

SECTION 2 – PROJECT DESCRIPTION

2.1 Plan Context

2.1.1 Location

The project is located in the Līhu‘e District, on the east coast of the Island of Kaua‘i. The project study area is generally defined by Ahukini Point, Nāwiliwili Beach Park, Niumalu Beach Park, and the Līhu‘e Civic Center. The study area is bounded on the north by Ahukini Road, on the south by Nāwiliwili Harbor, on the west by Umi Street and the Līhu‘e Civic Center, and on the east by the Pacific Ocean. Path route alternatives include the following Tax Map Key (TMK) Numbers:

- 3-2-02: 1 & Niumalu Road;
- 3-2-03: Niumalu & Wa‘apā Roads;
- 3-2-04: Wa‘apā Road, 1, 2 & 3;
- 3-2-06: Nāwiliwili Stream;
- 3-2-07: Nāwiliwili Stream;
- 3-3-03: Nāwiliwili Stream;
- 3-5-01: 4, 5, 8, 27, 102, 117, 118,
- 3-5-02: 2;
- 3-6-02: Ka‘ana Street, Hardy Street, Rice Street, Umi Street, 1;
- 3-6-08: Wa‘apā Road, Nāwiliwili Stream; and,
- 3-7-02: Ahukini Road.

2.1.2 Path Corridors

The primary goal of the Nāwiliwili – Ahukini Shared-Use Path Project is to create a dedicated pathway connection between Nāwiliwili Harbor and Ahukini Landing following a coastal path corridor. Between these two primary terminuses, opportunities exist to create a secondary network of on- and off-street path connections between other important destinations and trip generators. Secondary network paths offer potential enhancement to the broader transportation system, but are not a substitute to the coastal path route that is the focus of this project.

Combined, the primary corridor and secondary network connect four key destination points identified as follows:

Primary Project Corridor:

- I Ahukini Landing to Nāwiliwili Beach Park

Secondary Network Corridors:

- II Ahukini Landing to Līhu‘e Civic Center
- III Nāwiliwili Beach Park to Līhu‘e Civic Center
- IV Nāwiliwili Beach Park to Niumalu Beach Park

2.1.3 Path Segments

The primary project corridor and secondary network corridors are further broken down into path segments identified alphabetically. See **Figure 2-1 – Route Alternatives Map**.

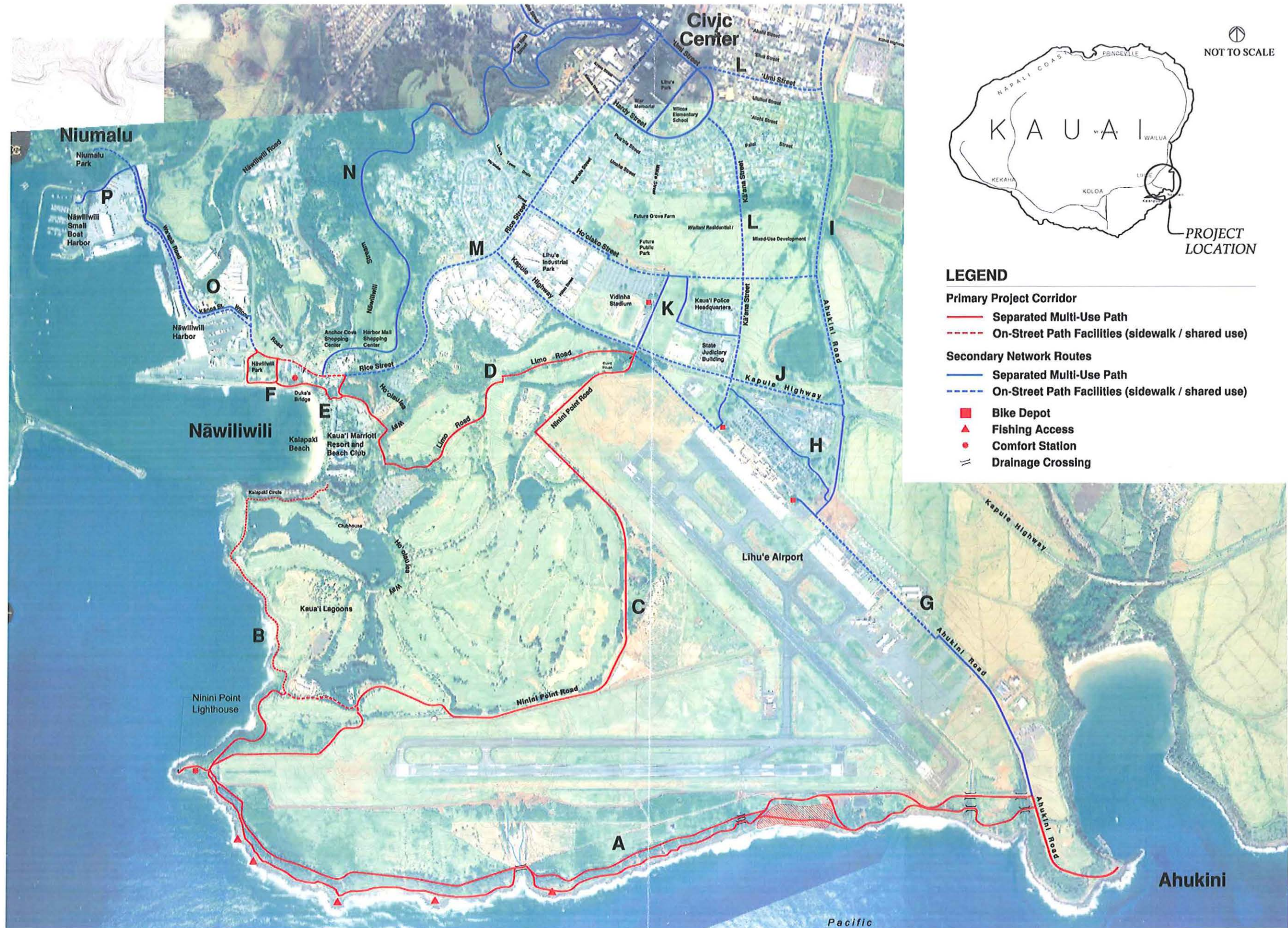
Primary Project Corridor:

- I Ahukini Landing to Nāwiliwili Beach Park
 - A. Ahukini Landing to Ninini Point
 - B. Ninini Point to Kalapakī Beach – Coastal Route
 - C. Ninini Point to Kapule Highway
 - D. Kapule Highway / Ninini Road Intersection to Kaua‘i Marriott
 - E. Kaua‘i Marriott to Nāwiliwili Beach Park
 - F. Nāwiliwili Beach Park Improvements

Secondary Network Corridors:

- II Ahukini Landing to Līhu‘e Civic Center
 - G. Ahukini Landing to Līhu‘e Airport
 - H. Līhu‘e Airport to Kapule Highway
 - I. Ahukini Road – Kapule Highway to Umi Street
 - J. Kapule Highway – Ahukini Road to Ninini Point Road
 - K. Molokoa Public Facility Center
 - L. Līhu‘e Civic Center Connections
- III Nāwiliwili Beach Park to Līhu‘e Civic Center
 - M. Rice Street
 - N. Nāwiliwili Stream Valley
- IV Nāwiliwili Beach Park to Niumalu Beach Park
 - O. Nāwiliwili Beach Park to Niumalu Beach Park (Rice Street to Wilcox Road / Kānoa Street / Wa‘apā Road / Niumalu Road)
 - P. Niumalu Road to Nāwiliwili Small Boat Harbor

Each segment is described by conditions, opportunities, issues, and alternatives. A preferred alternative is recommended for segments where the alignment achieves the County’s vision for the project with minimal related impacts and within reasonable costs.



Nāwiliwili - Ahukini Shared-Use Path
County of Kaua'i
Lihue, Island of Kaua'i, Hawai'i

FIGURE 2-1 - ROUTE ALTERNATIVES

Notes:
(1) Aerial photos not orthographically rectified. Photo of mauka area taken March 28, 2007. Photo of makai area obtained from SOEST based on NOAA/NOS aerial photography by the Pacific Disaster Center mapping program. Image taken between March and July 2000.
(2) Topographic data digitized from 1972 aerial topographic maps by R. M. Towill Corporation.
(3) TMK data from State DEED GIS data set, manually scaled and related to best fit.
(4) Exhibit is for planning and discussion purposes only, not for engineering design.

0 200 400 800 1200 Feet
R. M. Towill Corporation

Path alignment alternatives have been identified through site reconnaissance, meetings with key stakeholders and County officials, and from public comments obtained through two community outreach meetings. In addition, research of existing site conditions including cultural and archeological issues, vegetation and wildlife, soils, topography, land use and coastal processes were also considered when identifying and evaluating the various path alignment alternatives

2.1.4 Design Objectives and Guidelines

The design objective is to connect the destination points described above with a continuous, ADA accessible multi-use path separated from motor vehicle traffic to accommodate safe, two-way bicycle and pedestrian use.

- Wherever possible, the design will consist of a continuous, 10-foot wide, separated concrete path. Path width may be reduced to a minimum of 8 feet if dictated by route conditions. The 10-foot width is the preferred standard for a safe, two-way, shared bicycle/ pedestrian multi-use pathway.
- Along roadways where a separated path cannot be accommodated, sidewalks and bicycle lanes will be used to meet the objective of providing safe, grade-separated access. ADA standards require a minimum sidewalk width of 5-feet to accommodate two-way wheel chair access. This project proposes a minimum width of 6 feet to provide an additional measure of comfort, convenience, and safety. The minimum width for bicycle lanes is 4 feet for one-way traffic.
- Streets with low traffic volumes may be designated as signed shared roadways for bicycle use without the need for striping. A separated path or sidewalk with minimum width of 6 feet will be proposed along such routes for use by pedestrians and children on bicycles.

Path design, including slopes, surfaces, horizontal and vertical geometry, clearances, and safety features, is developed in accordance with the following standards and guidelines:

- American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, 1999
- 36 Code of Federal Regulations (CFR) Part 1195 Architectural Barriers Act (ABA) *Accessibility Guidelines for Outdoor Developed Areas, Proposed Rule*
- *Americans with Disabilities Act Accessibility Guidelines (ADAAG), 1990*

2.2 Path Alternatives

2.2.1 Primary Project Corridor: Ahukini Landing to Nāwiliwili Beach Park

2.2.1.A Segment A – Ahukini Landing to Ninini Point

This approximately 2.6 mile segment connects the boat landing at Ahukini Point with the Coast Guard Lighthouse at Ninini Point. The path corridor goes through undeveloped, former agricultural land located along the coast makai of Līhu'e Airport. A 20-foot wide public access easement and unimproved dirt road provides access to the area with connection to Ahukini Road and Ninini Point Road. See Figure A1, and Photo A1.

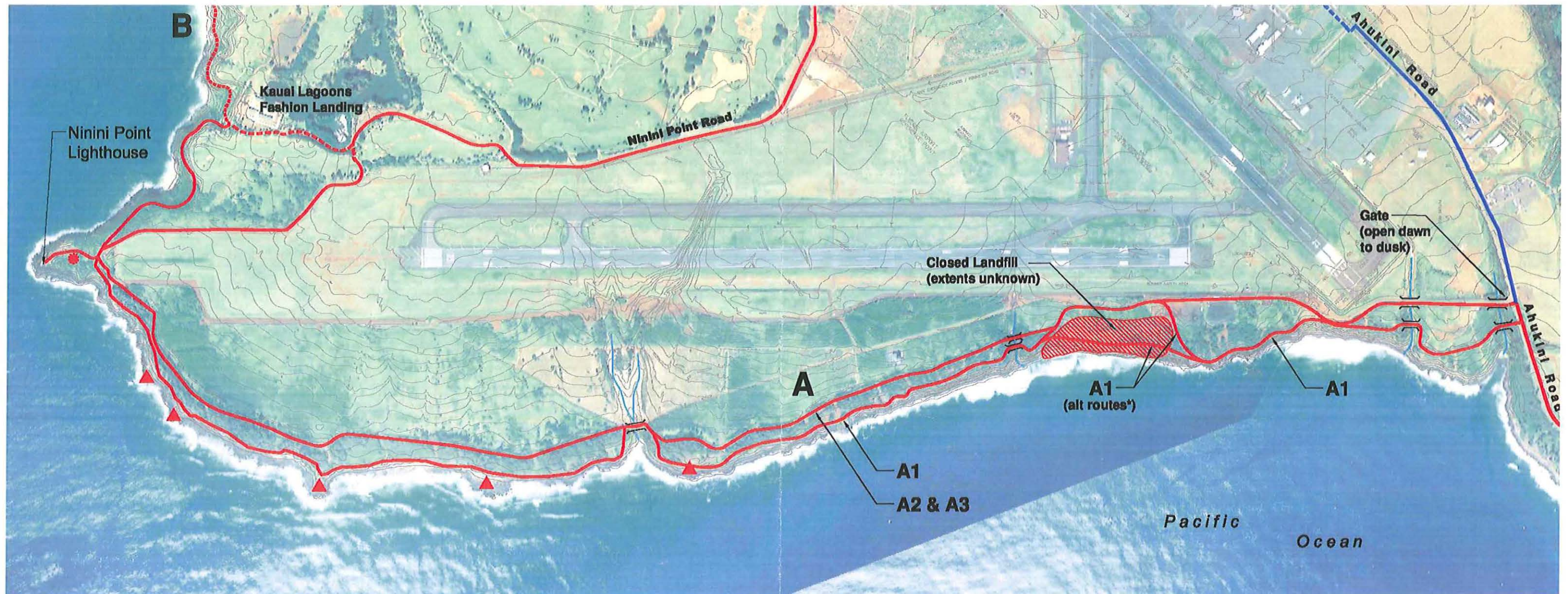


Photo A1 – Existing public access / dirt road through vacant agricultural lands.



Photo A2 - Spur road from public access / dirt road to shoreline fishing site. Erosion on fishing access roads will need to be repaired.

Access to fishing sites at the shoreline is possible by 4WD vehicle via several unimproved spur roads and trails along the dirt road. See Photo A2. Slopes toward the shoreline are steeper in the northern reach of Segment A, with greater incidence of erosion. Proceeding southward, slopes between the road and shoreline flatten out and offer easier access with reduced erosion hazard. Improved ADA access to viewpoints on the shoreline may be considered along the southern portion of Segment A where slopes are more gradual.



LEGEND

Primary Project Corridor:

- Separated Multi-Use Path
- - - - - On-Street Path Facilities (sidewalk / shared use)
- · · · · Pedestrian Accessway

Secondary Network Routes:

- Separated Multi-Use Path
- - - - - On-Street Path Facilities (sidewalk / shared use)

- ≡ Drainage Crossing
- ▲ Fishing Access
- Comfort Station

* **Note:** A Phase 1 Environmental Site Assessment prepared for the project (see appendices) identified a closed landfill on the preferred coastal alignment of alternative route A1. The landfill is under State jurisdiction and is currently the subject of remediation efforts. Until such time as the landfill site is safely contained and stabilized, the preferred path alignment will be routed mauka to completely avoid the site.

Nāwiliwili - Ahukini Shared-Use Path
County of Kaua'i
Lihue, Island of Kauai, Hawaii

FIGURE A-1


 0 400 800 1600 2400 Feet
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Photo A3 – Shared Public Access / Airport Perimeter Road. Ahukini Point is in the background on the right, the north end of Runway 3-21 is on the grassed rise to the left.

Use of the existing dirt access road for the bicycle / pedestrian path has potential for conflict with existing motor vehicle traffic. Bicycle / pedestrian activity should be kept separate from motor vehicle use.

Access to fishing sites along the coast must be maintained. However, motor vehicle access to the edge of the coast should be limited to select locations in order to control erosion caused by ATV's and four wheel drive vehicles. See Photo A2.

The public access easement shares a segment of the Lihū'e Airport perimeter security road at the north-east end of Runway 3-21. This segment of road was recently improved by the State Department of Transportation – Airports Division. See Photo A3.

Four major drainage crossings and numerous smaller crossings will have to be traversed by the bike path. Existing drainage improvements consist of large diameter pipes underneath the existing public access dirt road. New drainage pipe crossings were also installed as part of the recent airport perimeter road project. One of crossings located adjacent to the shoreline is subject to damage from high wave activity as well. See Photo A4.

Where drainage pipes are located, the path design will need to address drainage capacity and safety. Path segments aligned close to the shoreline within the VE zone will have to be designed to withstand wave energy as well as to provide safe crossing over drainage ways.



Photo A4 - Wash out area where a new culvert pipe and safety railings will be required in order to accommodate the path.

<p>Table A</p> <p>SEGMENT A - Ahukini Landing to Ninini Point</p>	
Ownership	Public Access Easement, State DOT-Airports Division, DLNR, Kaua'i Lagoons Resort, Co., U. S. Coast Guard (leased from State)
TMK	(4) 3-5-01: 4, 5, 8, 9, 85, 92, 102, 128, 158, 159, 160
SLUD	Urban, Agriculture, Conservation
County Zoning	Agriculture (AG), Conservation (C), Industrial-General/Special Treatment District (I-G/STP), Open (O)
Current Uses	Current uses include open space, livestock grazing, shoreline fishing, recreational off-road vehicle activity, and construction staging. An inactive landfill is located on the shoreline within Lihu'e International Airport property owned by the State of Hawaii. The State operates several navigational aid facilities. Approximately 138 acres of vacant land is owned by Kaua'i Lagoons and planned for resort condominium development.
Opportunities	<ul style="list-style-type: none"> • Open-space enjoyment: uninterrupted coastal views, undeveloped shoreline, fishing, bird watching, -nature viewing, solitude. • Interpretive Signage: <ul style="list-style-type: none"> - Unique flora and fauna, protected bird species known from the area including nesting colonies of Wedge-tail Shearwater and Nēnē. - Historic and cultural resources: Hawaiian village at Kalapakī, Ninini Heiau and Ahukini Heiau, history of Nāwiliwili Harbor, history of Lihu'e Airport. - Panoramic views of surrounding landmarks and natural features including Ha'upu, Nāwiliwili, and Kalapakī. - Whale watching.
Public Input	<ul style="list-style-type: none"> • Maintain fishing access • Preserve undeveloped character of the path. Do not develop vertical structures (e.g. comfort stations, covered picnic pavilions) along the shoreline. • Consider use of unobtrusive materials for path construction. • Provide doggie bags for disposal of animal waste.
Issues	<ul style="list-style-type: none"> • Flooding & Wave Inundation • Erosion – consider measures such as re-vegetation to mitigate erosion problems. • Landfill Site • Airport Security

A Phase 1 Environmental Site Assessment prepared for the project identified a closed landfill approximately 5 to 10 acres in size along the shoreline of TMK parcel (4) 3-5-001: 008. See **Figure 2-1** and **Appendix C**. Visual inspection of the area reveals a debris field approximately 40 feet deep and extending along the shoreline for a least one quarter mile. Constituent fill materials are unknown, but include metal, concrete, plastic and glass. The landfill site is under State jurisdiction and is currently the subject of remediation efforts by the State Department of Transportation. Adaptive reuse of the landfill site for pathway improvements is desirable and could transform an environmental liability into a public asset. However, until such time as the landfill is safely contained and stabilized, the path alignment will be routed to completely avoid the site.

Where the public access dirt road intersects with Ahukini Road, a path connection to the proposed path segment between Ahukini Landing and Līhu'e Airport Terminal will be required. See **Photo A5**, and **Section 2.2.1.G –Segment G**. A gate at the intersection of Ahukini Road and the coastal access road is open during daylight hours, but locked at night. Public access on the coastline is open 24 hours a day.

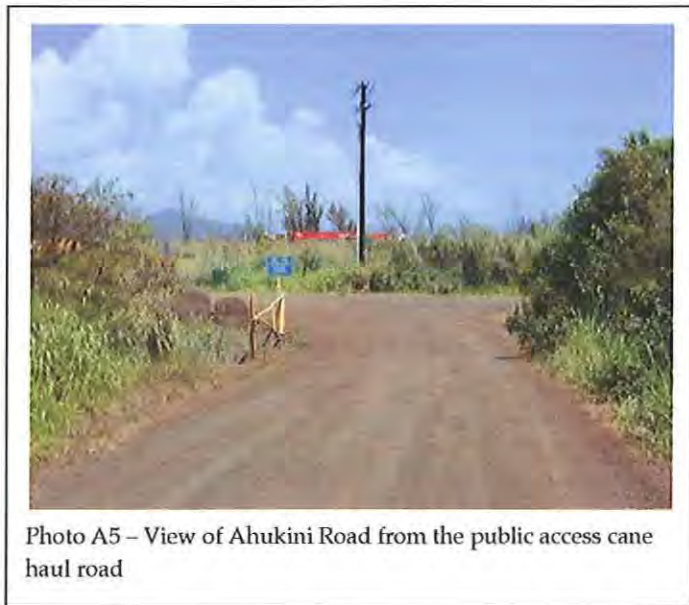


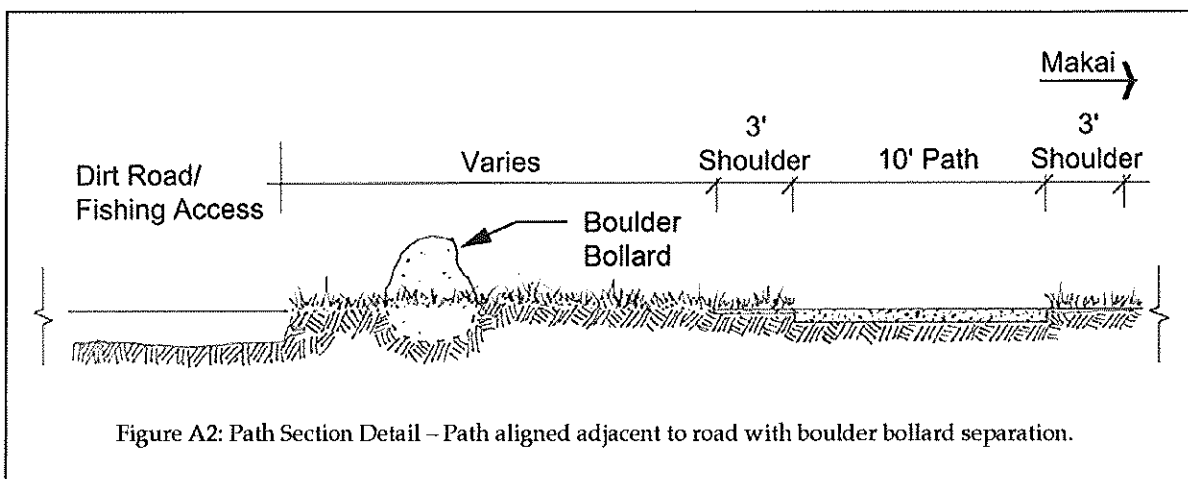
Photo A5 – View of Ahukini Road from the public access cane haul road

Segment A – Preferred Alignment

A1 – Path Aligned Along Shoreline

- Construct 10-foot wide concrete bicycle / pedestrian path as close to the shoreline as is reasonable and feasible to provide best possible view for path users. Note: A closed landfill is located along the preferred coastal alignment of alternative route A1. The landfill is under State jurisdiction and is currently the subject of remediation efforts. Until such time as the landfill site is safely contained and stabilized, the preferred path alignment will be routed mauka to completely avoid the site.
- Color the concrete to blend with the existing soil and landscape conditions.

- Construct path adjacent and parallel to existing dirt road where necessary to avoid physical constraints, i.e. wide drainage crossings, existing refuse landfill, steep grades.
- Provide separation between path and road by means of bollards constructed of boulders, timber, or concrete, or a low fence barrier to prevent motor vehicle access on the concrete path. Bollards will be designed and installed for minimal visual impact in the landscape. See Figure A2.
- Provide access across concrete path at select locations to allow motor vehicle access to fishing spots on shoreline. Install bollards at crossings to prevent motor vehicle access onto the concrete path. Fishing sites that will be accessible to motor vehicles are identified on Figure A1. All other fishing sites along the coast will remain accessible by foot or non-motorized vehicle.
- Construct a comfort station at Ninini Point Lighthouse with men's and women's lavatories, drinking fountain, and lighting. Use photovoltaic power for lighting requirements. Use individual septic system for waste water treatment.
- Develop a paved parking area with space for 10 automobiles.
- Provide interpretive signage at Ninini Point describing:
 - The history of Nāwiliwili Harbor and historic and cultural resources in the vicinity: Hawaiian settlement patterns, Ninini Heiau and Kuhiau Heiau, and development of Lihū'e Airport.
 - The natural history of the area, including surrounding landmarks and natural features (e.g. Ha'upu, Nāwiliwili, and Kalapakī), unique flora and fauna and marine animals, and protected bird species known from the area, (e.g. nesting colonies of Wedge-tail Shearwater and Nēnē);
 - Identify views and points of interest.
- Provide signage as necessary to inform path users about safety, orientation, conservation efforts, user's responsibilities, regulatory restrictions and other relevant information.



Basis for Selection

- The shoreline alignment fulfills the County's vision for a scenic, recreational coastal path. The alignment along the shoreline offers beautiful ocean views and good visual references for path users.
- Construction cost estimates are slightly higher (\$5,949,525) than the alternatives (\$5,522,013) for this route, but are comparable when giving extra consideration toward achieving the best design objective.
- Potential conflicts with motor vehicles are minimized by removing the path away from the road.
- The land at the shoreline is undeveloped and available for use for the pathway. Minimizing the amount of land makai of the pathway improves planning opportunities for mauka lands. A path alignment running further mauka is more likely to become a constraint on future land use plans for the large private parcel owned by Kaua'i Lagoons Resort, Co..

Segment A - Alternatives Considered

A2 – Path Aligned Parallel to Dirt Road

- Construct a 10-foot wide concrete bicycle / pedestrian path adjacent and parallel to the public access dirt road.
- Provide separation between path and road by means of a bollard or low fence barrier to prevent motor vehicle access on the concrete path. See **Figure A2**.
- Provide access across concrete path at select locations to allow motor vehicle access to fishing spots on shoreline. Install bollards at crossings to prevent motor vehicle access onto the concrete path. Fishing sites that will be accessible to motor vehicles are identified on **Figure A1**. All other fishing sites along the coast will remain accessible by foot or non-motorized vehicle.

Reason Not Selected

- Coastal views are blocked by vegetation along much of this alignment. In addition, the visual experience is reduced by the greater distance from the shoreline.
- An improved path running parallel to the road has greater potential for attracting unauthorized motor vehicle use than a path that is further separated or not visible from the dirt road.
- Proximity to motor vehicle traffic on the dirt road has potential to diminish path users' experience due to dust and noise generated on the unimproved road.

- The more mauka alignment of this alternative represents a greater potential constraint for future land planning on the large private lot makai of the airport.

A3 – Paved, Signed Shared Roadway with Separate Pedestrian Path

- Pave the existing public dirt road for shared bicycle and motor vehicle use.
- Construct a new 6-foot wide concrete pedestrian path along the shoreline.
- Provide separation between pedestrian path and road using boulder bollards or similar barrier to prevent motor vehicle access on the path.
- Provide access across the pedestrian path at select locations to allow motor vehicle access to fishing spots on shoreline. Install bollards at crossings to prevent motor vehicle access onto path.

Reason Not Selected

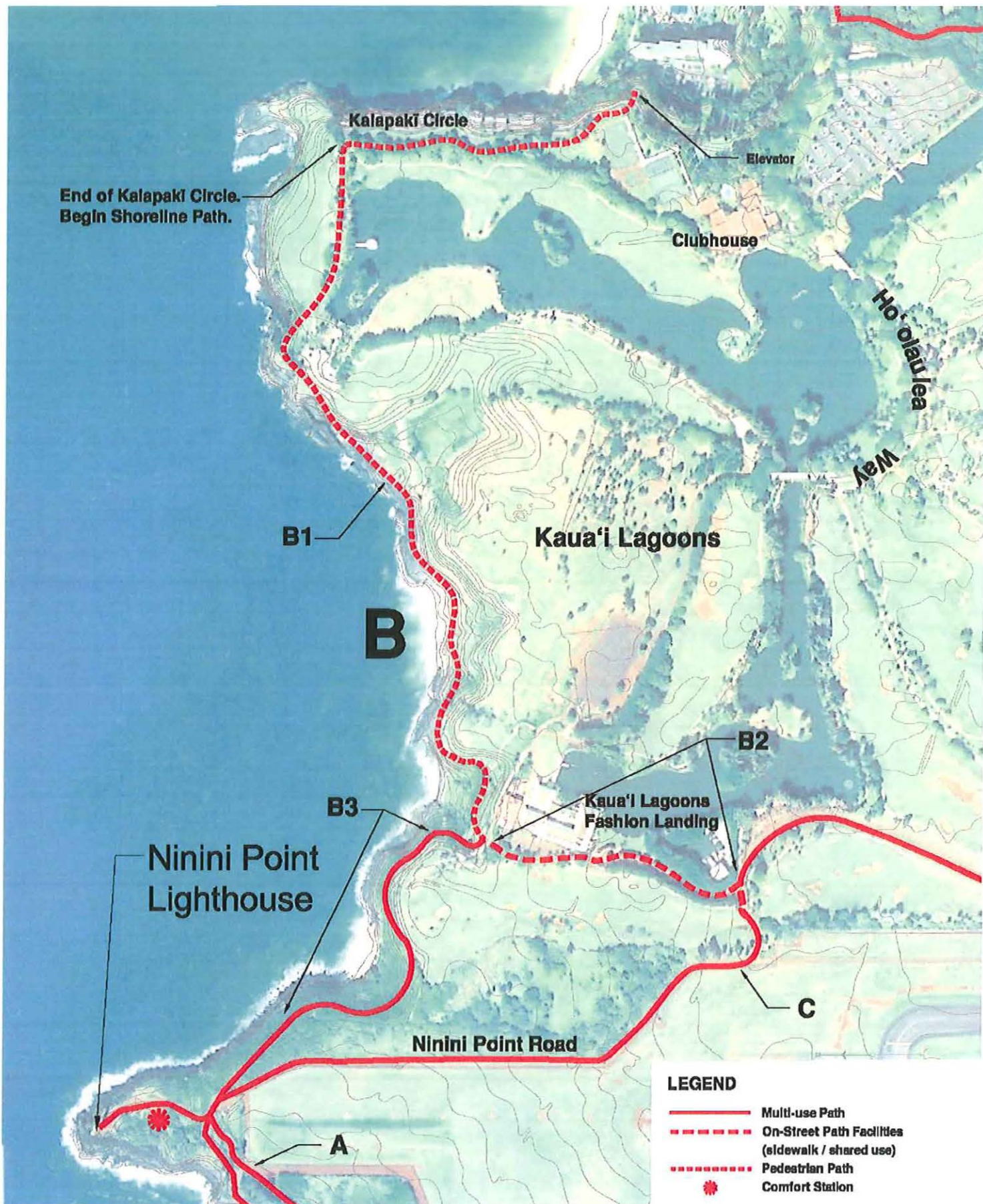
- The cost of constructing a six-foot wide pedestrian path in addition to paving the dirt road for use as a signed shared roadway would exceed the cost of the preferred alternative and would not achieve the best design outcome for bicycle users.

2.2.1.B Segment B - Ninini Point to Kalapakī Beach Coastal Route

The coastal route between Ninini Point and Kalapakī Beach offers beautiful views of Nāwiliwili Harbor and Hokunui and Ha'upu mountains. The route crosses undeveloped airport lands and Kaua'i Lagoons property, including Kiele Golf Course. It offers potential connection to the Kaua'i Lagoons Fashion Landing, currently under renovation, and future resort residential development. Two sandy beaches, Ninini Beach and Running Waters Beach, are accessible from trails down steep coastal bluffs. See Figure B1 and Photo B1.



Photo B1 – Ninini Point Lighthouse.



Nāwiliwili - Ahukini Shared-Use Path
 County of Kaua'i
 Lihu'e, Island of Kaua'i, Hawai'i

FIGURE B-1

Table B SEGMENT B - Ninini Point to Kalapakī Beach Coastal Route	
Ownership	Public Access Easement, Marriott Vacation Club International, Kauaʻi Marriott Resort, State DOT-Airports Division, U. S. Coast Guard (leased from State)
TMK	(4) 3-5-01: 4, 8, 27, 109, 128, 171, 172, 173 (4) 3-5-02: 1, 2, 19
SLUD	Urban, Conservation
County Zoning	Conservation (C), Industrial-General/Special Treatment District (I-G/STP), Open (O), Commercial-General (CG), Resort (RR)
Current Uses	Current uses include open space, golf course, lighthouse, navigation aid, resort residential condominiums, resort commercial, and public beach access.
Opportunities	<ul style="list-style-type: none"> • Open-space enjoyment: uninterrupted coastal views, beach access, fishing, bird watching, -nature viewing, solitude. • Shopping, dining, refreshments at Kauaʻi Lagoons Fashion Landing. • Interpretive Signage: <ul style="list-style-type: none"> - Unique flora and fauna with focus on protected sea birds known from the area. - Historic and cultural resources: Hawaiian village at Kalapakī, Ninini Heiau and Ahukini Heiau, history of Nāwiliwili Harbor.
Public Input	<ul style="list-style-type: none"> • Maintain access to Ninini Beach and Running Waters Beach • Consider use of unobtrusive materials for path construction.
Issues	<ul style="list-style-type: none"> • Avifauna - nesting birds (Newell's Shearwater, Nene) • Golf ball impact • Steep cliffs • Airport Security

Segment B – Preferred Alternatives

B-1 – Pedestrian Path from Kauaʻi Lagoons Fashion Landing Complex to Kalapakī Beach

In accordance with Condition No. 9 of Special Management Area Use Permit SMA (U)-2005-8, Project Development Use Permit U-2005-26, Use Permit U-2005-25, Variance Permit V-2005-7, and Class IV Zoning Permit Z-IV-2005-30 and Condition No. 7 of Zoning Ordinance No. PM-2006-383, Kauaʻi Lagoons Resort is providing public lateral shoreline access and recreational facilities between the end of Kalapakī Circle and Fashion Landing. Improvements will include hard-surface pathways, picnic shelters, outdoor showers and restroom facilities. See **Figure B2 – Public Access Improvements Site Plan**.

Under the terms of the current zoning ordinance, the public lateral shoreline access will begin in the vicinity of the makai end of Kalapakī Circle and will continue eastward, parallel to the shoreline, to the Fashion Landing area. See **Photo B2** and **Photo B3**. The County proposes to extend the public access way from the end of Kalapakī Circle to the elevator at Kalapakī beach to complete the public pedestrian connection between Kalapakī Beach and Ninini Point. See **Photo B4**.



Photo B2 – View from Fashion Landing of future path route along Coastal Bluff at Kiele Golf Course.

Planned improvements are as follows

- From Kalapakī Circle, the public lateral shoreline access will traverse approximately 1,400 linear feet (lf) eastward, up to the State Conservation District boundary within the project site. See **Figure 6-2: State Land Use Districts**. From this point, the shoreline access will continue for approximately 1,150 lf through State Conservation District land, including areas makai of the certified shoreline. The segment of the shoreline access located within the State Conservation District will remain unimproved and in its existing natural state. The shoreline access will then exit the State Conservation District and continue eastward for approximately 460 lf where it will end at Fashion Landing.
- Improved path segments are described as follows: From the makai end of Kalapakī Circle, the first 700 lf segment of the public access will be located along an existing 16-foot wide paved road. The public access will then continue for approximately 600 lf as a 10-foot wide concrete path to be shared with golf cart access. The final 100 lf segment leading up to the State Conservation District will be a 6-foot wide concrete foot



Photo B3 – Original buildings at Kaua'i Lagoons Fashion Landing, currently under renovation.

path. Upon exiting the Conservation District to the east, the remaining 460 lf path segment to Fashion Landing will be a 6-foot wide foot path constructed of a hardscape surface, such as concrete pavement, grasscrete or other similar material.

- Within the State Conservation District, the public accessway will remain in its existing natural state and will not be improved. In accordance with Hawaii State Law, all lands makai of the certified shoreline are public trust assets. Public access to and through the shoreline and ocean is a right preserved in the State Constitution for the citizens of Hawaii.



Photo B4 – Elevator to Kalapaki Beach located on Kalapaki Circle.

- A public recreation/picnic shelter, shower and restroom facility will be located mauka of the public lateral shoreline access. Pedestrian access to this facility from the shoreline will be provided from unimproved paths.
- A second public recreation/picnic shelter and shower facility will be located further to the east, mauka of the public shoreline access, near Running Waters Beach. A railing or similar safety barrier will be provided along the makai side of the recreation/picnic shelter for safety purposes. Pedestrian access to this facility will be from the hardscape lateral access path.
- A public restroom and shower facility will be provided at the former Fashion Landing commercial area, beneath a new restaurant that will be located at the former Whaler's Cove restaurant site.

Basis for Selection

- This segment of coastal pedestrian path is being developed by Kaua'i Lagoons Resort in cooperation with the County of Kaua'i. Development costs will be borne by the private property owner, while the public will enjoy improved access and amenities along the coast.

B-2 – Pedestrian Connection from Ninini Road (Path Segment C) to Kauaʻi Lagoons Fashion Landing Complex.

- Construct a minimum 6-foot wide pedestrian path connection from the 10-foot wide bicycle / pedestrian path segment on Ninini Road (Path Segment C) to Fashion Landing.
- Designate the driveway from Ninini Road to the Fashion Landing / Public Beach Access parking lot as a signed shared roadway for bicycle use. See Photo B5.
- Provide bicycle parking area with racks at Fashion Landing.



Photo B5 – Driveway entrance to Fashion Landing (on right) from Ninini Road. Ninini road continues toward the left and ends at the unimproved airport perimeter road.

Basis for Selection

- These improvements are required to create the connection between the County's Bicycle / Pedestrian Path system and the coastal pedestrian path being developed by Kauaʻi Lagoons Resort.

Segment B – Alternatives Considered

B-3 – Coastal Connection from Ninini Point to Kauaʻi Lagoons Fashion Landing Complex

- Construct a 10-foot wide bicycle / pedestrian path along the edge of the coastal bluff between Ninini Point and the start of Kauaʻi Lagoons coastal pedestrian path.
- Provide safety features, including guard rail along edge of bluff, and overhead screen to protect path users from golf balls.

Reason Not Selected

- This alignment traverses a coastal bluff area that is a known nesting site for the Wedge-tailed Shearwater, or 'Ua'u kani, (*Puffinus pacificus*). Wedge-tailed Shearwaters are protected under the federal Migratory Bird Treaty Act.
- This alignment is located within the golf ball impact zone at the end of Kiele Golf Course Fairway 5 which creates potential hazard for pathway users.

2.2.1.C Segment C - Ninini Point to Kapule Highway

Ninini Road serves as a perimeter road around the south boundary of Lihū'e Airport, providing access between Ninini Point Lighthouse and Kapule Highway. See **Figure 2-1**. It consists of improved and unimproved segments. The unimproved segment is a graded, gravel road with drainage improvements. See **Photo C1**. The improved segment has a 20-foot wide paved section, no curb and gutter, wide shoulders and grassed drainage swale. Utility power poles are installed on the Kaua'i Lagoons side of the alignment. See **Photo C2**.



Photo C1 – Airport Perimeter Road (Ninini Road continuation), owned by the State DOT - Airports Division.

The improved road segment is identified as part of Kaua'i Lagoons Resort's recreational path system and is used by local residents and visitors for bicycling, jogging, and walking. Ninini Road provides public motor vehicle access to Ninini Point Lighthouse and the undeveloped land makai of the airport. The road receives minimal vehicular traffic, however over the next 5 to 10 years it will be used as a primary construction vehicle access for development activities at Kaua'i Lagoons.



Photo C2 – Ninini Road looking makai. The airport property is on the left, Kaua'i Lagoons' Mokihana Golf Course is on the right.

<p style="text-align: center;">Table C SEGMENT C - Ninini Point to Kapule Highway</p>	
Ownership	Public Access Easement, Marriott Vacation Club International, State DOT-Airports Division
TMK	(4) 3-5-01: 4, 6, 8, 27, 109, 128, 167, 168, 173,
SLUD	Urban, Agriculture, Conservation
County Zoning	Agriculture (AG), Conservation (C), Commercial-General (CG), Industrial-General (IG), Industrial-General/Special Treatment District (I-G/STP), Open (O)
Current Uses	Current uses include open space, resort recreational path, golf course, airport uses,
Opportunities	<ul style="list-style-type: none"> • Open-space enjoyment: uninterrupted coastal views, bird watching, nature viewing, • Interpretive and Regulatory Signage: <ul style="list-style-type: none"> - Scientific and regulatory information on unique flora and fauna with focus on protected sea birds known from the area. - History of Lihū'e Airport.
Public Input	<ul style="list-style-type: none"> • Maintain access to Ninini Beach and Running Waters Beach • Consider use of unobtrusive materials for path construction.
Issues	<ul style="list-style-type: none"> • Avifauna - nesting birds (Newell's Shearwater, Nene) • Golf ball Impact • Airport Security • Construction Traffic • Impacts to Kaua'i Lagoons landscaping.

Segment C – Preferred Alternative

C-1– 10-foot Bicycle / Pedestrian Path Adjacent to Ninini Road

- Construct a 10-foot wide concrete bicycle / pedestrian path adjacent to Ninini Road on the Kaua'i Lagoons side (makai side) from the intersection at Kapule Highway to Ninini Point Lighthouse. Locate the path outside of the alignment of the utility poles. See Photo C2 and C3 and Figure 2-1.
- Construct retaining walls in the adjacent landscape berms along Ninini Road as necessary to accommodate the 10-foot wide path.

Basis for Selection

- The 10-foot wide path is preferred in order to separate bicycle and pedestrian use from motor vehicle traffic on Ninini Road. Although current traffic levels on Ninini Road are low, the planned use of the road for public access to the shoreline and commercial center at Kaua'i Lagoons' Fashion Landing will result in increased motor vehicle activity on the road. In addition, Ninini Road will be used by construction vehicles throughout the redevelopment of the Kaua'i Lagoons property.



Photo C3 – Guardhouse at Ninini Road intersection with Kapule Highway.

- Estimated construction costs to develop a 10-foot wide path (\$2,886,500) are not significantly higher than the 6-foot sidewalk alternative (\$2,406,375) in light of providing a safer path facility.

Segment C - Alternatives Considered

C-2– Signed, Shared Ninini Point Roadway With Separate Pedestrian Sidewalk

- Designate Ninini Point Road from Kapule Highway to the end of the improved road as a signed shared roadway for bicycle access. Install signage as necessary.
- Construct a separated 6-foot wide pedestrian sidewalk adjacent to the road on the Kaua'i Lagoons side. Locate the path outside of the alignment of the utility poles. See Figure C1.
- Construct a 10-foot wide bicycle / pedestrian path alongside the airport perimeter road from the end of the improved road to Ninini Point Lighthouse

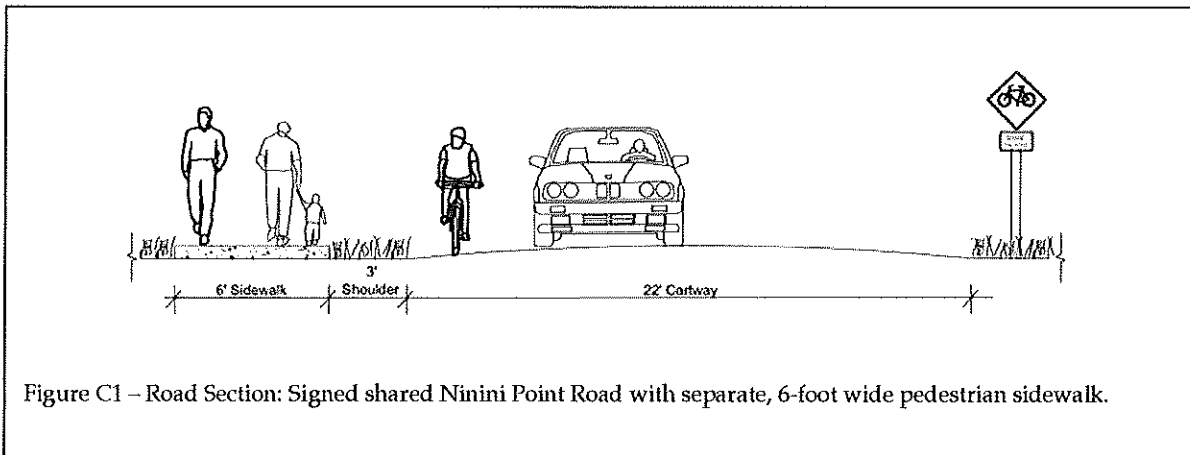


Figure C1 – Road Section: Signed shared Ninini Point Road with separate, 6-foot wide pedestrian sidewalk.

Reason Not Selected

- This alternative would require less grading and retention, and therefore less cost, than the preferred alternative and would meet the project design objectives, however it would require bicycle users to share Ninini Road with motor vehicle traffic and therefore is considered less desirable than the preferred alternative.
- While motor vehicle traffic activity on Ninini Road remains low, the signed shared roadway alternative is a viable option. If engineering constraints become apparent during the design phase of the 10-foot pathway, this alternative will be considered.

2.2.1.D Segment D – Kapule Highway / Ninini Road Intersection to Kaua'i Marriott

From the Ninini Road Intersection on Kapule Highway, there are two existing roadway routes to Nāwiliwili Beach Park: Rice Street and Limo Road.

Rice Street intersects the south terminus of Kapule Highway in a T-intersection and serves as the primary roadway to Nāwiliwili Beach Park and Harbor. Rice Street is designated as a Bicycle Route in the State of Hawaii Bike Plan. Grades on Rice Street between Kapule Highway and Nāwiliwili Beach Park exceed maximum slope criteria established for the path (maximum 5% slope without resting intervals, per 36 CFR Part 1195, Accessibility Guidelines for Outdoor Developed Areas). Shoulders are very narrow and are constrained on one side by a vertical cut bank, and on the other by a steep drop-off into Nāwiliwili Stream Valley. In some sections, bicyclists are forced into the traffic lane. For these reasons, this alternative was rejected. See Photo D1 and discussion below in Section 2.2.1.L – Segment L.



Photo D1 – Rice Street to Nāwiliwili has steep grades and lack of shoulder space for bicycle lanes and pedestrian sidewalks.

Limo Road is a 20-foot wide private paved roadway that connects the airport to Kaua'i Lagoons / Kaua'i Marriott property and is used to shuttle arriving guests directly to their accommodations. Limo Road passes through Kaua'i Lagoons' Mokihana Golf Course. It is designated as part of the resort's recreational path system. See Figure D1 and Photo D2 and D3.



Photo D2 – Limo Road through Mokihana Golf Course looking north-west. Path alignment is proposed on the right side through this segment. Future residential development is proposed on the left.

Limo Road is being developed to serve as the primary entrance into the resort property. Improvements include signaling the intersection of Kapule Highway and Ninini Road and construction of a traffic circle at the Ninini Road / Limo Road connection. The Limo Road pavement section is to be widened to 24-feet, and straightened through selected segments. Existing, mature monkeypod trees lining the road will be preserved wherever possible.

<p>Table D</p> <p>SEGMENT D - Kapule Highway / Ninini Road Intersection to Kaua'i Marriott</p>	
Ownership	Public Access Easement, Marriott Vacation Club International, Kaua'i Marriott Resort, State DOT-Highways Division (intersection improvements)
TMK	(4) 3-5-01: 01, 27 (4) 3-5-02: 02
SLUD	Urban
County Zoning	Agriculture (AG), Open (O), Resort (RR)
Current Uses	Kaua'i Lagoons' Mokihana Golf Course, resort recreational path, motor vehicle road between the airport and Kaua'i Marriott Resort.
Opportunities	<ul style="list-style-type: none"> • Best accessible route between Kapule Highway and Nāwiliwili. • Ties into the resort's existing recreational path system. • Connect the resort to the 16-mile coastal bike path for use by employees and guests.
Public Input	<ul style="list-style-type: none"> • No comments specific to this segment.
Issues	<ul style="list-style-type: none"> • Path appearance within resort grounds • Future path maintenance • Golf ball Impact • Use of road as primary resort entrance.

Segment D – Preferred Alternative

D-1 – Path Adjacent to Limo Road

- Construct a 10-foot wide concrete bicycle / pedestrian path adjacent to Limo Road between Ninini Road and Hoolaulea Way. The path will be located on the west side of the road adjacent to Mokihana Golf Course Holes 3 and 4. It will cross Limo Road to the east side adjacent to Mokihana Golf Course Holes 7 and 8. The path will join the cross golf cart path near the realigned Hole 5 tee box and cross again to the west side of Limo Road prior to the intersection with Hoolaulea Way.
- Locate the path outside of the monkeypod trees lining the road.
- Construct retaining walls as necessary to hold back cut conditions. Install boulder bollards, guard rails or other types of safety barriers at the top of retaining walls.

- Provide traffic calming features at road crossings.
- Where the bicycle / pedestrian path joins the golf cart path, increase the path width from 10 feet to 14 feet.
- Provide screening on path segments adjacent to the golf course to provide protection from golf balls.

Basis for Selection

- Limo Road is being developed by Kaua'i Lagoons Resort, Co. to serve as the primary entrance to the resort property. The resulting increase in motor vehicle traffic raises a safety concern for sharing the road with bicycle or pedestrian traffic. A separated, 10-foot wide path will provide safe access for path users.

Segment D - Alternatives Considered

D-2 – Signed, Shared Limo Road with Adjacent Pedestrian Sidewalk

- Construct a 6-foot wide concrete pedestrian path adjacent to Limo Road between Ninini Road and Hoolaulea Way.
- Designate Limo Road as a signed shared roadway for bicycles.

Reason Not Selected

- Anticipated increase in motor vehicle traffic on Limo Road makes it less safe as a signed shared roadway for bicycle use.

2.2.1.E Segment E – Kaua‘i Marriott to Nāwiliwili Beach Park

Segment E connects Limo Road, at its intersection with Hoolaulea Way (see Photo E1) to Nāwiliwili Beach Park via the Kaua‘i Marriott Resort property. This path segment provides an essential link for achieving ADA compliant pathway grades between low-lying Nāwiliwili Harbor and the higher elevations of Līhu‘e town on the Kalapakī plateau. The path would benefit employees at the hotel and the harbor with a safe transportation alternative to motor vehicles and the existing bicycle route along Rice Street. It would serve the public with a continuous connection to parks, commercial centers, and other points of interest along the coast.



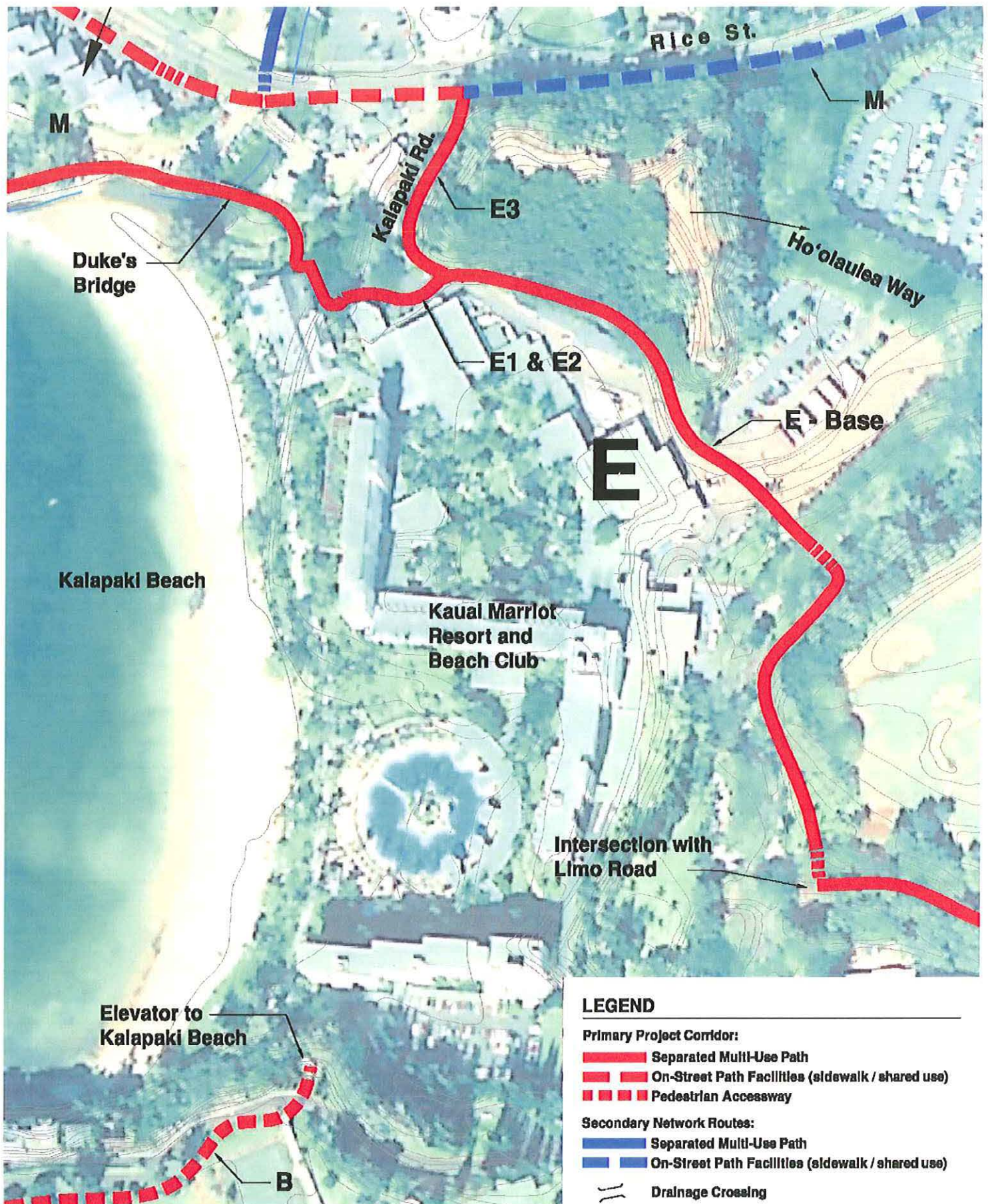
Photo E1 – Entrance to Limo Road from Hoolaulea Way.

The path would also serve as a recreational amenity for local residents and visitors and offer walkers and joggers who currently use the road with a safe, grade-separated access way. The resort environment includes generous landscape areas capable of accommodating the proposed path. Design treatments must address steep topography, traffic, drainage, and aesthetic considerations. See Figure E1.

From the intersection of Limo Road and Hoolaulea Way, a 10-foot wide concrete path is proposed within the landscape area on the north side of Hoolaulea Way. See Photo E2. The path will cross Hoolaulea Way at the parking lot entrance nearest to the Marriott maintenance road. The path will be aligned generally parallel to the maintenance road but will be located within the slope behind the Marriott’s maintenance warehouse buildings See Figure E2. The path will continue in the slope until it intersects with Kalapakī Road. Three alternatives for continuing the path were considered.



Photo E2 – Ho‘olaulea Way Landscape area proposed for path alignment.

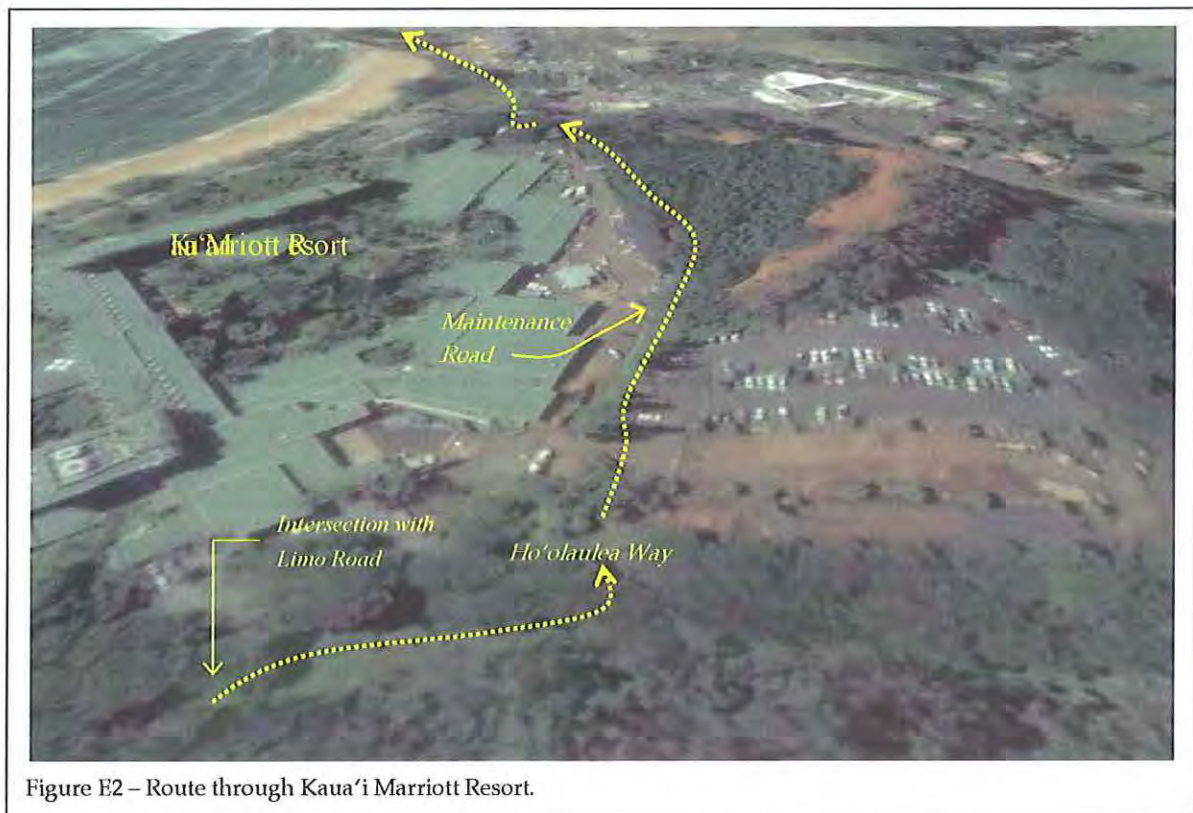


Nāwiliwili - Ahukini Shared-Use Path
 County of Kaua'i
 Lihu'e, Island of Kaua'i, Hawai'i

FIGURE E-1



R. M. Towill Corporation



Segment E – Preferred Alternative

E-1 – Kalapakī Road – Ramp Connection

- Grade the 10-foot wide path aligned behind the Marriott maintenance buildings to intersect Kalapakī Road at elevation 30 feet above mean sea level (msl).
- Create an at-grade crossing on Kalapakī Road with signage, striping and other traffic calming features as necessary.
- Construct a ramp utilizing keystone or similar retaining walls with compacted earth fill to connect the Kalapakī Road crossing to match the grade on the existing pedestrian path leading to Duke's Bridge at elevation 5.0 above msl. Ramp slope criteria is as follows:
 - Max 5% slope = 585-foot run
 - Max. 8.33% slope = 350-foot run with 1 flat resting area at a minimum 200-foot interval.
 - Max 10% slope = 295-foot run with 10 flat rest areas at a minimum 30-foot interval
 - Max 12.5% slope = 235' run with 24 flat rest areas at a minimum of 10-foot intervals
- Align the ramp to minimize visual impacts to adjacent properties.

Basis for Selection

- The estimated construction cost estimate for this alternative (\$1,406,105) is considerably lower than the tunnel connection alternative (\$2,977,178).
- The ramp alternative allows for a continuous, separated path connection to Nāwiliwili Beach Park, while the at-grade path to Rice Street requires connection along a busy roadway with multiple driveway intersection crossings.

<p style="text-align: center;">Table E SEGMENT E - Kauaʻi Marriott to Nāwiliwili Beach Park</p>	
Ownership	Kauaʻi Marriott Resort, County of Kauaʻi, Private residents at Nāwiliwili, State of Hawaii
TMK	(4) 3-2-04: 01, 03, 05, 47 (4) 3-5-01: 01 (4) 3-5-02: 02
SLUD	Urban
County Zoning	Open (O), Resort (RR), Commercial – Neighborhood (C-N)
Current Uses	Kauaʻi Marriott Resort and Beach Club, commercial uses – restaurants, tavern, public recreation, pedestrian path, residential
Opportunities	<ul style="list-style-type: none"> • Achieve ADA compliant pathway grades. • Provide an alternative to motor vehicle transport for workforce transportation. • Best access between Kauaʻi Marriott and the beach park. • Integrate with the existing resort recreational path system.
Public Input	No comments received for this segment.
Issues	<ul style="list-style-type: none"> • Path appearance within resort grounds • Steep Grades • Potential conflicts with private residents, resort maintenance vehicles and operations. • Existing utilities and infrastructure.

Segment E - Alternatives Considered

E-2 – Kalapakī Road – Tunnel Connection

- Construct a tunnel beneath Kalapakī Road to connect the 10-foot wide path to the existing pedestrian path leading to Duke’s Bridge.
- Grade the 10-foot wide path behind the Marriott maintenance buildings to achieve a tunnel invert at least 16 feet below the high point on Kalapakī Road.
- Relocate existing utilities, including 2 water mains, 2 gas mains, and 1 sewer force main, and a propane gas tank and meter, to accommodate the tunnel.
- Reconstruct the existing retaining wall to accommodate the tunnel.
- Provide landscape screening between the path and adjacent residences.

Reason Not Selected

- High estimated construction costs: \$2,977,178 vs. \$1,406,105 for the preferred alternative.
- Requires relocation of 2 water lines, 2 gas lines and meter, and a sewer force main.
- Requires penetration and reconstruction of an existing retaining wall.

E-3 – Kalapakī Road – At-grade Path to Rice Street

- Grade the 10-foot wide path behind the Marriott maintenance buildings to achieve a finish elevation at least 5 feet below the high point on Kalapakī Road. Align the path parallel to the north edge of Kalapakī Road and continue to intersection with Rice Street.
- Construct retaining wall with guardrail to retain grade difference between the path and Kalapakī Road.
- Provide traffic calming features at intersection of Kalapakī Road and Rice Street (striping, signage, signal light, bulb-outs, table hump)
- Connect path to sidewalk along makai side of Rice Street.

Reason Not Selected

- This alternative directs bicycle / pedestrian traffic to a busy intersection at Rice Street and Kalapakī Street, thus creating a safety concern and creating a break in the path.
- Motor vehicle activity and limited space in and out of the driveway serving Nāwiliwili Tavern and Dukes Canoe Club parking precludes use of this route for the bike path and would require continuation of the pathway along Rice Street. Traffic calming measures would be required at all driveway crossings.

2.2.1.F Segment F – Nāwiliwili Beach Park Improvements

Nāwiliwili Beach Park is a natural point of convergence in the Nāwiliwili / Kalapakī area and a valuable public resource. However, due to deteriorating infrastructure and a lack of amenities, the park's potential to provide Kaua'i residents and visitors with an active and attractive recreational space is unrealized. The Lihu'e community has sought to remedy this through several community-based master planning efforts. The most recent of which was conducted in 1995 and updated in 1999. The master plan was never formally adopted by the community or the County, however it does represent community priorities for park improvements.

The Goals and Objectives of the 1995 Master Plan include the following:

- Reflect the unique character of the park's waterfront setting.
- Expand recreation opportunities for both residents and visitors of all ages and abilities.
- Preserve, protect and enhance the cultural and environmental aspects of the site.
- Provide a safe and accessible environment for all people.
- Provide a setting for a diverse group of people to make use of the park.
- Improve parking and pedestrian and vehicular circulation within the park.

The 1999 Nāwiliwili Park Master Plan serves as a guide for proposed improvements under the current bicycle / pedestrian path project. Development of the bicycle / pedestrian path facilities will directly address two of the stated goals of providing a safe and accessible environment, and improving parking, and pedestrian and vehicular circulation within the park. See **Figure F1 – Nāwiliwili Beach Park Master Plan**.

Segment F – Preferred Alternative

F-1 – Adopt Master Plan Improvements Related to Pathways

- Construct a 10-foot wide concrete path from the crossing at "Duke's Bridge", along the makai edge of the existing parking lot to Pine Tree Inn, then along the mauka boundary of Pine Tree Inn to continue along the improved breakwater path described below.
- Repair the existing seawall and construct a new 12 to 15-foot wide rock and concrete fill breakwater buffer. Construct a new, seat-wall along the mauka edge of the breakwater buffer, and a new 10-foot wide concrete bicycle / pedestrian path. Provide pedestrian cross-walks through the parking lot to connect with the Nāwiliwili Park.

Table F
SEGMENT F – Nāwiliwili Beach Park

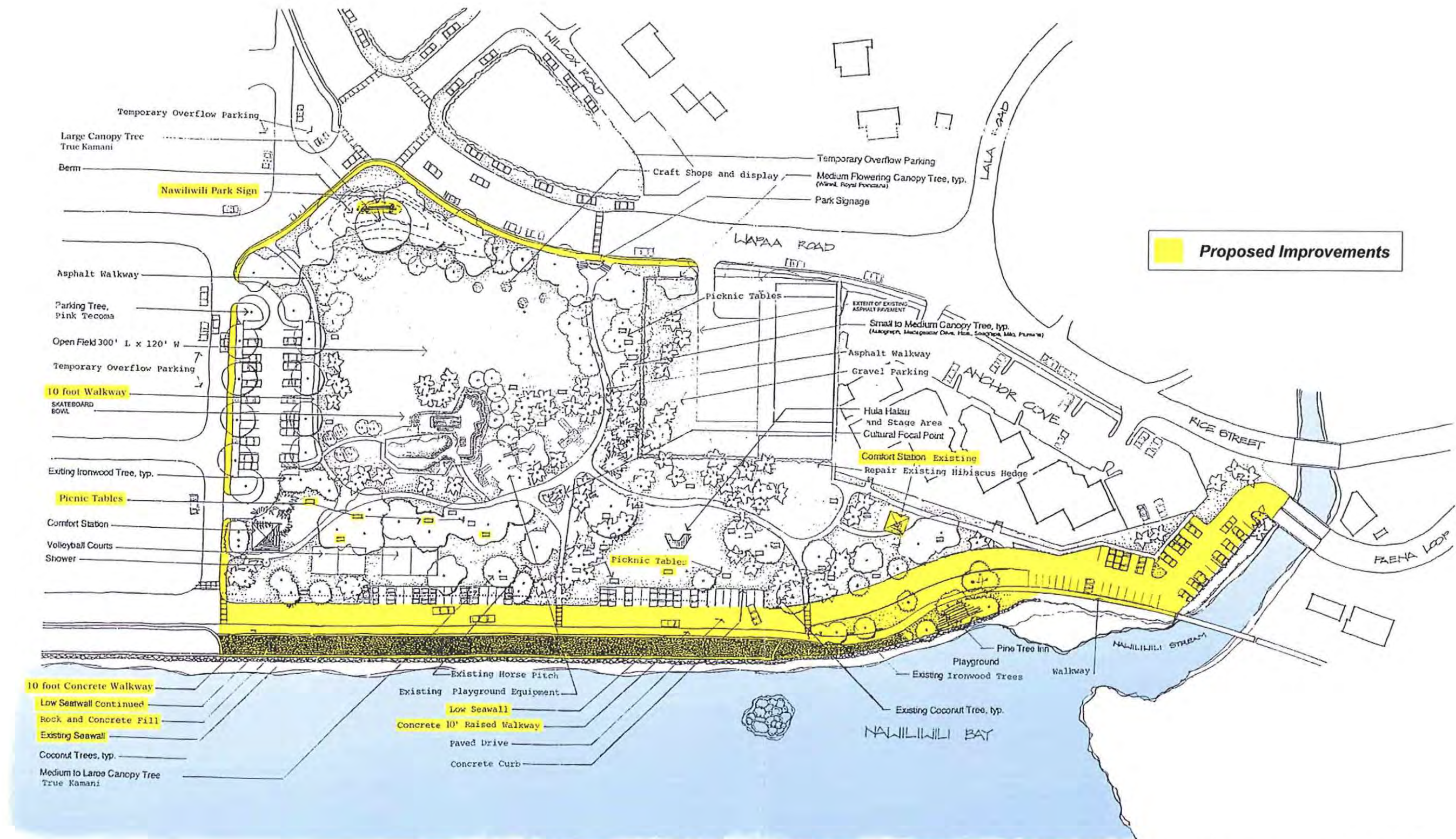
Ownership	County of Kauaʻi, State of Hawaii
TMK	3-2-04: 1, 2, 3, 5, and 47
SLUD	Urban
County Zoning	Commercial-Neighborhood (C-N), Open (O), Industrial-General (I-G)
Current Uses	Public Beach Park, surfing, swimming, paddling, surfboard rental, canoe hale, restaurants, commercial and retail activities.
Opportunities	<ul style="list-style-type: none"> • Utilize previous community-based master planning efforts. • Enhance the park’s unrealized potential as an active and attractive public recreational resource. • Interpretive Signage: <ul style="list-style-type: none"> - Historical and cultural resources, including Paukini Rock Mokuweo Rock, the streams of Nāwiliwili , and history of Nāwiliwili Harbor from pre-contact, through sandalwood trade, mahele, and plantation era.. - Panoramic views of the bay identifying Ninini, Kalapakī, Haʻupu and other landmarks and natural features.
Public Input	<p>The park is not safe.</p> <p>Long-standing support for park improvements</p> <p>Preserve the cultural aspects of the park.</p> <p>Preserve Pine Tree Inn</p> <p>Use the 1999 Master Plan as a guide</p>
Issues	<ul style="list-style-type: none"> • Existing, unpermitted uses. • Flood zone / wave hazard

- Construct a 10-foot wide concrete path along the south and west edges of the park.
- Realign, repave and restripe the shoreline driveway and parking area for two-way vehicle traffic as shown in the master plan.
- Replace the existing comfort station (constructed in 1965) with a new comfort station. See **Photo F1** and **Figure F1**.

Install an information kiosk,



Photo F1 – Existing Comfort Station.



NAWILIWILI WATERFRONT PARK MASTER PLAN

HAWAII CHAPTER OF AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS/COUNTY OF KAUAI

REVISED 3-16-99

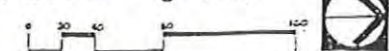


FIGURE F

- consisting of a pathway map, important information about Kaua’i and path/park rules and regulations on the southwest corner of the park. See Photo F2.
- Install up to five individual covered picnic tables along the makai edge of the park. See Figure F3.
- Install two covered pavilions inside the park and accessible to the path. The larger covered picnic pavilions should be able to accommodate up to 30 people each.

Additional Nāwiliwili Beach Park Master Plan improvements will be undertaken under a separate project in the future.

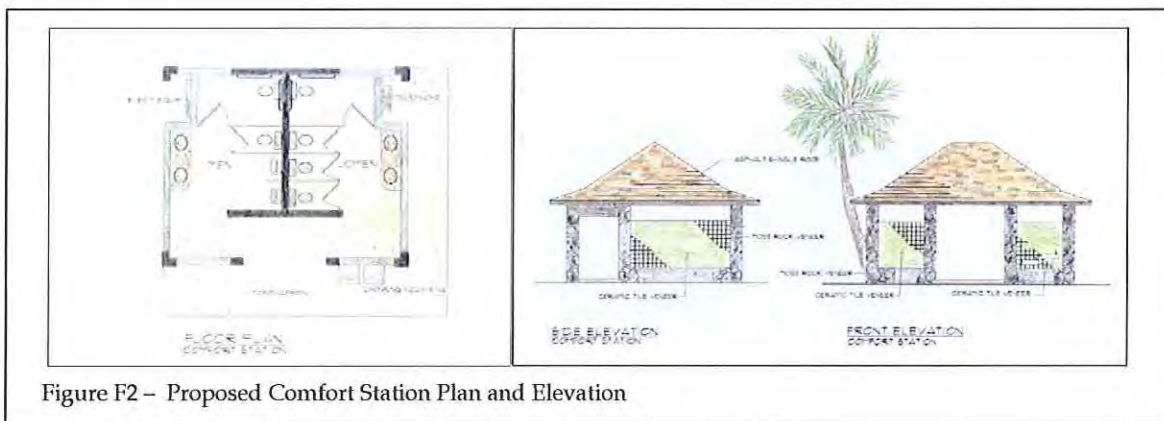


Figure F2 – Proposed Comfort Station Plan and Elevation

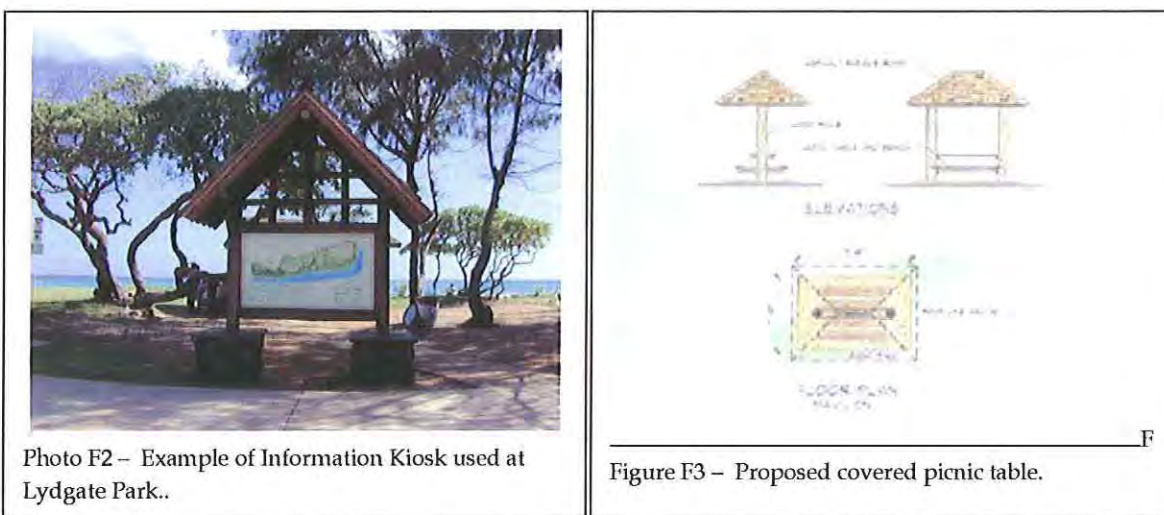


Photo F2 – Example of Information Kiosk used at Lydgate Park..

Figure F3 – Proposed covered picnic table.

2.2.2 Secondary Network Corridors:

Corridor II – Ahukini Landing to Līhu‘e Civic Center

2.2.2.G Segment G - Ahukini Landing to Līhu‘e Airport

The path connection to Līhu‘e Airport completes an important multi-modal transportation link for people who want to use alternatives to motorized vehicles for their commute to work at the airport or as the first leg of an inter-island commute. This path segment continues from the Ahukini Landing comfort station, the terminus of Phase V of the Kaua‘i Bike Path Project: Lydgate Park to Ahukini, and follows Ahukini Road to the Līhu‘e Airport terminal. See **Figure 2-1** and **Figure H1**.



Photo G1 – Ahukini Road looking south toward the airport. The blue truck is parked on the public access road that will be used for the path.

The Ahukini Road corridor transitions from undeveloped agricultural lands to airport – industrial development with urban street improvements. See **Photos G1** and **G2**. The road gets light to moderate traffic and carries most of the vehicles destined for the lands makai of the airport described in Segment A above.

Segment G ends at a proposed bike depot at the north end of the airport terminal. See **Photo G3**. One of the key determinants that influence potential riders to choose bicycle transportation is the presence of end of ride facilities, such as bike lockers, changing rooms, and shower facilities. The proposed bike depot is a minimum-level facility provided to encourage bicycle use. Additional facilities may be added later subject to demand.



Photo G2 – Ahukini Road approach to the airport terminal looking north from vicinity of proposed bike depot.

<p style="text-align: center;">Table G SEGMENT G- Ahukini Landing to Līhu‘e Airport</p>	
Ownership	Public Access Easement, County of Kaua‘i, State DOT-Airports Division, DLNR, University of Hawaii, Visionary, LLC dba Līhu‘e Land Company,
TMK	(4) 3-5-01: 8, 85, 92, 158, 159, 160 (4) 3-7-02: 01
SLUD	Urban, Agriculture, Conservation
County Zoning	Agriculture (AG), Conservation (C), Industrial-General (I-G), Industrial-General/Special Treatment District (I-G/STP), Open (O)
Current Uses	Open Space, Airport Operations, Helicopter Operations, Air Cargo, Vehicle Storage, County Refuse Transfer Station, Vacant Sugar Cane Fields, Former University of Hawaii Tropical Fruit Disinfection Facility, Recreational Boat Landing, Shore Fishing
Opportunities	<ul style="list-style-type: none"> • Connection to coastal recreational park (Ahukini Landing). • Alternative transportation connection to airport for employees and visitors • Interpretive Signage: <ul style="list-style-type: none"> - Historical and cultural resources, including pre-contact Hawaiian village, plantation, and Ahukini Camp, at Hanamaulu. - High flora and fauna, including sea-birds known from the area.
Public Input	<ul style="list-style-type: none"> • Support for bike route / multi-modal transportation to the airport for employees and inter-island commuters.
Issues	<ul style="list-style-type: none"> • Flooding & Wave Inundation at Ahukini Landing • Erosion – consider measures such as re-vegetation to mitigate erosion problems. • Coordinating traffic circulation • Airport Security

Segment G – Preferred Alternative

G-1 – Combination Path and Signed Shared Roadway with Pedestrian Sidewalk

- Construct a 10-foot wide bicycle / pedestrian path along the north-west side of Ahukini Road from Ahukini Landing to connect with an existing 7-foot wide sidewalk on the makai side of the road. Provide a striped pedestrian cross-walk to connect the 10-foot wide path to the sidewalk.
- Designate Ahukini Road as a signed shared roadway for cyclists.
- Provide ADA pedestrian access to the airport on the existing 7-foot wide sidewalk.

- Construct a covered bicycle parking area (“Bike Depot”) at the airport terminal with rack space for at least 12 bikes. In addition, bike lockers could be provided for airport employees who would prefer to store their bikes in a more secure storage system. Bike lockers are strong, rectangular or triangular shaped boxes that are large enough to house a bike, accessories and change of clothing. See Photo G4. For security purposes, lockers would be constructed of transparent plexiglass or mesh material to enable viewing of locker contents. The lockers would be rented at a nominal fee using a key or card-swipe locking system.

Basis for Selection

- This alignment provides an important, multi-modal transportation link.
- The proposed separated path transitioning to a sidewalk / signed shared roadway takes advantage of the existing roadway improvements.
- The existing 7-foot wide sidewalk exceeds the project’s minimum design standards.
- End of ride facilities are desirable to encourage increased bicycle use.



Photo G3 – North end of the airport terminal. A covered bike depot is proposed for the grass area on the left of the photo.



Photo G4 – Typical bike locker that is proposed for the Bike Depot. Locker shown holds two bicycles separated by diagonal divider.

2.2.2.H Segment H – Līhu‘e Airport to Kapule Highway

Completing this path connection will provide town residents with safe, convenient access to the airport terminal for work or inter-island travel. There are four potential access ways to the terminal, with two potential locations for end of ride facilities. Three of the routes involve improvements along the roadway corridor. One route takes advantage of the generous airport landscape space to provide a grade-separated path. See Figure H1.

Segment H – Preferred Alternatives

H-1 – Ahukini Road to Ka‘ana Road – Airport Terminal Route

- Construct a 10-foot wide bicycle / pedestrian path from the north terminal bike depot through the airport landscape areas to connect to the intersection of Ka‘ana Road and Kapule Highway. Provide traffic control or traffic calming features at 5 roadway crossings identified on Figure H1, and Photo H1.

Basis for Selection

- This alignment allows for a continuous pathway connection from the coastal segment at Ahukini Point to Ka‘ana Street with key linkage to Līhu‘e Airport. Ka‘ana Street is planned as a major collector street through Līhu‘e Town, and as such will serve as a primary access corridor between the Civic Center, Kapule Highway and the airport.
- This alternative avoids the intersection of Kapule Highway and Ahukini Road, which would require major renovations to provide a safe crossing for bicycle and pedestrian traffic.



Photo H1 – Proposed path route through airport landscape area, looking north.

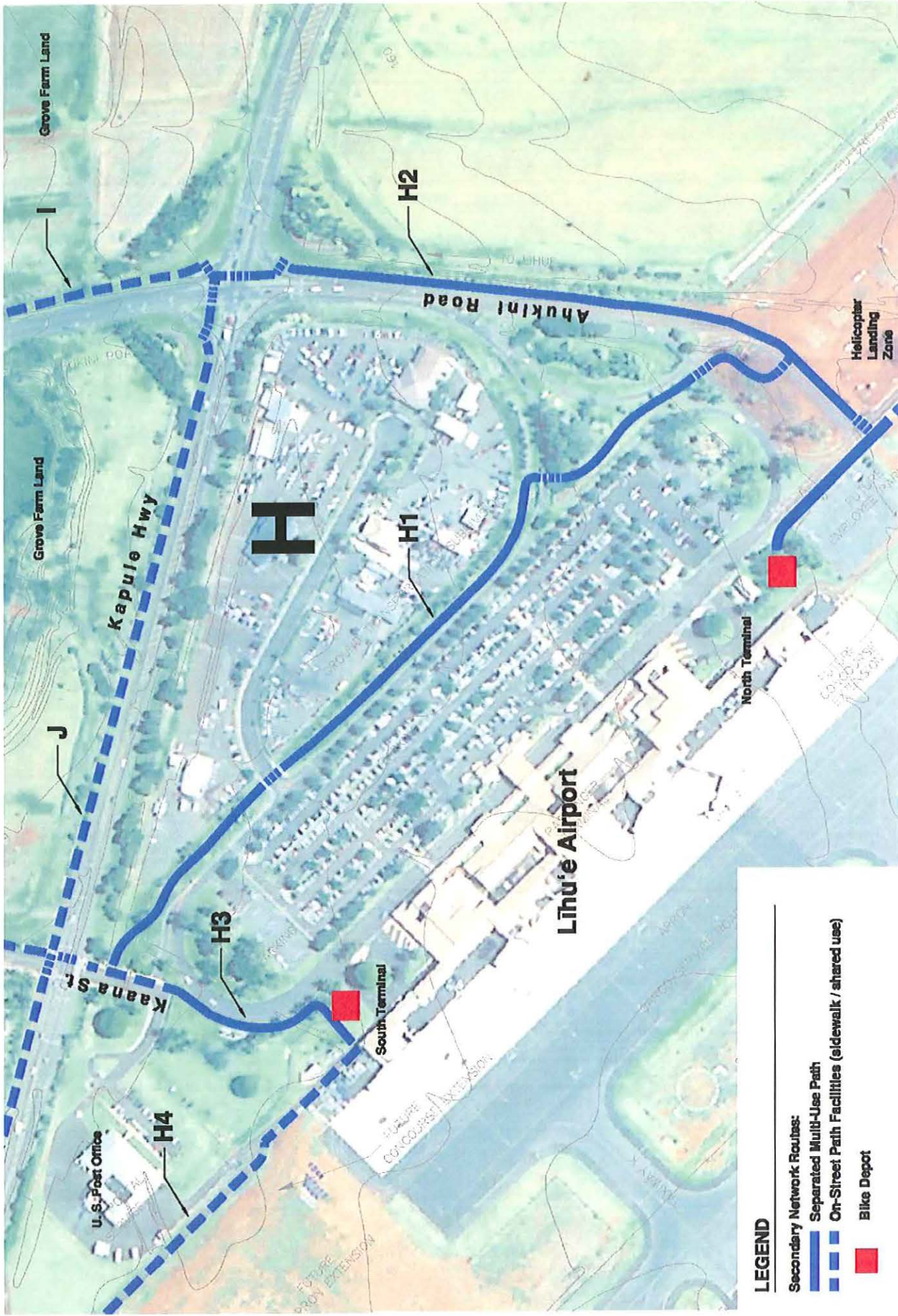


FIGURE H-1

Nāwiliwili - Ahukini Shared-Use Path
 County of Kaua'i
 Lihue, Island of Kaua'i, Hawai'i

<p style="text-align: center;">Table H SEGMENT H- Līhu‘e Airport to Kapule Highway</p>	
Ownership	Public Access Easement, County of Kaua‘i, State DOT-Airports Division and Highways Division, U.S. Postal Service, Visionary, LLC dba Līhu‘e Land Company,
TMK	(4) 3-5-01: 8, 85, 92, 111, 142, 158, 159, 160 (4) 3-7-02: 01
SLUD	Urban
County Zoning	Industrial-General (I-G), Industrial-General/Special Treatment District (I-G/STP), Commercial-General / Special Treatment District (C-G/STP)
Current Uses	Līhu‘e Airport operations, Helicopter Operations, Vacant Sugar Cane Fields, U.S. Post Office
Opportunities	<ul style="list-style-type: none"> • Alternative transportation connection to airport for employees and visitors. • Interpretive Signage: History of Līhu‘e Airport.
Public Input	<ul style="list-style-type: none"> • Support for bike route / multi-modal transportation to the airport for employees and inter-island commuters.
Issues	<ul style="list-style-type: none"> • Coordinating traffic circulation • Airport Security

Segment H - Alternatives Considered

H-2 – Bicycle / Pedestrian Path Parallel to Ahukini Road

- Construct a 10-foot wide bicycle / pedestrian path along the north-west side of Ahukini Road between the Airport Terminal and Kapule Highway.
- Provide pedestrian cross-walk across Ahukini Road to connect the airport terminal with the bicycle / pedestrian path.
- Retrofit intersection at Kapule Highway to accommodate bicycle / pedestrian path crossing. See **Photo H2**.

Reason Not Selected

- This alternative would require significant renovations to the intersection of Kapule Highway and Ahukini Street in order to provide a safe crossing for bicycle and pedestrian access. Renovations would also be to the existing rock wall landscape features on the north-west corner of the intersection.
- Construction costs of the 10-foot wide path from the terminal to the intersection are estimated at \$178,250. This number does not include costs for necessary intersection renovations, which would certainly exceed the estimated cost of the preferred alignment (\$529,000).



Photo H2 – Proposed path route parallel to Ahukini Road at intersection with Kapule Highway

H-3 – Ka’ana Street Connection to South Terminal Bike Depot

- Construct a 10-foot wide bicycle / pedestrian path along the north side of Ka’ana Street between Kapule Highway and the open space area at the south end of the airport terminal.
- Construct a covered bicycle parking area (“Bike Depot”) in the open space area at the airport terminal building with space for at least 12 bikes. In addition, bike lockers could be provided for airport employees who would prefer to store their bikes in a more secure storage system. Bike lockers are generally rented at a nominal fee. They are strong, rectangle shaped boxes made from various materials such a fiberglass or stainless steel that a large enough to house a bike, accessories and change of clothing. See Photo G4 and H-3.



Photo H3 – Space at end of Ka’ana Street (beyond hedge) for south terminal bike depot (view west toward airport terminal).

Reason Not Selected

- This alternative creates a facility redundant to the preferred alternative. However, the location of a bike depot on the south end of the terminal near Ka’ana Street would be more convenient to residents of Līhu’e and can be achieved with relative modest improvements to the roadway. If the preferred alternative is not constructed, the Ka’ana Street connection to the south terminal bike depot should be re-considered.

H-4 - Limo Road – Terminal to Ninini Road Connection

- Construct a 6-foot wide sidewalk along the makai side of Limo Road between the airport terminal and Ninini Road starting from the proposed south terminal bike depot.
- Use signage to designate Limo road as a signed shared roadway bicycle facility.

Reason Not Selected

- This alignment does not function as a critical link for bicycle / pedestrian access to the airport. It was therefore considered, but not selected in favor of higher-priority pathway connections.

2.2.2.1 Segment I – Ahukini Road – Kapule Highway to Umi Street

Ahukini Road is a state-owned roadway that serves as a major, regional traffic corridor. It has a 120-foot right-of-way (ROW) with one 12-foot lane of traffic in each direction, 4-foot paved shoulders and 10-foot wide grassed swales. Future expansion plans call for two lanes of traffic in each direction, 10-foot paved shoulders and landscaping. Existing travel way improvements are offset south of the ROW centerline creating a large landscape buffer area along the north side reserved for future expansion. See Photos I1 and I2 and Figure 2-1. With full expansion, a

24-foot landscape buffer will be created on the north side of the ROW, and a 16-foot landscape buffer will be retained on the south side. The 24-foot buffer is adequate to accommodate a separate bicycle / pedestrian path and future right-hand turn-lanes into lands to the north. Bike path improvements within the ROW must accommodate future expansion plans.



Segment I – Preferred Alternative

I-1 – Bicycle-only lane within 10-foot shoulder

- Designate Ahukini Road as a signed shared roadway. Expand the paved shoulder to 10 feet wide, stripe and sign on both sides of Ahukini Street between Kapule Highway and Kuhio Highway to serve as a bicycle lane.
- Improve maintenance routines along the roadway to ensure that the bike lane remains clear of debris flushed to the shoulder by motor vehicle traffic.



Photo I2 – Ahukini Road landscape buffer area looking west.

Basis for Selection

- Ahukini Road serves as a major, regional traffic corridor. The addition of wide, striped bicycle lanes and shared road signage will highlight the road's multi-modal function, improve safety, and provide commuters with an alternative to motor vehicle transportation.
- As a commuter corridor, Ahukini Road carries substantial motor vehicle traffic. It is thus less likely to attract recreational bicyclists and is undesirable as a bicycle facility for children.

Segment I – Alternatives Considered

I-2 – Bicycle / Pedestrian Path in Landscape Strip on North Side of Highway

- Construct a separated 10-foot wide concrete bicycle / pedestrian path along the north side of Ahukini Road between Kapule Highway and Kuhio Highway.
- Construct a pedestrian cross-walk at Umi Street and connect to the new Umi Street road section proposed as part of the Lihū'e Civic Center Master Plan. The proposed Umi Street section includes 5-foot wide sidewalks and bike lanes between Ahukini Road and Hardy Street.

- Construct a pedestrian cross-walk at the future intersection with Ho’olako Street and connect to the future Ho’olako Street section proposed by Grove Farm.

Reason Not Selected

- The Ahukini Road alternative creates a redundant Civic Center connection versus the preferred alignment on Ka’ana Street. Moreover, to be included in the bicycle / pedestrian path system, this segment requires connection across the intersection with Kapule Highway. See **Segment H-2** discussion.
- Nevertheless, with future residential and commercial development along Ahukini Road, this corridor will grow in importance as an access route for bicycle and pedestrian access. Planning for a separated path now will ensure that bicycles and pedestrians will be safely accommodated in the future.
- The 24-foot landscape area that will be created along the north side of ROW with full build-out can accommodate a 10-foot wide separated path and future right-turn lanes that will be required with planned development on lands to the north.

<p style="text-align: center;">Table I SEGMENT I- Ahukini Road – Kapule Highway to Umi Street</p>	
Ownership	State DOT- Highways Division, Visionary, LLC dba Līhu’e Land Company,
TMK	(4) 3-7-01: 01. 34
SLUD	Urban, Agriculture
County Zoning	Agriculture (AG), Industrial-General (I-G), Commercial-Neighborhood (CN), Residential (R),
Current Uses	State Highway, Vacant Sugar Cane Fields, Residential
Opportunities	<ul style="list-style-type: none"> • Wide shoulders, undeveloped adjacent lands provide space for separated bike path. • Route provides direct regional-level connection.
Public Input	<ul style="list-style-type: none"> • Create separated path • Provide a barrier between motor vehicle traffic and bicycle / pedestrian path to block road debris (trash, dirt, vehicle parts, lost load items) from path.
Issues	<ul style="list-style-type: none"> • Future expansion of Ahukini Road

I-3 – Bicycle / Pedestrian Path on Grove Farm Land on South Side of Highway

- Construct a separated 10-foot wide concrete bicycle / pedestrian path along the south side of Ahukini Road between Kapule Highway and Kuhio Highway.
- Connect to the new Umi Street road section proposed as part of the Līhu'e Civic Center Master Plan. The proposed Umi Street section includes 5-foot wide sidewalks and bike lanes between Ahukini Road and Hardy Street.
- Connect to the future Ho'olako Street section proposed by Grove Farm.

Reason Not Selected

- The 16-foot wide landscape buffer along the south side of Ahukini Road is inadequate to accommodate a 10-foot wide separated path and right-turn lanes that will be required with future development.

2.2.2.J Segment J – Kapule Highway – Ahukini Road to Ninini Point Road

Kapule Highway is a state-owned highway that serves as a major, regional traffic corridor. It has a 100-foot ROW with one 12-foot lane of traffic in each direction and a 10-foot wide paved shoulder. The State Department of Transportation Highways Division (SDOT-H) is acquiring an additional 10 feet from landowners on each side of the highway between Ahukini Road and Ninini Road to create a 120-foot ROW. Land on the west side is undeveloped between Ahukini Road and Ka'ana Street. South of Ka'ana Street, development includes the Kaua'i Judiciary and Vidinha Stadium complex. The airport and post office occupy land to the east. See Photos J1 and J2.

Future expansion plans call for two lanes of traffic in each direction, 10-foot paved shoulders and landscaping. With full expansion of the future 120-foot ROW, a 36-foot landscape buffer will be created on the west side of the highway. This buffer is adequate to accommodate a separate bicycle / pedestrian path and future acceleration, deceleration, and right-hand turn-lanes. Bike path improvements within the ROW must accommodate future expansion plans.



Photo J1 – Kapule Highway view north with Judiciary on left.

Segment J – Preferred Alternatives

J-1 – Bicycle-only lane within 10-foot shoulder

- Designate Kapule Highway as a signed shared roadway. Stripe and sign the existing 10-foot wide shoulder on both sides of Kapule Highway between Ahukini Road and Rice Street to serve as a bicycle lane.
- Improve maintenance routines along the roadway to ensure that the bike lane remains clear of debris flushed to the shoulder by motor vehicle traffic.



Photo J2 – Kapule Highway view south with Kaua'i Veterans' Center on the right.

Basis for Selection

- Kapule Highway serves as a major, regional traffic corridor. The addition of wide, striped bicycle lanes and shared road signage will highlight the road's multi-modal function, improve safety, and provide commuters with an alternative to motor vehicle transportation.
- As a commuter corridor, Kapule Highway carries substantial motor vehicle traffic. It is thus less likely to attract recreational bicyclists and is undesirable as a bicycle facility for children.

Segment J - Alternatives Considered

J-2 – Bicycle / Pedestrian Path on West Side (mauka) of Kapule Highway

- Construct a separated 10-foot wide concrete bicycle / pedestrian path along the west (mauka) side of Kapule Highway between Ahukini Road and Ninini Road.
- Retrofit existing pedestrian cross-walks at Ka'ana Street to accommodate the new path.

J-3 – Bicycle / Pedestrian Path on East Side (makai) of Kapule Highway

- Construct a separated 10-foot wide concrete bicycle / pedestrian path along the east (makai) side of Kapule Highway between Ahukini Road and Ninini Road.
- Retrofit existing pedestrian cross-walks at Ka'ana Street to accommodate the new path.

Reason Not Selected

- The Kapule Highway alternative creates a redundant connection between Ahukini Street and Ka’ana Street if the recommended Segment H-1 path route is constructed through the airport property.
- Kapule Highway serves as a major, regional traffic corridor better suited for use by higher-skilled bicycle commuters than the recreational path users this project is targeting.

<p>Table J SEGMENT J – Kapule Highway – Ahukini Road to Ninini Point Road</p>	
Ownership	State DOT- Highways Division, <u>makai</u> : County of Kaua’i, State DOT- Airports Division, U. S. Post Office, Marriott Vacation Club International, <u>mauka</u> : Visionary, LLC dba Lihu’e Land Company, County of Kaua’i, Kaua’i Veterans Council
TMK	(4) 3-5-01: 8, 27, 142 (makai segment) (4) 3-6-02: 1, 16, 18, 24, 25 (mauka segment)
SLUD	Urban, Agriculture
County Zoning	Agriculture (AG), Open (O), Industrial-General / Special Treatment District (I-G/STP), Commercial-General / Special Treatment District (C-G/STP)
Current Uses	State Highway, Vacant Sugar Cane Fields, Kaua’i Judiciary Complex, Lihu’e Airport, U. S. Post Office, Kaua’i Lagoons Entrance
Opportunities	<ul style="list-style-type: none"> • Wide shoulders, undeveloped adjacent lands provide space for separated bike path. • Route provides direct regional-level connection
Public Input	<ul style="list-style-type: none"> • Create separated path for safety • Provide a barrier between motor vehicle traffic and bicycle / pedestrian path to block road debris (trash, dirt, vehicle parts, lost load items) from path.
Issues	<ul style="list-style-type: none"> • Future expansion of Kapule Road • Land acquisition

2.2.2.K Segment K – Molokoa Public Facility Center

Public facilities at Molokoa include the State Judiciary Building, Kaua' Police Headquarters and Emergency Operating Center, The Kaua' Veteran's Center, and Vidinha Memorial Stadium and Recreational Complex. These facilities are a core component of Grove Farm Company's planned development, called Wailani, which is based on the 1995 Līhu'e – Hanamaulu Master Plan. The master plan identifies Molokoa as a mixed-use residential neighborhood with a central core of public and private services, employment, retail, and social and cultural opportunities. These public facilities are major trip generators as employment centers, public service centers, and as the largest recreational and entertainment facility in the Līhu'e area. Their location at the intersection of Ka'ana Street and Kapule Highway is planned to become a major gateway into and out of Līhu'e, linking these important civic functions directly to town residents and to the larger regional population. As such, these facilities comprise an important pathway hub. See Figure K1 and Photo K-1.



Photo K1 – Ka'ana Street / Kapule Highway intersection looking south-west from the airport toward the Judiciary building.

Connection to these public facilities can be made via several roadways: Ka'ana Street, Ho'olako Street, and the Vidinha Stadium Driveway (mauka continuation of Ninini Road across Kapule Highway). Improvements to Ka'ana Street and Ho'olako Street are described below (Segment L). Improvements to Ninini Road are described above (Segment C).

Segment K – Preferred Alternative

The final connection to and through Vidinha Stadium and the soccer fields will be determined following completion of a master plan currently being prepared for the Vidinha Memorial Stadium and Soccer Field Complex by the County Department of Parks and Recreation. Improvements proposed as part of this project are as follows:

K-1 – Police Headquarters Sidewalk Expansion to 10-foot Multi-Use Path


- On Ho'olako Street adjacent to the Police Headquarters, expand the existing single 5-foot wide sidewalk to 10-feet and designate the road as a signed shared roadway for

LEGEND

Primary Project Corridor:

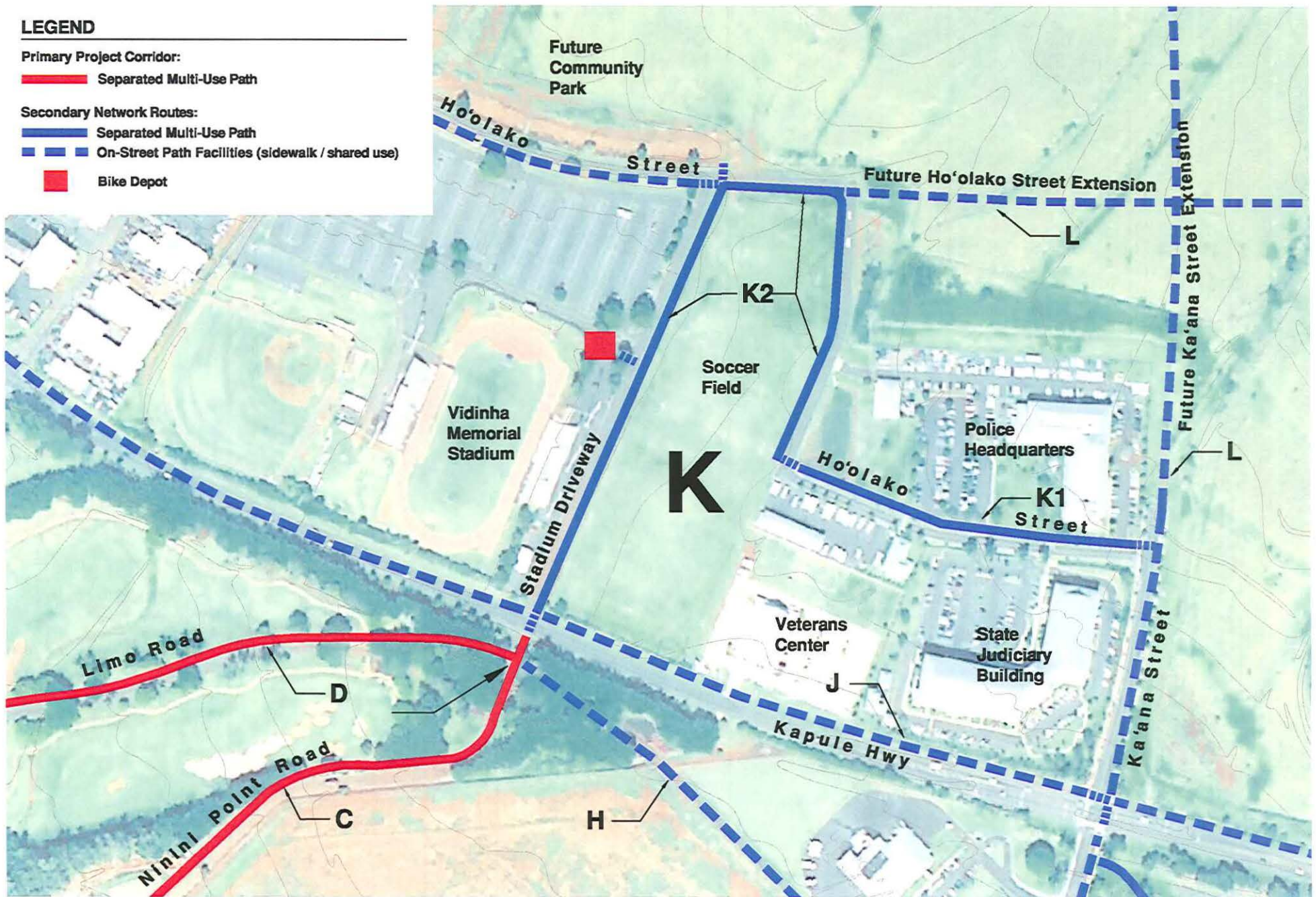
 Separated Multi-Use Path

Secondary Network Routes:

 Separated Multi-Use Path

 On-Street Path Facilities (sidewalk / shared use)

 Bike Depot



Nāwiliwili - Ahukini Shared-Use Path
County of Kaua'i
Lihu'e, Island of Kaua'i, Hawai'i

FIGURE K-1



0 150 300 600 900 Feet

R. M. Towill Corporation

bicycle / motor vehicle use. Provide pedestrian cross-walks at each driveway intersection.

- Provide a crosswalk across Ka’ana Street to connect with the proposed widened 10-foot sidewalk on Ho’olako Street.
- Maintain crosswalk connection across Ho’olako Street to provide access to the north side of the soccer field See **Photo K1**.

Basis for Selection

- Adequate space exists adjacent to the Police Headquarters to accommodate widening the sidewalk to create a 10-foot wide multi-use path.

<p style="text-align: center;">Table K SEGMENT K - Judiciary Complex / Vidinha Stadium</p>	
Ownership	State DOT- Highways Division, Visionary, LLC dba Līhu’e Land Company, County of Kaua’i, Kaua’i Veterans Council
TMK	(4) 3-6-02: 1, 16, 18, 19, 24, 25 (mauka segment)
SLUD	Urban, Agriculture
County Zoning	Agriculture (AG), Commercial-General / Special Treatment District (C-G/STP)
Current Uses	State Highway, Vacant Sugar Cane Fields, Kaua’i Judiciary Complex, Līhu’e Airport, U. S. Post Office, Vidinha Stadium Complex, Soccer Fields
Opportunities	<ul style="list-style-type: none"> • Undeveloped adjacent lands provide space for separated bike path. • Connectivity between residential area and public facilities at the stadium, airport, and Kaua’i Resort path segment to Nāwiliwili (Segments D, E & F). • Promote transportation alternatives to key civic centers.
Public Input	<ul style="list-style-type: none"> • Create separated path for safety • Provide a barrier between motor vehicle traffic and bicycle / pedestrian path to block road debris (trash, dirt, vehicle parts, lost load items) from path. • Support for bicycle “depot” at Vidinha Stadium
Issues	<ul style="list-style-type: none"> • Coordinate with land use planning on vacant cane lands (Līhu’e Land Company • Land acquisition • Retrofit existing roads serving the Kaua’i Judiciary Complex



Photo K1 – Existing 5-foot sidewalk on Judiciary Road looking north from edge of soccer field.



Photo K2 – Path route along north side of Ninini Road, view toward east.

Segment K – Alternatives Considered

K-2 – Vidinha Memorial Stadium and Soccer Field 10-foot Path System

- Construct a 10-foot wide path along the north and west boundary of the existing soccer fields to create a connection between Kapule Highway and Ho'olako Street.
- Continue the 10-foot wide path along the north side of the Stadium Driveway (Ninini Road mauka continuation) between Ho'olako Street and Kapule Highway. Provide pedestrian cross-walks to Vidinha Stadium. See Photo K2.
- Construct covered bicycle parking ("Bike Depot") at the Stadium near the north entrance.

Reason Not Selected

Planning for a path system within the Vidinha Memorial Stadium and Soccer Field Complex is being undertaken as part of a master planning effort by the Department of Parks and Recreation. Alternative K-2, described above, was considered on the following basis:

- A multi-use path system provides enhanced function as a recreational resource within the stadium setting and anticipates future, master planned park space west of Ho'olako Street (Līhu'e-Hanamāulu Master Plan). A multi-use path connection through the park would offer a safe, pleasant alternative to shared road or on-street bicycle / pedestrian facilities.
- Adequate open space exists within the Judiciary Complex and stadium facility to accommodate a separated multi-use path.

The path system within the stadium and soccer fields will ultimately be determined by the Department of Parks and Recreation through the master planning process.

2.2.2.L Segment L – Līhu‘e Civic Center Connections

The Nāwiliwili – Ahukini Shared-Use Path project recognizes four streets that will serve as connectors to the civic center, based on plans currently being finalized by the County. See Figure L1. The four streets are:

- Ka‘ana Street
- Umi Street
- Ho‘olako Street
- Hardy Street

Bicycle / Pedestrian Path improvements on these streets will be designed based on the following plans being prepared for the County of Kaua‘i by PBR Hawai‘i & Associates, Inc.:

- *Līhu‘e Civic Center Master Plan*, being prepared by the Building Department, and,
- *Līhu‘e Urban Design Guidelines*, being prepared by the Planning Department.

Preparation of these plans involved an extensive public outreach effort to develop road sections and design guidelines for residential streets through Līhu‘e Town. The *Līhu‘e Civic Center Master Plan* is shown in Figure L2.

In addition to these plans, Grove Farm Company is developing a project on the vacant lands, identified as “Molokoa” in the 1995 Līhu‘e – Hanamaulu Master Plan, located south of Ahukini Road between Kapule Highway and the existing residential neighborhoods in Līhu‘e Town. Street standards for the project, named Wailani, are based on zoning approvals obtained from the County for the 1995 master plan. See Figure L3.

Segment L - Alternatives Considered

L-1 – Ka‘ana Street – Existing Section

- Within the existing 60-foot ROW, continue the street section established adjacent to the State Judiciary Building and Police Headquarters with 10-foot bike lanes and 4-foot sidewalks (note: minimum sidewalk width required to meet ADA standards is 5 feet). See Photo L1. Construct connection with future development of Grove Farm land.
- At the connection to the existing Ka‘ana Street in Līhu‘e town, reduce the bicycle lane width to 4 feet and provide striping. Widen sidewalks to minimum 5 feet and correct cross slopes at driveway aprons by moving the curbs on both sides 2 feet toward the street center line. See Photo L2.

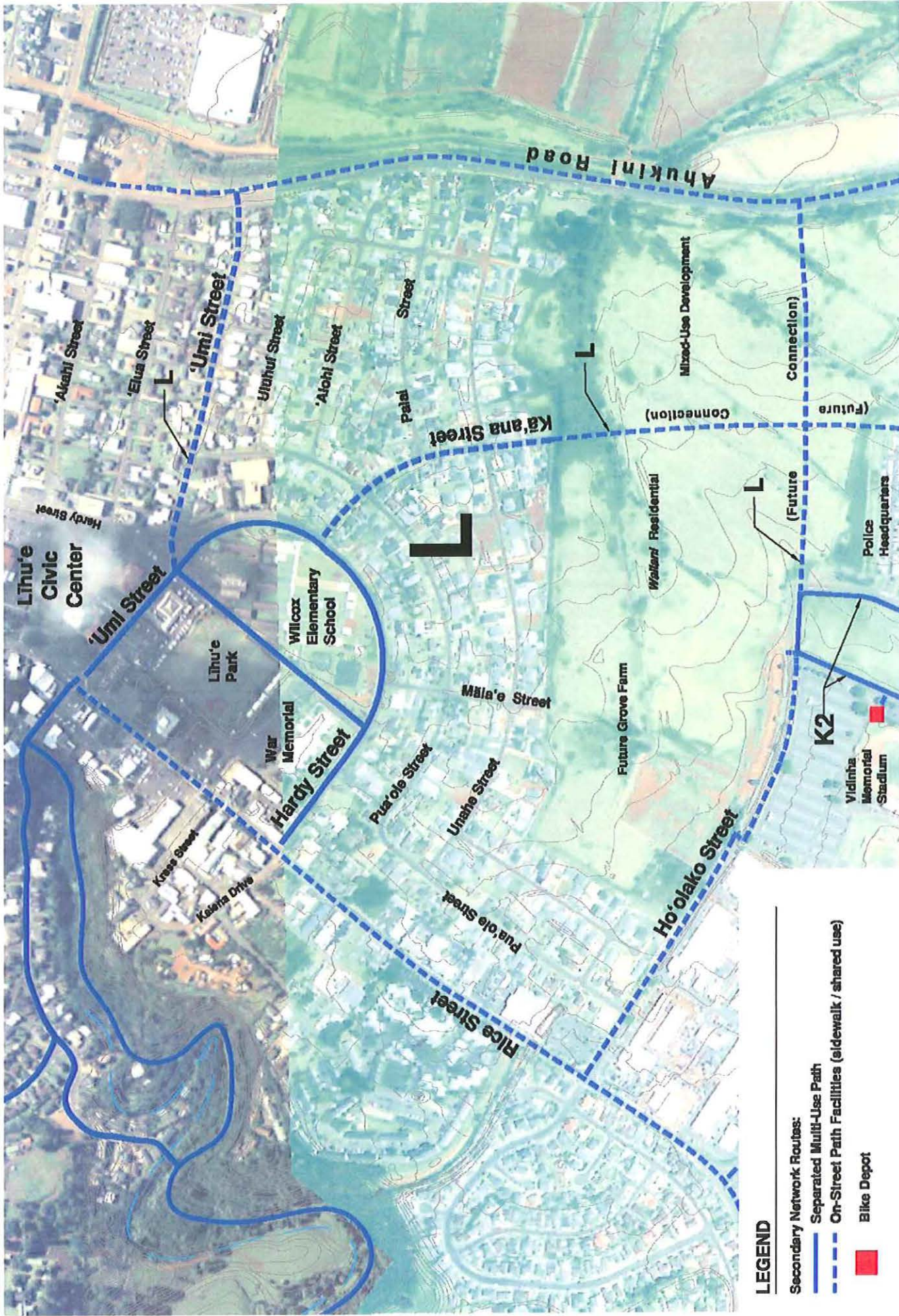
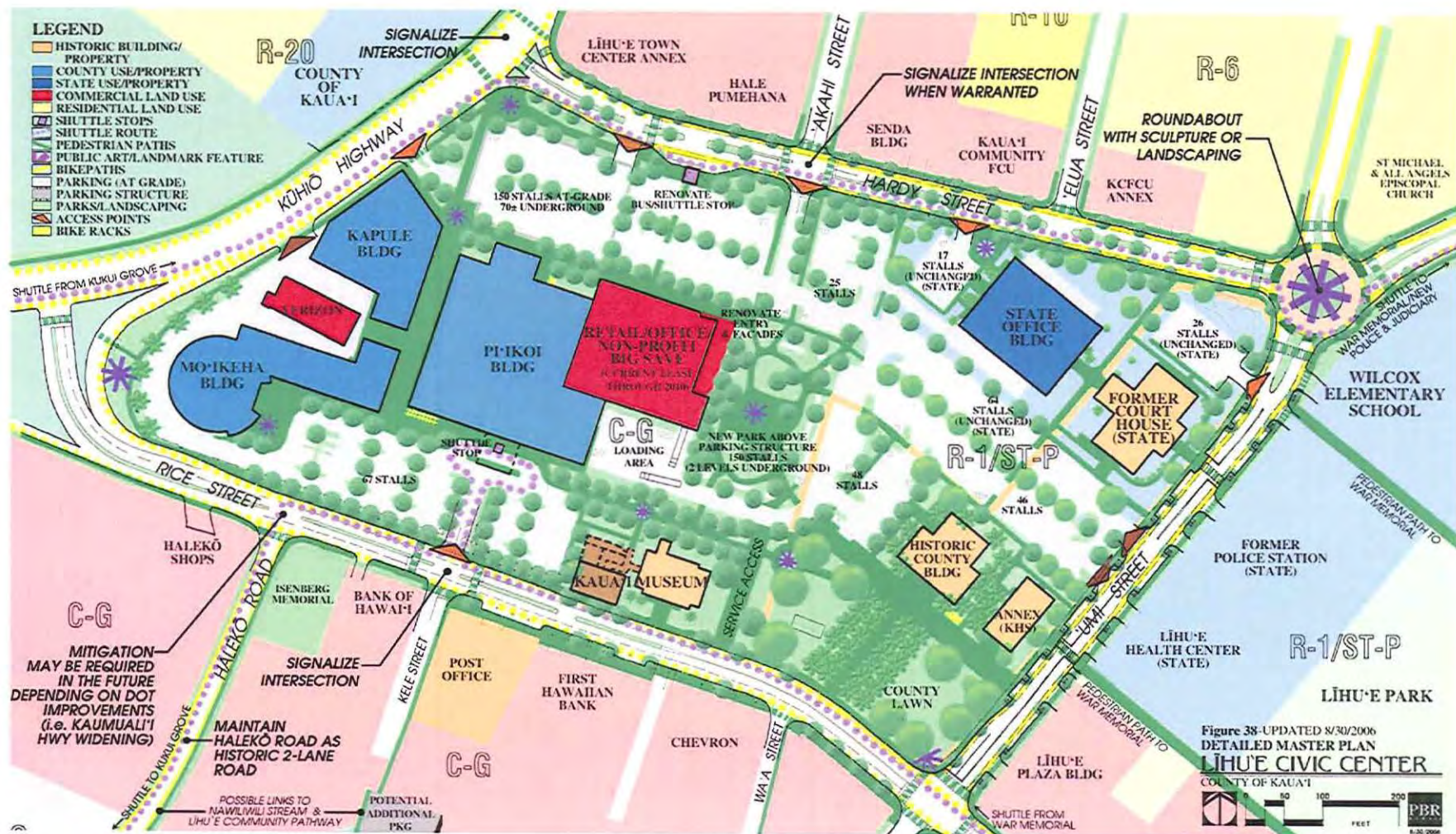


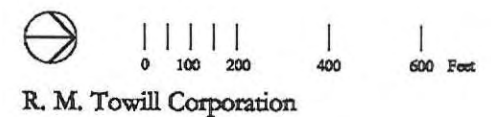
FIGURE L-1

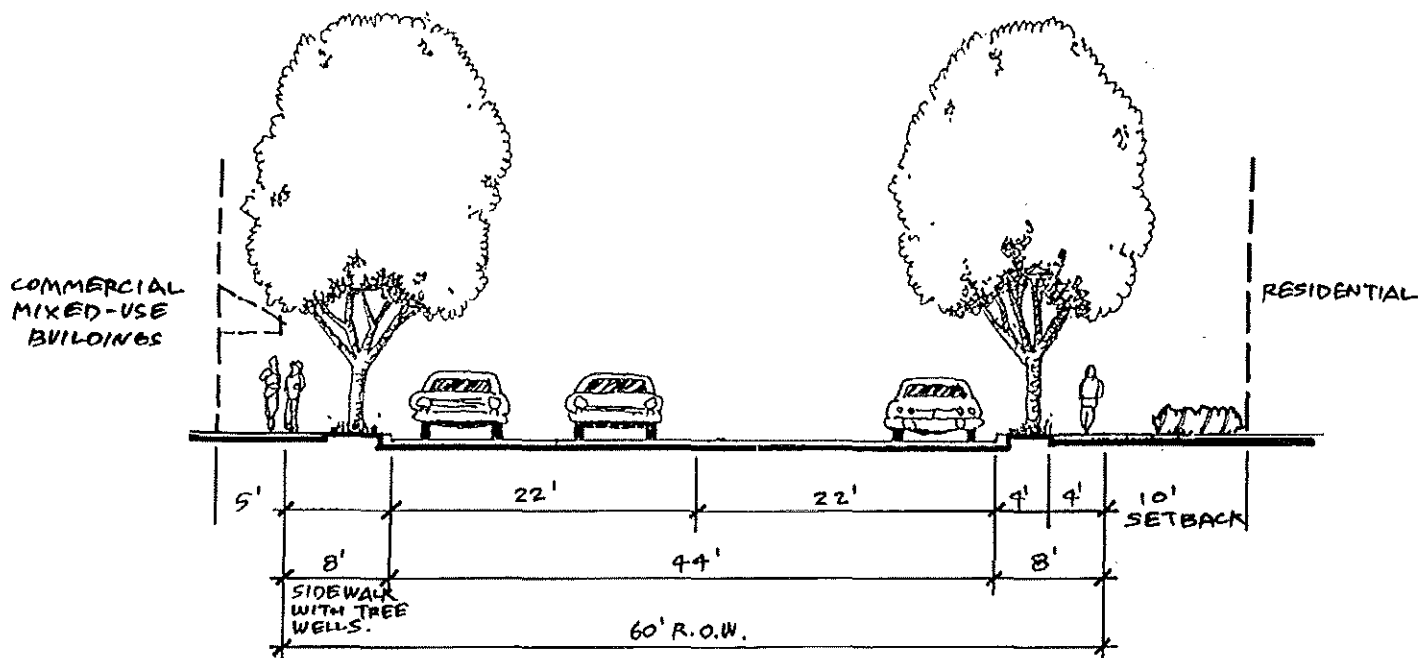
Nāwiliwili - Ahukini Shared-Use Path
 County of Kauaʻi
 Lihue, Island of Kauaʻi, Hawaiʻi



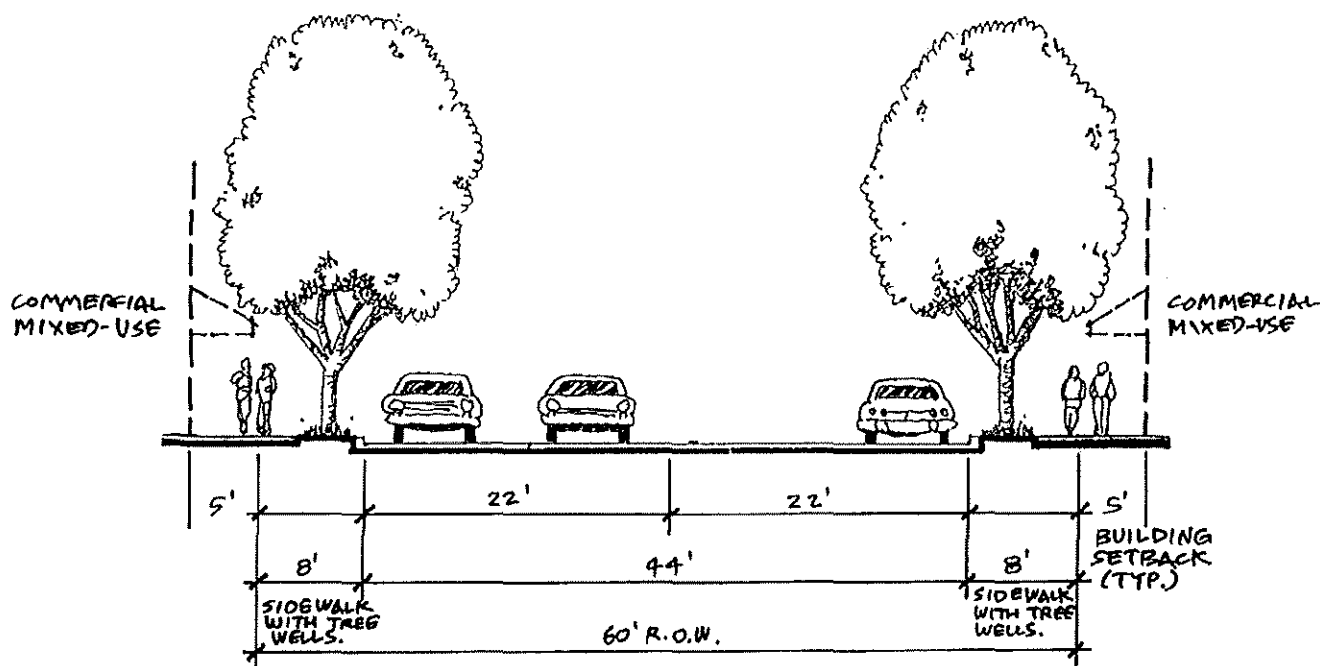
Nawiliwili - Ahukini Shared-Use Path
County of Kaua'i
Lihue, Island of Kaua'i, Hawai'i

FIGURE L-2





KA'ANA STREET SECTION



HO'OLAKO STREET SECTION

APPROVED STREET SECTIONS LĪHU'E - HANAMĀ'ULU MASTER PLAN (1995, rev. 2005)



Photo L1 – Ka'ana Street section at Judiciary Complex.



Photo L2 – Ka'ana Street existing residential section looking west.



Photo L3 – Ka'ana Street at Palai Street, looking west.



Photo L4 – Intersection of Ka'ana Street and Hardy Street.

- As Ka'ana Street passes over Unahe Street, the curb is no longer present on both sides of the road. Therefore, new curbs will need to be installed for both sidewalks as well as striping for the bicycle lanes (see Photo L3) all of the way to Hardy Street (see Photo L4) where a crosswalk will need to be added in order to access the proposed Hardy Street multi-use path.

L2 – Ka'ana Street – 10-foot Path with Transition to Bike Lane / Sidewalk.

- Construct a 10-foot wide path through along the north boundary of the planned Ka'ana Street connection between Kapule Highway and the existing residential neighborhood near the town center.

- At the connection point to the existing residential Ka’ana Street segment, end the path with a curb cut and cross walk to provide ADA access across the street.
- From the connection towards town, provide striped 4-foot wide bicycle lanes on both sides of the street. Widen sidewalks to minimum 5 feet and correct cross slopes at driveway aprons by moving the curbs on both sides 2 feet toward the street center line. See Photo L2.
- As Ka’ana Street passes over Unahe Street, the curb is no longer present on both sides of the road. Therefore, new curbs will need to be installed for both sidewalks as well as striping for the bicycle lanes (see Photo L3) all of the way to Hardy Street (see Photo L4) where a crosswalk will need to be added in order to access the proposed Hardy Street multi-use path.

L-3 – Umi Street – Urban Design Guideline

- Within the 60-foot ROW between Ahukini Road and Hardy Street, construct a road section with 5-foot sidewalk, 5-foot planting strip with curb and gutter, 6-foot bike lane, and 14-foot motor vehicle travel lane in each direction. See Photo L5.
- Adjacent to the Lihu’e Civic Center, construct a road section with 5-foot sidewalk, 8-foot parallel parking strip with landscape bulb-outs, curb and gutter, 5-foot bike lane, and 12-foot motor vehicle travel lane in each direction.



L-4 – Umi Street – Sidewalk to 8-foot Multi-Use Path

- Within the 60-foot ROW between Ahukini Road and Hardy Street, construct a road section with 6-foot sidewalk, 5-foot planting strip with curb and gutter, 5-foot bike lane, and 14-foot motor vehicle travel lane in each direction.
- At the intersection with Hardy Street, provide a non-signalized crosswalk and continue along the inside loop of Hardy Street by replacing the existing sidewalk with an 8-foot wide path all the way to Rice Street. See Photo L6.

L-5 – Ho‘olako Street – Urban Design Guidelines

- Within the 60-foot ROW between Ninini Road and Ka‘ana Street, construct a road section with 5-foot sidewalk, 5-foot planting strip with curb and gutter, 6-foot bike lane, and 14-foot motor vehicle travel lane in each direction.

L-6 – Ho‘olako Street – 10-foot path

- Construct a 10-foot wide bicycle / pedestrian path along the west side of Ho‘olako Street between Halau Street and the Judiciary Road within the future proposed community park. Continue the path around the park perimeter as guided by a future park master plan. Provide crosswalks across Ho‘olako Street to connect to the Judiciary / Stadium path system. See Photo L7 and Segment K discussion above.
- Where the park ends, transition the path to connect to the 6-foot sidewalk and 5-foot bike lane proposed under the Urban Design Guidelines and continue to the intersection with Ka‘ana Street.



Photo L6 – Umi Street intersection with Hardy Street.



Photo L7 – Ho‘olako Street looking south.

<p>Table L SEGMENT L – Līhu‘e Civic Center Connections</p>	
Ownership	Visionary, LLC dba Līhu‘e Land Company, County of Kaua‘i, Kaua‘i Veterans Council, State of Hawaii, Numerous individual homeowners and business owners
TMK	(4) 3-6- plats 02, 03, 05, 06, 12, 15, 16, 17, 18, 19, 20: 1, 16, 18, 19, 24, 25
SLUD	Urban, Agriculture
County Zoning	Agriculture (AG), Commercial-General / Special Treatment District (C-G/STP), Residential (R), Residential / Special Treatment District (R/STP), Industrial-Light (I-L) Open (O)
Current Uses	Vacant Sugar Cane Fields, Established Residential Communities, Light Industrial, Commercial Corridors,
Opportunities	<ul style="list-style-type: none"> • Undeveloped adjacent lands provide space for separated bike path. • Residential connection to public recreational and civic facilities, employment centers, Līhu‘e Airport, regional coastal parks, and Kaua‘i Resort path segment to Nāwiliwili (Segments D & E).
Public Input	<ul style="list-style-type: none"> • Create separated path for safety • Provide a barrier between motor vehicle traffic and bicycle / pedestrian path to block road debris (trash, dirt, vehicle parts, lost load items) from path. • Do not subordinate bicycle transportation to motor vehicle traffic.
Issues	<ul style="list-style-type: none"> • Utilize the County’s recent planning efforts: Līhu‘e Civic Center Master Plan and Līhu‘e Urban Design Guidelines. • Coordination with land use planning on vacant cane lands (Līhu‘e Land Company) • Land acquisition • Retrofit existing roads in Līhu‘e Town and at the Judiciary Complex.

2.2.3 Secondary Network Corridors:

Corridor III – Nāwiliwili Beach Park to Līhu‘e Civic Center

2.2.3.M Segment M – Rice Street

The Rice Street alignment between Nāwiliwili and Kapule Highway was considered, but rejected due to slope conditions between Nāwiliwili and the Kapule Highway intersection that exceed the planning criteria. Additionally, the lack of shoulder space for a separated path would require significant cost to either cut the uphill bank, or construct retaining walls to create room for a safe, separated bicycle and pedestrian path along this segment of Rice Street. See Figure 2-1.

From Kapule Highway to the Līhu‘e Civic Center, Rice Street carries two lanes of traffic in each direction. During non-peak traffic hours, the outside lane is reserved for parking. During peak hours, parking is prohibited and both lanes carry traffic flows. Sidewalks on each side of the street vary in width from four to six feet. Due to the narrow street section and presence of buildings constructed up to the building setback line, there is little to no room for expansion of the street section.

Segment M - Alternatives Considered

M-1 – Rice Street Bicycle-Priority Lane

Between Kapule Highway and Kuhio Highway, change the outside lane in each direction into a bicycle-priority lane through the use of striping, stenciling, signage, pavement tinting, or pavement texturing. During non-peak hours, the lane will remain in use for curb-side parking, with the remnant section striped for use as a bike lane. During peak traffic hours, parking will be prohibited and the lane will be a signed shared bicycle / motor vehicle lane with the speed limit determined by the pace of the cyclists. The inside traffic lane will be reserved for motor vehicles traveling within posted speed limits.

M-2 – Rice Street Bicycle-Only Lane

Between Kapule Highway and Kuhio Highway, eliminate on-street parking and re-stripe the road to create a bicycle-only lane on each side of the street. Create new, off-street parking lots at convenient intervals to serve area businesses on Rice Street.

<p>Table M SEGMENT M – Rice Street</p>	
Ownership	County of Kauaʻi, Numerous individual homeowners and business owners on Segment L corridor
TMK	(4) 3-2-plats 04, 06, 08 (4) 3-5-plats 01, 02, 03, (4) 3-6- plats 01, 02, 03, 05, 07, 08, 12, 23, 24
SLUD	Urban
County Zoning	Commercial-Neighborhood (C-N), Commercial-General (C-G), Residential (R), Residential / Special Treatment District (R/STP), Industrial-Light (I-L), Resort (R), Open (O)
Current Uses	Open Space, Established Residential Communities, Light Industrial, Primary Commercial Corridor in Lihuʻe, Civic Services, Public Park
Opportunities	<ul style="list-style-type: none"> • Most direct connection between Nāwiliwili and the Civic Center.
Public Input	<ul style="list-style-type: none"> • Hazard from traffic, steep grades, lack of shoulder, and parked cars on side of street make this undesirable. • Consider claiming the existing on-street parking for a dedicated bike lane. • Do not take on-street parking without creating new off-street parking at convenient intervals to serve the business community.
Issues	<ul style="list-style-type: none"> • Safety and ability to meet ADA access standards for path slopes. • Utilize the County’s recent planning efforts: Lihuʻe Civic Center Master Plan and Lihuʻe Urban Design Guidelines. • Land acquisition • Retrofit existing roads

Reason Not Selected

- Lack of room to expand the existing travel way to accommodate two lanes of motor vehicle traffic and a safe bike lane in each direction for peak-hour traffic conditions. Lack of room to expand also prohibits renovation of the sidewalks to meet ADA access standards.
- No connection to other preferred segments of the bicycle / pedestrian path system.
- In addition to impacting peak-hour traffic, claiming one traffic lane for a new, dedicated bike lane would require construction of off-street parking facilities to make up for the lost on-street parking upon which Rice Street businesses depend during business hours. Land acquisition and possible condemnation would be required to find suitable space to develop parking facilities in locations that would support Rice Street businesses.

2.2.3.N Segment N – Nāwiliwili Stream Valley

Nāwiliwili Stream Valley possesses inspiring natural beauty, rich history, unique community, and agricultural character that exemplify Kauaʻi's social foundations and ongoing values. The valley cuts through the center of Līhuʻe, dividing the town into two populations and separating residents south of the valley from the commercial centers and public services concentrated to the north. A valley path could become a signature feature of Līhuʻe Town, reflecting the historic connections between town and harbor and establishing new connections between communities north and south of the valley.

As a practical matter, a bicycle / pedestrian path route through the valley offers a safer and scenic alternative to Rice Street and Nāwiliwili Road. Moreover, a valley path can be constructed to meet ADA accessibility standards for slopes while the existing roads to Līhuʻe Civic Center cannot.

The valley route provides an opportunity to directly connect the residential communities south of the valley with the social, commercial, and service activities in the civic center on the north. At present, residents south of the valley must drive several miles on Rice Street, Nāwiliwili Road, Haleko Road, or Kuhio Highway to access the civic center, which is located merely one-third of a mile across the valley. A bicycle / pedestrian connection would provide residents with an alternative transit route, with potential benefits from increased physical activity, reduced reliance on fossil fuels, and, arguably, a convenience incentive to visit town more frequently thereby contributing to the vitality of Līhuʻe. See Figure 2-1.

Segment N - Alternatives Considered

- Construct a 2.5 mile, 10-foot wide concrete bicycle / pedestrian path along Nāwiliwili Stream from Nāwiliwili Beach Park to the Līhuʻe Civic Center.
- Construct an elevated, switch-back ramp from the valley floor to connect with Umi Street, Kalena Street, or Waʻa Road.
- Construct a path connection to Pua Nani Street and Aheahe Street on the south side of the valley.

<p align="center">Table N SEGMENT N – Nāwiliwili Stream Valley</p>	
Ownership	Numerous individual land owners
TMK	Plats: 3-2-06; 3-2-07; 3-6-01; 3-6-04; 3-6-05; 3-6-07; 3-6-08; 3-6-10; 3-6-11;
SLUD	Urban
County Zoning	Commercial-Neighborhood (C-N), Commercial-General (C-G), Residential (R), Open (O), Open / Special Treatment Cultural (O-STC)
Current Uses	Open Space Stream Environment, Established Residential Communities, Agricultural Activity, Historic Landscape and museum
Opportunities	<ul style="list-style-type: none"> • Create a signature corridor to reestablish the historic connection between Nāwiliwili and Līhu'e Town. • Connect residential communities that are currently cut off by the stream valley. • Provide safe, scenic, direct connection between Nāwiliwili and Līhu'e Civic Center. • Interpretive Signage: <ul style="list-style-type: none"> - Historic and cultural resources, including Kuhiau heiau, lo'i cultivation, commercial plantation activities, , - Unique flora and fauna within the valley,
Public Input	<ul style="list-style-type: none"> • Long-standing support for the idea • Some affected property owners do not want the bike path to intrude.
Issues	<ul style="list-style-type: none"> • Property Owner Opposition • Land Condemnation Costs • Engineering Considerations • Flood hazard . • Riparian Environment. • Agricultural Use

Reason Not Selected

- **Property Owner Opposition** – The Nāwiliwili Stream path alignment crosses land owned by approximately 30 - 40 individual property owners, depending on the actual alignment. Property owners encountered during site visits and contacted by mail during the preparation of the environmental assessment expressed opposition to public access through their land specifically and through the stream valley in general. Without land owner support and permission to enter the properties, it is not feasible to conduct the studies necessary to effectively proceed with the assessment of this alignment.
- **Land Condemnation Costs** – Obtaining the necessary access and development entitlements to construct the path will require financial and political commitment to

support land condemnation proceedings. Based on the 2006 tax assessment, land values along the valley floor range from approximately \$20,000 per acre for Grove Farm Co. land (TMK 3-6-01: 02), to \$1.3 million per acre (TMK 3-2-06: 02) at the mouth of Nāwiliwili Stream. Tax assessment values between \$80,000 and \$400,000 per acre are typical. Approximately 5.5 acres of land would be required for the path, which would cost the County an estimated \$0.5 million to \$2.5 million dollars based on 2006 assessed land values.

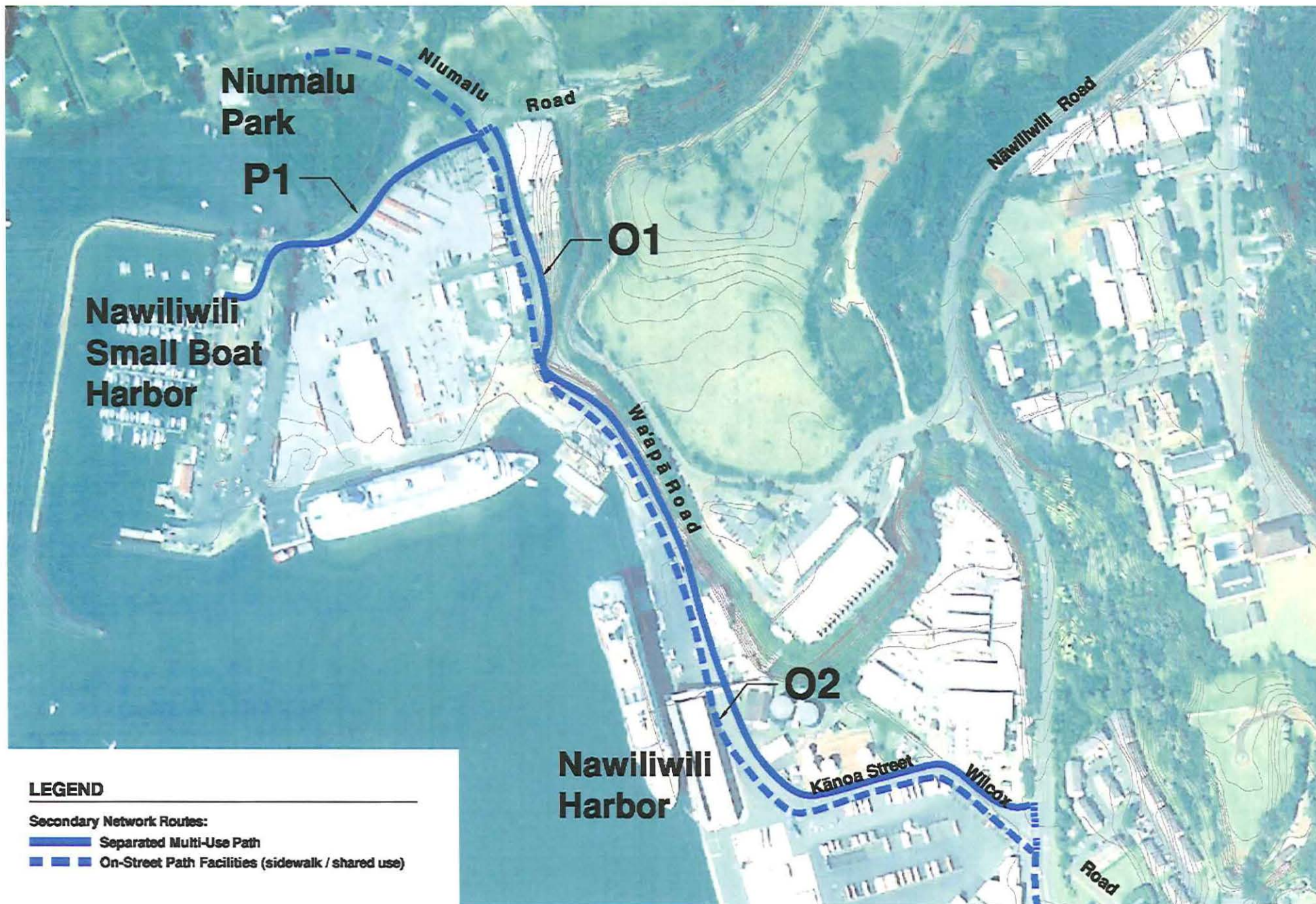
- **Engineering Considerations** – An elevation differential ranging from 30 to 50 feet exists between the floor of the stream valley and the top of valley wall near the Līhu'e Town Center. Connecting these elevations with an ADA accessible path (8.33% max. slope) will require substantial cut and fill over a long at-grade run up the side of the valley wall, or construction of a structural switch-back ramp. Both of these alternatives are technically possible, but costly.
- **Flood hazard** – The stream valley is located within the FEMA/FIRM AE flood zone. The corridor is subject to periodic inundation which poses engineering challenges and safety considerations.
- **Riparian Environment** – The stream valley contains riparian habitat that is expected to include sensitive flora and faunal resources, and challenging soil conditions for bike path construction.
- **Agricultural Use** – The corridor includes active pasture land, truck crop lands, and residential vegetable gardens. The bike path introduces foreseeable conflicts in use that will aggravate owner opposition.

2.2.4 Secondary Network Corridors:

Corridor IV – Nāwiliwili Beach Park to Niumalu Beach Park

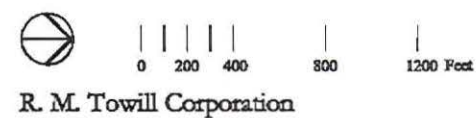
2.2.4.O Nāwiliwili Beach Park to Niumalu Park (Rice Street to Wilcox Road / Kānoa Street / Wa'apā Road / Niumalu Road)

This segment would support one of the principal objectives of the bicycle / pedestrian path project: link coastal recreational parks with a safe, non-motorized vehicle access way. The path segment between Nāwiliwili Beach Park and Niumalu Park would also serve residents in Niumalu with improved access and provide additional opportunity to connect with Nāwiliwili Small Boat Harbor and Nāwiliwili Harbor docks. A bicycle / pedestrian path connection to these facilities would benefit the many harbor employees by offering an alternative form of transportation to and from work. In addition, cruise ship patrons who depart the ship on foot would benefit from a clear path and good directions to recreational and commercial opportunities in the vicinity and points of interest beyond. See Figure O/P-1, and Photo O1.



Nawiliwili - Ahukini Shared-Use Path
 County of Kaua'i
 Lihu'e, Island of Kaua'i, Hawai'i

FIGURE O/P-1



<p style="text-align: center;">Table O</p> <p style="text-align: center;">SEGMENT O – Nāwiliwili Beach Park to Niumalu Park (Rice Street to Wilcox Road / Kānoa Street / Wa‘apā Road / Niumalu Road)</p>	
Ownership	State DOT- Harbors Division, County of Kaua‘i
TMK	Plats: 3-2-02; 3-2-03; 3-2-04;
SLUD	Urban, Agricultural
County Zoning	Residential (R), Open (O), Industrial-General (I-G)
Current Uses	Harbor, Industrial, Cruise Ship Landing, Public Access
Opportunities	<ul style="list-style-type: none"> • Link coastal park system with the bicycle / pedestrian path • First impression for arriving cruise ship passengers. • Harbor employment is a trip generator. • Interpretive signage: <ul style="list-style-type: none"> - History of Nāwiliwili Harbor development. - Orientation to the cultural history of Nāwiliwili, Kalapakī, and Niumalu, including directions to landmark features in the area.
Public Input	No comments received
Issues	<ul style="list-style-type: none"> • Port Security • Industrial Traffic. • Narrow right-of-way with utilities in shoulder..

Segment O – Preferred Alternative

O-1 – Niumalu Connection via Shared-Use Path

- Widen the existing, makai sidewalk on Rice Street/Nāwiliwili Road between Nāwiliwili Beach Park and Wilcox Road to 10-feet. Provide pedestrian cross-walks at all driveways and intersections.
- Provide a crosswalk with refuge island across Wilcox Road at the intersection with Nāwiliwili Road.
- On Wilcox Road and Kānoa Street, utilize the existing makai 5-foot wide sidewalk for pedestrian access. Construct a new 10-foot wide shared-use path on the mauka side separated by a jersey barrier. See Photo O1



Photo O1 – Kānoa Road corridor – view towards south with cruise ship dock in view. Shared-use path proposed for the mauka (west) side of the road.

- On Wa‘apā Road between Kānoa Street and Niumalu Road, construct a new 10-foot wide concrete shared-use path on the mauka side of the street to avoid crossing cargo terminal entrances. Provide signed crosswalks at all driveways. See Photo O2 and O3.
- Install jersey barriers between the shared-use path and road for safety purposes and to reduce State and driver liability.
- Install a crosswalk at the intersection Niumalu Road to provide access to the Nāwiliwili Small Boat Harbor and path continuation to Niumalu Park.
- Designate Niumalu Road a shared-use road to connect to Niumalu Park. See Photo O4.



Photo O2 – Wa‘apā Road corridor – view towards west. Shared-use path with jersey barrier proposed for mauka (north) side of road.



Photo O3 – Wa‘apā Road corridor – view towards west. Shared-use path with jersey barrier proposed for mauka (north) side of road.



Photo O4 – Intersection at Niumalu Road / Nāwiliwili Small Boat Harbor driveway.

Basis for Selection

- The mauka alignment avoids crossing cargo terminal entrances at the harbor and is thus less likely to interfere with maritime industrial traffic movements of large container trucks, commercial vehicles and other heavy equipment. A separated path and jersey barriers are necessary to improve path user safety and reduce State and Driver liability.

Segment O – Alternatives Considered

O-2 – Niumalu Connection via Sidewalk and Signed Shared Roadway

- Widen the existing, makai sidewalk to 10-feet on Rice Street/Nāwiliwili Road between Nāwiliwili Beach Park and Wilcox Road. Provide pedestrian cross-walks at all driveways and intersections.
- On Wilcox Road and Kānoa Street, utilize the existing 5-foot wide sidewalk for pedestrian access and designate the roadway as a signed shared roadway for bicycles and motor vehicles.
- On Wa‘apā Road and Niumalu Roads, construct a new 6-foot wide concrete sidewalk on the makai side of the street and designate the roadway as a signed shared road for bicycles and motor vehicles.

Reason Not Selected

- The makai alignment crosses harbor cargo terminal entrances and increases the potential for conflict with the maritime industrial areas high traffic movements of large container trucks, commercial vehicles, and other heavy equipment.
- A shared-use road increases the potential for conflicts between bicycles and maritime industrial traffic. See Photo 05.



Photo O5 – Wa‘apā Road corridor – view towards east with stern of cruise ship in view.

2.2.4.P Niumalu Road to Nāwiliwili Small Boat Harbor

As discussed in Section 2.2.4.O above, connection to the Nāwiliwili Small Boat Harbor supports the project's overall objective of linking public recreational facilities with a non-motorized vehicle path system. Improved pedestrian and bicycle access to the small boat harbor would enhance its function as a public resource and benefit harbor users and employees with transportation alternative to the automobile.

Table P SEGMENT P – Niumalu Road to Nāwiliwili Small Boat Harbor	
Ownership	State DOT- Harbors Division, County of Kaua'i
TMK	3-2-03: 43
SLUD	Urban
County Zoning	Industrial-General (I-G)
Current Uses	Nāwiliwili Small Boat Harbor
Opportunities	<ul style="list-style-type: none"> • Link the small boat harbor as part of the coastal park system with the bicycle / pedestrian path • Interpretive signage: <ul style="list-style-type: none"> - History of Nāwiliwili Harbor development. - Orientation to the cultural history of Nāwiliwili, Kalapakī, and Niumalu. - News of natural landmark features.
Public Input	No comments received.
Issues	Port security.

Segment P – Preferred Alternative

P-1 – 8-foot Path to Nāwiliwili SBH

- On the Nāwiliwili Small Boat Harbor entrance drive, construct a new minimum 8-foot wide concrete path along the east (dock side) of the entrance. Provide a pedestrian cross-walk across the driveway entrance for the sidewalk continuation onto Niumalu Beach Park. See Photo O4.

Basis for Selection

- The existing driveway has adequate space to accommodate an 8-foot separated multi-use path. While traffic volumes are low enough on this driveway to support a shared-road facility, much of the traffic includes heavy vehicles with boat trailers. A separated path will minimize conflicts with larger vehicles and provide safe access for pedestrians and bicyclists along the driveway.

2.3 Alignment Alternatives Cost Estimates

Table 2-1 provides estimated construction costs for each of the alignments described above. Where n/a (not applicable) is indicated, a cost estimate has not been prepared due to an overriding basis for rejecting that alignment from further evaluation. Cost estimates for Segment K are to be determined (tbd) pending finalization of Kaua'i County's Urban Design Guidelines.

Table 2-1 Alignment Alternatives Cost Estimate		
Segment	Description	Cost
PRIMARY PROJECT CORRIDOR		
A	Ahukini to Ninini Point	
Base	Comfort station	\$791,775
A-1	10-foot wide shoreline path	\$5,157,750
A-2	Path parallel to dirt road	\$4,730,238
A-3	Signed shared roadway. Not ADA compliant. No cost prepared.	n/a
B	Ninini Point to Kalapaki Beach Coastal Pedestrian Path	
B-1	Pedestrian path only (by others). No cost prepared.	n/a
B-2	Ninini Road to Fashion Landing sidewalk and shared-use signage.	\$92,000
B-3	Ninini Point to Fashion Landing coastal route.	\$276,000
C	Ninini Point to Kapule Highway	
C-1	10-foot wide multi-use path	\$2,886,500
C-2	6-foot wide sidewalk and signed shared roadway	\$2,406,375
D	Kapule Highway / Ninini Road Intersection to Kaua'i Marriott	
D-1	Path adjacent to Limo Road	\$5,030,503
D-2	Signed shared Limo Road with 6-foot wide path. No cost prepared.	n/a
E	Kaua'i Marriott to Nāwiliwili Beach Park	
Base	10-foot wide path on Hoolaulea Way to Kalapaki Road	\$512,325
E-1	Kalapaki Road – ramp connection	\$1,406,105
E-2	Kalapaki Road – tunnel connection	\$2,977,178
E-3	Kalapaki Road – at-grade path to Rice Street. No cost prepared.	n/a
F	Nāwiliwili Beach Park Improvements	
F-1	1999 Master Plan – path-related improvements	\$8,974,600

Table 2-1 Alignment Alternatives Cost Estimate		
Segment	Description	Cost
SECONDARY NETWORK		
G	Ahukini Landing to Līhu'e Airport	
G-1	Combination path and signed shared roadway with pedestrian sidewalk	\$1,049,290
H	Līhu'e Airport to Kapule Highway	
Base	500 linear feet of 10-foot wide path	\$89,125
H-1	Bicycle / pedestrian path parallel to Ahukini Road	\$178,250
H-2	Ahukini Road to Ka'ana Road through airport property	\$529,000
H-3	Ka'ana Road connection to south terminal bike depot	\$310,875
H-4	Limo Road – terminal to Ninini Road sidewalk shared-use connection	\$196,363
I	Ahukini Road – Kapule Highway to Umi Street	
I-1	10-foot wide path on north side of Ahukini Road	\$908,500
I-2	10-foot wide path on south side of Ahukini Road	\$885,500
I-3	10-foot wide striped bicycle lanes on roadway	\$129,375
J	Kapule Highway – Ahukini Road to Ninini Point Road	
J-1	10-foot wide path on west side of Kapule Highway	\$598,000
J-2	10-foot wide path on east side of Kapule Highway	\$598,000
J-3	10-foot wide striped bicycle lanes on roadway	\$89,125
K	Molokoa Public Facility Center	
K-1	Police Headquarters sidewalk widening and crosswalk installation	\$195,500
K-2	Stadium and soccer field 10-foot wide multi-use path	\$477,250
L	Līhu'e Civic Center Connections	
L-1	Ka'ana Street: Continue existing sidewalk / bike lane section	tbd
L-2	Ka'ana Street: 10-foot path transition to sidewalk / bike lane	tbd
L-3	Umi Street: Urban Design Guideline	tbd
L-4	Umi Street: sidewalk / bike lane to 8-foot multi-use path	tbd
L-5	Ho'olako Street: Urban Design Guideline	tbd
L-6	Ho'olako Street: 10-foot path transition to sidewalk / bike lane	tbd
M	Nāwiliwili Beach to Līhu'e Civic Center	
M-1	Rice Street bicycle priority lane. Alternative not selected. No cost	n/a

Table 2-1 Alignment Alternatives Cost Estimate		
Segment	Description	Cost
	prepared.	
M-2	Bicycle-only lane. Alternative not selected. No cost prepared.	n/a
N Nāwiliwili Stream Valley		
N-1	Path through valley. Alternative not selected. No cost prepared.	n/a
O Nāwiliwili Beach Park to Niumalu Beach Park		
O-1	Niumalu Connection via Shared-Use Path with Jersey Barriers	\$1,117,225
O-2	Sidewalk and signed shared roadway improvements	\$663,550
P Niumalu Road to Nāwiliwili Small Boat Harbor		
P-1	8-foot wide path along driveway	\$165,600

2.4 Preferred Alignment Estimated Costs

See Figure 2-2 for a map of the preferred alignments, and Table 2-2 for a summary and total of costs estimated for each preferred segment.

Table 2-2 Preferred Alignments Cost Estimate		
Segment	Description	Cost
PRIMARY PROJECT CORRIDOR		
A Ahukini to Ninini Point		
Base	Comfort station	\$791,775
A-1	10-foot wide shoreline path	\$5,157,750
B Ninini Point to Kalapaki Beach Coastal Pedestrian Path		
B-1	Pedestrian path only (by others). No cost prepared.	n/a
B-2	Ninini Road to Fashion Landing sidewalk and shared-use signage.	\$92,000
C Ninini Point to Kapule Highway		
C-1	10-foot wide multi-use path	\$2,886,500
D Kapule Highway / Ninini Road Intersection to Kaua'i Marriott		
D-1	Path adjacent to Limo Road	\$5,030,503

Table 2-2 Preferred Alignments Cost Estimate		
Segment	Description	Cost
E	Kaua'i Marriott to Nāwiliwili Beach Park	
Base	10-foot wide path on Hoolaulea Way to Kalapaki Road	\$512,325
E-1	Kalapaki Road – ramp connection	\$1,406,105
F	Nāwiliwili Beach Park Improvements	
F-1	1999 Master Plan – path-related improvements	\$8,974,600
PRIMARY PROJECT CORRIDOR TOTAL		\$24,851, 558
SECONDARY NETWORK		
G	Ahukini Landing to Lihu'e Airport	
G-1	Combination path and signed shared roadway with pedestrian sidewalk	\$1,049,290
H	Lihu'e Airport to Kapule Highway	
Base	500 linear feet of 10-foot wide path	\$89,125
H-2	Ahukini Road to Ka'ana Road through airport property	\$529,000
H-3	Ka'ana Road connection to south terminal bike depot	\$310,875
I	Ahukini Road – Kapule Highway to Umi Street	
I-1	10-foot wide path on north side of Ahukini Road	\$908,500
J	Kapule Highway – Ahukini Road to Ninini Point Road	
J-1	10-foot wide path on west side (mauka) of Kapule Highway	\$598,000
K	Molokoa Public Facility Center	
K-1	Police Headquarters sidewalk widening and crosswalk installation	\$195,500
L	Lihu'e Civic Center Connections	
L-1	Ka'ana Street: Continue existing sidewalk / bike lane section	tbd
L-2	Ka'ana Street: 10-foot path transition to sidewalk / bike lane	tbd
L-3	Umi Street: Urban Design Guideline	tbd
L-4	Umi Street: sidewalk / bike lane to 8-foot multi-use path	tbd
L-5	Ho'olako Street: Urban Design Guideline	tbd
L-6	Ho'olako Street: 10-foot path transition to sidewalk / bike lane	tbd

Table 2-2 Preferred Alignments Cost Estimate		
Segment	Description	Cost
O	Nāwiliwili Beach Park to Niumalu Beach Park	
O-1	Niumalu Connection via Shared-Use Path with Jersey Barriers	\$1,117,225
P	Niumalu Road to Nāwiliwili Small Boat Harbor	
P-1	8-foot wide path along driveway	\$165,600
SECONDARY NETWORK TOTAL		\$4,963,115
	COMBINED PRIMARY AND SECONDARY NETWORK TOTAL	\$29,814,673

