
- **Kamehameha as King:** When Captain George Vancouver arrived at Hilo Bay in 1794, Kamehameha was living at Waiākea (Pi'opi'o) and preparing his fleet of war canoes for his upcoming conquest of the other Hawaiian Islands, which ultimately led to the consolidation of the Hawaiian Kingdom.

## Nineteenth and Twentieth Century Habitation and Uses

- **Missionaries and the Foundation of Modern Hilo:** Between 1824 and 1848 Hilo became a significant center for foreign activities, primarily as a result of the establishment of religious mission stations by American missionaries. The first mission station was established at Waiākea within Pi'opi'o along the outflow of the Wailoa River. In 1825 Queen Ka'ahumanu gave Punahoa 2 Ahupua'a to missionaries and the mission station was relocated. The first vocational school in the United States was established in Hilo in 1837 and two New England style houses were constructed. However, Native Hawaiian land use practices continued to dominate the Hilo Bay area and the Pi'opi'o portion of Waiākea remained a residential area for Hawaiian royalty.



A view of the Hilo bayfront during the middle nineteenth century



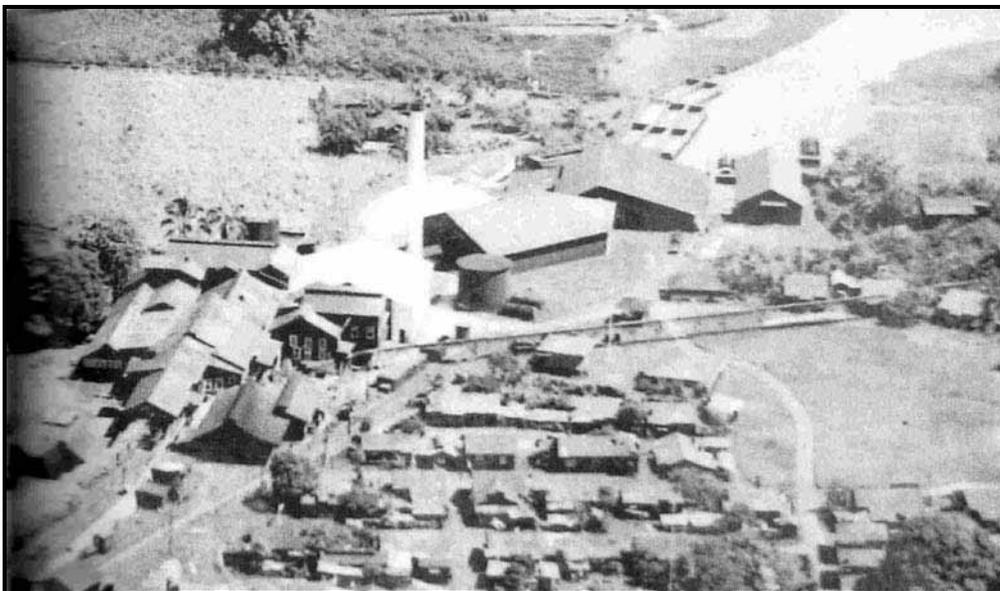
A traditional house of the middle nineteenth century.

- **Consolidation of Hilo Town:** In 1848, a measles epidemic began in Hilo and spread throughout Hawai'i Island. This was followed by a smallpox epidemic in 1853. These led to a significant demise in the native population and the consolidation of the dispersed settlements along Hilo Bay into a village area of predominantly wooden structures along the northern half of the bay. The main pier near the mouth of the Wailuku River (at the bottom of Waiānuenue Ave) was built in about 1863 and became a focal point for this community's trade and commerce. During this time Hilo Bay was ranked as the third most frequented port for whaling vessels in need of repair and re-provisioning.



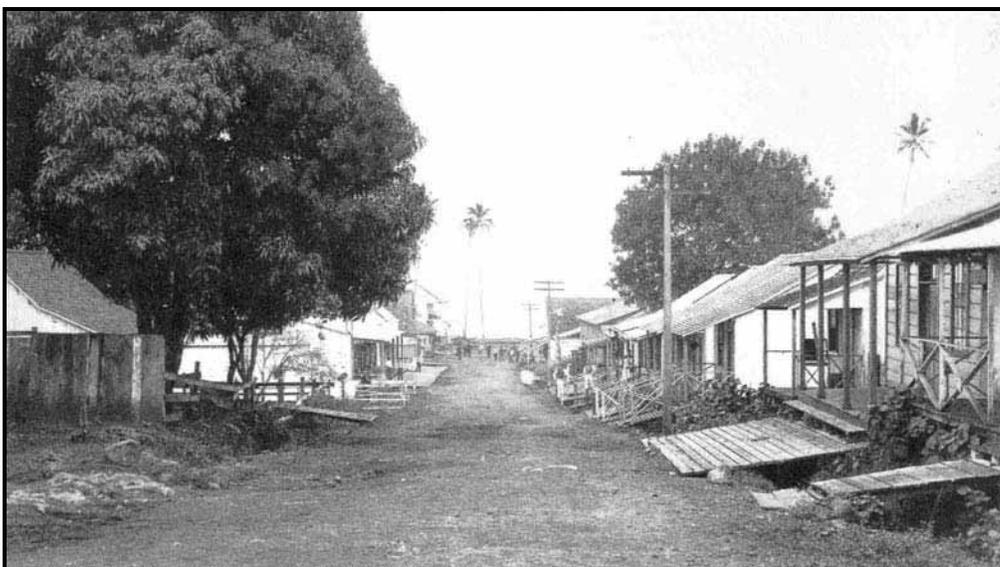
Pier at base of Waiānuenue Avenue.

- **A Growing Population Center:** By 1874, Hilo ranked as the second largest population center in the islands, and within a few years shortly thereafter Hilo with its fertile uplands, plentiful water supply, and good port became a major center for sugarcane production and export.



Waiākea Mill at Wailoa River.

- **The Sugar Industry:** With its foundations in the Missionary Hilo Boarding School, commercial sugarcane cultivation and sugar production became the central economic focus for the Hilo area lasting until the 1970s. The Waiākea Mill Company, in operation between 1879 and 1948, with thousands of acres of cultivated fields, established its mill operation at Wailoa Pond. The importation of contract labor from China in 1852, from Portugal in 1878, and from Japan in 1885 led to the formation of Hilo's multi-ethnic character.
- **Loss of Hawaiian Sovereignty:** With the introduction of electricity in 1895, the annexation of Hawai'i to the United States in 1898, and the granting of territory status in 1900, Hilo was designated the center of county government in 1905 and continued to be the second most populated city in the newly formed Territory of Hawai'i.



Waiānue Ave circa 1900.

- **Railroads in Hilo:** In operation between 1899 and 1916, the Hilo Railroad Company primarily served the various sugarcane operations that encompassed land from Hilo to Ola‘a (Kea‘au). In 1916 the railroad company was reorganized into Hawaii Consolidated Railway, Ltd, which expanded to include more passenger service and operated until the track lines were destroyed by the 1946 *tsunami*.



Railway along Hilo bayfront destroyed by *tsunami*.

- **Secondary Industry Develops from By-Product of Sugar Production:** A by-product of sugarcane production is bagasse, which the mills used as fuel for their boilers. As commercial fuel oils became increasingly available in the late 1920s, the use of bagasse as a fuel declined. This byproduct of production was then creatively used to manufacture a wallboard product for construction. In 1929, Hawaiian Cellulose Ltd, a subsidiary of the Waiākea Mill Company applied for a patent for this construction product, called canec. By 1932 Hawaiian Cellulose Ltd became known as Hawaiian Cane Products and opened a canec plant close to the site of the Waiākea Mill. Following a series of difficulties, not the least of which was the durability of the product, in 1948 Hawaiian Cane Products was bought out by the Flintkote Company of New York. With the application of stabilizing (toxic) chemicals, canec production flourished until 1960 when a factory fire devastated the operation.
- **Hilo Becomes a Modern Harbor:** Improvements to Hilo Bay as a protected anchorage and Harbor began in 1908 with the construction of the Hilo breakwater, which was completed in 1929. By 1925 dredging of the harbor and construction the first sizeable piers were underway.



Hilo Bay breakwater shortly after completion.

- **Hilo's Vulnerability to Tsunami:** Natural disasters in the form of *tsunami* have repeatedly devastated sections of Hilo, most notably in 1868, 1923, 1946, and 1960. The mark that these events have left on the landscape are most apparent in the central portion of the Hilo Bay area (Hilo-one) where rather than rebuilding the town that was destroyed, the land has been left undeveloped for the most part and used for recreational fields.



Makai side of Kamehameha Ave after 1946 *tsunami*.



Waiākea area after 1960 *tsunami*.

# APPENDIX E

Compilation and Analysis of User Survey Responses (referenced in Chapter 2)

HILO  
BAYFRONT  
TRAILS  
PHASE I: PLANNING

COMPILATION & ANALYSIS OF  
USER SURVEY RESPONSES

Prepared for  
**County of Hawai'i**  
**Department of Research and Development**

Prepared by  
**Helber Hastert & Fee, Planners**

April 2008



**Use of Survey Results:** The information that you provide by completing and returning this user survey will guide the project planning team, led by Helber Hastert & Fee, Planners (HHF) to produce a plan for trails and trail amenities (such as paths, rain shelters, directional and interpretive signage) that will best serve Hilo residents and visitors and that will enhance current popular uses, incorporate strongly desired future uses, and highlight cultural and historical uses of the project area.

Your individual responses will be confidential. At public meetings and in the final Hilo Bayfront Trails planning report, user survey information will be communicated anonymously.

**HILO BAYFRONT TRAILS, PHASE I: PLANNING  
PROJECT AREA USER SURVEY: Please print this page, complete, and fax to HHF at (808) 545-2050 by 10/5/07. Mahalo.**

1. What are your three most **frequent** activities\* in the project area, with 1 being the most frequent?
  - 1.
  - 2.
  - 3.
  
2. What are your three **favorite** activities\* in the project area, with 1 being your most favorite?
  - 1.
  - 2.
  - 3.
  
3. What do you think are the five **most important** goals for Hilo Bayfront Trails, with 1 being the most important?
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.
  
4. What are the 5 **most important** sights to see from the Hilo Bayfront Trails, with 1 being the most important?
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

6. What are the three **biggest challenges** for the Hilo Bayfront Trails project, with 1 being the most challenging?

- 1.
- 2.
- 3.

7. What **destinations** outside of the project area should the Hilo Bayfront Trails plan connect with in the future?

8. How many years have you lived in/near Hilo?

\_\_\_ 1-5 years \_\_\_ 6-10 years \_\_\_ 11-15 years \_\_\_ +15 years

**\*Some possible activities in the project area are:**

Bicycling – Commuting  
Bicycling – Exercise  
Bicycling – Recreational  
Boating  
Business  
Canoeing events

Classes  
Cultural/entertainment events  
Dining  
Disc golfing  
Driving a vehicle  
Fishing

Golfing  
Jet skiing  
Meetings, appointments  
Picnicking  
Playing/watching baseball  
Playing/watching soccer

Public events  
Shopping  
Surfing  
Swimming  
Walking

## **Analysis of User Survey Responses**

### **Introduction**

The purpose of the User Survey for the Hilo Bayfront Trails planning phase was to gain an understanding of the uses, needs, and desires of current, regular users of the Hilo Bayfront Trails project area (see User Survey). With guidance from the project Stakeholder Advisory Committee, the survey was composed by Helber Hastert & Fee, Planners, planning consultant. The survey was distributed at Public Meeting 1 on October 9, 2007, and was also made available on the County of Hawai'i Department of Research & Development website.

Along with community input from three public meetings, the User Survey responses are an essential foundation for trails planning. These responses will inform the alignment of trail segments, the selection of trail features, the formation of design guidelines, and the development of programs for enriching and sustaining the trails. A total of 69 surveys were completed and returned. The following is an analysis of the results.

### **Question 1** **What are your 3 most frequent activities in the Hilo Bayfront Trail project area?**

The most frequent responses by priority are:

1. First Priority: Walking/strolling
2. Second Priority: Walking/strolling
3. Third Priority: Shopping

Overall, respondents answered that their most frequent activities in the project area—in descending order—are:

1. Walking/Strolling
2. Bicycling
3. Shopping
4. Picnicking
5. Paddling (canoe and kayak)
6. Cultural/entertainment activities
7. Public events/festivals
8. Dining
9. Meetings/appointments/business
10. Boating/sailing

**Question 2**  
**What are your 3 favorite activities in the Hilo Bayfront Trails project area?**

The most frequent responses by priority are:

1. First Priority: Walking/strolling
2. Second Priority: Walking/strolling
3. Third Priority: After no answer, public events/festivals

Overall, respondents answered that their favorite activities in the project area—in descending order—are:

1. Walking/strolling
2. Bicycling
3. Cultural/entertainment
4. Picnicking
5. Public events/festivals
6. Paddling (canoe and kayak)
7. Shopping
8. Boating/sailing
9. Swimming
10. Dining

The responses to both Questions 1 and 2 were very similar, indicating that users of the project area enjoy what they most frequently do in the project area.

Based on the popularity of soccer in the project area, it seems that soccer participants and spectators were underrepresented among survey respondents.

**Question 3**  
**What are the 5 most important goals for the Hilo Bayfront Trails project?**

Very few responses to Question 3 were the same. Each respondent had a unique way of communicating/expressing what the most important goals are for the Hilo Bayfront Trails project. All responses are recorded in the compilation.

Looking at the responses closely, goals were related to the following general themes: safety/security, usage of the trails and the project area, alignment and connectivity of the trails, trail features, the planning/design/implementation process, consensus/support, trail maintenance, parking, vehicular traffic, retaining existing conditions, and the character of trails. Categorizing responses by these themes and by priority, the most important goals are to:

First Priority, in descending order:

1. Satisfy the needs of trail users.
2. Effectively locate and connect the trail segments.
3. Provide a safe/secure trail environment.

Second Priority, in descending order:

1. Satisfy the needs of trail users.
2. Conduct an effective planning/design/implement process.
3. Provide a safe/secure trail environment.

Third Priority, in descending order:

1. Provide appropriate types and quantities of trail features/amenities.
2. Satisfy the needs of trail users.
3. Conduct an effective planning/design/implement process.

Fourth Priority, in descending order:

1. Provide appropriate types and quantities of trail features/amenities.
2. Satisfy the needs of trail users.
3. Provide a safe/secure trail environment.

Fifth Priority, in descending order:

1. Provide appropriate types and quantities of trail features/amenities.
2. Satisfy the needs of trail users.
3. Effectively locate and connect the trail segments.

Overall, these results translated to the following goals being the most important to respondents of the user survey:

1. Satisfy the needs of trail users.
2. Provide a safe/secure trail environment.
3. Conduct an effective planning/design/implement process.
4. Effectively locate and connect the trail segments.
5. Provide appropriate types and quantities of trail features/amenities.

**Question 4**  
**What are the 5 most important sights to see in the Hilo Bayfront Trails project area?**

According to respondents of the user survey, the most important sights to see in the project area—in descending order—are:

1. Hilo Bay and the Ocean
2. Mauna Kea and/or Mauna Loa
3. Downtown Hilo
4. Wailoa State Recreational Area
5. Downtown Hilo

Looking at all responses for all levels of priority, Downtown Hilo was listed most frequently, followed by Queen Lili'uokalani Gardens, Mauna Kea, and Moku Ola.

Although most sights listed focused on the area's natural resources, several respondents thought that an important sight to see would be people enjoying the trail and activities along the trail.

**Question 5**  
**What are the 3 biggest challenges for the Hilo Bayfront Trails project?**

Very few responses to Question 5 were the same. Each respondent had a unique way of communicating/expressing what they considered to be the biggest challenges for the Hilo Bayfront Trails project. All responses are recorded in the compilation.

Looking at the responses closely, challenges were related to the following general themes: funding, safety/security, consensus/support, planning/design/implementation process, usage of the trails and the project area, vehicular traffic, trail features, alignment and connectivity of the trails, land ownership, safety/security, education, trail maintenance, parking, and retaining existing conditions.

By priority, respondents communicated that the biggest challenges for the Hilo Bayfront Trails project are:

First Priority, in descending order:

1. Funding
2. Consensus/support
3. Planning/design/implementation process

Second Priority, in descending order:

1. Funding
2. Planning/design/implementation process
3. Vehicular traffic

Third Priority, in descending order:

1. Planning/design/implementation process
2. Safety/security
3. Consensus/support

Overall, the results translated to the following being the biggest challenges for the Hilo Bayfront Trails project:

1. Conducting an effective planning/design/implementation process.
2. Obtaining funding.
3. Garnering consensus/support.

Rain, flooding, and tsunami were listed only once each as challenges for the Hilo Bayfront Trails project.

#### **Question 6**

**What destinations outside of the project area should the Hilo Bayfront Trails plan connect with in the future?**

Respondents' preferred destinations outside of the project area are:

1. University of Hawai'i at Hilo
2. Richardson Ocean Park
3. Keaukaha
4. Honoli'i Bay

The number of responses for University of Hawai'i at Hilo as a future destination far surpassed all other responses.

**Question 7**

**How many years have you lived in/near Hilo?**

The composition of respondents was:

- 60 percent of respondents have lived in the Hilo vicinity more than fifteen years
- 22 percent one to five years
- 7 percent six to ten years
- 7 percent eleven to fifteen years

Thus, the majority of respondents were long-time residents of Hilo.

## Compilation of User Survey Responses

Question 1: What are your three most frequent activities in the area?

First Priority Activity	Frequency of Response	Second Priority Activity	Frequency of Response	Third Priority Activity	Frequency of Response
Walking/Strolling	13	Walking/Strolling	13	Shopping	10
Bicycling	7	Bicycling	7	Picnicking	7
Canoe Paddling	6	Dining	6	No Answer	6
Driving a Vehicle	5	Picnicking	5	Public Events/Festivals	6
Running/Jogging	5	Swimming	5	Walking/Strolling	5
Cultural/Entertainment	4	Hilo Farmers Market	4	Cultural/Entertainment	4
Sailing	4	Mtgs/Appts/Business	4	Bicycling	3
Business	3	Shopping	3	Fishing	3
Hilo Farmers Market	3	Public Events/Festivals	3	Soccer	3
Shopping	3	Cultural/Entertainment	3	Dining	2
Boating	2	Boating	2	Mtgs/Appts/Business	2
Dining	2	Canoeing/Kayaking	2	Paddling	2
Public Events/Festivals	2	4th July Fireworks	2	Shopping/Eating	2
Commuting	1	No Answer	2	Sightseeing	2
Sports Activities	1	Surfing	2	Swimming	2
Paddling	1	Fishing	1	Beach Activities	1
Sightseeing	1	Going to Parks	1	Boating	1
Canoeing/Kayaking	1	Running/Jogging	1	Cultural/Work	1
No Answer	1	Soccer	1	Enjoying the Scenery	1
Mtgs/Appts/Business	1	Sightseeing	1	Entertainment/Dining	1
Surfing	1	Working	1	Exercising	1
Swimming	1	<b>Total:</b>	<b>69</b>	Playing Chess	1
Soccer	1			Scenic Driving	1
<b>Total:</b>	<b>69</b>			Talking with Friends	1
				Working	1
				<b>Total:</b>	<b>69</b>

**Question 2:** What are your three favorite activities in the project area?

First Priority Activity	Frequency of Response	Second Priority Activity	Frequency of Response	Third Priority Activity	Frequency of Response
Walking/Strolling	14	Walking/Strolling	11	No Answer	14
Bicycling	7	Picnicking	8	Public Events/Festivals	6
Cultural/Entertainment	7	Bicycling	7	Walking/Strolling	6
Canoe Paddling	5	Cultural/Entertainment	5	Fishing	5
Public Events/Festivals	4	Dining	5	Shopping	5
Boating	3	Public Events/Festivals	4	Cultural/Entertainment	4
Dining	3	Canoe Paddling	3	Swimming	4
Picnicking	3	No Answer	3	Bicycling	3
Running/Jogging	3	Shopping	3	Picnicking	3
Sailing	3	Sitting/Enjoying Scenery	3	Boating	2
Hilo Farmers Market	2	Surfing	3	Dining/Shopping	2
Paddling	2	Swimming	3	Hilo Farmers Market	2
Shopping	2	Boating	1	Sightseeing	2
Surfing	2	Business	1	Going to Beach Parks	1
Swimming	2	Enjoying Open Space	1	Jet Ski	1
Business	1	Fishing	1	Meditating in Park	1
Commuting	1	Going to Parks	1	Paddling	1
Frisbee/Disc Golf	1	Hilo Farmers Market	1	Playing Chess	1
No Answer	1	Kayaking	1	Rollerblading	1
Sightseeing	1	Running/Jogging	1	Skating	1
Soccer	1	Sailing	1	Sports Activities	1
Walking/Strolling	1	Soccer	1	Talking with Friends	1
<b>Total:</b>	<b>69</b>	Skating	1	Watching Soccer	1
		<b>Total:</b>	<b>69</b>	Watching Water Activities	1
				<b>Total:</b>	<b>69</b>

**Question 3:** What do you think are the five **most important goals** for Hilo Bayfront Trails?

<b>First Priority</b>	<b>Total: 19</b>	<b>Frequency of Response</b>
<b>Usage</b>		
ADA friendly.		1
Alternate transportation/transit: walking, skating, biking.		1
Assessibility.		2
Bimodal.		1
Connectivity for pedestrians, bicyclists, and skaters.		1
Cultural/entertainment.		1
Fulfilling the needs of the people who use the area daily.		1
Giving tourists more to do.		1
Making the Hilo coastline work for local residents.		1
Multi-use paths with amenities		1
Provide for alternative modes of transit to link trail destinations.		1
Safe family activities: bicycling, hiking, picnicking, etc.		1
Saving special places for community use only! Not just for tourists.		1
Serve the needs of bicyclists and walkers in totality.		1
To walk the proposed area.		1
Trails for both locals and tourists.		1
Trails wide enough for both bicycles and pedestrians.		1
Walking.		1
<b>Alignment/Connectivity</b>	<b>Total: 15</b>	
Continuity of paths and trails.		2
Improve access across highway.		1
Open gates between Kamehameha Avenue and oceanfront to make it easier for ship tourists to cross soccer fields.		1
Continuous trailway from Wailuku River to the port facility.		1
Connect the port to downtown.		1
Connect the harbor with downtown with a trail for bikes and walkers/runners, showing best views and culture and making it safely separated from traffic.		1
Connect areas: harbor, bayfront, Queen Lili'uokalani Gardens and ultimately UH.		1
Create the alignment.		1
A trail with loops at the ends so you don't run into dead ends.		1

Linkages that are realistic for public use.	1
Access to ocean for paddling events.	1
Crosswalk or pedestrian bridge over Bayfront Highway between Waiānuenu Avenue and Wailuku River.	1
Link the proposed area.	1
Safe surfing site access.	1

<b>Safety/Security</b>	<b>Total: 11</b>
Safety.	6
Keep it safe.	1
Safe location for users.	1
Safety for walkers, bickers, joggers.	1
Safety ("two lane" path like Greenlake path in Washington).	1
Provide SAFE walking and biking trails.	

<b>Existing Conditions</b>	<b>Total: 5</b>
Preserve natural beauty.	2
Maintain open environment.	1
Noninterference with existing uses.	1
Preserve visual beauty.	1

<b>Character</b>	<b>Total: 4</b>
People-friendly.	1
Care for lands and ocean.	1
Improve quality of life.	1
Internalize beauty and significance of bay area.	1

<b>Maintenance</b>	<b>Total: 4</b>
Easy maintenance.	1
Keep ocean and waterways clean.	1
Keeping Hilo Bay litter-free and uncongested.	1
Permanent maintenance.	1

<b>Features</b>	<b>Total: 3</b>
Well-lighted trail with rest rooms/shelters.	1
Polynesian Longhouse/Hula Museum with stage and performance area at Reed's	1

Bay (Old Orchid Isle Hotel property).	
Develop a mini-park at Kaipolaua (Mokupane Point).	1
<b>Planning/Design/Implementation Process</b>	
Design around nature.	<b>Total: 3</b>
Make no little plans: Don't be stingy. A wide trail 8'-10' with separate lanes for walking, skating, biking (no horses), benches, rain shelters, storage lockers for bike commuters who either work downtown or catch bus to Kona or college.	1
All-night lighting.	1
Community input.	1
<b>Parking</b>	
Hide or consolidate parking.	<b>Total: 1</b>
	1
<b>No Answer</b>	
	<b>Total: 4</b>
	4
	<b>Grand Total: 69</b>
	69

**Question 3:** What do you think are the five **most important goals** for Hilo Bayfront Trails?

<b>Second Priority</b>	<b>Total: 15</b>	<b>Frequency of Response</b>
<b>Usage</b>		
Picnicking.		1
Swimming, walking.		1
Trail for bikes and walkers/runners.		1
Room for bikes and walkers.		1
Provide access along the bayfront for recreational walking, jogging, cycling.		1
Bike trails.		1
Accessibility.		1
More events held there.		1
Fair, quiet place to picnic, rest, enjoy views.		1
Creating safe trails and viewpoints for the community first.		1
Promoting safe, fun, responsible uses of area that enhance the living experience.		1
Provide an opportunity for visitors to interact with and experience Hilo.		1
Design around pedestrians/cyclists.		1
Use of area by <b>all</b> (water use)		1
An all-weather path.		1
<b>Planning/Design/Implementation Process</b>	<b>Total: 10</b>	
Realistic—obtainable/maintainable, etc.		1
Cost-effectiveness--avoid much blackout.		1
Treat Hilo Bay as an asset, not a liability.		1
Interpretive plan for bayfront.		1
Accent native Hawaiian precontact sites.		1
Develop strong appreciation for bay area.		1
Use Hawaiian place names and replace the current English words with Hawaiian.		1
Celebrate Hilo history, cultural, natural resources.		1
Acquire the properties.		1
Continuity of design and materials; attractive and functional.		1
<b>Safety/Security</b>	<b>Total: 8</b>	
Safety.		2
Safe crossings.		1

Safe access.	1
Safety throughout.	1
Safety for the tourists.	1
Maintaining/policing to keep area safe.	1
Keep it safe, clean, maintained. Keep homeless [out?].	1

<b>Existing Conditions</b>	<b>Total: 8</b>
Maintaining current beauty.	1
Preserve cultural/historic sites/view corridors.	1
Leave all trees and natural plant life.	1
Don't screw up what's working.	1
Keeping bay for canoeing and sailing races.	1
Consideration for other activities presently in the area.	1
Sensitivity to what is already there--trees and views.	1
Respectful of historic sites, parks, and existing businesses.	1

<b>Features</b>	<b>Total: 7</b>
Riverwalk/picnic areas.	1
Historic and/or current information for users.	1
CLEAN and SAFE rest rooms along the trails.	1
Historic locations identified.	1
Covered rest stops/picnic tables.	1
Good signage.	1
Educational.	1

<b>Character</b>	<b>Total: 5</b>
Make Hilo more beautiful.	1
Keep it open and lighted.	1
Fun and challenging trails.	1
Easy to understand.	1
Clean and maintained green space with ecologically sound basis.	1

<b>Vehicular Traffic</b>	<b>Total: 3</b>
Limit severely any vehicular traffic.	1
More vehicular roads away from water's edge.	1
Trails separated from automobile/roads.	1

<b>Alignment/Connectivity</b>	<b>Total: 2</b>
Open gates between Kamehameha Avenue and oceanfront to make it easier for ship tourists to cross soccer fields.	1
Walkway on top of seawall and along beach from Lighthouse area to Wailoa Bridge.	1
<b>Parking</b>	<b>Total: 2</b>
Establish off-site parking areas (i.e., on adjacent streets); keep bayfront open!	1
Restored surfer parking on Bayfront Highway.	1
<b>Maintenance</b>	<b>Total: 2</b>
Cleanliness.	1
Clean up area.	1
<b>No Answer</b>	<b>Total: 7</b>
	<b>Grand Total: 69</b>

**Question 3:** What do you think are the five **most important goals** for Hilo Bayfront Trails?

<b>Third Priority</b>	<b>Total: 15</b>	<b>Frequency of Response</b>
<b>Features</b>		
Improvements to lighthouse area: rest rooms, covered picnic areas, landscaping, lighting, policing, and accessibility.		2
More benches at Kalakaua Park.		1
Directional signage (e.g., signage for pedestrians at Bayfront Highway-Pauahi Street intersection).		1
Create informal spaces for informal use.		1
Rest spots/rest rooms along trails.		1
Cultural knowledge.		1
Places to sit.		1
Rest rooms.		1
Keep signage down - this state <b>loves</b> signs.		1
Carefully developing interpretive signage.		1
Good signage, benches, water fountains.		1
Shaded/beautified areas along the paths (trees, shelters, plants).		1
Education of all who use and come into contact with the trails.		1
Adopt-a-segment program.		1
<b>Usage</b>	<b>Total: 14</b>	
Swimming.		1
Use of natural beauty being most important.		1
Facilitate a diverse range of multi-use activities.		1
Short trails for those with limited time or ability.		1
Cultural.		1
Bicycling - recreation.		1
Cultural/entertainment.		1
For the people of the Big Island first.		1
Wider use of the bay area.		1
Multi-use (i.e., runners, joggers, walkers, bikers).		1
Variety of activities.		1
Cultural/tourism interest.		1
Local use first, tourist use second (mutually beneficial).		1

Encourage active recreation (i.e., biking, walking).	1
--	---

<b>Planning/Design/Implementation</b>	<b>Total: 7</b>
Community input.	2
Remove exotic vegetation (ironwoods).	1
Design around preservation of open space.	1
Don't spend all the money.	1
Knowing who will use it and what is needed.	1
Wide trails to segregate recreational activities (walkers from bicyclists).	1

<b>Safety/Security</b>	<b>Total: 7</b>
Safety of cruise ship passengers/walkers in industrial/port area.	1
Maintain safety.	1
Safe walking for cruise ship visitors.	1
Bay water quality for swimming.	1
Safety--someone to monitor the trail.	1
Safety for cyclists and pedestrians and peace of mind for motorists.	1
Law enforcement bicycle patrols and/or scooters.	1

<b>Character</b>	<b>Total: 6</b>
Diversity/interesting sights along pathway.	1
Make Hilo more accessible.	1
Beauty/appealing.	1
Blend in with surrounding scenery.	1
Diversity.	1
Beautification.	1

<b>Alignment/Connectivity</b>	<b>Total: 2</b>
Alternate route for nonvehicular traffic.	1
Create a shoreline trunk for bicycles and pedestrians that will connect to other bikeways and pathways.	1

<b>Existing Conditions</b>	<b>Total: 2</b>
Preserve nature/beauty.	1
Maintaining green areas.	1

<b>Vehicular Traffic</b>	<b>Total: 1</b>	
Re-route traffic to provide easy access to the bayfront.		1
<b>Maintenance</b>	<b>Total: 1</b>	
All beach areas should be maintained and treasured.		1
<b>No Answer</b>	<b>Total: 14</b>	14
	<b>Grand Total:</b>	<b>69</b>

**Question 3:** What do you think are the five most important goals for Hilo Bayfront Trails?

**Fourth Priority**

**Frequency of Response**

<b>Features</b>	<b>Total: 11</b>	
Well marked trail with information.		1
Art programs.		1
Sculpture: native Hawaiian, Japanese, etc.		1
"You are here" map and distance to other areas.		1
Benches to rest along the way.		1
Clear maps, routes.		1
Provide landscaping/shade, rest areas along the trails.		1
Establish interpretive signage for fishing, Shinmachi, tsunami.		1
Showcase of natural views—viewing spots.		1
Hawaiian names of places rather than slang or English.		1
Places to stop, rest, and enjoy the view.		1

<b>Usage</b>	<b>Total: 9</b>	
Picnicking.		1
Public events/festivals.		1
Fishing.		1
Access to water by kupuna.		1
An alternate route for nonvehicular trail.		1
Enough trails that multiple users can be served.		1
Provide another local activity.		1
Focus on history and culture equally with sports use.		1
Ease of access for walkers/bicyclists/ocean recreation/park recreation.		1

<b>Safety/Security</b>	<b>Total: 5</b>	
Safe.		1
Safe bike/pedestrian lanes.		1
Safe pedestrian crossings/small spaces.		1
Outlaw alcohol consumption.		1
Water quality should be improved (less sewage spills).		1

<b>Maintenance</b>	<b>Total: 4</b>	

Ample garbage cans and frequent pick up.	1
Coqui control.	1
Low/easy maintenance.	1
Continuing inspection and maintenance of the system.	1

<b>Character</b>	<b>Total: 4</b>
Establish pride and attachment.	1
Attractive to locals and visitors.	1
Present the best face of Hilo possible to visitors /tourists.	1
Sustainable.	1

<b>Existing Conditions</b>	<b>Total: 4</b>
Maintaining present ambiance as possible.	1
Preserve serene beauty of Hilo Bayfront.	1
Leave white sand beach alone.	1
Save the coconut trees and canoe club access and its cultural significance.	1

<b>Alignment/Connectivity</b>	<b>Total: 4</b>
Connecting areas for walking, biking.	1
Access to ocean and parks.	1
Link historically interpreted areas.	1
Connect bayfront walkway to Richardson Ocean Park with a route close to the ocean with bus stops at the pier and at Richardson Ocean Park.	1

<b>Planning/Design/Implementation Process</b>	<b>Total: 2</b>
Design with minimal footprint/materials.	1
Ecologically sensitive design.	1

<b>Consensus/Support</b>	<b>Total: 2</b>
Support from government and community.	1
Involvement of all the local audiences: sports, culture, history, business.	1

<b>No Answer</b>	<b>Total: 23</b>
<b>Grand Total:</b>	<b>69</b>

**Question 3:** What do you think are the five **most important goals** for Hilo Bayfront Trails?

<b>Fifth Priority</b>	<b>Total: 9</b>	<b>Frequency of Response</b>
<b>Features</b>		
Kids playground.		1
"Staging" areas for getting to trails.		1
Provide covered rest facilities (it rains a lot here).		1
Exercise stations/shelters.		1
Additional PUBLIC CLEAN rest rooms.		1
Improved canoe club haulou and storage.		1
Interpretive opportunity.		1
Provide an adequate number of bathrooms and showers.		1
Increase knowledge base.		1
<b>Usage</b>	<b>Total: 7</b>	
Plan for <b>local</b> people first.		1
Boating; business.		1
Boating, swimming, surfing, walking, bicycling, fishing.		1
No dogs.		1
Boating.		1
Increased use of eco-friendly transportation.		1
Bike trails.		1
<b>Alignment/Connectivity</b>	<b>Total: 5</b>	
Linking place to place.		1
Adequate entry and exit points.		1
Develop links between transit, bicycling, walking, and personal vehicles through through "complete streets."		1
Build a pedestrian/bike bridge over the Wailoa River extending Kapiolani Street to connect Downtown & UH Hilo.		1
Establish interesting loops and spurs to sights, locations, and views.		1
<b>Character</b>	<b>Total: 4</b>	
Making area around harbor appealing.		1
Easy access to everything and safe, clean, dry spaces (pavilions, etc.)		1

Beautification.		1
Family-friendly—gathering spot for local/tourist interaction.		1
<b>Planning/Design/Implementation Process</b>	<b>Total: 2</b>	
Don't mess with the boats.		1
Hide/remove car-based infrastructure.		1
<b>Safety/Security</b>	<b>Total: 3</b>	
Some safety lighting.		1
Shielding path from heavy traffic.		1
Emergency call boxes/telephones.		1
<b>Maintenance</b>	<b>Total: 2</b>	
Maintain the trails to keep them safe, clean, and pleasing.		1
Ample trash/recycling containers		1
<b>Parking</b>	<b>Total: 1</b>	
Nearby parking.		1
<b>Consensus/Support</b>	<b>Total: 1</b>	
Community support.		1
<b>No Answer</b>	<b>Total: 35</b>	35
	<b>Grand Total:</b>	<b>69</b>

**Question 4:** What do you think are the five most important sights to see from the Hilo Bayfront Trails project?

**First Priority**

Sights	Frequency of Responses
Hilo Bay/Ocean	19
Mauna Kea and/or Mauna Loa	11
Moku Ola (Coconut Island)	6
Queen Lili'uokalani Gardens	6
Bayfront Beach Park	2
Beautiful landscaping; beautiful trees; open design	2
Everything	2
Hilo Town	2
King Kamehameha statue	2
Banyan Drive	1
Cruise ships from Reed's Beach	1
Nice views of water and boats	1
Our beautiful ocean environment and greenery	1
People using area for leisure/recreation	1
Reed's Bay	1
Views with beaches to sit down and talk	1
Wailoa Park from Kamehameha Avenue	1
Water - lagoon	1
No answer	8
<b>Total:</b>	<b>69</b>

**Question 4:** What do you think are the five most important sights to see from the Hilo Bayfront Trails project?

**Second Priority**

Sights	Frequency of Responses
Downtown Hilo	5
Mauna Kea	5
Hilo Bay/Ocean	8
Queen Lili'uokalani Gardens	5
Mountains	3
Wailuku River	3
Banyan Drive	2
Coastline	2
Mauna Loa and Mauna Kea	2
Moku Ola (Coconut Island)	2
Reed's Bay with boats	2
Wailoa State Recreation Area	2
Bay and town	1
Beach parks	1
Clean water	1
Forest	1
Great signage	1
Happiness Garden	1
Hilo Bayfront Beach	1
Hilo Palikū (cliffs toward Honoli'i)	1
Ice Pond	1
King Kamehameha statue	1
Lagoon	1
Local people	1
Mauna Kea and ocean	1
Mo'ohau Park/Bandstand	1
Naha Stone	1

Sights	Frequency of Responses
River at the bridge	1
Waiakea Pond	1
Wailoa Park and the art gallery/exhibits	1
White sand beaches	1
No answer	9
<b>Total:</b>	<b>69</b>

**Question 4:** What do you think are the five most important sights to see from the Hilo Bayfront Trails project?

**Third Priority**

Sights	Frequency of Response
Downtown Hilo	12
Moku Ola (Coconut Island)	4
Queen Lili'uokalani Gardens	4
Bayfront Beach with canoes and halau	3
Banyan trees	2
Beach	2
Historic sites/landmarks	2
Mauna Kea and Mauna Loa	2
Ocean	2
Wailoa State Recreation Area	2
Whales and marine life	2
Bayfront	1
Black sand beach and palm trees	1
Bridge at Waiākea Pond	1
Canoers	1
Fishing	1
Hilo Art Museum	1
Hilo Farmers Market	1
King Kamehameha statue	1
Lili'uokalani Park and Coconut Island	1
Mauna Kea	1
Museums	1
Native flora	1
Nature	1
People	1
Reed's Bay	1
Strategically placed trees and plants	1
Wailoa Center	1
No answer	15
<b>Total:</b>	<b>69</b>

**Question 4:** What do you think are the five most important sights to see from the Hilo Bayfront Trails project?

**Fourth Priority**

Sights	Frequency of Response
Wailoa State Recreation Area	7
Queen Lili'uokalani Gardens	6
Downtown Hilo	3
Hilo Farmers Market	3
Reed's Bay	3
Hāmākua Coast	2
King Kamehameha statue	2
Waiolama Canal	2
Breakwater	1
Clean, safe routes (sidewalks/bike routes)	1
Gardens	1
Hilo Bay-paddling	1
Hilo community having fun and getting healthy in the process	1
Historical buildings and architectural specimens	1
Local businesses	1
People engaged in using the trail amenities	1
Reed's Bay and Ice Pond	1
Suisan fish auction (if reopens)	1
Suisan Park	1
Trees, beauty of nature	1
Waiākea Pond and bridges	1
Wailoa Center	1
Wailuku River	1
No answer	26
<b>Total:</b>	<b>69</b>

**Question 4:** What do you think are the five **most important sights** to see from the Hilo Bayfront Trails project?

**Fifth Priority**

<b>Sights</b>	<b>Frequency of Response</b>
Downtown Hilo	4
Mauna Kea	3
King Kamehameha statue	2
Hilo Harbor	2
Moku Ola (Coconut Island)	2
Banyan Drive	2
People using and enjoying the trails, parks, and water activities	1
Canoeing area	1
Picnic spots	1
See more boats than cars	1
Banyan trees	1
Cruise ships	1
Activities: soccer, festivals, canoe clubs, etc.	1
Wailoa State Recreation Area	1
Project well thought out and implemented in a timely fashion	1
Mo'ohau Bandstand	1
Lagoon	1
Maui's Canoe	1
Mountains	1
Hilo Bayfront	1
Paddlers in canoes	1
Mauna Loa	1
Bayfront Black Sand Beach Park	1
Ice Pond	1
Activities on the bay	1
People enjoying themselves in a safe place and healthy environment.	1
No answer	34
<b>Total:</b>	<b>69</b>

**Question 5: What are the three biggest challenges for the Hilo Bayfront Trails project?**

<b>First Priority</b>	<b>Total: 13</b>	<b>Frequency of Response</b>
<b>Funding</b>		
Funding.		12
Money.		1
<b>Consensus/Support</b>	<b>Total: 9</b>	
Community support.		1
Making everyone happy.		1
Making all groups happy.		1
Buy in by the community.		1
Local resistance.		1
Getting all concerned to agree.		4
<b>Planning/Design/Implementation</b>	<b>Total: 7</b>	
Car-based design constraints.		1
Keeping momentum of the project.		2
Governmental agency coordination.		1
Establishing simple design/infrastructure.		1
SMA permitting.		1
Accessing and contacting all businesses		1
<b>Usage</b>	<b>Total: 6</b>	
Public use.		1
To provide for bikers.		1
Keeping the homeless from taking over shelters along the trail.		1
Don't inconvenience the users.		1
Accommodate all interests.		1
Creating bike-ped trails that do not interfere with canoe unloading at Bayfront Beach Park.		1
<b>Vehicular Traffic</b>	<b>Total: 6</b>	
Integrating vehicular traffic with pedestrian activities.		1
Cars on the road.		1
Vehicular traffic.		1
Heavy traffic at intersections.		1

Busy intersection at Kamehameha and Pauahi.		1
Eliminating or mitigating the extreme negative impact of Bayfront Highway.		1
<b>Features</b>	<b>Total: 6</b>	
Signage.		1
Rest rooms.		1
Preserving Hawaiian place names.		1
Crosswalk to Kaipolaua.		1
Allowing small boats (dingies) to launch in Reed's Bay for access to sailboats.		1
Clean and safe public rest rooms.		1
<b>Alignment/Connectivity</b>	<b>Total: 5</b>	
Connectivity.		1
Connecting trail to Keaukaha.		1
Connecting all the trails.		1
Getting access for a complete trail.		1
Crossing Wailoa and especially Reed's Bay.		1
<b>Ownership</b>	<b>Total: 4</b>	
Getting state to dedicate rights-of-way for the trail.		1
Ownership of trail system.		1
Different land owners with different agendas.		1
Collaborative agreement among large and small land owners.		1
<b>Safety/Security</b>	<b>Total: 3</b>	
Safety.		1
Connecting sections safety.		1
Suisan bridge safety.		1
<b>Education</b>		
Educating the public on auto/bicycle/pedestrian co-existence and safety.	<b>Total: 2</b>	1
Informing the public of what's available.		1
<b>Maintenance</b>	<b>Total: 2</b>	
Keeping trails clear of debris.		1
Maintenance.		1
<b>No Answer</b>	<b>Total: 6</b>	6
	<b>Grand Total:</b>	<b>69</b>

**Question 5:** What are the three biggest challenges for the Hilo Bayfront Trails project?

**Second Priority**

**Frequency of Response**

<b>Funding</b>	<b>Total: 8</b>	
Funding.		8

<b>Planning/Design/Implementation</b>	<b>Total: 5</b>	
Designing on computers instead of on the ground.		1
Utilizing ecologically sensitive design.		1
Not succumbing to an auto- or tourist-centric design.		1
Making roads bigger to accommodate pedestrians, bikes, etc.		1
Permits, regulation, and private property.		1

<b>Vehicular Traffic</b>	<b>Total: 7</b>	
Truck/pedestrian interface.		1
Streets with heavy traffic.		1
Safety on Kalaniana'ole Street.		1
Busy intersection at Kamehameha-Kanoelehua Avenues.		1
Intersection of Banyan Way and Kalaniana'ole Street: left turn.		1
Crossing roadways.		1
Transportation.		1

<b>Consensus/Support</b>	<b>Total: 6</b>	
Community cohesion.		1
Common ground/public acceptance.		1
Coordination among multiple jurisdictions with current planning initiatives.		1
Cooperation from private businesses or absentee owners.		1
Finding engaged volunteers and lead solution partners.		1
Agreement on trail alignments.		1

<b>Features</b>	<b>Total: 6</b>	
Trash receptacles.		1
Mini-park at Kaipolaua.		1
Providing adequate and safe public amenities.		1
Developing and maintaining Wailuku Riverfront Park.		1

Encouraging water activities as Hilo's history.	1
Maintaining coastal access for non-motorized boating.	1
<b>Safety/Security</b>	<b>Total: 8</b>
Safety.	2
Keeping trail safe for keiki.	1
Traffic safety.	1
Safe paths.	1
Getting bicyclists/pedestrians off the street but keeping them safe from muggers.	1
Safe crossings for pedestrians.	1
Police trail and maintain safety.	1
<b>Existing Conditions</b>	<b>Total: 5</b>
Existing paths and structures.	1
Tsunami.	1
Using flood areas (such as downtown).	1
Leaving it as natural as possible.	1
Effectively linking existing with new facilities.	1
<b>Maintenance</b>	<b>Total: 4</b>
Maintenance.	3
Commitment to maintain trails.	1
<b>Usage</b>	<b>Total: 2</b>
Serving multiple users.	1
Tension between locals and tourists.	1
<b>Alignment/Connectivity</b>	<b>Total: 1</b>
Crossing ocean waterways.	1
<b>Ownership</b>	<b>Total: 1</b>
Acquiring access/land use rights.	1
<b>Parking</b>	<b>Total: 1</b>
	1
<b>No answer</b>	<b>Total: 15</b>
	<b>Grand Total: 54</b>

**Question 5:** What are the three **biggest challenges** for the Hilo Bayfront Trails project?

**Third Priority**

<b>Planning/Design/Implementation</b>	<b>Total: 5</b>	<b>Frequency of Response</b>
Coordination of plans, contractors, volunteers.		1
Enough width in rights-of-way for trail.		1
Convincing government to do this right away.		1
Unnecessary costs.		1
Convincing government and the public that alternative transportation is a priority.		1
<b>Safety/Security</b>	<b>Total: 5</b>	
Safety, especially regarding lighting.		1
Safety for keiki.		1
Safety.		2
Security.		1
<b>Consensus/Support</b>	<b>Total: 4</b>	
Consensus on alignment of trails.		1
Public acceptance.		1
Satisfying commercial and community concerns.		1
Apathy.		1
<b>Usage</b>	<b>Total: 4</b>	
Accommodating all uses, from industrial to the homeless.		1
Deciding on the audience for the trail.		1
Serving more than tourists.		1
Proper use.		1
<b>Maintenance</b>	<b>Total: 3</b>	
Maintenance.		2
Maintenance, including good lighting.		1
<b>Vehicular Traffic</b>	<b>Total: 4</b>	
Traffic.		1
Separating cars and walking.		1

Vehicle-free area for people to enjoy.		1
Aesthetically integrating Bayfront Highway (a necessary feature) with the trail.		1
<b>Funding</b>	<b>Total: 2</b>	<b>2</b>
<b>Parking</b>	<b>Total: 2</b>	<b>2</b>
<b>Alignment/Connectivity</b>	<b>Total: 2</b>	
Connecting HBT with other trails/spurs to scenic areas.		1
Connecting bicycle-pedestrian trails to future trails.		1
<b>Existing Conditions</b>	<b>Total: 1</b>	
Rain.		1
<b>Ownership</b>	<b>Total: 1</b>	
Limitation of access by private land owners and state harbors.		1
<b>Features</b>	<b>Total: 1</b>	
Proper signage.		1
<b>No Answer</b>	<b>Total: 35</b>	<b>35</b>
	<b>Grand Total:</b>	<b>69</b>

**Question 6:** What destinations outside of the project area should the Hilo Bayfront Trails project plan connect with in the future?  
 (Note: Respondents could list more than one destination; each destination was given one "vote.")

<b>Destinations</b>	<b>Votes</b>
University of Hawai'i at Hilo	19
Richardson Ocean Park	13
No answer	12
Keaukaha	9
Honoli'i Bay	5
4-mile marker "Scenic Hilo Bay Viewing Area"	4
Hāmākua Coast	4
Wailuku River	4
Lelewi	3
Lyman House/Museum	3
Boiling Pots	2
Future connections should be included in HBT* plan.	2
Hilo International Airport	2
Hilo Public Library	2
Hilo Union, Hilo Intermediate, and Hilo High Schools	2
Hospital on the north	2
Mall	2
Rainbow Falls	2
Railroad Avenue for bicycles	2
Ala Kahakai	1
As many feasible destinations as possible	1
Beach access at north end of C. Brewer	1
Belt Hwy. past Honoli'i	1
Government Beach Road through King's Landing	1
Hawai'i Community College	1
Hawai'i Consolidated Railroad	1
Hawai'i Volcanoes National Park	1
Hilo Farmers Market	1
Kaimukanaka Falls	1
Kaumana	1
Kea'au	1
Manono Street	1

<b>Destinations</b>	<b>Votes</b>
Old Volcano Trail	1
Onekahakaha	1
Onomea Scenic Trail/Ride	1
Pāhoa via ocean/shoreline or Railroad Avenue	1
Pinky's	1
Puhi Bay	1

\*Hilo Bayfront Trails.

**Question 7:** How many years have you live in/near Hilo?

<b>Number of Years</b>	<b>Frequency of Response</b>	<b>Percentage</b>
1 to 5 Years	15	22%
6 to 10 Years	5	7%
11 to 15 Years	5	7%
More than 15 Years	41	60%
No Answer	3	4%
<b>Grand Total</b>	<b>69</b>	<b>100%</b>

## Appendix F

### Trail Actions by Area and TMK, Parcel and Right-of-Way

Parcel listings are generally in order from Downtown Hilo to Hilo Harbor. Actions in rights-of-way are listed after parcel listings. State parcels and rights-of-way are highlighted in blue. Private parcels are highlighted in beige. Ownership information is based on County of Hawai'i online TMK data and should be verified during trail implementation.

Action	TMK	Owner	Current Use	Trail Action
		(see Note 1)	(see Note 2)	(see Note 3)
<b>PARCELS</b>				
<b>Kaipalaoa Landing</b>				
<b>1</b>	2-3-4:1	State of Hawaii	Vehicular roadway with metal gate for access to Wailuku River sewage pump site; lava rock walls; canopy trees and coconut palms; lighthouse. (no address)	Trail markings and medallions on existing paving; gate renovation as necessary to allow pedestrian access when the metal gate is closed; interpretive signage/monuments 21 and 22, possibly combined as one; bicycle rack location.
<b>Mo'ohau Park</b>				
<b>2</b>	2-3-1:2	State of Hawaii, Portion Parcel "A"	Mo'ohau Bus Terminal; Mo'ohau Bandstand; one-way vehicular entry drive; pedestrian walkways; bicycle rack; lava rock walls adjacent to the bus terminal and bandstand; large canopy trees and lawn areas and shrubs adjacent to chain link fence; baseball field and small storage structure; chain link fence at edge of Bayfront Highway. (329 Kamehameha Ave)	Trail markings and medallions on existing pedestrian walkway; shared use path; water fountain; <i>ahupua'a</i> plaques 18b and 19b (4); interpretive signage 18b and 19b; 1 trailhead sign; bench locations; bicycle rack location; supplemental shrub planting on <i>mauka</i> side of existing chain link fence.
<b>3</b>	2-2-5:2	State of Hawaii TMK 2-2-4 says Por Parcel "A" Off-Street Parking Public Park & Recreational Grounds Exec. Ord. No. 1541	Recreational field; 2 off-street parking lots, the east one with low retaining wall on two sides; coconut palm grove; chain link fence at edge of Bayfront Highway. (no address)	Shared use path; <i>ahupua'a</i> plaque 16b (2); interpretive signage 16b; bench location; wheel stops in the makai stalls of parking lots; renovation of easternmost parking lot and associated low retaining wall to accommodate shared use path; relocation of approx. 7 coconut palms; supplementary shrub planting on <i>mauka</i> side of existing chain link fence.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>4</b>	2-2-4:35	State of Hawaii	Lawn area with exceptional monkeypod trees. (no address)	Shared use path; supplementary shrub planting on the <i>mauka</i> side of existing chain link fence.
<b>5</b>	2-2-4:28	State of Hawaii	Lawn area with exceptional monkeypod trees. (no address)	Shared use path; <i>ahupua'a</i> plaque 15b (2); interpretive signage 15b.
<b>Waiolama Canal Area</b>				
<b>6</b>	2-2-6:26	State of Hawaii Por H14-10	Lawn area with coconut palms. (no address)	Shared use path, unless this alignment can be accommodated completely in 2-2-6:1
<b>7</b>	2-2-6:1	County of Hawaii "Por Wailoa River State Park" Por Parcel 2 Por Exec. Ord. 2921	Alenaio Stream Flood Control Area with berm; lawn area with grove of coconut palms along Ponahawai St.; open lawn area with a row of rainbow shower trees along Kamehameha Ave. and adjacent to Kumu St. parking and sidewalk. (no address)	Shared use path; <i>ahupua'a</i> plaque 18a (2); interpretive signage 18a; 1 trailhead sign; parking lot (approx. 20 stalls) with pervious paving for stalls; rainbow shower tree relocation (8) between berm and Kamehameha Ave. sidewalk; demoliton of existing sidewalk.
<b>8</b>	2-2-7:18	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 2 Por Exec. Ord. 2921	Recreational fields for soccer (4 youth size); large canopy trees; asphalt parking lot at top of slope; Waiolama Canal; shade structure with concrete slab; announcement board; gravel parking lot. (no address)	Shared use path.
<b>9</b>	2-2-4:2	County of Hawaii "Por Wailoa River State Park" Por Parcel 2 Por Exec. Ord. 2921	Recreational fields for soccer (3 older youth); rainbow shower street trees along Kamehameha Ave.; chain link fence 40'-0" from mauka edge of existing sidewalk along Kamehameha Ave. between Kumu Street and TMK 2-2-4:60. (19 Kumu Street)	Shared use path; <i>ahupua'a</i> plaque 16a (2); shared use path bridge footing.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>10</b>	2-2-11:1	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 2 Por Exec. Ord. 2921	Recreational field for soccer (3 youth); portion of Waiolama Canal; shade trees adjacent to Waiolama Canal; shade trees and coconut palms on slope; rest room and outdoor shower area; unpaved parking area bounded by wheel stops. (45 Kumu St.)	Shared use path; water fountain; <i>ahupua'a</i> plaque 16a (2); interpretive signage 16a and 17; native Hawaiian tree collection (15) on slope; benches locations; bicycle rack location.
<b>11</b>	2-2-12:16	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) Por Parcel 2 Por Exec. Ord. 2921	Lawn area with shade trees and palms; Waiolama Canal. (no address)	Shared use path; shared use path bridge over Waiolama Canal; interpretive signage 15a; bench location.
<b>12</b>	2-2-4:60	Private Parcel	Gas station. (744 Kamehameha Ave.)	Purchase parcel; shared use path; 1 trailhead sign.
<b>Wailoa River State Recreation Area</b>				
<b>13</b>	2-2-4:25	Private Parcel	Gas station. (774 Kamehameha Ave.)	Purchase parcel; shared use path; 1 trailhead sign.
<b>14</b>	2-2-4:1	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Vehicular entry via Pi'opi'o St. to recreation area; lawn areas with trees; portion of Waiolama Canal; Wailoa River State Recreation Area signage. (no address)	Shared use path.
<b>15</b>	2-2-3:3	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Bishop St. and portions of Punahoa St. and Pi'opi'o St.; King Kamehameha statue and interpretive signage (2); Pacific Tsunami Museum Shinmachi interpretive signage (1); lawn area with canopy trees and coconut palms; recreational field for soccer (3 fields); portion of Hoakimau Pond. (no address)	Shared use path up to and over Pi'opi'o St. bridge; <i>'ili</i> plaques (2); separation barrier on bridge for shared use path; 1 crosswalk each at Pi'opi'o St. and Bishop St.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>16</b>	2-2-12:1	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Lawn area with canopy trees and coconut palms; portion of Pi'opi'o St. (no address)	Shared use path.
<b>17</b>	2-2-13:3	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Wailoa Center; Vietnam Memorial; Shinmachi Tsunami Memorial; vehicular roadways and parking; Hoakimau Pond; Wailoa River with arched bridge; asphalt paths; lawn areas with canopy trees and palms.	Shared use path; <i>'ili</i> plaques (2); bicycle rack location.
<b>18</b>	2-2-31:1	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Waiākea Fish Pond; migratory bird resting area "fingers"; two arched bridges; Grant of Easement [non-exclusive] No. S-4553 executed May 6, 1977: grantor State of Hawaii, Department of Land and Natural Resources; for grantee Waiakea Corporation "to provide a public pedestrian pathway or walkway across its adjoining land connecting portions of Wailoa River State Park as part of its improvements"; parking lots and driveways; boat ramps; park pavilions and rest room facility; boat harbor structure and trailer/car parking; lawn areas, canopy trees, and palms. (200 Manono Street)	Shared use path; <i>'ili</i> plaques (4); water fountain; 4 crosswalks; 1 trailhead sign; interpretive signage 25,26a, 26b, 27; potential adjustment to a portion of covered walkway at pavilion cluster to accommodate bicycles on shared use path; potential moving bridge over Wailoa River; potential boardwalk within Grant of Easement, depending on existing conditions determined by survey; bench locations; bicycle rack locations.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>19</b>	2-2-2:1	State of Hawaii (Dept. of Land & Natural Resources - Div. State Parks) "Por. Wailoa River State Park" Por. Parcel 1 Por. Exec. Ord. 5361	Lawn area with trees and palms (no address)	Shared use path; 'ili plaques (2); bridge footing; interpretive signage 14; bench location.
<b>20</b>	2-2-14:2	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Sloped and level lawn areas with canopy trees and coconut palms (no address)	Shared use path; interpretive signage 28 and 29; bench location.
<b>21</b>	2-2-29:27	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) Addition to Wailoa River State Park por Exec. Ord. 2658	Moho'uli Pond and its edges, including "fast land." (no address)	Shared use path; shared use path bridge.
<b>22</b>	2-2-29:1 incl. Grant 10355	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) "Por Wailoa River State Park" Por Parcel 1 Por Exec. Ord. 2921	Waiākea Stream from end of flood control channel; lawn area with trees and palms south of the stream and adjacent to Waiākea Pond; portion of Maile Street (1001 Kilauea Ave)	Shared use path; bridge; 1 trailhead sign; bicycle rack location; parking lot (approx. 40 stalls) with pervious paving for stalls; small qty. tree relocation.
<b>23</b>	2-2-53:23	State of Hawaii (Dept. of Land & Natural Resources - Div of State Parks) Addition to Wailoa River State Park	Lawn area with trees and palms adjacent to Waiākea Pond (1001 Kilauea Ave)	Shared use path
<b>24</b>	2-2-53:19	Private Parcel	Maile Street	Shared use path with lateral barrier at storm drain outlet.
<b>25</b>	2-2-53:20	Private Parcel	Private parcel adjacent to 2-2-53:20 (265 C Kekuanoa St.)	Shared use path.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>Ho'olulu Complex</b>				
<b>26</b>	2-2-33:1	State of Hawaii (County of Hawaii) Exec. Ord. 1255	Ho'olulu Complex (260 Kalanikoa St)	Interpretive signage 30.
<b>Hilo Bayfront Beach Park</b>				
<b>27</b>	2-2-4:56	State of Hawaii	Portion of Hilo Bayfront Beach Park with exceptional monkeypod trees (no address)	Trail markings on future shared use path coordinated with implementation of Hilo Bayfront Beach Park improvement plans.
<b>28</b>	2-2-3:46	State of Hawaii	Portion of Hilo Bayfront Beach Park with exceptional monkeypod tree (no address)	Trail markings on future shared use path coordinated with implementation of Hilo Bayfront Beach Park improvement plans.
<b>29</b>	2-2-2:35	State of Hawaii	Portion of Hilo Bayfront Beach Park (no address)	Trail markings on future shared use path; interpretive signage 13 coordinated with implementation of Hilo Bayfront Beach Park improvement plans; water fountain.
<b>30</b>	2-2- 01:27	State of Hawaii	Portion of Hilo Bayfront Beach Park (1241 Bayfront Hwy)	Trail markings on future shared use path and interpretive signage 12 coordinated with implementation of Hilo Bayfront Beach Park improvement plans.
<b>Waiākea Peninsula</b>				
<b>31</b>	2-1-1:12	State of Hawaii, DLNR (ceded lands)	Nine-hole golf course with driving range, clubhouse, and parking lot (1713 Kamehameha Ave)	Shared used path; 3 trailhead signs.
<b>32</b>	2-1- 1:102	State of Hawaii	Berm at corner of Lihikai Street and Kamehameha Avenue. (no address)	Shared use path with inside railing; 1 trailhead sign.
<b>33</b>	2-1-3:13	County of Hawaii (Exec. Ord. 3933)	Happiness Garden. (89 Lihikai St.)	Two benches; bicycle rack location.

<b>Action</b>	<b>TMK</b>	<b>Owner</b>	<b>Current Use</b>	<b>Trail Action</b>
<b>34</b>	2-1-3:1	State of Hawaii (County of Hawaii) (Dept. of Parks & Recreation) Exec. Ord. 3807 (Part 1)	Queen Lili'uokalani Gardens. (49 Banyan Dr)	Trail markings on existing pedestrian walkways; one-way bicycle route; interpretive signage 9, 10a, 10b, 11; water fountain; bicycle rack locations.
<b>35</b>	2-1-5:1	State of Hawaii	Reed's Bay Beach Park. (225 Banyan Drive)	Trail markings and medallions on future pedestrian walkway path and interpretive signage 5 to be coordinated with implementation of Reed's Bay Beach Park improvements.
<b>Mokuola (Coconut Island)</b>				
<b>36</b>	2-1-3:19	State of Hawaii (County of Hawaii) Exec. Ord. 585	Mokuola or Coconut Island, Por. Lili'uokalani Gardens. (77 Keli'ipio Pl)	Trail markings on existing pedestrian walkways; interpretive signage 7, 8 to be coordinated with interpretive signage by Pacific Tsunami Museum; water fountain; bicycle rack location.
<b>Kanakea Pond (Ice Pond)</b>				
<b>37</b>	2-1-6:10	State of Hawaii (County of Hawaii) Public Park & Playground Exec. Ord. 572	Kanakea Pond. (Ice Pond)	Cantilever pedestrian boardwalk and viewing deck.
<b>Kūhiō Kalaniana'ole Park</b>				
<b>38</b>	2-1-06:13	State of Hawaii (Department of Land & Natural Resources, Div. of State Parks) ADD'N to Wailoa River and Hawaiian Village, Exec. Order 2201	Kūhiō Kalaniana'ole Park. (235 Kalaniana'ole St)	Shared use path; trail bridge footing; interpretive signage 4; 1 trailhead sign; bicycle rack location.
<b>Reed's Bay Area</b>				
<b>39</b>	2-1-6:79	State of Hawai'i	Parcel makai of Orchid Manor. (no address)	Shared use path; interpretive signage 2; 1 trailhead sign; supplementary planting; bicycle rack location.

Action	TMK	Owner	Current Use	Trail Action
<b>Hilo Harbor Development</b>				
40	2-1-7:15	State of Hawaii	Formerly railroad ROW (no address); future Hilo Harbor passenger terminal and proposed ocean research center	Long-term trail markings on future pedestrian walkways and 1 trailhead sign for new passenger terminal, the implementation of which should be coordinated with implementation of Hilo Harbor 2020 master plan. Coordination should also include roadway width for two-way bicycle route and curb cut at abandoned railroad right-of-way.
41	2-1-7:50, 51 Por., 56	State of Hawaii	Formerly railroad ROW (no address); future Hilo Harbor passenger terminal and proposed ocean research center	Long-term trail markings on future pedestrian walkways and 1 trailhead sign for new passenger terminal, the implementation of which should be coordinated with implementation of Hilo Harbor 2020 master plan. Coordination should also include roadway width for two-way bicycle route and curb cut at abandoned railroad right-of-way.
42	2-1-7:20-27, 28-33	State of Hawaii	Occupied house lots; future Hilo Harbor passenger terminal and proposed ocean research center	Long-term trail markings on future pedestrian walkways and 1 trailhead sign for new passenger terminal, the implementation of which should be coordinated with implementation of Hilo Harbor 2020 Master Plan. Coordination should also include roadway width for two-way bicycle route and curb cut at abandoned railroad right-of-way.
43	2-1-7:7	State of Hawaii	Dept. of Transportation, Hilo Harbor, 99 Kuhio Street	Short-term relocation of pedestrian zone from Pier 1 shed to main gate at Kūhiō Street and 1 trailhead sign to be coordinated with State of Hawai‘i, Department of Transportation, Harbors Division.

Action	Location	Existing Conditions	Trail Actions
<b>RIGHTS OF WAY (R/W)</b>			
45	Kekaulike Street: Wailuku Dr.- Waiānuenue Ave.	One-way vehicular roadway; curb and gutter; sidewalks; ramps and crosswalks at corners.	Trail markings and medallions on existing pedestrian walkway.
46	Ka'ulani Street: Wailuku Dr.- Waiānuenue Ave.	Two-way vehicular roadway.	Uphill bicycle route.
47	Kapi'olani Street: Waiānuenue Ave.-Haili St.	Two-way vehicular roadway (except on certain days at certain times per County Code); sidewalks; curb and gutter; ramps and crosswalks at corners.	Trail markings on existing pedestrian walkway.
48	Waiānuenue Avenue: Kamehameha Ave.- Haili St.	Two-way vehicular roadway (one-way from Komohana St.- Kamehameha Ave. on school days, 7:15–8:00 a.m. per County Code); sidewalks; curb and gutter; parking; ramps and crosswalks at corners.	Trail markings on existing pedestrian walkway; two-way bicycle lanes to Ka'ulani Street.
49	Haili Street: Kapi'olani St./Kamehameha Ave.	Two-way vehicular roadway; sidewalks; curb and gutter; parking; ramps and crosswalks at corners.	Trail markings on existing pedestrian walkway
50	Bayfront Highway: Wailuku River Bridge- Pauahi St. (STATE)	Two-way vehicular roadway; planted median (noncontinuous); paved shoulders; mauka side turf strip with chain link fence at property line; makai shoreline revetment wall (noncontinuous)	Two-way bicycle lanes; crosswalk at Waiānuenue Ave.; sign for Hāmākua-bound users of proposed Bayfront Highway bike lane that there is no outlet until Waiānuenue Ave. crosswalk.
51	Bayfront Highway: Hilo Bayfront Beach Park (STATE)	Portion of Hilo Bayfront Beach Park used for parking and driving lanes, a bicycle route, and as Kamehameha Ave. when the avenue is flooded.	Trail markings on future shared use path coordinated with implementation of Hilo Bayfront Beach Park improvement plans.
52	Kamehameha Avenue COUNTY: Waiānuenue Ave.- Kamehameha Avenue STATE near Wailoa Bridge	Two-way vehicular roadway with planted median (noncontinuous); paved shoulders (width varies); parking; curb and gutter; sidewalks; ramps and crosswalks at corners; rainbow shower street trees.	Two-way bicycle lanes; trail markings on existing pedestrian walkways; interpretive signage 19a and 20 in existing planting areas
53	Kamehameha Avenue: Kamehameha Avenue COUNTY- Kalaniaaole St., including Wailoa Bridge (STATE)	Two-way vehicular lanes; curb and gutter (noncontinuous); Wailoa Bridge with curb and gutter and pedestrian walkways with railings; makai asphalt pedestrian paving from Lihikai St. to Banyan Dr.; paved shoulders; ramps and crosswalks at corners.	Shared use path with separation barrier; two-way bicycle lanes; bridge lane restriping to accommodate shared use path and bicycle lanes.

<b>Action</b>	<b>Location</b>	<b>Existing Conditions</b>	<b>Trail Actions</b>
<b>54</b>	Kumu Street	Two-way driveway with parking stalls; Kumu Street bridge.	Shared use path and separation barrier on bridge extension.
<b>55</b>	Kawelolani Street : Wailoa River State Recreation Area- Manono St.	Unimproved right-of-way with water easement.	Shared use path; 1 trailhead sign.
<b>56</b>	Pi'ilani Street: Wailoa River State Recreation Area-Kanoelehua Ave.	Two-way vehicular roadway.	Two-way signed shared road; two-way bicycle routes.
<b>57</b>	Manono Street: Kamehameha Ave./Pi'ilani St.	Two-way vehicular roadway; sidewalk on Ho'olulu Complex side; street trees.	Two-way bicycle lanes; crosswalks at Kawelolani St. R/W (1) and at Pi'ilani Street (2).
<b>58</b>	Lihiwai Street: Kamehameha Ave.- Banyan Dr.	Two-way vehicular roadway; parking; curb and gutter; sidewalks; ramps and crosswalks at corners.	Two-way bicycle routes; trail markings on existing pedestrian walkway.
<b>59</b>	Banyan Drive: Lihiwai St.-Banyan Way	Two-way vehicular roadway with planted median (noncontinuous); curb and gutter; parking; sidewalk on makai side; banyan trees street trees.	Two-way bicycle routes; trail markings on existing pedestrian walkway; shared use path (noncontinuous); interpretive signage 6.
<b>60</b>	Banyan Drive: Banyan Way-Kamehameha Ave.	Two-way vehicular roadway with planted median; paved shoulder; curb and gutter.	Two-way bicycle routes.
<b>61</b>	Banyan Drive: Banyan Dr.-Kalaniana'ole St.	Two-way vehicular roadway; parking; makai asphalt curbs and asphalt pedestrian walkway with metal railing on retaining wall.	Two-way bicycle routes; pedestrian walkway with trail markings
<b>Former Railroad R/W</b>			
<b>62</b>	Adjacent to 2-1-6:13 (Kūhiō Kalaniana'ole Park)	Lawn area with trees at Kūhiō Kalaniana'ole Park	Shared use path.
<b>63</b>	Adjacent to 2-1-6:16, 17 (ponds and Bay Clinic)	Pond; concrete abutments for pond outlet; embankment with turf eroded in some areas; trees, palms, and shrubs.	Shared use path with railings (as needed) on both sides at embankment; repair of makai side of embankment may be necessary to mitigate and deter shoreline erosion; bridge to span pond and abutments tree removal.
<b>64</b>	Huipū Street: Kalaniana'ole Street- Parcel 2-1-7:15 (former railroad R/W)	Unimproved; utilized as parking lot and driveway.	Trail markings and medallions on future pedestrian walkways (both sides), coordinated with implementation of Hilo Harbor 2020 Master Plan.

<b>Action</b>	<b>Location</b>	<b>Existing Conditions</b>	<b>Trail Actions</b>
<b>65</b>	Kalaniana'ole Street: Kanakea Pond-Kūhiō St.	Two-way vehicular roadway with shoulder for bike route; asphalt curbs; asphalt pedestrian walkway; landscape strip (discontinuous); R/W fronting 2-1-7:9 includes curb, gutter, concrete sidewalk, landscape strip; utility poles and lines.	Both Sides: Landscape strip planted with small vertical trees and ground cover. <i>Makai</i> Side: Pedestrian walkway with trail markings and medallions; curb and gutter.
<b>66</b>	Kalaniana'ole Street: Southwest corner of TMK 2-1-7:48 to southwest corner of TMK 2-1-9:31 (STATE)	Two-way vehicular roadway with shoulder for bike route; pedestrian walkway; utility poles and lines; pedestrian island at Kūhiō Street; crosswalks.	<i>Makai</i> Side: Pedestrian walkway with trail markings; curb and gutter; shoulder for bicycle route; 2 crosswalks, one across Kūhiō Avenue and one across Kalaniana'ole Street.
<b>67</b>	Kūhiō Street: Kalaniana'ole St.-Hilo Harbor main gate (STATE)	Two-way vehicular roadway with shoulders; curb, gutter, chain link fence with barbed wire, and pedestrian walkway on west side of R/W.	West side: Trail markings on existing pedestrian walkway; short-term, two-way bicycle route; supplementary planting; interpretive signage 1.

**Notes:**

1. TMK numbers and ownership were researched on the County website: TMK Maps and Real Property Tax, respectively.
2. Current uses were determined through site visits, site and aerial photography, street videologs, and plan documents.
3. All trail actions are new except when specified as existing.

## Appendix G

### Order-of-Magnitude Cost Estimate for Design and Construction of the Hilo Bayfront Trail Master Plan

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>PARCELS</b>					
<b>Kaipalaoa Landing</b>					<b>\$7,490.00</b>
1 Trail Markings on Existing Paving	100	lf	\$2.00	\$200.00	
2 Trail Medallions on Existing Paving	3	ea	\$500.00	\$1,500.00	
3 Interpretive Signage/Monument 21/22	1	ea	\$5,000.00	\$5,000.00	
4 Bicycle Rack	1	ea	\$790.00	\$790.00	
<b>Mo`oheau Park</b>					<b>\$496,338.40</b>
5 Trail Markings on Existing Ped. Walkway	100	lf	\$2.00	\$200.00	
6 Trail Medallions on Existing Ped. Walkway	3	ea	\$500.00	\$1,500.00	
7 Shared Use Path	0.42	mi	\$936,192.44	\$393,200.82	
8 Trailhead Sign	1	ea	\$4,000.00	\$4,000.00	
9 Interpretive Signage/Monument 19b	1	ea	\$5,000.00	\$5,000.00	
10 Interpretive Signage/Monument 18b	1	ea	\$5,000.00	\$5,000.00	
11 Interpretive Signage/Monument 16b	1	ea	\$5,000.00	\$5,000.00	
12 Interpretive Signage/Monument 15b	1	ea	\$5,000.00	\$5,000.00	
13 <i>Ahupua`a</i> Plaque 19b	2	ea	\$350.00	\$700.00	
14 <i>Ahupua`a</i> Plaque 18b	2	ea	\$350.00	\$700.00	
15 <i>Ahupua`a</i> Plaque 16b	2	ea	\$350.00	\$700.00	
16 <i>Ahupua`a</i> Plaque 15b	2	ea	\$350.00	\$700.00	
17 Coconut Palm Relocation	7	ea	\$2,800.00	\$19,600.00	
18 Supplementary Planting	1	ls	\$15,000.00	\$15,000.00	
19 Parking Lot Renovation to Accommodate Path with Minimal Coconut Palms Relocation	1	ls	\$35,867.58	\$35,867.58	
20 Bicycle Rack	3	ea	\$790.00	\$2,370.00	
21 Bench	3	ea	\$600.00	\$1,800.00	
22 Water Fountain	1	ea	\$2,500.00	\$2,500.00	
<b>Waiolama Canal Area</b>					<b>\$2,018,392.14</b>
23 Shared Use Path					
a. Waiolama Canal Area	0.950	mi	\$936,192.44	\$889,382.82	
b. Potential alignment on private parcel 2-2-4:60	0.057	mi	\$936,192.44	\$53,362.97	
24 Parcel 2-2-4:60 Purchase	1	ls	\$476,900.00	\$476,900.00	
25 Rainbow Shower Tree Relocation	8	ea	\$850.00	\$6,800.00	
26 Trailhead Sign	2	ea	\$4,000.00	\$8,000.00	
27 Interpretive Signage/Monument 18a	1	ea	\$5,000.00	\$5,000.00	
28 Interpretive Signage/Monument 17	1	ea	\$5,000.00	\$5,000.00	
29 Interpretive Signage/Monument 16a	1	ea	\$5,000.00	\$5,000.00	
30 Interpretive Signage/Monument 15a	1	ea	\$5,000.00	\$5,000.00	
31 <i>Ahupua`a</i> Plaque 18a	2	ea	\$350.00	\$700.00	
32 <i>Ahupua`a</i> Plaque 16a	2	ea	\$350.00	\$700.00	
33 <i>Ahupua`a</i> Plaque 15a	2	ea	\$350.00	\$700.00	

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>Waiolama Canal Area (continued)</b>					
34 Kumu Street Bridge Expansion/Separation Barrier	1	ls	\$200,000.00	\$200,000.00	
35 Shared Use Path Bridge	1	ls	\$250,000.00	\$250,000.00	
36 Botanical Tree Collection	15	ea	\$1,000.00	\$15,000.00	
37 Parking Lot	1	ls	\$62,086.35	\$62,086.35	
38 Coconut Palm Relocation for Parking Lot	10	ea	\$2,800.00	\$28,000.00	
39 Bicycle Rack	4	ea	\$790.00	\$3,160.00	
40 Bench	6	ea	\$600.00	\$3,600.00	
41 Water Fountain	1	ea	\$2,500.00	\$2,500.00	
<b>Wailoa River State Recreation Area</b>					<b>\$8,106,478.33</b>
42 Shared Use Path					
a. Wailoa River State Recreation Area	1.844	mi	\$936,192.44	\$1,726,338.86	
b. In Grant of Easement Number S-4533	0.250	mi	\$936,192.44	\$234,048.11	
c. Potential alignment on private parcel 2-2-4:25	0.02	mi	\$936,192.44	\$17,787.66	
d. Potential alignment on private parcel 2-2-053:20					
43 Parcel 2-2-4:25 Purchase	1	ls	\$460,800.00	\$460,800.00	
44 Pi'opi'o St. Bridge Barrier for Shared Use Path	1	ls	\$7,800.00	\$7,800.00	
45 Parcel 2-2-53:19 Purchase (Maile St.)					
46 Maile St. Separation Barrier	1	ls	\$5,000.00	\$5,000.00	
47 Maile St. Railing	100	ft	\$100.00	\$10,000.00	
48 Parcel 2-2-53:20 Purchase	1	ls	\$211,300.00	\$211,300.00	
49 Crosswalk	5	ea	\$1,000.00	\$5,000.00	
50 Trailhead Sign	4	ea	\$4,000.00	\$16,000.00	
51 Interpretive Signage/Monument 14	1	ea	\$5,000.00	\$5,000.00	
52 Interpretive Signage/Monument 25	1	ea	\$5,000.00	\$5,000.00	
53 Interpretive Signage/Monument 26a	1	ea	\$5,000.00	\$5,000.00	
54 Interpretive Signage/Monument 26b	1	ea	\$5,000.00	\$5,000.00	
55 Interpretive Signage/Monument 27	1	ea	\$5,000.00	\$5,000.00	
56 Interpretive Signage/Monument 28	1	ea	\$5,000.00	\$5,000.00	
57 Interpretive Signage/Monument 29	1	ea	\$5,000.00	\$5,000.00	
58 'Ili Plaque	10	ea	\$350.00	\$3,500.00	
59 Wailoa River Bridge	1	ls	\$2,250,000.00	\$2,250,000.00	
60 Moho'uli Pond Bridge	1	ls	\$1,500,000.00	\$1,500,000.00	
61 Waiākea Stream Bridge	1	ls	\$1,500,000.00	\$1,500,000.00	
62 Parking Lot	1	ls	\$109,763.70	\$109,763.70	
63 Tree Relocation for Parking Lot	4	ea	\$850.00	\$3,400.00	
64 Bicycle Rack	6	ea	\$790.00	\$4,740.00	
65 Bench	10	ea	\$600.00	\$6,000.00	
66 Water Fountain	1	ea	\$2,500.00	\$2,500.00	
<b>Ho'olulu Complex</b>					<b>\$5,000.00</b>
67 Interpretive Signage/Monument 30	1	ea	\$5,000.00	\$5,000.00	
<b>Hilo Bayfront Beach Park</b>					<b>\$16,000.00</b>
68 Trail Markings on Future Shared Use Path	1	ls	\$6,000.00	\$6,000.00	
69 Interpretive Signage/Monument 13	1	ea	\$5,000.00	\$5,000.00	
70 Interpretive Signage/Monument 12	1	ea	\$5,000.00	\$5,000.00	
71 Water Fountain	1	ea	\$2,500.00	\$2,500.00	

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>Naniloa Golf Course</b>					
72 Shared Use Path Loop, Portions of					<b>\$746,399.56</b>
a. 2-1-1:12	0.53	mi	\$936,192.44	\$496,181.99	
b. 2-1-1:102	0.21	mi	\$936,192.44	\$196,600.41	
<b>Naniloa Golf Course (continued)</b>					
c. 2-1-6:84	0.006	mi	\$936,192.44	\$5,617.15	
73 Trailhead Sign					
a. 2-1-1:12	1	ea	\$4,000.00	4,000.00	
b. 2-1-1:102	1	ea	\$4,000.00	4,000.00	
74 Railings in 2-1-1:102 (one side)	400	lf	\$100.00	\$40,000.00	
<b>Happiness Garden</b>					
75 Bicycle Rack	1	ea	\$790.00	\$790.00	
76 Bench	2	ea	\$700.00	\$1,400.00	
<b>Isles</b>					
77 Bicycle Rack	1	ea	\$790.00	\$790.00	
<b>Queen Lili'uokalani Gardens</b>					
78 One-Way Bicycle Route	0.32	mi	\$23,513.15	\$7,524.21	
79 Trail Markings on Existing Ped. Walkway	1,750	lf	\$2.00	\$3,500.00	
80 Trail Medallions on Existing Ped. Walkway	35	ea	\$500.00	\$17,500.00	
81 Interpretive Signage/Monument 9	1	ea	\$5,000.00	\$5,000.00	
82 Interpretive Signage/Monument 10a	1	ea	\$5,000.00	\$5,000.00	
83 Interpretive Signage/Monument 10b	1	ea	\$5,000.00	\$5,000.00	
84 Interpretive Signage/Monument 11	1	ea	\$5,000.00	\$5,000.00	
85 Bicycle Rack	2	ea	\$790.00	\$1,580.00	
86 Water Fountain	1	ea	\$2,500.00	\$2,500.00	
<b>Mokuola (Coconut Island)</b>					
87 Trail Markings on Existing Ped. Walkway	1,600	lf	\$2.00	\$3,200.00	
88 Trail Medallions on Existing Ped. Walkway	32	ea	\$500.00	\$16,000.00	
89 Interpretive Signage/Monument 7	1	ea	\$5,000.00	\$5,000.00	
90 Interpretive Signage/Monument 8	1	ea	\$5,000.00	\$5,000.00	
91 Water Fountain	1	ea	\$2,500.00	\$2,500.00	
<b>Reed's Bay Beach Park</b>					
92 Trail Markings on Future Ped. Walkway and Bridge	350	lf	\$2.00	\$700.00	
93 Trail Medallions on Future Ped. Walkway and Bridge	7	ea	\$500.00	\$3,500.00	
94 Interpretive Signage/Monument 5	1	ea	\$5,000.00	\$5,000.00	
<b>Kanakea Pond (Ice Pond)</b>					
95 Cantilever Pedestrian Boardwalk and Viewing Deck	1,400	sf	\$130.00	\$182,000.00	
<b>Kūhiō Kalaniana'ole Park</b>					
96 Shared Use Path	0.11	mi	\$936,192.44	\$102,981.17	
97 Trailhead Sign	1	ea	\$4,000.00	\$4,000.00	
98 Interpretive Signage/Monument 4	1	ea	\$5,000.00	\$5,000.00	
99 Bicycle Rack	2	ea	790.00	\$1,580.00	

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>Reed's Bay Area Parcel 2-1-6:79</b>					<b>\$115,365.31</b>
100	Shared Use Path	0.038	mi	\$936,192.44	\$35,575.31
101	Trailhead Sign	1	ea	\$4,000.00	\$4,000.00
102	Interpretive Signage/Monument 2	1	ea	\$5,000.00	\$5,000.00
103	Supplementary Planting	1	ls	\$70,000.00	\$70,000.00
104	Bicycle Rack	1	ea	\$790.00	\$790.00
<b>Hilo Harbor</b>					<b>\$6,593.50</b>
105	Short-Term Improvements				
	a. Restripe Pkg. Stalls/Relocate Pkg. Signage	1	ls	\$1,393.50	\$1,393.50
	b. Wheel Stops (6 ft. long)	20	ea	\$35.00	\$700.00
	c. Trailhead Sign	1	ea	\$4,000.00	\$4,000.00
106	Long-Term Improvements				
	a. Relocate Trailhead Sign	1	ls	\$500.00	\$500.00
<b>RIGHTS-OF-WAY</b>					
<b>Wailuku Drive</b>					<b>\$46,929.47</b>
107	Wailuku Dr. One-Way Bicycle Route	0.72	mi	\$23,513.15	\$16,929.47
108	Wailuku Dr. Short-Term Trail Markings on Existing Ped. Walkway	1000	lf	\$2.00	\$2,000.00
109	Wailuku Dr. Short-Term Trail Medallions on Existing Ped. Walkway	20	ea	\$500.00	\$10,000.00
110	Long-Term: Trail Markings on Future Wailuku Riverwalk Ped. Walkways	1500	lf	\$2.00	\$3,000.00
111	Long-Term: Trail Medallions on Future Wailuku Riverwalk Ped. Walkways	10	ea	\$500.00	\$5,000.00
112	Interpretive Signage/Monument 23	1	ea	\$5,000.00	\$5,000.00
113	Interpretive Signage/Monument 24	1	ea	\$5,000.00	\$5,000.00
<b>Ka'iulani Street (Wailuku Dr. to Waiānuenu Ave.)</b>					<b>\$16,459.21</b>
114	One-Way Bicycle Route	0.70	mi	\$23,513.15	\$16,459.21
<b>Kekaulike St. (Wailuku Dr. to Waiānuenu Ave.)</b>					<b>\$4,200.00</b>
115	Trail Markings on Existing Ped. Walkway	350	lf	\$2.00	\$700.00
116	Trail Medallions on Existing Ped. Walkway	7	ea	\$500.00	\$3,500.00
<b>Waiānuenu Ave. (Kamehameha Ave. to Haili St.)</b>					<b>\$140,504.60</b>
117	Trail Markings on Existing Ped. Walkway	1,725	lf	\$2.00	\$3,450.00
118	Trail Medallions on Existing Ped. Walkway	35	ea	\$500.00	\$17,500.00
119	Two-Way Bicycle Lanes	0.78	mi	\$154,264.00	\$119,554.60
<b>Kapi'olani St. (Waiānuenu Ave. to Haili St.)</b>					<b>\$14,000.00</b>
120	Trail Markings on Existing Ped. Walkway	700	lf	\$2.00	\$7,000.00
121	Trail Medallions on Existing Ped. Walkway	14	ea	\$500.00	\$7,000.00
<b>Haili St. (Kapi'olani St. to Kamehameha Ave.)</b>					<b>\$19,150.00</b>
122	Trail Markings on Existing Ped. Paving	1,575	lf	\$2.00	\$3,150.00
123	Trail Medallions on Existing Ped. Paving	32	ea	\$500.00	\$16,000.00
<b>Bayfront Highway (Waiānuenu Ave. to Kamehameha Ave.)</b>					<b>\$1,032,447.94</b>
124	Two-Way Bicycle Lanes	1.38	mi	\$23,513.00	\$32,447.94
125	Crosswalk	1	ls	\$1,000,000.00	\$1,000,000.00

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>Kamehameha Avenue COUNTY (Waiānue Avenue to Kamehameha Ave. STATE)</b>					<b>\$81,827.30</b>
126	Two-Way Bicycle Lanes	2.10	mi	\$23,513.00	\$49,377.30
127	Trail Markings on Existing Ped. Walkway (Waiānue Avenue to Waiolama Canal Area)	1,725	lf	\$2.00	\$3,450.00
128	Trail Medallions on Existing Ped. Walkway (Waiānue Avenue to Waiolama Canal Area)	35	ea	\$500.00	\$17,500.00
129	Interpretive Signage/Monument 19a	1	ea	\$5,000.00	\$5,000.00
130	Interpretive Signage/Monument 20	1	ea	\$5,000.00	\$5,000.00
131	Ahupua`a Plaque 19a	1	ea	\$750.00	\$750.00
132	Ahupua`a Plaque 20	1	ea	\$750.00	\$750.00
<b>Kamehameha Avenue STATE (Kamehameha Avenue to Wailoa Bridge)</b>					<b>\$5,407.99</b>
133	Two-Way Bicycle Lanes	0.23	mi	\$23,513.00	\$5,407.99
<b>Wailoa Bridge (STATE)</b>					<b>\$87,526.95</b>
134	Makai: Restripe Vehicular Lanes	1	ls	\$4,000.00	\$4,000.00
135	Two-Way Bicycle Lanes	0.15	mi	\$23,513.00	\$3,526.95
136	Makai: Shared Use Path with Barrier	1	ls	\$80,000.00	\$80,000.00
<b>Kawelolani Street</b>					<b>\$154,726.98</b>
137	Shared Use Path	0.161	mi	\$936,192.44	\$150,726.98
138	Trailhead Sign	1	ea	\$4,000.00	\$4,000.00
<b>Pi'ilani Street</b>					<b>\$21,161.84</b>
139	Two-Way Bicycle Route	0.17	mi	\$23,513.15	\$3,997.24
140	Two-Way Signed Shared Road	0.73	mi	\$23,513.15	\$17,164.60
<b>Manono Street</b>					<b>\$131,039.12</b>
141	Two-Way Bicycle Lanes	0.83	mi	\$154,264.00	\$128,039.12
142	Crosswalk (3)	3	ea	\$1,000.00	\$3,000.00
<b>Lihikai Street (Kamehameha Avenue to Queen Lili'uokalani Gardens)</b>					<b>\$17,099.87</b>
143	Two-Way Bicycle Route	0.37	mi	\$23,513.15	\$8,699.87
144	Trail Markings on Existing Ped. Walkway	700	lf	\$2.00	\$1,400.00
145	Trail Medallions on Existing Ped. Walkway	14	ea	\$500.00	\$7,000.00
<b>Banyan Drive (Lihikai St. to Banyan Way)</b>					<b>\$795,803.45</b>
146	Two-Way Bicycle Route	1.60	mi	\$23,513.15	\$37,621.04
147	Shared Use Path Loop, Portions of	0.74	mi	\$936,192.44	\$692,782.41
148	Trail Markings on Existing Ped. Walkway	4,200	lf	\$2.00	\$8,400.00
149	Trail Medallions on Existing Ped. Walkway	84	ea	\$500.00	\$42,000.00
150	Crosswalks (2)	2	ea	\$1,000.00	\$2,000.00
151	Trailhead Signs	2	ea	\$4,000.00	\$8,000.00
152	Interpretive Signage/Monument 6	1	ea	\$5,000.00	\$5,000.00
<b>Banyan Drive (Banyan Way to Kamehameha Avenue.)</b>					<b>\$7,053.95</b>
153	Two-Way Bicycle Route	0.30	mi	\$23,513.15	\$7,053.95

Description	Qty	Unit	Unit Price	Total	Grand Total
<b>Banyan Way (Banyan Dr.-Kalanianaʻole Street)</b>					<b>\$48,047.50</b>
154 Two-Way Bicycle Route	0.19	mi	\$23,513.15	\$4,467.50	
155 Pedestrian Walkway	1	ls	\$40,000.00	\$40,000.00	
156 Trail Markings on Ped. Walkway	290	lf	\$2.00	\$580.00	
157 Trail Medallions on Ped. Walkway	6	ea	\$500.00	\$3,000.00	
<b>Former Railroad R/W</b>					<b>\$1,240,514.64</b>
158 Shared Use Path					
a. Adjacent to 2-1-6:13	0.07	mi	\$936,192.44	\$65,533.47	
b. Adjacent to 2-1-6:17	0.11	mi	\$936,192.44	\$102,981.17	
159 Railings on former railroad embankment (both sides)	600	lf	\$100.00	\$60,000.00	
160 Bridge over Pond and Concrete Abutments (adjacent to 2-1-6:13, 2-1-6:16, 2-1-6:17)	1	ls	\$1,000,000.00	\$1,000,000.00	
161 Tree Removal for Bridge	1	ls	\$5,000.00	\$5,000.00	
162 Embankment Repair	1	ls	\$7,000.00	\$7,000.00	
<b>Huipū Street</b>					<b>\$8,400.00</b>
163 Trail Markings on Future Ped. Walkways	700	lf	\$2.00	\$1,400.00	
164 Trail Medallions on Future Ped. Walkways	14	ea	\$500.00	\$7,000.00	
<b>Kalanianaʻole Street (Kanaea Pond to Kūhiō St.)</b>					<b>\$737,900.00</b>
165 Pedestrian Walkway ( <i>makai</i> ) with curb and gutter	1	ls	\$401,900.00	\$401,900.00	
166 Trail Markings on Ped. Walkway	2,450	lf	\$2.00	\$4,900.00	
167 Trail Medallions on Ped. Walkway	49	ea	\$500.00	\$24,500.00	
168 Trail Markings on Existing Ped. Walkway	300	lf	\$2.00	\$600.00	
169 Trail Medallions on Existing Ped. Walkway	6	ea	\$500.00	\$3,000.00	
170 Supplementary Planting (trees and ground cover on both sides)	1	ls	\$300,000.00	\$300,000.00	
171 Crosswalk	3	ea	\$1,000.00	\$3,000.00	
<b>Kūhiō Street, West Side (Kalanianaʻole St. to Hilo Harbor Main Gate)</b>					<b>\$17,826.97</b>
172 Two-Way Bicycle Route	0.15	mi	\$23,513.15	\$3,526.97	
173 Trail Markings on Existing Ped. Walkway	400	lf	\$2.00	\$800.00	
174 Trail Medallions on Existing Ped. Walkway	8	ea	\$500.00	\$4,000.00	
175 Supplementary Planting	1	ls	\$3,500.00	\$3,500.00	
176 Interpretive Signage/Monument 1	1	ea	\$5,000.00	\$5,000.00	
177 Crosswalk	1	ea	\$1,000.00	\$1,000.00	
<b>Subtotal</b>					<b>\$16,533,130.37</b>
178 <b>Construction Contingency</b>	5	percent			<b>\$826,656.52</b>
<b>Design Contingency</b>	10	percent			<b>\$1,653,313.04</b>
<b>Total</b>					<b>\$19,013,099.93</b>

**General Notes:**

1. Unit prices for bicycle facilities—including shared use paths—that were proposed in *Bike Plan Hawaii 2003* (see Master Plan) are taken from the cost estimate in the document; prices have been adjusted to 2008 prices using the inflation calculator at [http://www.bls.gov/data/inflation\\_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm).
2. Unit prices for bicycle facilities—including shared use paths—that were NOT included in *Bike Plan Hawaii 2003* (see Master Plan) were calculated based on a determination of facility Class (per *Bike Plan Hawaii 2003*) and adjustment to 2008 prices for the respective facility types in *Bike Plan Hawaii 2003*.

**Notes:**

Item 1. Price is based on a 4" wide painted line. Other, more costly alternatives for trail markings are engraved bricks and cut basalt pavers. Engraved bricks could be used to raise funds for the trails and could essentially pay for themselves.

Item 2. Unit price is based on a 14" diameter bronze medallion. Price includes shipping and installation.

Item 3. Since Interpretive Signage / Monuments 21 and 22 are so close together, they have been combined as one. However, they could be implemented as two separate interpretive signage / monuments.

Item 4. Price is based on a rust-resistant metal rack with loops and capacity for 10 bicycles.

Item 5. Price is based on a 4" wide painted line. Other, more costly alternatives for trail markings on existing pedestrian paving are engraved bricks and cut basalt pavers. Engraved bricks could be used to raise funds for the trails and could essentially pay for themselves.

Item 6. Unit price is based on a 14" diameter bronze medallion. Price includes shipping and installation.

Item 7. Shared use path is 12'-0"-wide Portland cement concrete with an aggregate/stabilized subbase per County of Hawaii, *The Bikeway Plan, 1979* (see Figure 6.3). Unit price is based on an adjusted price from *Bike Plan Hawaii 2003*. Price includes signage and markings, including those specifically for the trail, such as painted trail logo stencils and distance markings.

Item 13. *Ahupua'a* plaques are priced as 2'-0" x 6" bronze.

Item 18. Prices for supplementary planting do not include installation of automatic irrigation systems.

Item 19. Price is based on matching the design and materials used for the existing parking lot.

Item 21. The unit price is for a recycled plastic bench closely matching benches at Lili'uokalani Gardens.

Item 22. The unit price is for a water fountain similar to the existing water fountain near Mokuola.

Items 24. Price is from the County of Hawai'i Real Property Tax Office website for market land value and assessed building value (if applicable).

Item 25. Rainbow shower street trees *makai* of the flood control berm along Kamahemeha Avenue may need to be relocated to accommodate the shared use path.

Item 36. Price is based on 25 gal. trees.

Item 37. The price is based on a one-way asphalt concrete drive with 20 stalls constructed with pervious paving. A piped drainage system is not included.

Item 45. Referral to the County of Hawai'i Real Property Tax Division website did not produce a usable figure for the market value of this property. Full purchase or condemnation of this parcel is not necessary to implement the proposed shared use path in this location. Negotiation of a modest easement fronting Maile Street would be sufficient. As such, no value has been entered for this line item.

Item 62. The price is based on a one-way asphalt concrete drive with 40 stalls constructed with pervious paving. A piped drainage system is not included.

Item 68. Trail markings (painted trail logo stencils and potential distance markings) would be installed on paths implemented as part of the Department of Parks and Recreation Hilo Bayfront Beach Park Master Plan (April 2007).

Item 72. Certain conditions of the Banyan Drive right-of-way necessitate aligning the shared use path along the perimeter of the golf course within these State-owned golf course parcels.

Item 74. A railing may be needed at the existing drainage area at the Kamehameha Avenue-Lihwai Street intersection.

Items 92 and 93. Trail markings and medallions would be installed on paths implemented as part of the Department of Parks and Recreation Reed's Bay Beach Park Improvements (May 2007).

Item 111. The quantity of trail medallions for the Riverwalk is in addition to the trail medallions along the short-term alignment, which should be relocated to the Riverwalk once it is implemented.

Item 125. In addition to striping, price includes such items as a traffic study, additional signal lights, signal sequencing, and raised traffic islands.

Item 142. Price includes standard County (or State) striping.

Items 163 and 164. Trail markings and medallions would be installed on both sides of pedestrian paving implemented as part of implementing the new passenger terminal at Hilo Harbor.

Items 168 and 169. Trail markings and medallions would be installed on existing pedestrian walkways fronting TMK 2-1-7:9.

Item 170. Price is based on 25 gal. trees spaced 35' o.c. with ground cover spaced at 18" o.c.

Item 178. Contingency covers topographic survey, site surveys, soils reports, and other construction-related studies.

# APPENDIX H

Grant of Easement Number S-4533 at Waiākea Villas (referenced in Chapter 5)

GRANT OF EASEMENT NO. S-4553

THIS AGREEMENT, made this 6 day of May, 1977, by and between the STATE OF HAWAII, by its Board of Land and Natural Resources, hereinafter referred to as the "GRANTOR," and WAIAKEA CORPORATION, a Hawaii corporation, whose place of business and post office address is Honolulu, Hawaii, and P. O. Box 3470, Honolulu, Hawaii 96801, respectively, hereinafter referred to as the "GRANTEE,"

WITNESSETH:

THAT the Grantor, for and in consideration of SIX HUNDRED FIFTY AND NO/100 DOLLARS (\$650.00), to be paid by the Grantee, the receipt whereof is hereby acknowledged, and of the terms, covenants and conditions herein contained, all on the part of the Grantee to be kept, observed and performed, does hereby grant unto the Grantee the following easements for the purposes as enumerated:

1. Easements A and B, for roadway and utilities purposes, designated Parcels A and B, C.S.F. No. 16,643 and dated June 26, 1972, containing an area of 24,600 square feet;
2. Landscape easement, for landscape purposes, designated non-exclusive easement for landscaping purposes, C.S.F. No. 17,476 and dated June 3, 1975, containing an area of 0.58 acre;

3. Easements G, H and J, for sewer purposes, designated sewer line easements, C.S.F. No. 17,795 and dated July 14, 1976, containing an area of 1183 square feet; said easements being situate at Waiakea, South Hilo, Island of Hawaii, Hawaii, and more particularly described in Exhibit A and delineated on Exhibit B, both of which are attached hereto and made parts hereof, said exhibits being, respectively, survey descriptions and survey maps prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, and hereinafter referred to as the "premises."

TO HAVE AND TO HOLD the said easements unto the Grantee for the term of sixty-five (65) years, commencing on the 7th day of October, 1976 up to and including the 6th day of October, 2041, unless sooner terminated as hereinafter provided.

THE GRANTEE COVENANTS AND AGREES WITH THE GRANTOR AS FOLLOWS:

1. That as to the landscape easement, the Grantee shall provide a public pedestrian pathway or walkway across its adjoining land connecting portions of Wailoa River State Park as part of its improvements.

2. That as to Easements G, H and J, the Grantee will convey said easements directly to the County of Hawaii, Department of Public Works.

3. That the use and enjoyment of the said easements shall not be in support of any policy which discriminates against anyone based upon race, creed, color, national origin, or a physical handicap.

4. That the Grantee shall keep the said premises and improvements in a strictly clean, sanitary and orderly condition.

5. That the Grantee shall not commit, suffer or permit to be committed any waste, nuisance, strip or unlawful, improper or offensive use of the said premises, or any part thereof, nor, without the prior written consent of the Grantor, cut down, remove or destroy, or suffer to be cut down, removed or destroyed, any trees now growing on said premises.

6. That the Grantee, in the exercise of the rights granted herein, shall comply with all of the requirements of all municipal, state and federal authorities and observe all municipal ordinances and state and federal statutes, rules and regulations, now in force or which may hereinafter be in force.

7. That the Grantee shall not transfer, mortgage, assign or permit any other person to occupy or use the said premises or portion thereof; or transfer, mortgage or assign this grant or any interest therein, either voluntarily or by operation of law, except by way of devise, bequest or intestate succession; provided, that, with the approval of the Board, the assignment or transfer of this grant or any unit thereof may be made in accordance with the provisions of Section 171-36(5), Hawaii Revised Statutes.

8. That the Grantee shall indemnify, defend and hold harmless the Grantor, the counties, their officers, agents, employees or any person acting on their behalf

(1) from and against any claim or demand by third persons for loss, liability or damage, including claims for property damage, personal injury or wrongful death, arising from any accident on, about or in connection with said premises in the exercise by the Grantee of the rights herein granted, or occasioned by any act or nuisance made or suffered on the premises in the exercise by the Grantee of said rights, or by any fire thereon or growing out of or caused by any failure on the part of the Grantee to maintain the premises in a safe condition and will reimburse the Grantor for all costs and expenses in connection with the defense of such claims; (2) from and against all actions, suits, damages and claims by whomsoever brought or made by reason of the non-observance or non-performance of any of the terms, covenants and conditions herein or the rules, regulations, ordinances and laws of the federal, state, municipal or county governments.

9. That the Grantee shall procure, at its own cost and expense, and maintain during the entire period of this grant, with an insurance company or companies licensed to do business in the State, a policy or policies of comprehensive public liability insurance, in an amount acceptable to the Board, insuring the Grantor and Grantee against all claims for personal injury, death and property damage; that said policy or policies shall cover the entire premises, including all improvements and grounds and all roadways or sidewalks on or adjacent to the said premises in the control or use of the Grantee. The Grantee shall furnish the Grantor with a certificate

showing such policy to be initially in force and shall furnish a like certificate upon each renewal of such policy, each such certificate to contain or be accompanied by an assurance of the insurer to notify the Grantor of any intention to cancel any such policy sixty (60) days prior to actual cancellation. The procuring of this policy shall not release or relieve the Grantee of its responsibility under this grant as set forth herein or limit the amount of its liability under this grant.

10. That in case the Grantor shall, without any fault on its part, be made a party to any litigation (other than condemnation proceedings), commenced by or against the Grantee, the Grantee shall and will pay all costs and expenses incurred by or imposed on the Grantor; furthermore, the Grantee shall and will pay all costs and expenses which may be incurred by or paid by the Grantor in enforcing the covenants and agreements of this grant, in recovering possession of the said premises or in the collection of delinquent rental, taxes and any and all other charges hereunder payable by Grantee.

11. That the Grantee, while in the exercise of any of the rights and privileges granted hereunder, shall not unduly or unreasonably inconvenience the Grantor, the county or the licensees, permittees or lessees of the Grantor, if any, in the use of the land crossed by or adjoining the said premises.

12. That the Grantee, prior to the construction of any additions, alterations or improvements, shall submit plans and specifications therefor to the

Chairman for his review and approval. All construction shall be accomplished in accordance with standard engineering practices.

13. The Grantee shall maintain the said premises in good condition at all times, to the satisfaction of the Grantor or any other authority having jurisdiction over the said premises, and shall promptly make all repairs thereto which may be necessary for the preservation of the condition of said premises.

14. If the Grantor shall determine that the continued exercise of the rights granted herein constitutes an undue interference with any of its activities, it shall have the right to terminate the easement herein granted to the extent necessary to eliminate such interference; provided, that it shall grant to the Grantee, without payment of any monetary consideration, a substitute easement of similar width to permit the Grantee to effect relocation of any facility or portion thereof, installed, placed or constructed on said premises on adjacent State lands at the Grantee's own cost and expense, which substitute easement shall be coextensive in term with and subject to the same terms and conditions as that herein granted.

15. That if the Grantee should fail to comply with any of the terms and conditions of this grant or abandon or cease to use said easements for a continuous period of one (1) year, all rights granted herein shall cease and determine in accordance with paragraph 2, page 8 of this grant, relating to Breach.

16. That the Grantee shall promptly repair or restore at its own cost and expense, to the satisfaction of the Grantor, or any other authority having jurisdiction over the areas crossed by said easements, all damages to paving or to the surface of the land by virtue of any such maintenance, repair or replacement of said easements. Upon termination of the easements granted herein, if desired by the Grantor, the Grantee, at its own expense, shall remove any and all improvements installed or constructed hereunder and restore the premises to the same or as good condition as that which existed prior to the exercise by the Grantee of its rights hereunder, such restoration to be effected to the satisfaction of the Chairman.

IT IS HEREBY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

1. Mortgage. That upon due application and with the written consent of the Grantor, the Grantee may mortgage or create a security interest in this grant or any interest therein. If the mortgage or security interest is to a recognized lending institution in either the State of Hawaii or elsewhere in the United States, such consent may extend to foreclosure and sale of Grantee's interest at such foreclosure to any purchasers, including the mortgagee, without regard to whether or not the purchaser is qualified to lease, own or otherwise acquire and hold the land or any interest therein. The interest of the mortgagee or holder shall be freely assignable. The term "holder" shall include an insurer or guarantor of the

obligation or condition of such mortgage, including the Department of Housing and Urban Development through the Federal Housing Administration, the Federal National Mortgage Association, the Veterans Administration, the Small Business Administration, Farmers Home Administration, or any other federal agency and their respective successors and assigns or any lending institution authorized to do business in the State of Hawaii or elsewhere in the United States; provided, that the consent to mortgage to a non-governmental holder shall not confer any greater rights or powers in the holder than those which would be required by any of the aforementioned federal agencies.

2. Breach. That time is of the essence of this agreement and if the Grantee shall fail to yield or pay such rent or any part thereof at the times and in the manner aforesaid, or shall become bankrupt, or shall abandon the said easements, or if this grant shall be attached or otherwise be taken by operation of law, or if any assignment be made of the Grantee's interest for the benefit of creditors, or shall fail to observe and perform any of the covenants, terms and conditions herein contained and on its part to be observed and performed, and such breach or default shall continue for a period of more than sixty (60) days after delivery by the Grantor of a written notice of such breach or default by personal service, registered mail or certified mail to the Grantee at its last known address and to each mortgagee or holder of record having a security interest, making demand that the breach or default be cured

or remedied within sixty (60) days from date of receipt of such notice, the Grantor may, subject to the provisions of Section 171-21, Hawaii Revised Statutes, at once re-enter such premises or any part thereof, or with or without such re-entry, terminate this grant without prejudice to any other remedy or right of action for arrears of rent or for any preceding or other breach of contract; and in the event of such termination, all improvements thereon shall remain and become the property of the Grantor.

3. Right of holder of record of a security interest. In the event the Grantor seeks to forfeit the interest created by this grant, each recorded holder of a security interest may, at its option, cure or remedy the default or breach within sixty (60) days from the date of receipt of the notice hereinabove set forth, or within such additional period as the Grantor may allow for good cause, and add the cost thereof to the mortgage debt and the lien of the mortgage. Upon failure of the holder to exercise its option, the Grantor may: (a) pay to the holder from any monies at its disposal, including the special land and development fund, the amount of the mortgage debt, together with interest and penalties, and secure an assignment of said debt and mortgage from said holder or if ownership of such interest shall have vested in such holder by way of foreclosure, or action in lieu thereof, the Grantor shall be entitled to the conveyance of said interest upon payment to said holder of the amount of the mortgage debt, including interest and penalties, and all reasonable expenses incurred by the holder in connection with such foreclosure and preservation of its security interest,

less appropriate credits, including income received from said interest subsequent to such foreclosure; or (b) terminate the outstanding interest subject to the lien of such mortgage, without prejudice to any other right or remedy for arrears of rent or for any preceding or other breach or default and thereupon use its best efforts to redispense of such interest affected thereby to a qualified and responsible person who will assume the obligation of the mortgage and the debt thereby secured; provided, that a reasonable delay by the Grantor in instituting or prosecuting any right or remedy it may have hereunder shall not operate as a waiver of such right or to deprive it of such remedy when it may still hope otherwise to resolve the problems created by the breach or default. The proceeds of any redispense effected hereunder shall be applied first, to reimburse the Grantor for costs and expenses in connection with such redispense, second, to discharge in full any unpaid purchase price or other indebtedness owing the Grantor in connection with such interest terminated as aforesaid, and the balance, if any, shall be paid to the owner of such interest.

4. Withdrawal. The Grantor reserves the right to withdraw all or any portion of the easement area where said area is required for a public purpose. A substitute easement shall be provided in accordance with paragraph 13 on page 6 of this grant.

5. Valuation. Any enhancement in value to Grantee's property as a result of this grant of easement shall be disregarded in determining the fair market value

of the property to be acquired for a public purpose. In such an event, the Grantee shall be entitled to be reimbursed for the cost of the easement paid to the Grantor in proportion to the Grantee's land being acquired.

As used herein, unless clearly repugnant to the context:

(a) "Chairman" shall mean the Chairman of the Board of Land and Natural Resources of the State of Hawaii or his successor;

(b) "Grantee" shall mean and include the Grantee herein, its heirs, executors, administrators, successors or permitted assigns, according to the context hereof;

(c) "Holder of record of a security interest" is a person who is the owner or possessor of a security interest in the interest herein and who has filed with the Department of Land and Natural Resources and with the Bureau of Conveyances of the State of Hawaii a copy of such security interest;

(d) "Premises" shall be deemed to include the land on which the easement and right-of-way is situated and all improvements now or hereinafter constructed and installed thereon;

(e) The use of any gender shall include all genders, and if there be more than one Grantee, then all words used in the singular shall extend to and include the plural;

(f) The paragraph headings throughout this grant are for the convenience of the Grantor and the Grantee and are not intended to construe the intent or meaning of any of the provisions herein.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed as of the day and year first above written.

Approved by the Board of Land and Natural Resources at its meetings held on November 12, 1971; November 17, 1972; September 14, 1973 and August 29, 1975.

*[Handwritten mark]*

STATE OF HAWAII

By *C Cobb*  
Chairman and Member  
Board of Land and  
Natural Resources

And By *Shinichi Nakayama*  
Member  
Board of Land and  
Natural Resources

WAIAKEA CORPORATION

By *D. L. Derberg*  
Its PRESIDENT

By *R. F. Park*  
Its ASST. SECRETARY

APPROVED AS TO FORM,  
CONTENTS & AUTHORIZATION

*NR*  
PROPERTY PLANNING & CONTROL DEPT.  
HAWAIIANA INVESTMENT CO., INC.

*[Handwritten initials]*

APPROVED AS TO FORM:

*Susan Y. Lewis*  
Deputy Attorney General

Dated: April 11, 1977

STATE OF HAWAII )  
 )  
 ) : ss.  
 )  
COUNTY OF )

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_,  
before me personally appeared \_\_\_\_\_

\_\_\_\_\_ ,  
to me known to be the person(s) described in and who executed  
the foregoing instrument and acknowledged that \_\_\_\_\_ executed  
the same as \_\_\_\_\_ free act and deed.

\_\_\_\_\_  
Notary Public, Judicial  
Circuit, State of Hawaii

My Commission expires:

STATE OF HAWAII )  
 )  
 ) : ss.  
 )  
CITY AND COUNTY OF HONOLULU )

On this 6th day of May, 1977,  
before me appeared R. L. Herberg and  
R. F. Park, to me personally known, who,  
being by me duly sworn, did say that they are the \_\_\_\_\_  
President and Assistant Secretary, respectively,  
of WAIAKEA CORPORATION,

and that the seal affixed to the foregoing instrument is the  
corporate seal of said corporation, and that said instrument  
was signed and sealed on behalf of said corporation by authority  
of its Board of Directors, and the said R. L. Herberg  
and R. F. Park acknowledged that they executed  
said instrument as the free act and deed of said corporation.

*Ruwayo A. Nagai*  
Notary Public, First Judicial  
Circuit, State of Hawaii

My Commission expires: March 26, 1980



STATE OF HAWAII  
SURVEY DIVISION  
DEPT. OF ACCOUNTING AND GENERAL SERVICES  
HONOLULU

C.S.F. No. 16,643

June 26, 1972

Non-Exclusive Easement for  
Roadway and Utilities Purposes

PARCELS A AND B

Waiakea, South Hilo, Island of Hawaii, Hawaii

PARCEL A:

Comprising the following lands:

- (1) Being a portion of the Government (Crown) Land of Waiakea
- (2) Being a portion of the land described in deed of Territory of Hawaii to Hawaii Consolidated Railway, Ltd., dated November 29, 1930 (Land Office Deed 4034) reverted to the Territory of Hawaii on August 1, 1946, upon dissolution of the Hawaii Consolidated Railway, Ltd., and upon the abandonment of the use of said rights-of-way for railroad purpose (Land Office Deed 9128)

Beginning at the northeast corner of this parcel of land, the southeast corner of Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate, and on the west side of Mililani Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 903.49 feet South and 8629.91 feet East, as shown on Government Survey Registered Map 3072, thence running by azimuths measured clockwise from True South:

1. 360° 00'                      60.00 feet along the west side of Mililani Street;
2. 90° 00'                        380.00 feet along Lot 4, as shown on Map 6 of Land Court Application 1109;
3. 135° 00'                      28.28 feet along Lot 4, as shown on Map 6 of Land Court Application 1109;
4. 180° 00'                      40.00 feet along Parcel B of Roadway and Utilities Easement;
5. 270° 00'                      400.00 feet along Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate to the point of beginning and containing an Area of 23,800 Square Feet.

EXHIBIT "A"

PARCEL B:

Being a portion of the Government (Crown) Land of Waiakea

Beginning at the northeast corner of this parcel of land, the southwest corner of Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate, and on the northwest corner of Parcel A of Roadway and Utilities Easement, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 903.49 feet South and 8229.91 feet East, as shown on Government Survey Registered Map 3072, thence running by azimuths measured clockwise from True South:

1. 360° 00'                      40.00 feet along Parcel A of Roadway and Utilities Easement;
2. 135° 00'                      56.57 feet along Lot 4, as shown on Map 6 of Land Court Application 1109;
3. 270° 00'                      40.00 feet along the remainder of Government Land to the point of beginning and containing an Area of 800 Square Feet.

SURVEY DIVISION  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
STATE OF HAWAII

By: *Ichiro Sakamoto*  
Ichiro Sakamoto  
Land Surveyor

Compiled from map by  
Austin, Smith & Associates, Inc.  
and Govt. Survey Records.

11



STATE OF HAWAII

SURVEY DIVISION

DEPT. OF ACCOUNTING AND GENERAL SERVICES  
HONOLULU

c.s.f. No. 17,476

June 3, 1975

NON-EXCLUSIVE EASEMENT  
FOR LANDSCAPING PURPOSES

Waiakea, South Hilo, Island of Hawaii, Hawaii

Being portion of the Government (Crown) Land of Waiakea.

Being also the filled area of Waiakea Fish Pond fronting  
Lot 4 (Map 6) of Land Court Application 1109.

Beginning at the southeast corner of this parcel of land, the  
northeast corner of Lot 4 (Map 6) of Land Court Application 1109, and  
on the old edge of Waiakea Fish Pond, the coordinates of said point of  
beginning referred to Government Survey Triangulation Station "HALAI"  
being 794.31 feet South and 8083.81 feet East, thence running by azimuths  
measured clockwise from True South:-

Along the old edge of Waiakea Fish Pond, along Lot 4 (Map 6)  
of Land Court Application 1109 for the first four (4) courses, the  
direct azimuths and distances between points being:

- |     |          |   |
|-----|----------|---|
| 1.  | 33° 10'  | 30.50 feet;   |
| 2.  | 96° 07'  | 55.30 feet;   |
| 3.  | 182° 04' | 27.70 feet;   |
| 4.  | 87° 55'  | 79.30 feet;   |
| 5.  | 58° 27'  | 33.50 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |
| 6.  | 89° 29'  | 58.10 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |
| 7.  | 168° 46' | 73.90 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |
| 8.  | 138° 44' | 82.20 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |
| 9.  | 84° 46'  | 65.30 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |
| 10. | 117° 25' | 91.80 feet along Lot 4 (Map 6) of Land Court<br>Application 1109; |

June 3, 1975

- 11. 17° 00' 39.00 feet along Lot 4 (Map 6) of Land Court Application 1109;
- 12. 68° 40' 54.80 feet along Lot 4 (Map 6) of Land Court Application 1109;
- 13. 99° 16' 39.00 feet along Lot 4 (Map 6) of Land Court Application 1109;
- 14. 41° 01' 108.70 feet along Lot 4 (Map 6) of Land Court Application 1109;
- 15. 17° 47' 64.10 feet along Lot 4 (Map 6) of Land Court Application 1109;
- 16. 331° 45' 52.94 feet along Lot 4 (Map 6) of Land Court Application 1109;

(8) Thence along the new edge of Waiakea Fish Pond for the next eight courses, the direct azimuth and distance between points being:

- 17. 71° 32' 15.16 feet;
- 18. 145° 03' 62.18 feet;
- 19. 189° 40' 49.00 feet;
- 20. 218° 14' 151.61 feet;
- 21. 231° 45' 10" 138.97 feet;
- 22. 295° 28' 30" 184.44 feet;
- 23. 317° 02' 132.57 feet;
- 24. 275° 09' 40" 176.76 feet;
- 25. 315° 00' 34.52 feet to the point of beginning and containing an AREA OF 0.58 ACRE.

SURVEY DIVISION  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
STATE OF HAWAII

By: *Ichiro Sakamoto*  
Ichiro Sakamoto  
Land Surveyor

cm

Compiled from Map by Murray,  
Smith & Associates, Ltd.  
and Gov't. Survey Records.



STATE OF HAWAII

SURVEY DIVISION

DEPT. OF ACCOUNTING AND GENERAL SERVICES

HONOLULU

C.S.F. No. 17,795

July 14, 1976

SEWER LINE EASEMENTS

EASEMENTS C, G, H AND J

Waiakea, South Hilo, Island of Hawaii, Hawaii

EASEMENT C. (5 feet wide)

Being a portion of the Government (Crown) Land of Waiakea conveyed to the Hawaii Redevelopment Agency by the State of Hawaii by deed dated June 21, 1968 and recorded in Liber 6170, Page 70 (Land Office Deed S-24676) and subsequently re-conveyed by the Hawaii Redevelopment Agency to the State of Hawaii by deed dated October 2, 1968, recorded in Liber 6249, Page 113 (Land Office Deed S-24599)

Beginning at the northeast corner of this easement, the northwest corner of Grant 11940, Parcel 3 to Trustees of B.P. Bishop Estate and on the southwest end of Kawelolani Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 1132.91 feet North and 8229.91 feet East, thence running by azimuths measured clockwise from True South:-

1. 360° 00'                      2,051.70 feet along Grant 11940, Parcel 3 to Trustees, of B.P. Bishop Estate; along Wehilani Street; along Grant 11940 Parcel 4 to Trustees of B.P. Bishop Estate; along Piilani Street; along Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estates and along Hualani Street;
2. 146° 51' 30"                      9.15 feet;
3. 180° 00'                      2,047.04 feet;
4. 270° 00'                      5.00 feet to the point of beginning and containing an AREA OF 10,254 SQUARE FEET.

EASEMENT G: (5 feet wide)

Being a portion of the Government (Crown) Land of Waiakea.

Beginning at the southwest corner of this easement, being also the northwest corner of Grant 11940, Parcel 4 to Trustees of B.P. Bishop Estate, and on the southwest end of Wehilani Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 496.51 feet North and 8229.91 feet East, thence running by azimuths measured clockwise from True South:-

- |    |      |     |  |
|----|------|-----|--|
| 1. | 180° | 00' | 60.00 feet along Easement C;   |
| 2. | 270° | 00' | 5.00 feet along Grant 11940, Parcel 3 to Trustees of B.P. Bishop Estate;   |
| 3. | 360° | 00' | 60.00 feet along the remainder of Wehilani Street;   |
| 4. | 90°  | 00' | 5.00 feet along Grant 11940, Parcel 4 to Trustees of B.P. Bishop Estate to the point of beginning and containing an AREA OF 300 SQUARE FEET. |

EASEMENT H: (5 feet wide)

Being a portion of the Government (Crown) Land of Waiakea.

Beginning at the southwest corner of this easement, the northwest corner of Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate, and on the southwest end of Piilani Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 123.49 feet South and 8229.91 feet East, thence running by azimuths measured clockwise from True South:-

- |    |      |     |   |
|----|------|-----|---|
| 1. | 180° | 00' | 60.00 feet along Easement C;  |
| 2. | 270° | 00' | 5.00 feet along Grant 11940, Parcel 4 to Trustees of B.P. Bishop Estate and the north side of Piilani Street; |

July 14, 1976

3. 360° 00' 60.00 feet along the remainder of Piilani Street;
4. 90° 00' 5.00 feet along Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate to the point of beginning and containing an AREA OF 300 SQUARE FEET.

EASEMENT J: (5 feet wide)

Being a portion of the Government (Crown) Land of Waiakea.

Beginning at the north corner of this easement, being also the southwest corner of Grant 11940, Parcel 5 to Trustees of B.P. Bishop Estate, and on the north side of Hualani Street, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 903.49 feet South and 8229.91 feet East, thence running by azimuths measured clockwise from True South:-

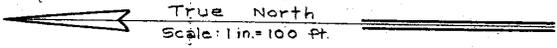
1. 326° 51' 30" 54.87 feet along the remainder of Hualani Street;
2. 360° 00' 14.05 feet along the remainder of Hualani Street;
3. 90° 00' 10.00 feet along Lot 4 of Land Court Application 1109;
4. 180° 00' 11.07 feet along the remainder of Hualani Street;
5. 146° 51' 30" 36.58 feet along the remainder of Hualani Street;
6. 180° 00' 18.30 feet along Easement C and the west side of Hualani Street to the point of beginning and containing an AREA OF 583 SQUARE FEET.

SURVEY DIVISION  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
STATE OF HAWAII

Compiled from map  
by Austin, Smith  
and Associates, Inc.,  
CSF's 5720, 11,917,  
12033, 14349,  
15339, and 16643.

By: Stanley T. Nakamura  
Stanley T. Nakamura  
Land Surveyor

lf



WAIAKEA  
FIRST

HUALANI STREET

HOUSE  
SERIES LOTS

MILILANI STREET

Deed: Territory of Hawaii to Hawaii Consolidated Railway, Ltd.  
dated Nov. 20, 1930 (Land Office Deed 4034) (CSF 5720)  
Hawaii Consolidated Railway, Ltd. dissolved Aug. 1, 1946  
(Land Office Deed 9128)

Grant 11940 Parcel 5 to  
Trustees, B. P. Bishop Estate  
(CSF 10894)

Non-Exclusive Easement for  
Roadway and Utilities Purposes

PARCEL A 23,800 SQ. FT.  
(Proposed Hualani Street Extension)

PARCEL B  
800 SQ. FT.

Government Land

WAIAKEA FISH POND  
(CSF 11491)

Non-Exclusive Easement for  
Roadway and Utilities Purposes  
PARCELS A AND B

Waiakea, South Hilo, Island of Hawaii, Hawaii

Scale: 1 inch = 100 feet

EXHIBIT "B"

Page 1 of 3

JOB H-5467  
C. BK

TAX MAP 2-2-31

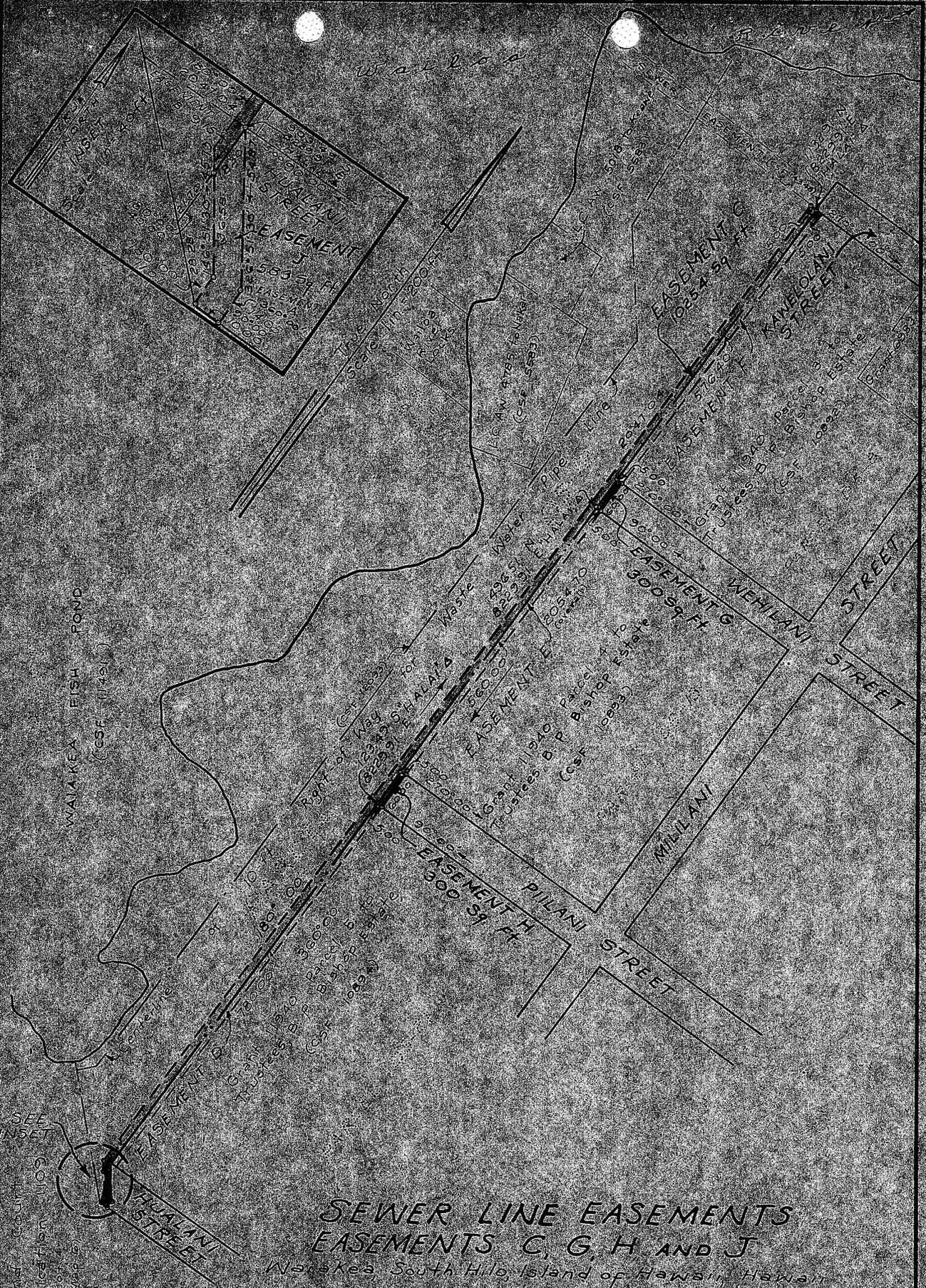
SURVEY DIVISION  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

STATE OF HAWAII

C. S. F. No. 16,643

1.9. June 26, 1972





**SEWER LINE EASEMENTS**  
**EASEMENTS C, G, H AND J**  
*Waikeke, South Hilo, Island of Hawaii, Hawaii*

Scale: 1 inch = 200 feet

SEE  
 INSET  
 (Map 2)  
 Application (UCS)  
 (Map 2)

JOB 17-7525  
 C.B.K. S. Waikamoa BX 4 23 50

TAX MAP 233A  
 C.S.F. No. 1755

SURVEY DIVISION  
 DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
**STATE OF HAWAII**

Page 3 of 3  
 37W JUL 14 1972

# APPENDIX I

Ordinance No. 04-97 for District Reclassification of Property TMK 2-1-7:9  
(referenced in Chapter 5)

COUNTY OF HAWAII STATE OF HAWAII



BILL NO. 295

ORDINANCE NO. 04 97

AN ORDINANCE AMENDING ORDINANCE NO. 93 62, WHICH RECLASSIFIED LANDS FROM LIMITED INDUSTRIAL (ML-20) TO GENERAL INDUSTRIAL (MG-1a) AT WAIAKEA, SOUTH HILO, HAWAII, COVERED BY TAX MAP KEY 2-1-7:9.

BE IT ORDAINED BY THE COUNCIL OF THE COUNTY OF HAWAII:

**SECTION 1.** Ordinance No. 93 62 is amended as follows:

"SECTION 1. Section [~~25-114~~] 25-8-33, Article [~~3~~] 8, Chapter 25 (Zoning Code) of the Hawaii County Code, is amended to change the district classification of property described hereinafter as follows:

The district classification of the following area situated at Waiakea, South Hilo, Hawaii, shall be General Industrial (MG-1a):

**SECTION 2.** This change in district classification is conditioned upon the following.

- (A) the applicant, successors, or assigns shall be responsible for complying with all of the stated conditions of approval;
- (B) the applicant shall secure Final Consolidation Approval of Parcels 9 and 10 within one year from the effective date of this ordinance. A 5-foot road widening setback along the project site's Ocean View Drive frontage shall be indicated on plans submitted for consolidation review and shall be dedicated to the County of Hawaii upon its request;

- (C) Final Plan Approval for the proposed development shall be secured from the Planning Department within one year from the date of receipt of Final Consolidation Approval. To assure adequate time for plan approval review and in accordance with Chapter 25-244 (Zoning Code), plans shall be submitted a minimum of 45 days prior to the date by which plan approval must be secured. Plans shall identify all existing and proposed structures, landscaping, interior driveway circulation, fire protection measures, and paved parking stalls and loading stalls associated with the proposed development;
- (D) construction of the proposed development shall be completed (certificate of occupancy) within two years from the date of issuance of Final Plan Approval;
- (E) the required water commitment payment for the development shall be submitted to the Department of Water Supply in accordance with its "Water Commitment Guidelines Policy" within ninety days from the date of approval of the change of zone;
- (F) access to the subject property shall meet with the approval of the Department of Public Works. Curb, gutter and sidewalk improvements shall be installed along the Kalaniana'ole Avenue frontage [~~and along the Ocean View Drive frontage~~] of Parcel 9 and Parcel 10 in accordance with the requirements of the Department of Public Works, prior to the issuance of a certificate of occupancy for the proposed development;
- (G) landscaping shall be provided along the Kalaniana'ole Avenue frontage and along the Ocean View Drive frontage of parcel 9 and Parcel 10 for the purpose of mitigating noise and visual impacts to Kalaniana'ole Avenue, to Ocean View Drive, and to adjacent properties. A landscaping plan including a program for the maintenance of the landscaping shall be submitted to the Planning Director for

review and approval prior to issuance of certificate of occupancy for the proposed development;

- (H) should any unidentified sites or remains, such as lava tubes, artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, pavings or wall be encountered, work in the affected area shall cease and the Planning Department immediately notified. Subsequent work shall proceed upon an archaeological clearance from the Planning Department when it finds that sufficient mitigative measures have been taken;
- (I) comply with all other applicable laws, rules, regulations and requirements;
- (J) should the Council adopt a Unified Impact Fees ordinance setting forth criteria for the imposition of exactions or the assessment of impact fees, conditions included herein shall be credited towards the requirements of the Unified Impact Fees Ordinance;
- (K) an annual progress report shall be submitted to the Planning Director prior to the anniversary date of the effective date of the Change of Zone. The report shall include, but not be limited to, the status of the development and to what extent the conditions of approval are being complied with. This condition shall remain in effect until all of the conditions of approval have been complied and the Planning Director acknowledges that further reports are not required; and
- (L) an initial extension of time for the performance of conditions within the ordinance may be granted by the Planning Director upon the following circumstances:

- (1) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence;
- (2) granting of the time extension would not be contrary to the General Plan or the Zoning Code;
- (3) granting of the time extension would not be contrary to the original reasons for the granting of the Change of Zone;
- (4) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year; and
- (5) if the applicant should require an additional extension of time, the Planning Director shall submit the applicant's request to the County Council for appropriate action.

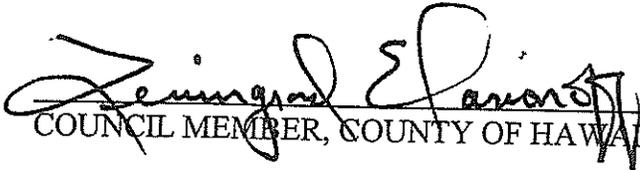
Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate rezoning of the area to its original or more appropriate designation.”

**SECTION 2.** Material to be deleted is bracketed and material to be added is underscored.

**SECTION 3.** In the event that any portion of this ordinance is declared invalid, such invalidity shall not affect the other parts of this ordinance.

SECTION 4. This ordinance shall take effect upon its approval.

INTRODUCED BY:

  
COUNCIL MEMBER, COUNTY OF HAWAII

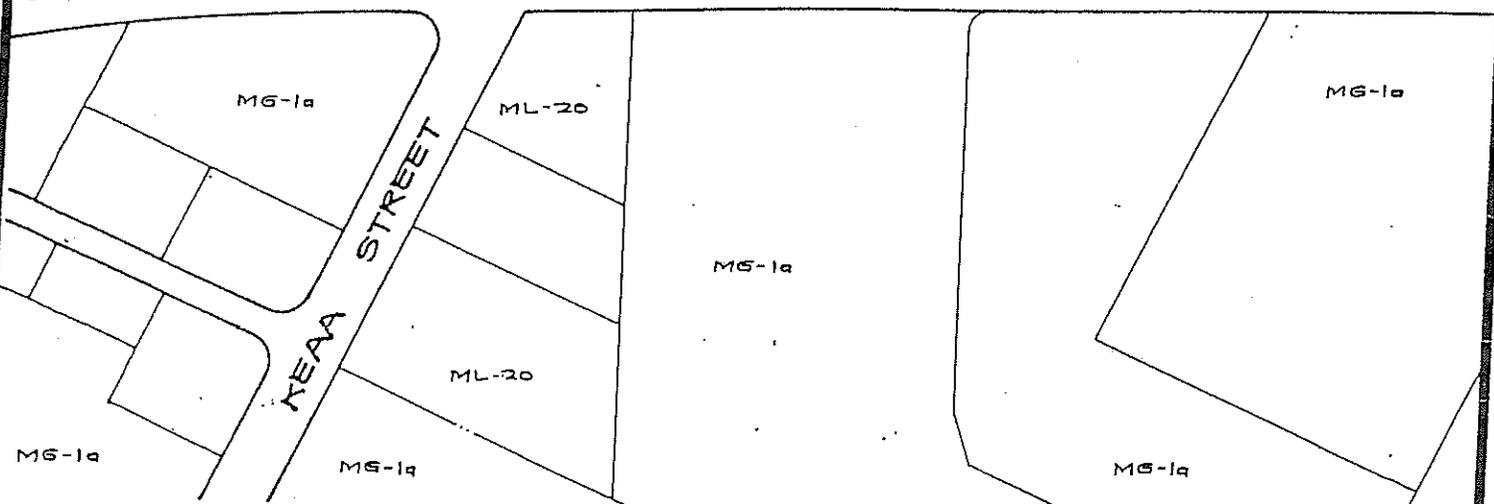
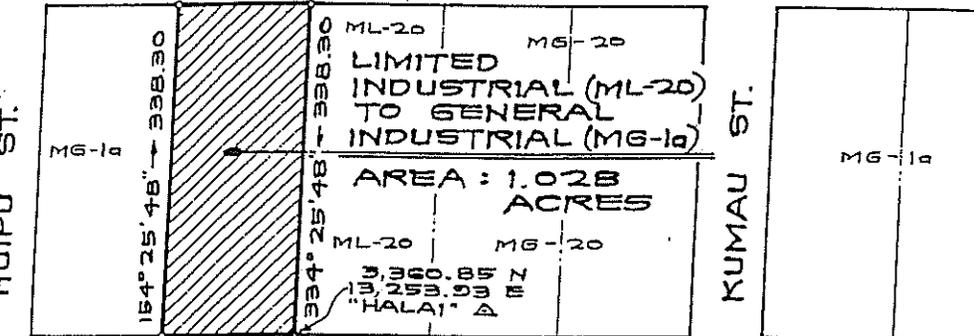
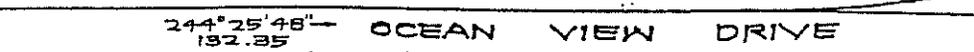
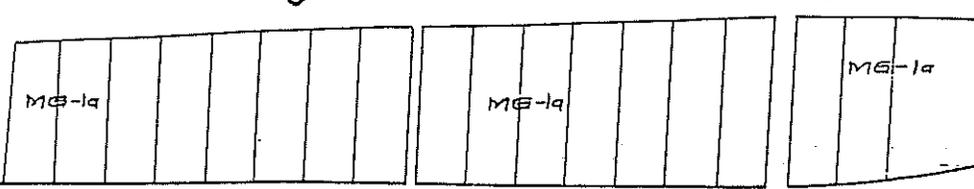
Hilo, Hawai'i

Date of Introduction: August 4, 2004  
Date of 1st Reading: August 4, 2004  
Date of 2nd Reading: August 18, 2004  
Effective Date: August 26, 2004

REFERENCE: Comm. 687

KUHIO BAY

TRUE NORTH  
SCALE: 1" = 200'



# AMENDMENT TO THE ZONING CODE

AMENDING SECTION 25-114 (CITY OF HILO ZONE MAP) ARTICLE 3, CHAPTER 25 (ZONING CODE) OF THE HAWAII COUNTY CODE BY CHANGING THE DISTRICT CLASSIFICATION FROM LIMITED INDUSTRIAL (ML-20) TO GENERAL INDUSTRIAL (MG-1a) AT WAIAKEA, SOUTH HILO, HAWAII.

PREPARED BY : PLANNING DEPARTMENT  
COUNTY OF HAWAII

OFFICE OF THE COUNTY CLERK

County of Hawaii

Hilo, Hawaii 2004 AUG 26 PM 4 12

Introduced By: Leningrad Elarionoff  
 Date Introduced: August 4, 2004  
 First Reading: August 4, 2004  
 Published: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Reading: August 18, 2004  
 To Mayor: August 23, 2004  
 Returned: August 26, 2004  
 Effective: August 26, 2004  
 Published: September 1, 2004

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ROLL CALL VOTE				
	AYES	NOES	ABS	EX
Arakaki	X			
Chung	X			
Elarionoff	X			
Holschuh	X			
Jacobson			X	
Reynolds	X			
Safarik	X			
Tulang	X			
Tyler	X			
	8	0	1	0

ROLL CALL VOTE				
	AYES	NOES	ABS	EX
Arakaki	X			
Chung	X			
Elarionoff	X			
Holschuh	X			
Jacobson	X			
Reynolds			X	
Safarik	X			
Tulang	X			
Tyler	X			
	8	0	1	0

I DO HEREBY CERTIFY that the foregoing BILL was adopted by the County Council published as indicated above.

APPROVED AS TO FORM AND LEGALITY:

B.J. Keithhead-Todd  
 DEPUTY CORPORATION COUNSEL  
 COUNTY OF HAWAII

Date 8/24/04

  
 COUNCIL CHAIRMAN  
  
 COUNTY CLERK

Approved/Disapproved this 26<sup>th</sup> day of August, 2004.

Harry Keim  
 MAYOR, COUNTY OF HAWAII

Bill No.: 295  
 Reference: C-687/PC-100  
 Ord: 04 97

## 8. REFERENCES

The following is a selected list of resources that were used in the preparation of the Hilo Bayfront Trails Master Plan.

### Books and Reports

**American Association of State Highway and Transportation Officials.** 1999. Guide for the Development of Bicycle Facilities.

**Belt Collins & Associates.** 1974. *Hilo Downtown Development Plan*. Prepared for the County of Hawai'i.

**Belt Collins & Associates.** 1975. *Hilo Community Development Plan*, adopted May 21, 1975. Prepared for the County of Hawai'i.

**Board of Land and Natural Resources, State of Hawaii.** March 1965. *A New Comprehensive Plan for Waiakea and the Hilo Waterfront, City of Hilo, Hawaii County, State of Hawaii*. Prepared by Herbert K. C. Luke, Architect, and Hiroshi Kasamoto, Planner.

**Citizens Budget Commission [New York City].** June 2007. "Making the Most of Our Parks." Accessed online on 3/26/09 at <http://www.cbcny.org/final%20draft%20of%20parks%20report%2015.pdf>.

**County of Hawai'i.** June 2006. *Island of Hawaii Shoreline Public Access Ways*. A publication pursuant to National Oceanic and Atmospheric Administration Award No. NA170Z2333 and funds provided by the Office of Planning, Department of Business, Economic Development and Tourism, State of Hawai'i. Available online at <http://www.co.hawaii.hi.us/planning/spa/index.html>.

**County of Hawai'i, Department of Parks and Recreation.** July 1998. *Draft Environmental Assessment and Finding of No Significant Impact: Wailuku Riverfront Park*. Prepared by Ron Terry, Ph.D. Final Environmental Assessment (FEA)/Finding of No Significant Impact (FONSI) issued.

**County of Hawai'i, Department of Parks and Recreation.** January 1999. *Final Environmental Assessment and Findings of No Significant Impact: Hilo Bayfront Park Restroom Facilities*. Prepared by Ron Terry, Ph.D.

**County of Hawai'i, Department of Parks and Recreation.** July 1999. *Final Environmental Assessment: Waiakea Peninsula Improvements* (TMK: 3<sup>rd</sup> 2-1-03:1,2,16,19,22,23,25). Prepared by Roy R. Takemoto, Land Use Consultant.

**County of Hawai'i, Department of Parks and Recreation.** May 2007. *Final Environmental Assessment: Reed's Bay Beach Park Improvements* (TMKs: 2-1-05:01 & 28, 2-1-6-:10, 13, & 15 and portion of abandoned railroad right of way, Hilo, Hawai'i Island, State of Hawai'i). Prepared by Geometrician Associates.

**County of Hawai'i, Department of Parks and Recreation.** May 2007. *Final Environmental Assessment and Finding of No Significant Impact: Kuhi'o Kalani'ana'ole Park* (TMK 3-2-16:13 and 15, Portion of Abandoned Railroad R/W, and Lu'ana Street R/W), South Hilo District, Hawai'i Island, State of Hawai'i). Prepared by Alan A. Kusunoki, P.E.

- County of Hawai‘i, Planning Department.** *The Bikeway Plan*. April 1979.
- County of Hawai‘i, Department of Planning.** 2005. *EnVision Downtown Hilo 2025: A Community-Based Vision and Living Action Plan for Downtown Hilo*.
- County Of Hawai‘i, Department of Planning.** February 2005 (as amended). *County of Hawaii General Plan*.
- Hawaii County Bicycle and Pedestrian Advisory Committee.** 2007. *Hawaii County Bicycle and Pedestrian Advisory Committee Annual Report 2007*.
- Hawaii Island Bike System Advocates.** May 5, 2004. “Proposal Presented To Big Island Resource Conservation and Development Council, Inc.”
- Hawaii Island Bike System Advocates.** September 27, 2007. Brochure for EnVision Meeting regarding Parks Pathway Project and Downtown Alleyway Bikepath.
- Hawai‘i Redevelopment Agency.** February 1985. *Downtown Hilo Redevelopment Plan*.
- Hawaii State Foundation on Culture and the Arts.** 1969. *Environmental and Urban Design Proposals: East Hawaii Project/City of Hilo*. Prepared by the Office of George S. Walters, Landscape Architects.
- Kelly, Marion, and Barry Nakamura, and Dorothy B. Barrère.** 1981. *Hilo Bay: A Chronological History. Land and Water Use in the Hilo Bay Area, Island of Hawai‘i*. Department of Anthropology, Bernice P. Bishop Museum, and U.S. Army Corps of Engineer District, Honolulu.
- Juvik, Sonia P., and James O. Juvik, editors.** 1998. *Atlas of Hawaii*, Third Edition. Thomas R. Paradise, chief cartographer. Honolulu: University of Hawai‘i Press.
- Lang, Leslie.** 2007. *Exploring Historic Hilo*. Small Town Series: Big Island. Watermark Publishing.
- State of Hawai‘i.** December 2008. *Hawaii Cruise Ship FINAL REPORT*. Prepared by ICF International.
- State of Hawai‘i, Department of Land and Natural Resources.** September 1969. *The Wailoa River State Recreation Area, City of Hilo / Island of Hawaii*. Prepared by the Office of George S. Walters, Landscape Architects.
- State of Hawai‘i, Department of Transportation.** 1998. *Hawaii Long Range Land Transportation Plan*.
- State of Hawai‘i, Department of Transportation.** 2003. *Bike Plan Hawaii 2003*.
- State of Hawai‘i, Department of Transportation, Harbors Division.** January 1996. *Final Environmental Assessment and Negative Declaration: Hilo Harbor Improvements Access Road*. Prepared by Brian T. Nishimura, Planning Consultant.

**State of Hawai‘i, Department of Transportation, Harbors Division.** July 2001. *Final Environmental Assessment: Hawaii Commercial Harbors 2020 Master Plan, Island of Hawaii, Hawaii.* Prepared by R. M. Towill Corporation.

**U.S. Army Corps of Engineers, Honolulu Division.** February 1985. *Hilo Bayfront.* Survey Report and Final EIS.

**U.S. Department of Agriculture, Forest Service.** February 2000. *Environmental Impact of Preservation-Treated Wood in a Wetland Boardwalk.* Forest Products Laboratory Research Paper FPL.RP.582.

**U.S. Department of Transportation, Federal Highway Administration.** 2003. *Manual on Uniform Traffic Control Devices for Streets and Highways, Part 9: Traffic Controls for Bicycle Facilities.*

## Plans

**County of Hawai‘i, Department of Parks and Recreation.** No date. “Wailuku Riverwalk Schematic Master Plan.” Received from Beth Dykstra, Department of Research and Development, via Leonard Bisel Associates on September 4, 2007.

**County of Hawai‘i, Department of Parks and Recreation.** April 2007. “Hilo Bayfront Beach Park Master Plan.” Prepared by SSFM

**County of Hawai‘i, Department of Parks and Recreation.** July 2002. “Hilo Bayfront: Proposed Recreation Projects.” Prepared by Maptech, Inc.

**County of Hawai‘i, Department of Public Works, Bureau of Plans and Surveys, Hilo Hawai‘i.** *Kalaniana‘ole Street and Banyan Way Walkway*, Job No. P-2253, Waiākea, South Hilo, Hawai‘i, 1979.

**County of Hawai‘i, Department of Public Works, Engineering Division.** *Hilo Road Improvements Phase II*, Federal Aid Project No. STP-0100(037), Job No. P-3204, South Hilo, Island of Hawai‘i, Hawai‘i, 1995. Reviewed sheets for Kalaniana‘ole Street.

**County of Hawai‘i, Department of Public Works, Engineering Division.** *Hilo Bay Front Beach Park Addition*, Job No. P-3357, TMK 2-2-01, 02, 03, 04, February 21, 1997. (L-22303)

**County of Hawai‘i, Department of Public Works, Engineering Division.** *Kamehameha Avenue Location (Hilo Road Improvements Phase 2 P-3204)*, FB# 354, TMK 2-2-02, 03, 04, 05, 06, April 28, 1996. (L-22242)

**State of Hawai‘i, Department of Land and Natural Resources, Division of Water and Land Development.** *Banyan Drive Realignment*, Job No. 31-HL-19, 1967.

## Power Point Presentations

**Hilo Bay Watershed Advisory Group.** “Securing a Sense of Place at Hilo Bay,” September 13, 2007. Courtesy of Jeff Melrose.

## Websites

**Hawaii Island Economic Development Board:** <http://hiedb.org/>. Information on Heritage Drive guides.

**Hilo Bike/Pedestrian Park-Pathway, Hawaii Island Bike System Advocates:**  
<http://www.bikepaths.org/library/>

### **Outdoor News Daily**

<http://outdoornewsdaily.com/index.php/archives/1872>. Information regarding renovations to the Wailoa River State Recreation Area late 2007-early 2008.

### **State of Hawai'i:**

[http://hawaii.gov/dlnr/dar/regulated\\_areas\\_hawaii.html](http://hawaii.gov/dlnr/dar/regulated_areas_hawaii.html). Information on regulated fishing areas in the project area.

[http://hawaii.gov/dbedt/info/census/poestimate/2008-county-population-hawaii/County\\_Population\\_Facts\\_2008.doc](http://hawaii.gov/dbedt/info/census/poestimate/2008-county-population-hawaii/County_Population_Facts_2008.doc). Information on County of Hawai'i population count.

<http://hawaii.gov/gov/images/Harbors%20Modernization%20Plan%20Fact%20Sheet%2012.18.07.pdf>. Information on the Harbors Modernization Plan.

**Twin City Parks Conservancy Summit:** [http://www.tclf.org/events/minn\\_park\\_summit.htm](http://www.tclf.org/events/minn_park_summit.htm).

**U.S. Army Corps of Engineers:** <http://www.pod.usace.army.mil/Photo%20Gallery/alenaio.html>. Information on Alenaio Stream Flood Control.

**Kauai Path:** <http://www.kauaipath.org/>. Information on the Kauai Path, or Ke Ala Hele Makalae, a 17-mile multi-use path stretching from Lihue to Anahola on Kaua'i.