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IN REPLY REFER TO:

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JUL 27 2007

TO: LAURENCE K. LAU, ACTING DIRECTOR
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FROM: BARRY FUKUNAGA
DIRECTOR OF TRANSPORTATION

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT (FEA) AND FINDING OF NO
SIGNIFICANT IMPACT (FONSI) FOR THE KUHIO HIGHWAY
SHORT-TERM IMPROVEMENTS - WAILUA CANE HAUL BRIDGE,
WAILUA, KAUAI, HAWAII, TMK: 3-9-006: 012

The Department of Transportation has reviewed the comments received during the 30-day public comment period which began on April 8, 2007. We have determined that this project will not have significant environmental effects and have issued a FONSI. Please publish this notice in the next issue of the Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the Final EA. If you have any questions, please contact Darell Young, Project Manager, at 587-1835 or our consultant, Nancy Nishikawa with Kimura International, Inc., at 944-8848.

Enclosures: OEQC Bulletin Publication Form
Project Summary Form
Kuhio Highway Short-Term Improvements FEA - Wailua Cane Haul Bridge

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Kūhiō Highway Short-Term Improvements Wailua Cane Haul Bridge

Project No. BR-056-1(51)

Final Environmental Assessment

State of Hawai'i
Department of Transportation

July 2007



**KUHIO HIGHWAY SHORT-TERM IMPROVEMENTS
WAILUA CANE HAUL BRIDGE
Project No. BR-056-1(51)
Kaua'i, Hawai'i**

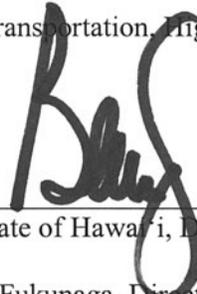
**Final Environmental Assessment/
Finding of No Significant Impact**

Submitted Pursuant to
Hawai'i Revised Statutes, Chapter 343

State of Hawai'i, Department of Transportation, Highways Division

7.26.07

Date of Approval



For State of Hawai'i, Department of Transportation

Barry Fukunaga, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
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This Final Environmental Assessment (FEA) documents impact studies of proposed improvements to Kūhiō Highway on the island of Kaua'i between the north end of Leho Drive and Kuamo'o Road. This section of Kūhiō Highway is approximately .34 mile in length and extends from milepost 5.62 to Milepost 5.96.

The focal point of the project is to reconstruct the Wailua River cane haul bridge. The existing concrete deck, which carries one lane of traffic, will be removed and replaced with a wider deck for two vehicular lanes and a cantilevered bike/pedestrian lane. Both vehicular travel lanes will be in the northbound direction. The new deck will be constructed using a prefabricated modular system. Existing piers will remain in place and unaltered, except for new struts extending from the pile cap to the underside of the deck. To accommodate the longer and wider bridge, new piers and abutments will be constructed landward of the existing abutments, and roadway approaches will be modified on both sides of the crossing. Other improvements will include retaining walls, drainage inlets, guard rails, signs, striping, and landscaping.

To mitigate traffic congestion during construction, the mauka, highway bridge will be altered to accommodate three vehicular lanes on an interim basis. Part of the sidewalk on the makai side will be removed and a temporary guardrail added. In the long-term, the highway bridge would be restored to its former condition and carry two vehicular lanes in the southbound direction.

The project is not expected to cause substantial environmental impacts, but there will be short-term construction-related impacts from traffic, noise, and dust. No construction will occur in the river channel. Portions of State and County park lands adjacent to the project area will be required for construction staging and temporarily unavailable for recreational use. Therefore, a Finding of No Significant Impact (FONSI) has been issued under HRS, Chapter 343. Measures to mitigate impacts are available and will be implemented in accordance with applicable regulations and/or consultation with appropriate agencies.

Kūhiō Highway Short-Term Improvements Wailua Cane Haul Bridge

Project No. BR-056-1(51)

Final Environmental Assessment

Prepared for:

**State of Hawai'i
Department of Transportation**

Prepared by:



KIMURA INTERNATIONAL

July 2007

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Glossary of Acronyms and Hawaiian Terms*

AASHTO	American Association of State Highway Transportation Officials
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
ahupua‘a	a land division usually extending from the uplands to the sea
DEA	Draft Environmental Assessment
DOH	Department of Health, State of Hawai‘i
EA	Environmental Assessment
FEA	Final Environmental Assessment
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
HAR	Hawai‘i Administrative Rules
HDOT	State of Hawai‘i, Department of Transportation
HRS	Hawai‘i Revised Statutes
heiau	Pre-Christian place of worship; shrine
kama‘āina	native born, one born in a place; acquainted, familiar
KIUC	Kaua‘i Island Utility Cooperative
kuleana	small parcel of land within an ahupua‘a
LCA	Land Commission Award. Awards issued by the Board of Commissioners to Quiet Land Titles between 1846 and 1855 to persons who filed claims to land between 1846 and 1848
makai	toward the ocean (seaward)
mauka	toward the mountains (landward)
MSL	mean sea level
NPDES	National Pollutant Discharge Elimination System
OEQC	Office of Environmental Quality Control
SMA	Special Management Area
SSV	Shoreline Setback Variance

* English definitions of Hawaiian terms from *Hawaiian Dictionary*, Revised and Enlarged Edition (Pukui and Elbert, 1986) and *Dictionary of Hawaiian Legal Land-Terms* (Lucas, 1995)

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1 INTRODUCTION

1.1 PROPOSING AGENCY AND ACTION

The State of Hawai‘i, Department of Transportation, Highways Division (HDOT) proposes to improve Kūhiō Highway on the island of Kaua‘i between the north end of Leho Drive and the vicinity south of Kuamo‘o Road. This section of Kūhiō Highway is approximately .34 mile in length and extends from Milepost 5.62 to Milepost 5.96. Figure 1 shows the project location.

The focal point of the project is to reconstruct the Wailua River cane haul bridge (also known as the plantation bridge). The existing concrete deck, which currently carries one lane of traffic, will be removed and replaced with a wider deck for two vehicular lanes and a cantilevered bike/pedestrian lane. Both vehicular travel lanes will be in the northbound direction. The new deck will be constructed using a prefabricated modular system. Existing piers will remain in place and unaltered, except for the addition of struts extending from the pile cap to the underside of the deck. To accommodate the longer and wider bridge, new piers and abutments will be constructed landward of the existing abutments, and roadway approaches will be modified on both sides of the crossing. Other improvements will include retaining walls, drainage inlets, guardrails, signs, striping, and landscaping. An existing roadway located south of the two bridges will be improved to facilitate access to the Wailua Marina. See Chapter 3 for a more detailed project description.

For traffic control purposes, HDOT will make limited structural alterations to the Wailua River (highway) bridge while the cane haul bridge is closed for construction. A portion of the sidewalk on the makai side of the bridge will be removed. This action will open enough space to restripe the highway bridge temporarily for three lanes of traffic and install a temporary guardrail. After the cane haul bridge is reopened, the sidewalk will be restored and highway bridge will be striped and signed to accommodate two travel lanes in the southbound direction.

This project will integrate a County bike and pedestrian path from approximately Aloha Beach Resort, going across the river—where the path will be attached to the reconstructed cane haul bridge—to Kuamo‘o Road.

The HDOT will own and operate the roadway and bridge structure. The County of Kaua‘i, Department of Public Works (DPW) will own and operate the bike/pedestrian path, except for the portion attached to the cane haul bridge. The project will be funded, in part, by the U.S. Department of Transportation, Federal Highway Administration (FHWA).

1.2 DEFINING THE PROJECT AREA

The project area satisfies three general principles contained in the FHWA regulations at 23 CFR 771.111(f) (GPO 2004) on framing a transportation project.

- (1) Connect logical termini and be of sufficient length to address environmental matters on a broad scope

Discussion. The proposed action has logical termini. The project will improve Kūhiō Highway beginning at the north end of Leho Drive and terminating just south of Kuamo‘o Road. Leho Drive is the nearest major cross street on the south side of Wailua River, and Kuamo‘o Road is the nearest major cross street on the north side of the river. The length of the project area is sufficient to evaluate potential impacts on the natural, social, and cultural environment resulting from modifications to the river crossing.

- (2) Have independent utility or independent significance, i.e., be usable and be a responsible expenditure even if no additional transportation improvements in the area are made

Discussion. Improving Kūhiō Highway between the project termini will provide an independent and useful facility that serves local and regional transportation needs. This project is intended to operate in tandem with a separate project to widen Kūhiō Highway from Kuamo‘o Road to the southern terminus of the temporary bypass road. However, even if the highway widening project does not proceed as expected, upgrading traffic capacity across Wailua River will facilitate traffic flow through the narrow river corridor.

As an independent project, the Wailua Bridge short-term improvement project will benefit travel on Kuamo‘o Road (State Route 580), serving the Wailua Homesteads community, the upper portion of Wailua River State Park, and the new Coco Palms Resort. Among all the mauka-makai feeder roads to Kūhiō Highway on the east side of Kaua‘i, Kuamo‘o Road carries the highest traffic volumes during peak periods (Wilson Okamoto, 2002). The intersection of Kūhiō Highway and Kuamo‘o Road is highly impacted because it is located at the southernmost end of the urbanized area. As vehicles funnel down from mauka residential areas, traffic counts increase as one travels south on Kūhiō Highway, like a river accumulating the flow of multiple tributaries. Traffic congestion will worsen when the Coco Palms Resort reopens with 196 condominium units and 48 hotel bungalows (Finnegan, 2006). With the permanent addition of a second southbound lane, the Kuamo‘o Road intersection will be able to operate more effectively.

- (3) Not restrict consideration of alternatives for other foreseeable transportation improvements

Discussion. The project area was sufficiently broad to consider a range of alternatives, from retrofitting either or both of the existing bridges to constructing a new bridge. The constraining factors were the layout of the existing structures and their physical tolerances. Transportation planners sought to work with the existing infrastructure to the extent possible, given a pressing need to address congestion. The alternatives considered focused on ways to minimize environmental effects and allow quick implementation.

This project was conceived as an interim solution from the outset. It does not preclude any long-term solution for the transportation issues in East Kaua‘i, such as those being studied in the separate Kapa‘a Relief Route project.

1.3 PURPOSE OF THE DRAFT ENVIRONMENTAL ASSESSMENT

This Draft Environmental Assessment (Draft EA) has been prepared to satisfy the requirements of Chapter 343, Hawai‘i Revised Statutes; and Title 11, Chapter 200, Environmental Impact Statement Rules of the Hawai‘i Administrative Rules.

The proposed action triggered the rules and regulations for environmental review for the following reasons:

- use of public funds and public lands
- potential use of land classified as Conservation District
- location within the Special Management Area
- use within the shoreline setback area

The EA also documents compliance with applicable federal laws and regulations due to the proposed use of federal funds administered by the Federal Highway Administration (FHWA). A Categorical Exclusion pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, is anticipated for this project.

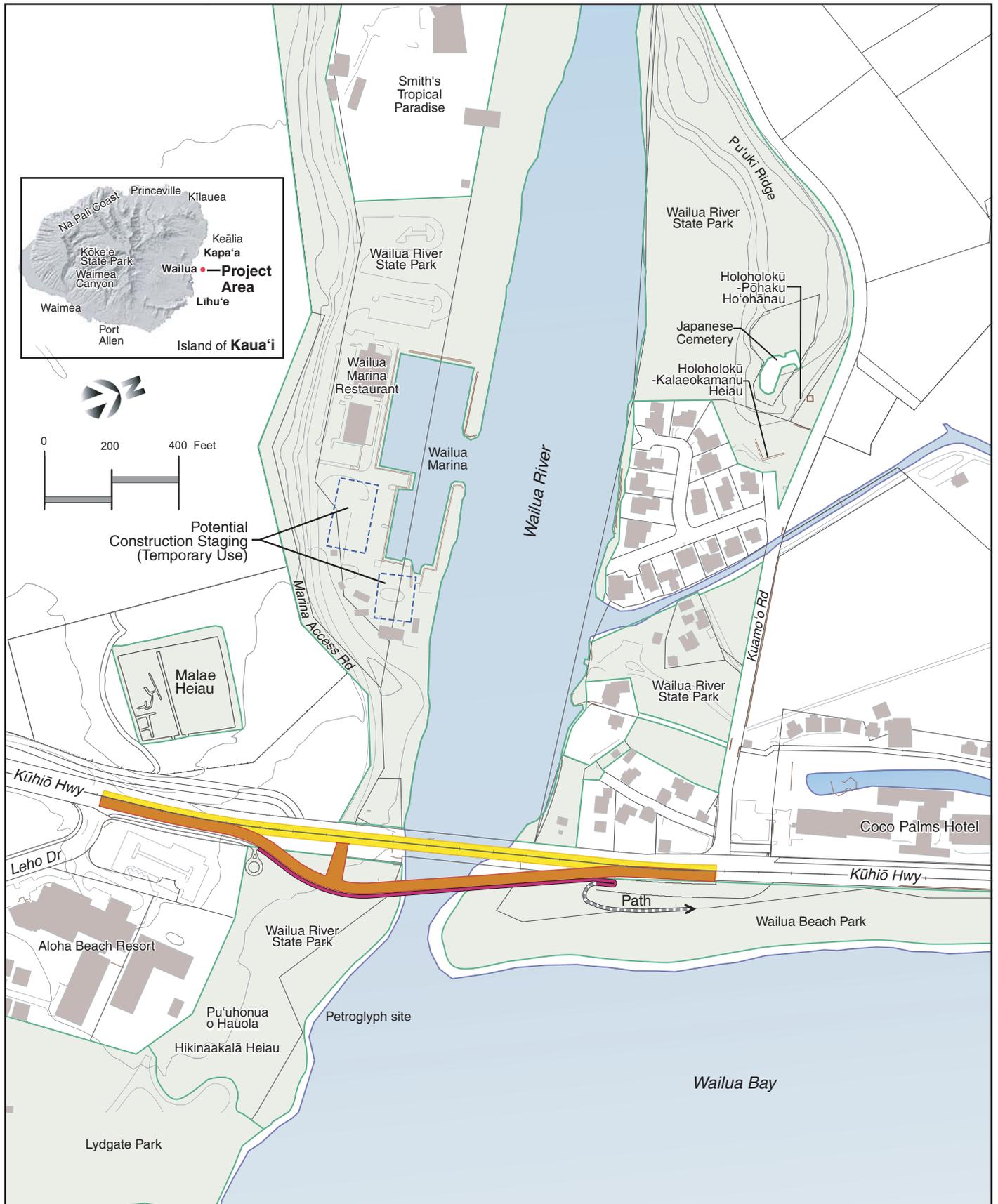


Figure 1
Location Map
Wailua River and Plantation/Cane Haul Bridge
Wailua River Bridge Improvements

1.4 STEPS IN THE ENVIRONMENTAL REVIEW AND IMPLEMENTATION PROCESS

Once completed, the Draft EA is submitted to the State Office of Environmental Quality Control (OEQC) for processing. OEQC will notify the public when the Draft EA is available for review. The announcement is made in a bimonthly bulletin called the *OEQC Environmental Notice*, which is available in print and on line. Publication in the *Notice* initiates a 30-day comment period during which government agencies and interested members of the public can review and comment on the EA findings. After the review period has ended, the HDOT will review all comments and determine whether the EA warrants a Finding of No Significant Impact (FONSI).

Additional channels for public input will be available after the environmental assessment is completed. The project will need permits (see Section 1.5, below) that have their own procedural requirements for public involvement. Although the exact nature of the public participation program is unknown at this time, the public will be notified of opportunities to provide feedback through the design phase of the project.

1.5 PERMITS AND APPROVALS REQUIRED OR POTENTIALLY REQUIRED

Government permits required or potentially required to implement the proposed action are listed below:

Agency	Permit
U.S. Army Corps of Engineers	Department of Army Permit Section 10, Rivers and Harbors Act
Board of Land and Natural Resources, State Dept. of Land and Natural Resources	Conservation District Use Permit
State Department of Health	National Pollutant Discharge Elimination System (NPDES) Permit Section 402, Clean Water Act
State Department of Health	Construction Noise Permit/Variance
State Office of Planning	Coastal Zone Management Consistency Review
County of Kaua‘i Planning Department	Special Management Area Permit Shoreline Setback Variance

1.6 PROJECT SUMMARY

Project Name	Kūhiō Highway Short-term Improvements, Wailua River Bridge
Proposing Agency	State of Hawai‘i, Department of Transportation
Approving Agency	State of Hawai‘i, Department of Transportation
Anticipated Determination	Finding of No Significant Impact (FONSI)
Tax Map Keys	Island of Kaua‘i, 3-9-06: 12, 29 (portion); 4-1-04: 01 (por.), 20
Existing Uses of the Site	Project is located in an existing highway corridor measuring approximately 60 feet wide. On the north side of the Wailua River, a portion of the bike/pedestrian path will be located within Wailua Beach Park, adjacent to the existing south parking area.
Proposed Project	Improvements to Kūhiō Highway from the northern intersection with Leho Drive to Kuamo‘o Road. The Wailua cane haul bridge (also known as the plantation bridge) will be reconstructed by removing the existing deck and replacing it with a wider, 30-foot deck for two vehicular lanes and a pedestrian lane. To support the wider bridge, approaches will be modified and new abutments installed. An existing bike/pedestrian path that currently ends near Aloha Beach Resort will be extended to Wailua Beach Park, with the over-water section attached to the cane haul bridge. Ancillary improvements include retaining walls, drainage inlets, guardrails, signs, striping, and landscaping.
State Land Use	Land areas are in the Urban District. The bridge crosses Wailua River, which is in the Conservation District.
Kaua‘i General Plan	Except for the Wailua River crossing, the highway corridor passes through or adjacent to land designated for park use. On the north of the river, lands on the mauka side of the highway are designated for residential use (between the river and Kuamo‘o Road) and resort use (Coco Palms area).
Zoning	All land areas surrounding the project area are zoned “open.” Aloha Beach Resort and Coco Palms, located near the project area, are in resort zones “RR20.”
Special Management Area (SMA) Designation	The project area is wholly located within the SMA.

2. PURPOSE OF AND NEED FOR ACTION

2.1 CONTEXT OF THE PROJECT

Kūhiō Highway (Route 56) is part of the National Highway System and connects Līhu‘e and Kapa‘a, the two largest urban centers on the island of Kaua‘i. The highway provides the only interregional link for the north and east sides of the island. As the county seat, Līhu‘e is the center for all branches of government, with the island’s most advanced medical and educational institutions and the largest airport and harbor facilities. Kapa‘a, on the east side, contains sizeable residential communities, resort properties, and a large commercial area with a mix of shopping centers and a historic downtown district. Beyond Kapa‘a, lie a string of small towns and a major visitor destination at Princeville on the North Shore. Based on data from the 2000 U.S. Census and Kaua‘i General Plan, approximately 42.5% of the resident population and 49% of the visitor units are located north of the Wailua River.

2.2 PROJECT PURPOSE AND NEED

The highway improvement project addresses several needs:

- Existing capacity deficiencies
- Future travel demand
- Improved highway safety
- Improved safety for pedestrians, bicyclists, and others using non-motorized modes of transportation

Existing Capacity Deficiencies

In the project area, Kūhiō Highway consists of three travel lanes: two lanes northbound and one lane southbound. During the morning peak period, contraflow operations are needed to alleviate the heavy travel demand in the southbound direction from Kapa‘a to Līhu‘e. After the contraflow lane is removed at approximately 10:30 am on weekday mornings, capacity on the single through lane is insufficient to accommodate existing traffic volumes. Congestion through the river corridor produces back-ups that impede the function and performance of intersections along the highway. Poor traffic conditions are worsened by traffic accidents, vehicular breakdowns, and roadway and utility repair work.

Construction of a fourth travel lane will provide for two permanent lanes in the southbound direction, in addition to the two existing northbound lanes. After the project is completed, contraflow operations will continue south of Wailua River, but will no longer be needed at the Wailua River crossing itself.

Future Travel Demand

Kaua‘i is experiencing a period of economic prosperity that has supported new construction and job creation, including the anticipated reopening of Coco Palms Resort, located immediately north of the project area. Other development proposals remain in the pipeline. With Kūhiō Highway being the only regional highway in East Kaua‘i, its capacity is insufficient to accommodate existing traffic volumes, as well as anticipated increases in traffic volumes that are consistent with growth in population, employment, and visitors. Without capacity enhancements, traffic conditions will deteriorate further, with increased travel delays, driver frustration, excess fuel consumption, and air pollutant emissions.

This project will extend the useful life of existing highway facilities while planning and environmental analyses are completed for a long-term solution for East Kaua‘i’s traffic.

Improved Highway Safety

Highway safety across Wailua River will be improved in two ways. First, the Wailua River highway bridge will be converted from an undivided two-way bridge to a two-lane bridge for southbound travel only, thereby eliminating the possibility of head-on collisions. Second, the traffic pattern will be rationalized when both northbound lanes follow the same alignment over the cane haul bridge, rather than being split between the Wailua River highway bridge and the cane haul bridge. This unconventional traffic pattern occasionally causes motorist confusion, especially for visitors unfamiliar with the area.



Unconventional roadway pattern can lead to motorist uncertainty

Improved Safety for Pedestrians, Bicyclists, and Others Using Non-motorized Modes of Transportation

At present, pedestrians, joggers, and bicyclists in the project area use shoulders or the sides of roads, or share sidewalks where available. A continuous path that separates these users from vehicles will enhance safety and offer a comfortable route for those who wish to use non-motorized modes of travel.



To cross Wailua River, pedestrians must cross the approach to the cane haul bridge in order to reach sidewalks located on the highway bridge

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3. PROJECT ALTERNATIVES

3.1 PROJECT BACKGROUND

The proposal to widen Kūhiō Highway is included in the *Kaua‘i Long-Range Land Transportation Plan (LRLTP)* (State of Hawai‘i, Department of Transportation, 1997). The implementation portion of this plan recommends that Kūhiō Highway be widened from Kapule Highway to Ma‘īlihuna Road in the first phase (1996-2000), with construction of a bypass recommended for Phases 2 (2001-2005) and 3 (2006-2020). As explained in the LRLTP, “The widening of Kūhiō Highway is proposed first because the traffic related to the hotels and commercial properties along this section of Kūhiō Highway is expected to remain even if the bypass highway were constructed.”

In 2001, the HDOT resumed planning for a potential bypass highway¹ between Hanamā‘ulu and Kapa‘a. This project, known as the Kapa‘a Relief Route, addresses long-term transportation needs in East Kaua‘i. Soon after the project began, tourism on Kaua‘i experienced a setback due to the 9/11 and SARS events, which slowed an economy recovering from the aftermath of Hurricane ‘Iniki. By 2004, however, the pace of economic growth had accelerated and, by 2005, Kaua‘i’s annual visitor count exceeded 1 million and visitor spending topped \$1.1 billion (Gross 2005; Curtis 2006). Jobs grew by 4.2% and the unemployment rate dropped to record low levels: 2.2 % in February 2006 compared to a national rate of 4.8% (Gunter 2006). The surging economy has also led to an increased number of vehicles on the island’s roadways. The Kapa‘a Relief Route project, already in progress, is tied to an extended schedule of detailed technical studies and agency coordination, and is not able to address the acute increase in traffic congestion.

Therefore, in July 2005, the HDOT, FHWA, and County of Kaua‘i, convened a workshop to examine short-term solutions for traffic relief. The concept of a fourth lane across Wailua River was endorsed by all parties as a viable interim solution. Alternatives to implement the lane addition were considered in follow-up planning activities and preliminary design, as discussed below. Load tests, conducted in July 2006, confirmed that the existing pier system of the cane haul bridge road would be able to bear the additional load of a wider bridge and the weight of expected traffic.

¹ The first round of planning for a possible bypass highway began in 1992. Although planning had proceeded through three public meetings, the project was tabled in 1996 when it became evident that full compliance with federal and State environmental laws would require more resources than had been allocated.

3.2 TECHNICAL DESCRIPTION OF THE PREFERRED ALTERNATIVE

Replace Deck of the Cane Haul Bridge (Previously referred to as Alternative 1)

This project will make improvements to a section of Kūhiō Highway measuring approximately one-third mile from the north end of Leho Drive, crossing Wailua River to the vicinity south of Kuamo‘o Road. The cane haul bridge (also known as the plantation bridge) will be reconstructed. The existing deck, 14 feet wide, provides one northbound travel lane (see Figure 2). It will be replaced with a wider deck capable of carrying two northbound vehicular lanes (see Figures 3 and 4). The new upper structure will be constructed using a modular system which can be constructed efficiently. Attached to the deck will be a cantilevered walkway/bikeway.

Vehicular travel lanes will measure 11 feet wide. Shoulders on the bridge will be 2 feet wide on the left side and 6 feet wide on the right side. Shoulders on the approaches will be 8 feet wide on either side. The bike and pedestrian path will be 10 feet wide on land; 8 feet wide crossing the river, and will accommodate two-way travel.

The new deck will be constructed using a prefabricated panel system made of galvanized steel. In order to transition to the wider, prefabricated bridge, new concrete bridge sections will be built: a 43-foot section on the south end and a 33-foot section on the north end. Additionally, new piers and abutments will be constructed landward of the existing abutments, and roadway approaches will be modified on both sides of the crossing.

Upon completion, the deck of the cane haul bridge will be approximately two feet higher than it is currently, but this difference will not be noticeable to most motorists. The modular system, selected for its economical cost and relatively ease of construction, involves standard panels that are 7.5 feet high. When attached to the deck, approximately 4.5 feet will be above the deck, and 3 feet will be at deck level and below. The new side panels will be slightly higher than the existing railing system, but motorists will be able to see above them and/or through the open grid of metalwork.

Underneath the bridge, existing piers will remain in place and unaltered, except for the addition of struts extending from the pile cap to the underside of the deck. No underwater construction work will be involved. However, barges may be used to reach portions of the bridge or to collect construction debris.

Other improvements will include retaining walls, drainage inlets, guardrails, signage, striping, and landscaping.

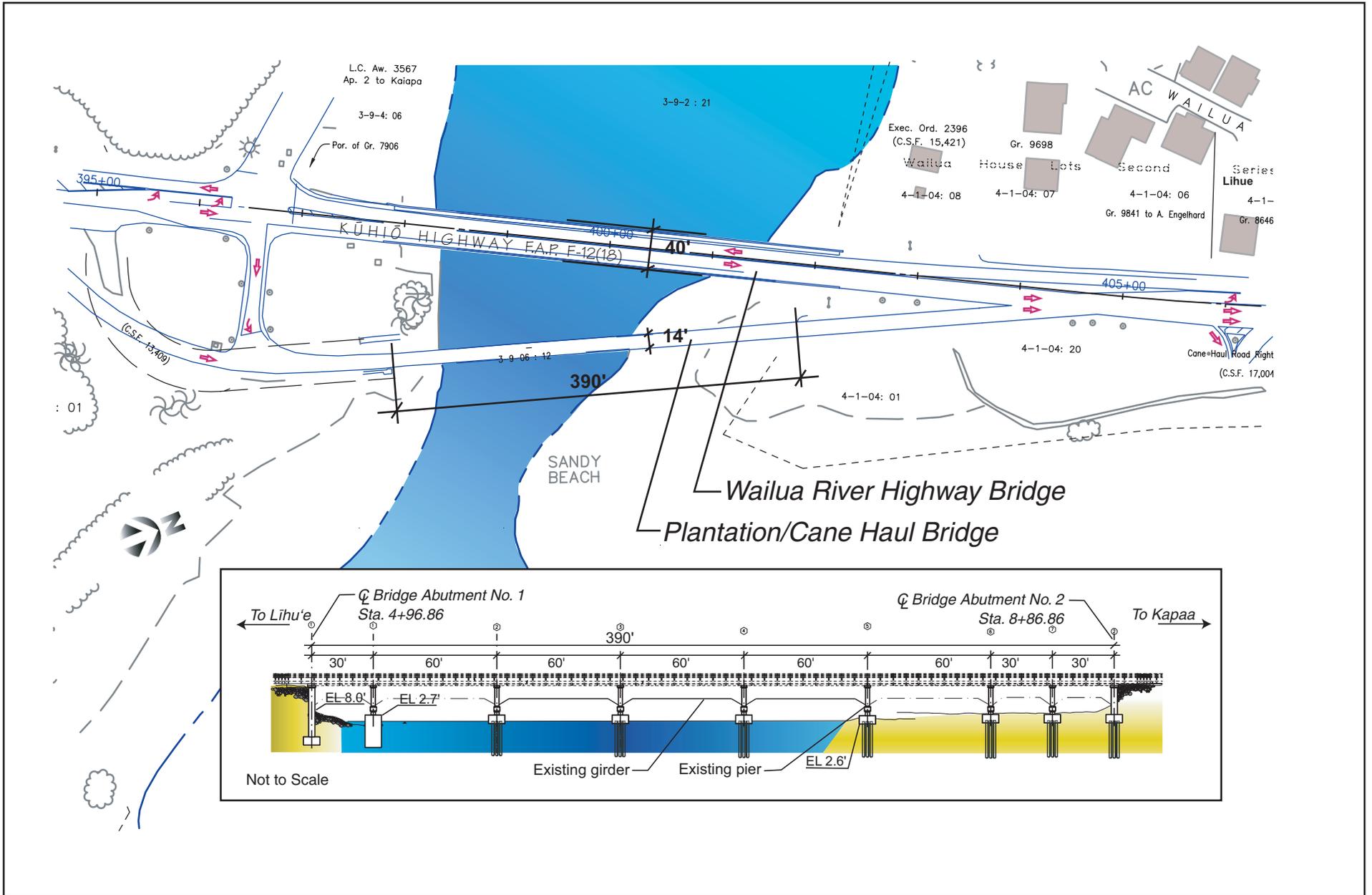


Figure 2
Existing Conditions
Wailua River and Plantation/Cane Haul Bridge
Wailua River Bridge Improvements

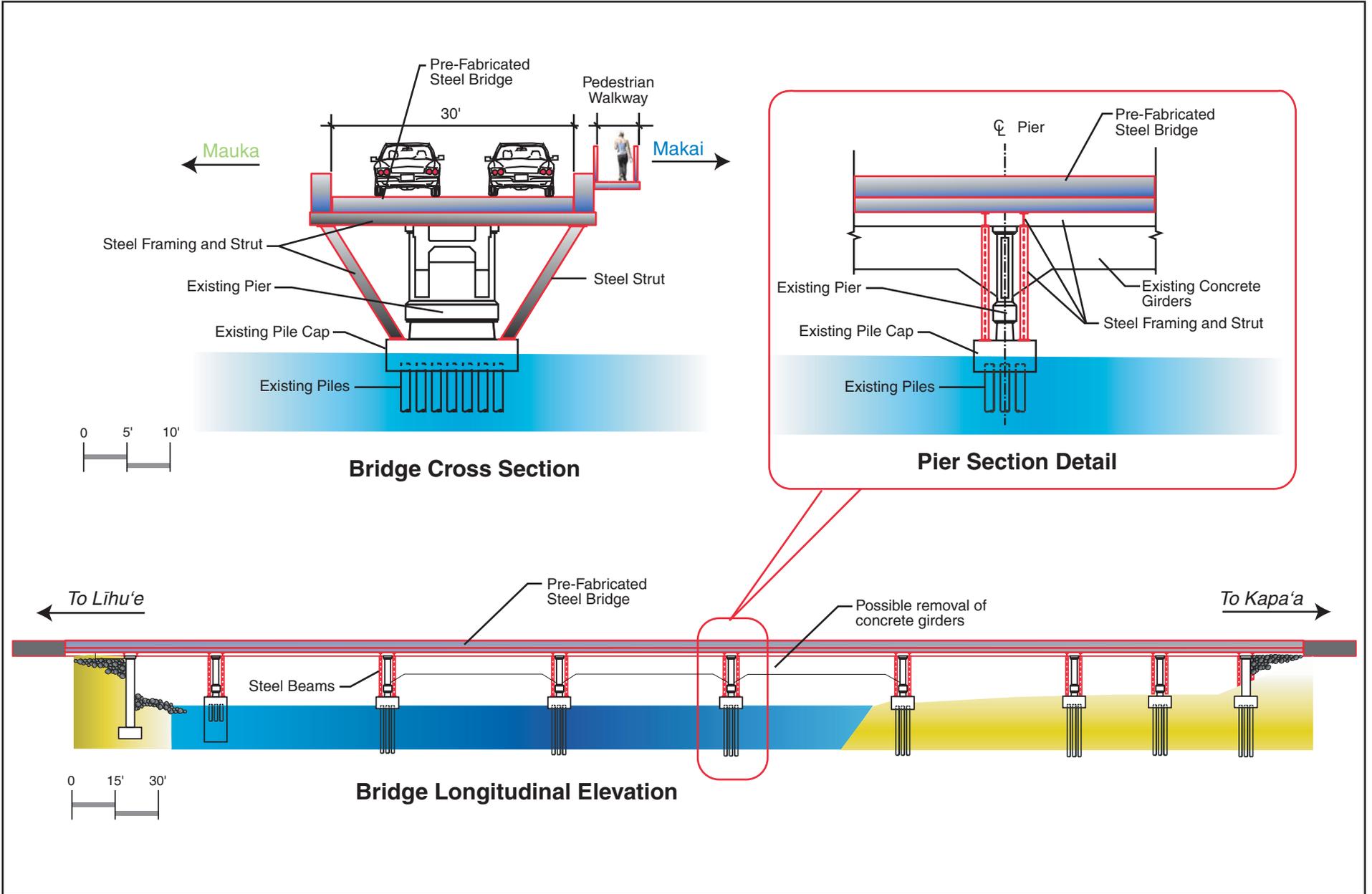
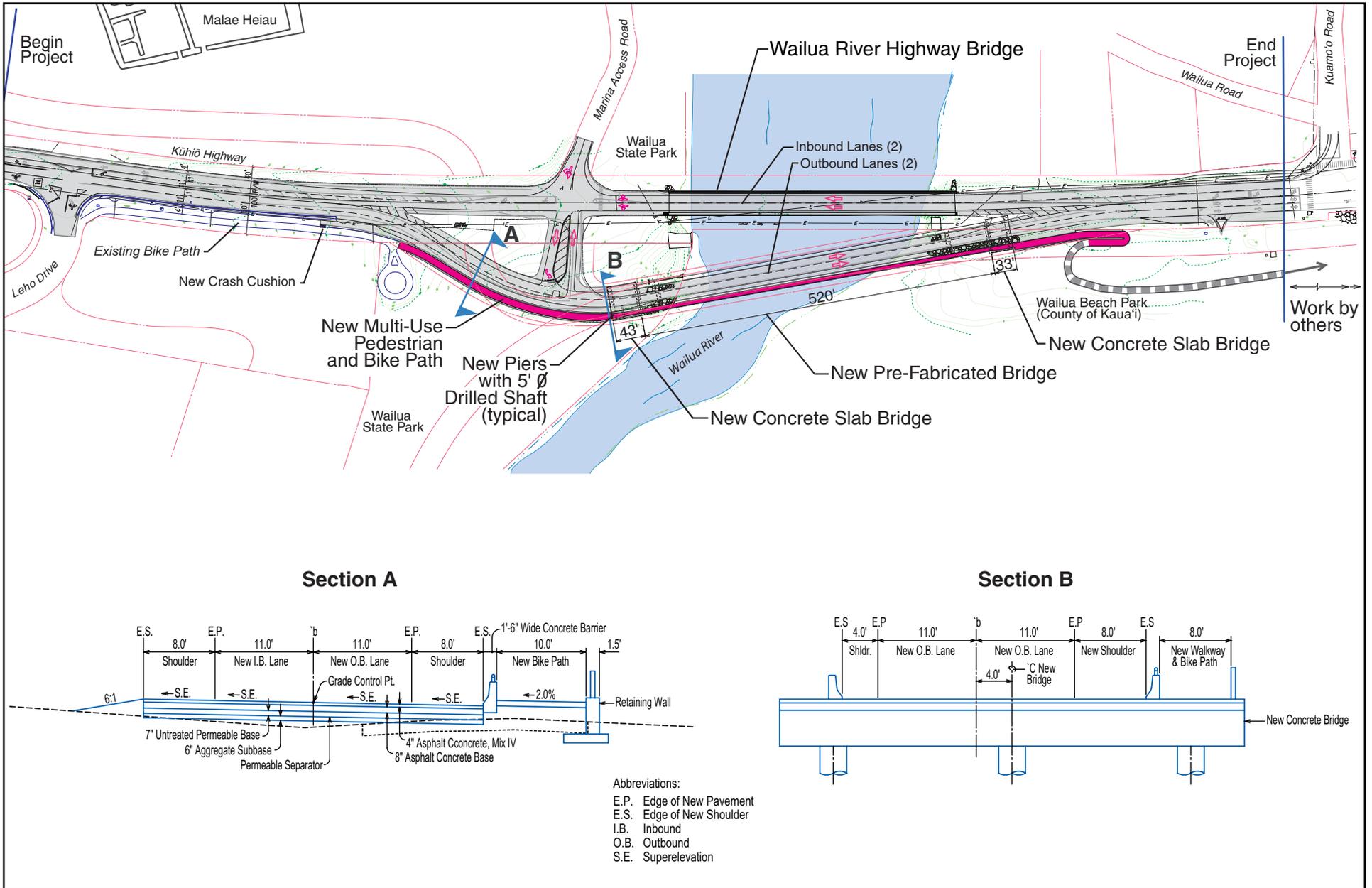


Figure 3
Preferred Alternative
Pre-Fabricated Bridge over Existing Cane Haul Bridge Piers
Wailua River Bridge Improvements



3-5

Figure 4
 Site Plan
 Wailua River Bridge Improvements

Wailua River Highway Bridge

There will be no permanent structural alterations to the Wailua River highway bridge. However, as a traffic control measure, HDOT will remove part of the sidewalk on the makai side of the highway bridge. The intent is to widen the roadway so that it can be re-striped for three travel lanes plus the installation of a temporary guardrail. Pedestrians will continue to use the sidewalk on the mauka side of the highway bridge. This arrangement will remain in place while the cane haul bridge is closed for construction. After the cane haul bridge is reopened, the makai sidewalk will be restored and the temporary guardrail removed. In the long term, the highway bridge will be converted to two lanes of travel in the southbound direction with the appropriate signage and striping.

Connector Road between the Two Bridges

An existing road located south of the two bridges will be improved to facilitate access to the Wailua Marina area. Southbound vehicles will be able to turn right onto the marina access road and turn right out of the access road. Northbound vehicles will need to use the 200-foot connector road, which is long enough to provide storage for tour buses and vehicles waiting to cross the southbound lanes of Kūhiō Highway. Drivers exiting the marina access road who wish to go northbound will need to cross two lanes of southbound traffic and use the connector road to reach the northbound lanes of Kūhiō Highway. This intersection will remain unsignalized. The connector road will serve as a refuge lane for vehicles waiting to turn left onto Kūhiō Highway. This traffic pattern is currently in use when the southbound contraflow lane is operational.

Bike/Pedestrian Path

This project will integrate an 8- to 10-foot wide County bike and pedestrian path from approximately Aloha Beach Resort, go across the river—where the path will be attached to the reconstructed cane haul bridge—to Kuamo‘o Road. At the north end of the cane haul bridge, the bike/pedestrian path will require a ramp to meet slope guidelines established under the Americans with Disabilities Act (ADA). Under the scope of this project, the bike/pedestrian path project ends where the ramp reaches ground level.

The County of Kauai has a separate project to continue the bike/pedestrian path from the foot of the ramp to Lihi Park in Kapa‘a.

Right-of-Way

The cane haul bridge has been used by the HDOT since the 1990s, when it became part of Kūhiō Highway and was opened to the motoring public. Improvements to the cane haul bridge were made initially through Project 56A-01-91 and, more recently, through Project

STP 056-1(43) to refurbish the deck and install guardrails. Use of the cane haul bridge was granted through a right-of-entry with the Department of Land and Natural Resources (DLNR). HDOT is in the process of finalizing an Executive Order to withdraw land in the highway corridor from DLNR for the right-of-way.

The improvements proposed in this project are within the 60-foot limits of the cane haul bridge and its approaches. The bike/pedestrian path on the south side of Wailua River is located within the highway's limits². On the north side of the river, the bike/pedestrian path is located in Wailua Beach Park. The County of Kaua'i, Division of Parks and Recreation, provided written consent to using park land for the path during Section 4(f) consultations.

Construction Parcels and Staging Areas

Construction parcels (sometimes called construction easements) are areas needed for various construction-related purposes, such as construction management and staging, access to the work area, and the space required for construction to take place in a safe manner. Figure 5 shows the construction parcels and staging areas.

Potential staging areas for mobilization and storage of construction equipment and materials have been identified in the marina area in consultation with the Division of State Parks. Two parcels located between the existing bridges on the south side of Wailua River will also be used during construction. These vacant parcels will allow convenient access to the construction site and thereby enable more efficient staging.

A construction parcel extends 20 to 60 feet outward from the makai side of the cane haul bridge to facilitate access to the structural members. Construction work will be performed primarily from the deck above or from the banks of the river. This project does not involve construction work under water and no mechanical equipment will be placed in the river itself. However, construction barges may be deployed to access some parts of the bridge and/or to collect debris when the existing deck is removed.

Additional, space will be required on the north side of the river. Use of portions of Wailua Beach Park will be unavoidable since it abuts the bridge and highway. For safety reasons, public recreational use will be off limits in an active construction zone.

² The County of Kauai is in the process of acquiring a permanent easement from DLNR, Division of State Parks for a cul-de-sac that was constructed for pedestrian and bicyclist use. This acquisition is technically part of the project that constructed the bike/pedestrian path in Lydgate Park, and is separate from the improvements proposed in the subject project.

On the mauka side of Kūhiō Highway, between Wailua River and Kuamo‘o Road, a construction easement is needed to construct a retaining wall at the edge of the highway. The wall itself is sited within the highway right-of-way, but access is needed to construct the wall. Three parcels adjacent to Kūhiō Highway will be affected:

TMK: 4-1-04: 05	174 Wailua Road
TMK: 4-1-04: 06	180 Wailua Road
TMK: 4-1-04: 07	166 Wailua Road

All construction parcels involve temporary use. The HDOT Right-of-way Branch is acquiring the construction easements according to customary departmental procedures.

Construction material and equipment will be removed after the project is completed and properties restored to their former condition.

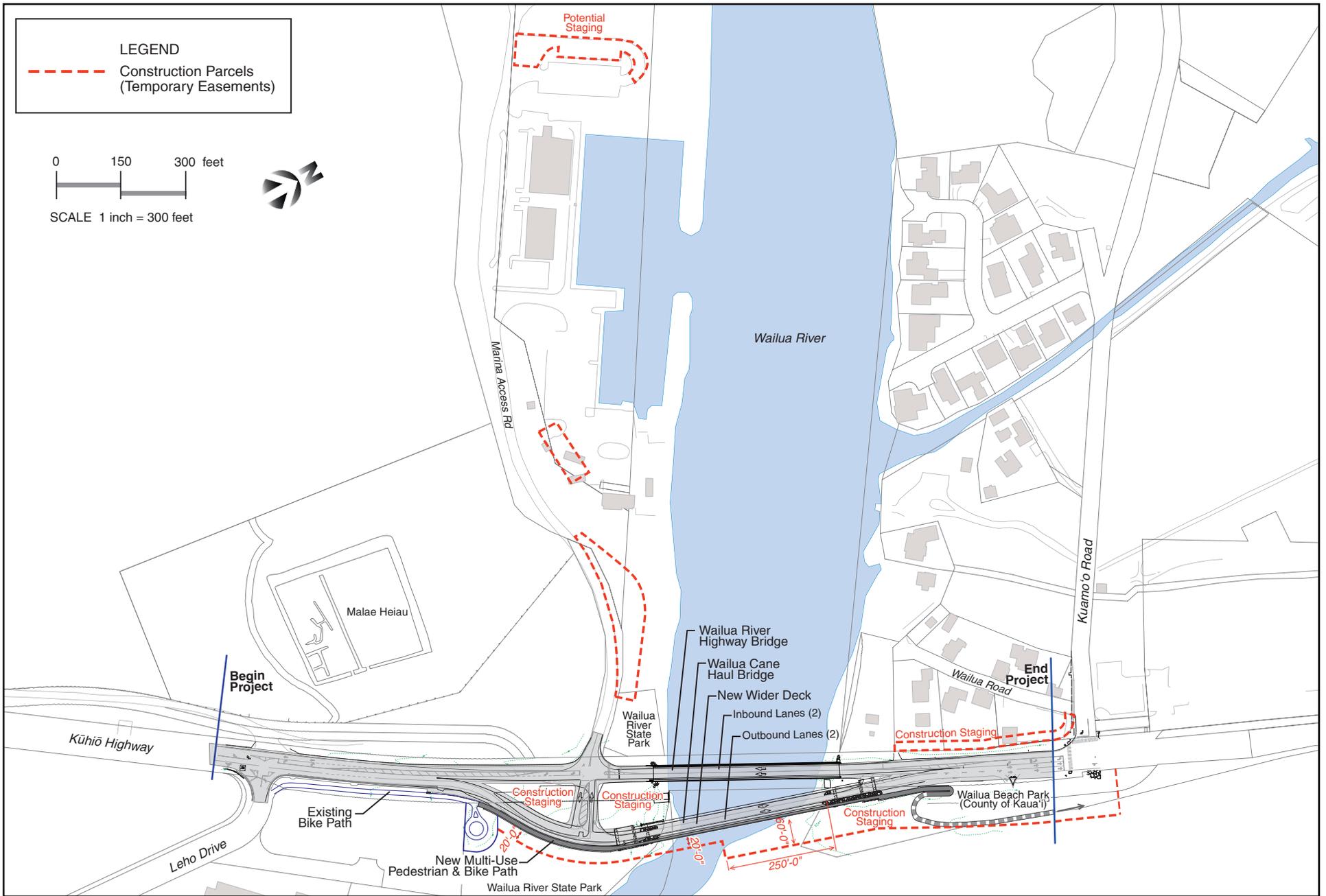


Figure 5
Construction Parcels
Wailua River Bridge Improvements

3.3 ALTERNATIVES CONSIDERED, BUT NOT SELECTED

No Build Alternative. The no build alternative consists of the existing highway infrastructure and improvements that are “in the pipeline” and expected to be implemented. The only such improvement in the vicinity of Wailua River is the widening of Kūhiō Highway from Kuamo‘o Road to the southern terminus of the temporary bypass road. This project is being coordinated with transportation improvements required by permit conditions placed on the Coco Palms redevelopment project. It will increase traffic capacity by adding a second southbound through lane. However, without expanding highway capacity across Wailua River, queues will continue to limit traffic flow.

Alternative 2: Construct a new bridge between the two existing bridges. Alternative 2 proposed the construction of a new, pre-fabricated steel bridge with pre-cast piles or drilled shaft piers between the Wailua River highway bridge and the cane haul bridge (see Figure 6). The new bridge would carry two lanes of traffic, northbound, and the cane haul bridge then would be used exclusively for the bike/pedestrian path. Alternative 2 was not selected because it requires construction work within the river and, therefore, has the highest potential for adverse environmental effects. Accordingly, this alternative also has the greatest environmental permitting requirements, which would lengthen the time to completion. The preliminary cost of a new bridge was estimated to be 40-60% higher than the cost of retrofitting the existing cane haul bridge.

Both of the new-bridge alternatives (Alternatives 2 and 3) offered an advantage in traffic flow during construction. The cane haul bridge, which provides a third lane of traffic across the river, would continue to operate while work is started on the new structure. Nevertheless, at some point, the third lane would have to be closed under all alternatives since any work on the approaches to the new bridge would also halt access to the cane haul bridge.

Alternative 3: Construct a new, single-span bridge between the two existing bridges. Like Alternative 2, Alternative 3 proposed the construction of a new, two-lane pre-fabricated steel bridge, but using a single-span design to eliminate the need for piers in the water (see Figure 7). The cane haul bridge subsequently would be used for the bike/pedestrian path.

During the scoping process, the Kaua‘i Planning Department and State Historic Preservation Division commented that a single-span bridge is advantageous because it would not trap debris, particularly during flood conditions. However, because the existing bridges would remain in operation under Alternative 3, there would be no difference in the level of debris entrapment between the preferred alternative and Alternative 3.

This alternative was not selected because it was highest in cost at more than twice the cost of the preferred alternative and required a longer construction period. Another serious concern was the height of the trusses required for the relatively long span across the river, which would create greater adverse visual impacts relative to the other alternatives considered.

3.4 CONSTRUCTION COST AND SCHEDULING

The project has a \$12 million construction allocation in the State Transportation Improvement Program (STIP) for FY 2007-08.

The anticipated schedule to complete the project is as follows:

Final Design	Oct 2007
Bid and Procurement	Nov-Dec 2007
Mobilization and Construction	2008

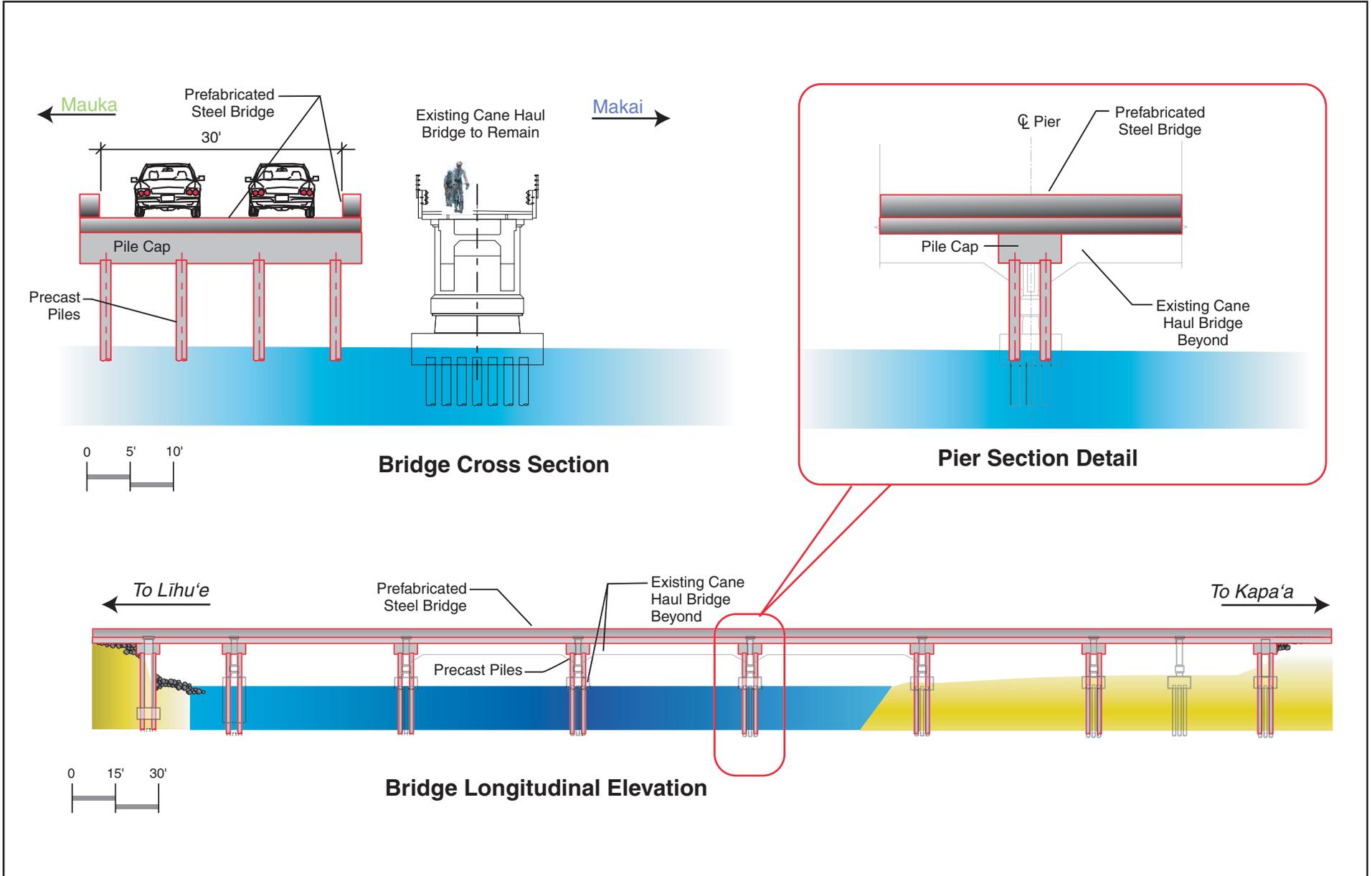


Figure 6
Alternative 2
Independent Pre-Fabricated Steel Bridge
with Pre-Cast Piles or Drilled Shaft Piers
Wailua River Bridge Improvements

3-13

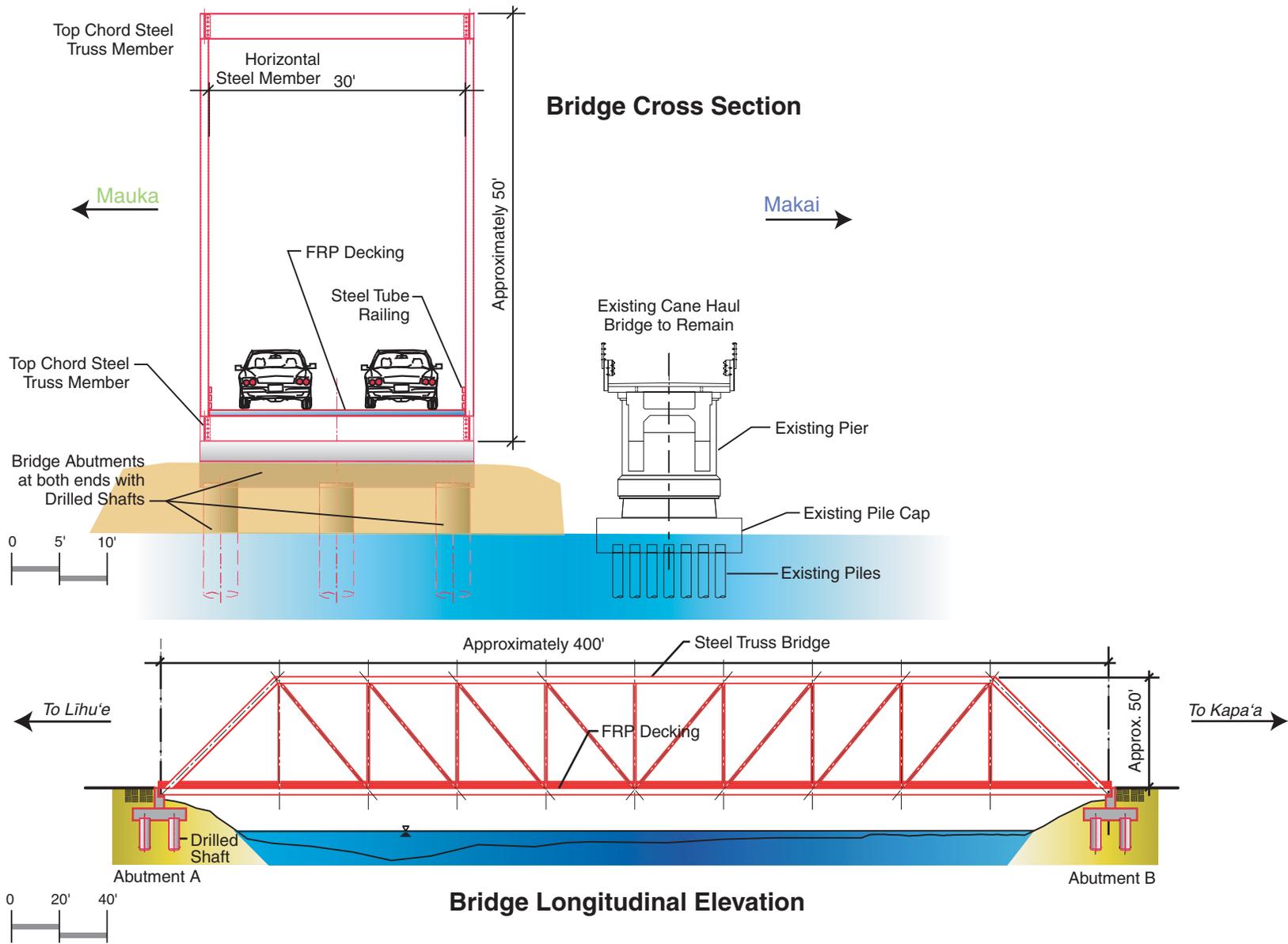


Figure 7
Alternative 3
Independent Pre-Fabricated Steel Truss Bridge, Single Span
Wailua River Bridge Improvements

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4 AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION

4.1 PHYSICAL ENVIRONMENT

4.1.1 Geology and Topography

The island of Kauaʻi is composed of a single basalt shield volcano built by the extrusion of lava of the Waimea Canyon Volcanic Series during the late Pleistocene Era (more than two million years ago). Following the cessation of this main shield building phase, there was renewed volcanic activity with the extrusion of basaltic lava of the post-erosional Kōloa Volcanic Series. Therefore, the majority of the Kauaʻi is covered by lava of the Waimea Canyon Volcanic Series, but rocks of the Kōloa Volcanic Series cover most of the eastern half of the island. These rocks generally are characterized as thick flows of dense basalt extruded from groups of vents aligned in north-south trends in various locales.

The weathering process has formed a mantle of residual soils that grade to saprolite with depth. In general, saprolite is composed of mainly silty materials and is typical of the tropical weathering of volcanic rocks. The saprolite grades to basaltic rock formation with increasing depth.

Along streams, drainage ways, and low-lying areas, erosion of the upper Kōloa and Waimea Canyon Volcanic Series has deposited alluvial sediments. These sediments generally are unconsolidated to moderately consolidated, non-calcareous soil deposits.

The project area consists of alluvial soils, weathered volcanic rock, with some beach deposits. The terrain is relatively level with some low-lying areas. Ground surface elevations ranging from sea level to approximately +50 Mean Sea Level (MSL).

Potential Impacts and Mitigation Measures

The project will not require major cuts or changes in land form since modifications to the roadway approaches will be kept to a minimum. However, because a wider deck will be placed on the existing pier system, new concrete bridge sections and abutments are needed to anchor the larger bridge and make the transition to grade. These new sections will require new retaining walls that reinforce the existing retaining structures on the north and south banks. The design concept calls for the existing retaining wall to remain as is, and for a second or outer wall to be constructed. The bridge design and construction method selected will minimize structural fill within the flood prone areas, and only approved fill material will be used. By leaving the existing retaining walls intact, the integrity of the cane haul bridge will be maintained and it will be usable for as long as possible into the construction period.

Improvements to the cane haul bridge and its approaches will involve some land disturbance that may result in waterborne and airborne soil erosion. However, the erosion potential is considered relatively low given the small area of disturbance. To minimize the potential for construction-related erosion impacts, various best management practices will be developed as part of the project's engineering and design, including:

- Use of temporary berms and cut-off ditches
- Use of temporary silt fencing and screens
- Regular watering of graded areas to reduce the amount of fugitive dust in the air
- Sodding or planting of slopes immediately after grading work has been completed
- Restrictions on the stockpiling of construction material and proper disposal of construction debris.

All erosion control measures will comply with the County's erosion and sedimentation control regulations. Other mitigation measures would be specified as part of applicable National Pollutant Discharge Elimination System (NPDES) permits obtained from the State Department of Health.

4.1.2 Climate and Air Quality

Kaua'i, like the rest of the state, generally meets the standards set by the Clean Air Act (i.e., is within an "attainment area"). The State of Hawai'i, Department of Health operates a network of air quality monitoring stations at various locations around the state. Stations typically do not monitor the full complement of air quality parameters. The monitoring station closest to the project area is located in Līhu'e. The only pollutant monitored at this station is particulate matter <10 microns (PM₁₀). Readings at this location have been lower than federal and State standards.

Potential Impacts and Mitigation Measures

Short-term, Construction-related Emissions

Short-term impacts on air quality may result from project construction. However, such impacts are not expected to be significant because of their limited duration and the ability of best management practices to minimize emissions. Two common types of pollutants are (1) fugitive dust emissions from vehicular movement and soil excavation, and (2) exhaust emissions from on-site construction equipment.

Fugitive Dust. A dust control plan that incorporates best management practices will be implemented to minimize air quality impacts during the project construction phase. Among the measures available to control airborne emissions are the following:

- Erect dust screen barriers during construction
- Cover stockpiles with appropriate material; dispose of debris properly
- Water active work areas, as necessary, to control dust
- Keep clean adjacent paved roads
- Cover open-bodied trucks whenever hauling material that can be blown away
- Limit the amount of disturbed area at any given time and/or stabilize inactive areas that have been exposed

Exhaust Emissions. Emissions from the engine exhausts of on-site mobile and stationary construction equipment will also have some impact on air quality. Emission impacts can be minimized by requiring contractors to use vehicles that are properly maintained. Nitrogen oxide emissions from diesel engines can be relatively high compared to emissions from gasoline-powered equipment; however, the standard for nitrogen oxide is set on an annual basis and is unlikely to be violated by emissions from short-term construction equipment. Carbon monoxide emissions from diesel engines are low and should be relatively insignificant compared to vehicular emissions on nearby roadways.

Construction activities will employ fugitive dust emission control measures in compliance with provisions of the State Department of Health Rules and Regulations (Chapter 43, Section 10), and Hawai‘i Administrative Rules (HAR), Chapter 11-60.1, “Air Pollution Control,” Section 11-60.1-33 on Fugitive Dust.

Long-term Impacts on Air Quality

The purpose of this project is to relieve traffic congestion crossing Wailua River by constructing one additional vehicular travel lane and a pedestrian/bike lane. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. As such, this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxics (MSAT) concerns.

4.1.3 Coastal Resources and Processes

The project site is located on the windward shore of Kaua‘i, directly exposed to tradewinds and tradewind-generated waves. Immediately north of Wailua River is a small embayment, in which Wailua Beach is situated. Tradewind waves break directly off the beach, which is relatively wide and flat with little visible reef offshore.

The information in this section is based on a report by Sea Engineering, Inc. entitled *Coastal Evaluation for the Lydgate Park-Kapaa Bike Path Master Plan and Environmental Assessment* prepared in April 2004.

Aloha Beach Resort to Wailua River

The edge bordering the river on the south runs approximately normal to the road, which is at a significantly higher elevation than the beach. Approaching the river, the strip of land along the road becomes increasingly narrow and a revetment has been constructed to stabilize the bank (Photo 1). The slope adjacent to the revetment on the south is stabilized by vegetation, including trees and naupaka. The bridge itself shows numerous signs of repair, including visible areas of restoration and gunite patches (Photo 2).

Although the highway and the bike/pedestrian path are on the landward side of the trees and far from the coastline, structural supports for the improved bridge will be built into the revetment above elevation 10 MSL. The *Kaua‘i Island Hurricane Vulnerability Study* (Sea Engineering, Inc., 2000) showed typical inundation elevations in this area for a hurricane to exceed 10 feet.



Photo 1. Revetment on south side of Wailua River (cane haul) Bridge



Photo 2. Wailua River (cane haul) Bridge

Wailua River to Kuamo‘o Road

The northern side of the cane haul bridge is supported in a manner similar to the southern side and transitions into a vegetation-stabilized bank (Photo 3). The road elevation decreases and the slope from the road becomes gentler. The beach here is quite wide and the back beach area is well vegetated with beach morning glory and naupaka. A low uncemented rock wall stabilizes the shoulder of the road (Photo 4), which is located 125 to 225 feet inland of the shoreline. Boulders are also used as barriers to keep vehicles from driving onto the beach. The wall transitions into an approximately 3.5-foot high vertical Cement Rubble Masonry (CRM) wall that runs along the shoulder of the road (Photo 5).

Wailua Beach is about 2,000 feet in length, measured from the Wailua River to the Sea Shell Restaurant and appears to be stable. The limits of this project end just south of Kuamo‘o Road which is approximately 600 feet from Wailua River. The beach (Photo 6) is typically more than 100 feet wide and has a history of accretion.



Photo 3. Revetment on north side of Wailua River



Photo 4. Uncemented rock wall and beach vegetation along Kūhiō Highway



Photo 5. Transition from uncemented wall to CRM wall



Photo 6. Wailua Beach

Potential Impacts and Mitigation Measures

All roadway and bridge improvements will occur within the existing highway corridor.

On the north side of the river, the bike/pedestrian path will ramp down from the bridge. To meet the accessibility guidelines established under the Americans with Disabilities Act, the ramp requires a switchback design. The path will not be designed nor is it intended to constitute shoreline hardening.

4.1.4 Hydrology and Water Quality

Surface Water

The project area is located in the Wailua-‘Ōpaeka‘a watershed which is drained primarily by the Wailua River and also by ‘Ōpaeka‘a Stream and a drainage canal behind the Coco Palms Hotel. Both Wailua River and ‘Ōpaeka‘a Stream are navigable for considerable distances inland. Within the lower reaches of these waterways, freshwater moves toward the shoreline in a layer overlying saltwater at depth. Although the Wailua River discharges into the ocean, the wave-built beach berm at the shoreline creates some restriction of the river’s discharge. As a result, the amplitude and phase of the tide are considerably reduced and lagged upstream.

Water quality in the Wailua River is generally better than in the tributaries and ditches because of more continuous flow through. Readings in the level of organic nutrients (nitrogen and phosphorous) and turbidity tend to increase moving inland.

Clean Water Act, Section 303(d)

The federal Clean Water Act requires states to collect and review surface water quality data and related information, and to prepare and submit to the U.S. Environmental Protection Agency biennial lists of waterbodies that are impaired (i.e., not expected to meet state water quality standards). The current list is dated December 2002. For all impaired waters, the State Department of Health (DOH) is required to compute the Total Maximum Daily Load (TMDL), which is the maximum amount of a pollutant (from point and nonpoint sources) that a waterbody can receive and still meet water quality standards, and to establish an allocation of that amount to the pollutant’s sources. Because there is a large demand for TMDL calculations, the State DOH has assigned a priority of low, medium, or high to each of the impaired waters listed based on the severity of pollution and how the water is used. There are two listings in the project area. Wailua River is impaired because of enterococci and has been assigned a medium priority.

Ground Water

In the Wailua-‘Ōpaeka‘a watershed, groundwater is pumped from wells within and above the Wailua House Lots on the east side of Nounou Ridge, tapping into the Waimea volcanics. Additional wells are located in the north end of the Kapa‘a watershed, where groundwater is drawn from the Kōloa volcanics. Water levels in the Kōloa volcanics range from about 7 feet in near-shore wells to about 13 feet further inland.

Potential Impacts and Mitigation Measures

Water Quality

A water quality study was conducted by Tom Nance Water Resource Engineering and Marine Research Consultants in 2003 as part of background environmental studies for the proposed Kapa‘a Relief Route. The study found that water quality measures in the stream and canal systems in the Wailua-‘Ōpaeka‘a watershed are generally within the limits set by the State Department of Health. The results were attributed to the relatively short residence time of water and continuous flow to the ocean which prevents biotic cycling from dominating water composition. The study concluded that if materials are added to the waterways as a result of activities associated with construction of new roadway segments (for example, through erosion), these materials would not stay within the streams for a period of time sufficient to promote a permanent change to the stream system. There is no reason to expect the situation to be any different for the subject project, which has a more limited scope.

The Nance/Marine Research study also investigated potential contamination of surface water quality by petroleum products that may be contained in roadway runoff. Based on sample results, the study concluded that there are no consistent, measurable inputs of petroleum products to waterways adjacent to Kūhiō Highway.

In addition to the natural flushing action present in Wailua River, waterborne erosion will be mitigated with appropriate design and best management practices (BMPs) in place during construction. Because new disturbance will exceed one acre, a National Pollution Discharge Elimination System or NPDES permit (NOI Form C) will be obtained under Clean Water Act, Section 402. Site-specific BMPs will be designed and implemented by the Contractor, with approval by HDOT.

To mitigate potential long-term impacts on water quality, storm water drainage improvements will be constructed on the south side of Wailua River, including grassed swale, drain intakes, drain manholes, and drain lines. These improvements will be connected to an existing concrete drainage ditch that discharges into Wailua River. All drainage improvements are being designed in compliance with the HDOT’s Storm Water Management Program Plan (SWMPP) and the Clean Water Act.

This project will not involve the discharge of fill material in Wailua River, therefore neither a Section 404 permit nor a Section 401 permit (State Water Quality Certification) is required.

Waters of the U.S. and Navigation

The U.S. Army Corps of Engineers has jurisdiction over Wailua River as waters of the U.S. Because the cane haul bridge affects navigable waters (33 CFR 322.3), the proposed improvements will require a Rivers and Harbor Act, Section 10 permit. The permit will be obtained under Nationwide #3 (see Army Corps of Engineers letter dated February 16, 2006, Appendix F).

The U.S. Coast Guard, 14th District has jurisdiction over waterway management on Wailua River. However, after evaluating potential project impacts on navigation, the Coast Guard determined that the cane haul bridge is not subject to federal permitting by the USCG (letter dated November 6, 2006).

4.1.5 Natural Hazards

Flooding

Wailua River is a floodway, as designated on the Flood Insurance Rate Map (FIRM) (see Figure 8). A hydrology and hydraulics report was prepared for the Kapa‘a Relief Route project in compliance with Title 23 of the Code of Federal Regulations, Part 650—Bridges Structures and Hydraulics, Subpart A—Location and Hydraulic Design of Encroachments on Flood Plains (23 CFR 650A) (Park Engineering 2006). Computer calculations indicated that the existing Wailua River highway bridge and the cane haul bridge will not be overtopped during the 100-year, 200-year, and 500-year floods. The limits of flooding and overtopping are consistent with the Federal Emergency Management Agency’s FIRM.

Tsunami

The Hawaiian Islands have a history of destructive tsunamis. Since 1819, 22 severe tsunamis have occurred, with runup heights at varying locations throughout the islands ranging from 4 to 60 feet. Four tsunamis have occurred in recent history, taking place in 1946, 1957, 1960, and 1964. The tsunami runup height at any given Hawai‘i coastline location during an occurrence varies greatly. The height is affected by a number of factors including offshore bathymetry, coastal configuration, and exposure to the generating area. In the project area, the runup for the 1957 tsunami ranged from 9.5 to 20 feet, and 5 to 7 feet for the 1960 tsunami (Loomis, 1976). Limited data exist for the 1946 and 1964 tsunamis. The only data points in the project area for those two tsunamis are on the

northern side of the Wailua River. The data show runup heights of 20 and 4 feet for the 1946 and 1964 tsunamis, respectively.

Tables and methods in the *Manual for Determining Tsunami Runup Profiles on Coastal Areas of Hawai‘i* (M&E Pacific, Inc., 1978) show the predicted 10-year tsunami runup height for the project area is 2 to 4 feet above mean sea level. The methodology in the manual has been used to develop the shoreline classifications for the Flood Insurance Rate Maps (FIRM) for the state. Along the shoreline, the classifications are based on the 100-year tsunami. The FIRM for the region shows that the shoreline in the Wailua River area is classified Zone VE with a base flood elevation of 11 feet (see Figure 8). Zone VE is a “Coastal High Hazard Area where wave action and/or high velocity water can cause structural damage in the 100-year flood,” and is primarily identified as an area where a 3-foot or greater wave height could occur (Federal Emergency Management Agency, 1995).

Hurricanes and Swells

Four primary wave types can describe the prevailing Hawaiian wave climate: northeast tradewind waves, North Pacific swell, south swell, and Kona storm waves. The project area is partially sheltered from south swell and Kona storm waves by the island, and is exposed to North Pacific swell and northeast tradewind waves.

North Pacific swell is produced by severe winter storms in the Aleutian area of the North Pacific and by mid-latitude low-pressure systems. Although North swell may arrive in Hawaiian waters throughout the year, it is largest and most frequent during the winter months of October through March. The North Pacific swell approach direction is from the west through north, with periods of 13 to 20 seconds and typical deepwater wave heights of 4 to 10 feet. Some of the largest waves reaching the Hawaiian Islands are of this type. The windward shoreline is partially sheltered from the approach of North Pacific swell, and only the more northerly of these swells arrive at the project area.

Northeast tradewind waves may be present in Hawaiian waters throughout the year, and are most frequent in summer months, when they dominate the wave climate on windward shores. They result from the strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean. Typical deepwater tradewind waves have periods of 5 to 10 seconds and heights of 3 to 10 feet.

Hurricane Waves

In addition to the two primary wave types, infrequent tropical hurricanes may generate large waves, which can impact any coastal area of Hawai‘i. In any given year, one or more hurricanes can be expected to occur in the central North Pacific Ocean. Although hurricanes occur infrequently in the immediate vicinity of Hawai‘i, they do occasionally pass near the islands. Notable recent examples are Hurricane Iwa, which passed within 30

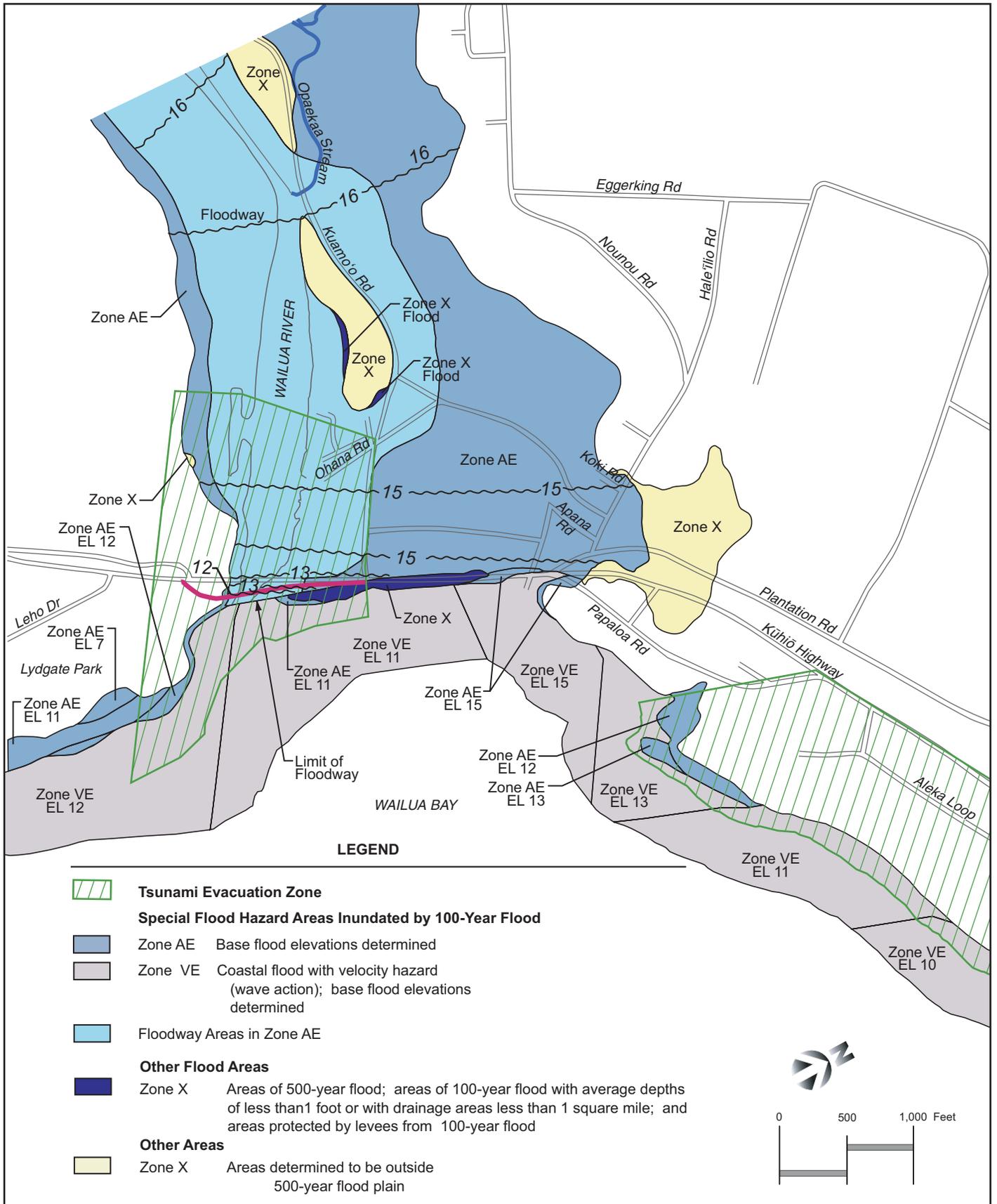
miles of Kaua‘i in 1982, and Hurricane Iniki, which passed directly over Kaua‘i in 1992. Because hurricanes directly impact the Hawaiian Islands at such infrequent intervals, it is difficult to calculate a statistically meaningful return period.

The report *Kaua‘i Island Hurricane Vulnerability Study* (Sea Engineering, Inc., 2000), prepared for the State of Hawai‘i Department of Defense and the U.S. Army Corps of Engineers, Pacific Ocean Division, considered the impact of four hurricane scenarios on the windward coast of Kaua‘i. The conditions considered included two hurricane intensities, typical and worst-case, and two approach directions, east-southeast and south-southwest, for a total of four scenarios. Calculated deepwater wave conditions under these scenarios varied from 17.8 feet with a period of 9.2 seconds to a worst case of 40.5 feet, with a period of 13.9 seconds.

Seismic Activity

Earthquakes in the Hawaiian Islands are primarily associated with volcanic eruptions from the expansion or shrinkage of magma reservoirs, rather than shifts in the earth’s crust. The island of Kaua‘i is periodically subject to episodes of seismic activity of varying intensity, but available historical data indicates that the number of major earthquakes occurring on Kaua‘i have generally been fewer and of lower intensity compared with other islands, such as the Big Island.

Earthquakes cannot be avoided or predicted with any degree of certainty, and an earthquake of sufficient magnitude (greater than 5.0 on the Richter Scale) could cause damage to the path. The Uniform Building Code (UBC) provides minimum design criteria to address potential for damages due to seismic disturbances. The UBC scale is rated from Seismic Zone 1 through Zone 4, with 1 the lowest level for potential seismic induced ground movement. Kaua‘i is designated Seismic Zone 1.



Source: FEMA Panel No. 212E, dated 9/16/2005

Figure 8
**Flood Insurance Rate Map
 and Tsunami Evacuation Zone
 Wailua River Bridge Improvements**

Potential Impacts and Mitigation Measures

The existing cane haul bridge (like the highway bridge) does not meet current standards for flood elevation. The deck elevation of the existing cane haul bridge is ± 19 feet mean sea level (MSL). The finished elevation of the new deck will be slightly higher at ± 22 feet MSL. The current standard is to have a 2-foot minimum freeboard from finished deck elevation to the 100-year water surface elevation, calculated at 11.8 feet MSL. For the design of new bridges, AASHTO recommends a 5-foot freeboard from the 100-year water surface to the bottom of the bridge or girders. The bottom of the existing girders or lowest bridge chord is approximately 0.5 feet above the 100-year base flood elevation. Raising the bridge further is not possible without a more extensive effort, including replacing the existing pier system and raising the roadway approaches. This level of effort is being considered in the long-term, Kapa‘a Relief Route project.

Another flooding related concern is debris flowing down the Wailua River and becoming trapped on the piers of the existing bridges. In the past, HDOT maintenance crews have been dispatched following flood events for emergency removal of tree trunks, large branches, and other debris. Reconstruction of the cane haul bridge will not affect the size or spacing of the existing piers and, therefore, will not change these conditions. New struts supporting the deck will minimize flow obstructions since they will be attached to the existing piers and placed in line with the existing piers. HDOT will require all utilities that are suspended from the bridge structure to be located and constructed to minimize flood damage, leakage, and prevent snagging of debris. Horizontal loading caused by debris has been considered in the design of the improvements.

A “No Rise Determination” with supporting data will be prepared by a professional civil engineer licensed in the State of Hawaii and submitted to the County of Kauai, Department of Public Works for review and approval.

Both Wailua River bridges are located in a tsunami evacuation zone. In the event of a tsunami or tsunami warning, some sections of the highway may be closed to the general public, including the bridges. Alternatives to relocate the crossing outside the tsunami zone are beyond the scope of this short-term project, but are being studied as part of the Kapa‘a Relief Route project.

Although the highway and the bike/pedestrian path are located away from the ocean’s edge, these facilities are at a generally low elevation on the north side of the river and will be subject to flooding during extreme storm or wave events. In recent years, waves overtopped Wailua Beach and inundated portions of Kūhiō Highway near Coco Palms in the winter of 2003-4. These events may require temporary facility closure and emergency clean up. The Kaua‘i District Office of HDOT has maintenance and repair procedures in place to respond to such contingencies.

Because the bike/pedestrian path is aligned through the beach park, it is also subject to high waves, as well as sand drifts. Environmental conditions are being addressed through design of the path as a boardwalk. The County Department of Public Works is responsible for maintenance and will be monitoring conditions to ensure safe use.

4.1.6 Noise

Existing noise levels in the project area are consistent with similar urban environments. Traffic along Kūhiō Highway is the primary noise generator. Along the coastline, the ocean waves contribute to the ambient noise level, but is also a factor in masking sources of noise that are less pleasurable to human ears.

The project is located near the Aloha Beach Resort and several residential and commercial properties off Wailua Road north of the river. According to State Department of Health (DOH) regulations, maximum permissible noise levels for construction equipment during nighttime hours in residential areas is 45 dBA and 55 dBA during daytime hours or the ambient noise level—whichever is higher.

Potential Impacts and Mitigation Measures

Construction-related Noise

Construction noise impacts are unavoidable, but will be temporary. Equipment likely to be used include drill rig, crane, excavator, backhoe, front-end loader, grader, forklift, semi-trucks, dump trucks, concrete trucks, compactors, paving equipment, and compressors. Typical ranges of construction equipment noise vary between 70 and 95 dBA, which exceeds permissible levels. The actual noise levels produced will be a function of the methods employed during each stage of the construction process. Earthmoving equipment, e.g., backhoes, front loaders, bulldozers, and diesel-powered trucks, will probably be the loudest equipment used during construction. The contractor will be required to maintain and properly muffle construction equipment and on-site vehicles that exhaust gas or air.

A noise permit will be obtained from the State Department of Health under Hawai‘i Administrative Rules Chapter 11-46, Rules on Community Noise because of the proximity of Aloha Beach Resort (south of the river) and residences on Wailua Road (north of the river). In addition to the noise permit, a noise variance may be requested to extend work hours into the evenings and on weekends and shorten the overall construction schedule.

Long-term Noise Impacts

A noise analysis was not performed specifically for this project; however, a noise study was conducted for the Kapa‘a Relief Route project (Parsons Brinckerhoff Quade &

Douglas, Inc. 2006). Two of the build alternatives examined in that noise study follow the same alignment as the subject project, but the Kapa‘a Relief Route alternatives involve six travel lanes and, therefore, are greater in scope than the four travel lanes planned in this project. Yet even with a larger scope, the noise model predicted worse-hour traffic noise levels of 61 dBA (+1 dBA increase over existing conditions) for Aloha Beach Resort. For the residences at Wailua and Kuamo‘o Road, post-construction noise levels were predicted to be 55 dBA (+2 dBA increase over existing conditions). The predicted noise levels fall below the FHWA Noise Abatement Criteria. The proposed lane addition to Kūhiō Highway and the bike/pedestrian path are not expected to generate noise levels exceeding these predictions.

4.1.7 Hazardous Materials

A Phase I Environmental Site Assessment (Phase 1 ESA) was conducted for the proposed Kapa‘a Relief Route project (Kimura International, Inc., 2003). The purpose of the Phase 1 ESA is to identify the presence of recognized environmental conditions as defined by the American Society for Testing and Materials (ASTM) Practice E 1527-00. Data on potential sources of ground contamination were obtained through searches of commercial and government databases, review of files and records maintained by the Department of Health, site reconnaissance, and interviews.

There are no sites of potential concern in the project area.

Potential Impacts and Mitigation Measures

The proposed action is not expected to generate any hazardous material impact, nor is it likely to be impacted by hazardous materials.

4.2 BIOLOGICAL ENVIRONMENT

4.2.1 Flora

At the southern terminus of the project area, the vegetation consists of grassy lawn maintained by the Aloha Beach Resort, as well as landscape plantings. Between the hotel property and the Wailua River, vegetation in the open space consists primarily of Bermuda grass (*Cynodon dactylon*) and pitted beardgrass (*Bothriochloa pertusa*). Overgrown weedy areas support patches of swollen fingergrass (*Chloris barbata*), nodeweed (*Synedrella nodiflora*), and false mallow (*Malvastrum coromandelianum*). The bike/pedestrian path would skirt a small area with koa haole shrubs (*Leucaena leucocephala*), California grass (*Brachiaria mutica*), castor bean (*Ricinus communis*), and a few coconut trees (*Cocos nucifera*) before joining the cane haul bridge.

On the north side of Wailua River, the vegetation consists of scattered trees of hala (*Pandanus tectorius*), coconut, ironwood (*Casaurina equisetifolia*), and tree heliotrope (*Tournefortia argentea*). Low thickets of beach naupaka or naupaka kahakai (*Scaevola sericea*), 2 to 3 feet tall, are abundant, while beach morning glory or pohuehue (*Ipomoea pescaprae*) forms extensive mats seaward of the line of trees. Locally common are mats of ‘aki‘aki grass (*Sporobolus virginicus*) and beach pea or nanea (*Vigna marina*).

Potential Impacts and Mitigation Measures

None of the plants observed within the project area is a threatened and endangered species or a species of concern (U.S. Fish and Wildlife Service 1999a, 1999b; Wagner et al. 1999). All of the native species encountered can be found in similar environmental habitats throughout the Hawaiian Islands.

Improvements to the highway will occur primarily within the previously developed right-of-way. To access the bridge and widen the deck, scrub vegetation adjacent to the bridge will be removed. Construction of the bike/pedestrian path will require more extensive vegetation removal since it is located outside the existing highway shoulder.

Landscaping will be incorporated into the project for aesthetic purposes and as a barrier or means of defining the bike/pedestrian path boundaries. To the extent possible, the landscaping scheme will use low-maintenance, native plants. Native strand plants such as beach naupaka, pohuehue, ‘aki‘aki grass, and nanea are adapted to the harsh environmental conditions along the coast. These plants are common to abundant within the project area and they are easily propagated through cuttings and plugs.



Typical vegetation along the southern approach to the cane haul bridge

4.2.2 Terrestrial Fauna and Avifauna

A significant amount of effort has been expended in conducting avian and mammalian surveys in East Kaua‘i over the past few years. This environmental assessment is based on data from a biological survey conducted for the Lydgate Park- Kapa‘a Bike/Pedestrian Path (David 2004), supplemented by other recent surveys conducted for the proposed Kapa‘a Relief Route and other projects in the general area (David 2002, 2003; Day et al. 2001, 2002).

One-time surveys cannot provide a total picture of the wildlife using any given area as certain species will not be detected for one reason or another. Seasonal variations in populations, coupled with seasonal availability and use of resources will cause different use patterns throughout a year and, in fact, over a number of years. However, coupling the results of a one-time survey with the results of previous surveys conducted in similar habitats and locations greatly expands the value of the information gathered.

Mammalian Species

During the biological survey conducted in March 2004, endangered Hawaiian hoary bats were seen on both nights of the survey. Three bats were seen simultaneously from the Wailua River bridge crossing.

The findings of the mammalian survey were consistent with the results of other recent surveys conducted within the lowland areas of Kaua‘i (David, 1995, 1998, 1999a, 199b, 2000, 2001, 2002, and 2003). The detection of the endangered Hawaiian hoary bat was not unexpected as this species is regularly seen in and around Kapa‘a, as well as most of the lowland areas on Kaua‘i (Tomich, 1986; David, 1995, 1999b, 2001, 2002, 2003; R. David, personal observations 1980-2002).

Although no live rodents were detected during the course of the 2004 survey, it is likely that roof rats (*Rattus r. rattus*), Norway rats (*Rattus norvegicus*), European house mice (*Mus domesticus*) and possibly Polynesian rats (*Rattus exlans hawaiiensis*) use various resources in the project area. Without conducting a trapping program, it is difficult to assess the population densities of these often hard-to-see mammals. All of these introduced rodents are deleterious to native ecosystems and their dependent faunal components.

Avian Species

Also during the survey (David 2004), a total of 339 individual birds of 17 species, representing 14 separate families were recorded during station counts. Of the 17 species detected in the coastal area, two species—Pacific Golden Plover (*Pluvialis fulva*) and Ruddy Turnstone (*Arenaria interpres*) are indigenous migratory species commonly found

throughout the state during the winter months. The other 15 species detected are alien to the Hawaiian Islands. No avian species that is either listed, or proposed for listing under either the federal or State of Hawai‘i’s endangered species programs was detected in the coastal area during the course of the survey.

Avian diversity was relatively low in the coastal area. Three species, Zebra Dove (*Geopelia striata*), Common Myna (*Acridotheres tristis*), and House Sparrow (*Passer d. domesticus*), accounted for 44% of the total of all birds recorded during station counts. The most common avian species detected was the House Sparrow, which accounted for 10% of the total number of individual birds recorded. An average of 56 birds was recorded per station count.

One species detected during station counts, the Short-eared Owl (*Asio flammeus sandwichensis*) or pueo is an endemic sub-species which is listed by the State of Hawai‘i as endangered on O‘ahu, but not on Kaua‘i. The owl is not listed under the federal Endangered Species Act. Two additional species: White-tailed Tropicbird and Black-crowned Night Heron (*Nycticorax nycticorax hoactli*) or ‘auku‘u are relative common indigenous breeding species. Three other indigenous breeding seabird species: Wedge-tailed Shearwater (*Puffinus pacificus chororhynchus*) or ‘ua‘u kani, Red-footed booby (*Sula s. rubripes*), or ‘a, and Great Frigatebird (*Fregata minor palmestroni*) or ‘iwa were detected as incidental observations while traversing portions of the survey area.

Due to the timing of the 2004 survey neither the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) or ‘ua‘u nor the threatened endemic sub-species of the Newell’s Shearwater (*Puffinus auricularis newelli*) or ‘a‘o were detected flying over the project site. Both of these species are pelagic seabirds which do not return to their breeding colonies until late April. Both species cross the northern, eastern, and southern coastline of Kaua‘i across a broad front and in relatively large numbers during the breeding season, and both have been recorded over-flying all areas of the project site.

Both species of seabirds, especially fledging birds, can become disoriented by exterior lighting on their way to sea in the fall. When disoriented, seabirds often collide with man-made structures and, if not killed outright, the dazed or injured birds become easy targets of opportunity for feral mammals. Collision with man-made structures is considered to be the second most significant cause of mortality of these two seabird species in Hawai‘i. The primary cause of mortality is thought to be predation by alien mammalian species at the nesting colonies.

Potential Impacts and Mitigation Measures

Consultations were conducted under Section 7 of the Endangered Species Act for a related project, the County of Kaua‘i’s Lydgate Park to Kapa‘a Bike/Pedestrian Path. These

consultations are also relevant to the subject project because the two projects are being coordinated in the vicinity of Wailua River.

Correspondence from the U.S. Fish and Wildlife Service (letter dated August 11, 2005, see Appendix E) and the National Marine Fisheries Service (letter dated July 15, 2005, see Appendix E) stated that there will be no adverse impact on threatened and endangered species.

The Fish and Wildlife Service recommended that lights be set directly into the railings of guardrails on the Wailua River bridge or on the shortest poles and use the lowest wattage bulbs possible to prevent lights from disorienting listed seabird species during flyovers. HDOT has determined that reflectors will be used on the cane haul bridge, so no light standards will be installed on the bridge itself. However, because the approaches will be widened, additional street lights may be needed and/or light fixtures may need to be raised to illuminate a larger area on the ground. The precise extent of lighting changes will be determined during the design phase. Whether street lights are added and/or altered, all light fixtures will be shielded to minimize the disorientation of listed seabirds in flight. With mitigation, any change to street lighting in the project area is unlikely to have an adverse impact.

The transportation improvements are not expected to have any impact on the Hawaiian hoary bat or threatened and endangered waterbird species.

4.2.3 Aquatic Fauna

No endangered Hawaiian monk seals (*Monachus schauinslandi*), were detected along the shoreline during the 2004 botanical survey. However, they are occasionally to be found hauled out in the intertidal zone and on the beaches of East Kaua‘i. Both the federal and State of Hawai‘i wildlife agencies have an ongoing and very comprehensive outreach and protection program to ensure that seals are not disturbed while in near-shore waters or when they are basking on land.

There is also the chance that the threatened green sea turtle (*Chelonia mydas agassizii*) occasionally hauls out in the intertidal zone and on the beach along this section of the coastline. They even may nest on the beach in this area. There are similar comprehensive outreach and protection programs in place to protect this species and its nests.

Potential Impacts and Mitigation Measures

It is unlikely that monk seals or green sea turtles will be encountered since the proposed transportation improvements are located in or immediately adjacent to developed areas. Additionally, temporary fencing is typically erected to demarcate the construction site and

will serve as a barrier. In the unlikely event that monk seals or green sea turtles approach the construction area, the contractor will immediately contact State and federal wildlife officials. To maintain the quality of waters that support listed aquatic fauna, spoils created by construction activity will not be allowed to enter the river or near-shore waters under or adjacent to the proposed improvements.

4.2.4 Stream Fauna

This section includes a description of the aquatic environment for various stream fauna. The information is based primarily on an aquatic biological assessment prepared by Michael H. Kido for the proposed Kapa‘a Relief Route. The transportation improvements at Wailua River are located in a portion of the larger Kapa‘a Relief Route study area.

The Wailua River has one of the largest deep-water estuaries (in length and volume) in Hawai‘i and has been long utilized for recreational and commercial tour boat activities. The estuary receives stream water from no less than fifteen tributaries.

Salinity readings near the Wailua Boat Ramp (Department of Health Station #822) indicate a typical deep-water Hawaiian estuary function with a variable salt-water wedge that intrudes into up-river areas and retreats toward the ocean depending on the balance between river flow and ocean conditions. Measurements at this station have also found elevated enterococcus levels, indicating chronic nonpoint source pollution of the estuary from cesspools, septic tanks, and other sources of sewage in the watershed. The Wailua estuary, therefore, is strongly influenced by human activities, serving as a repository for organic waste and other discharged pollutants.

The lowland drainage canals and other waterways that empty into the Wailua estuary are infested with pest tilapia, primarily *Oreochromis mossambicus*, although other tilapia species may also be present. Tilapia likely prey upon and compete for habitat with native stream and estuarine species, thereby resulting in low levels of native species in the estuary. In the sandy areas closer to the ocean, four brackish water native fish species were observed during visual surveys; however, areas slightly upstream of the mouth were dominated by large *O. mossambicus*. Tilapia, therefore, are clearly the dominant fish species in the lower Wailua River and have invaded streams throughout low gradient areas of the watershed and is one of the leading causes of biotic integrity impairment.

Potential Impacts and Mitigation Measures

Benthic Environment

A substantial effort in Kido's study was focused on locating populations of the endangered aquatic snail, Newcomb's Snail (*Erinna newcombi*), using both underwater visual observation and standard benthic sampling methodologies; however, no individuals were observed. Given the degraded waterways inhabited by large populations of alien predatory fish species, this outcome is not surprising. Therefore, there is little potential impact to this federally listed endangered species.

Riverine Environment

The Wailua River and canal system is severely impaired from both habitat, as well as biotic integrity perspectives, and this environment does not provide adequate support for native species. Therefore, the potential impacts to populations of native stream species from project construction activities are expected to be minimal. Nevertheless, mitigative measures will be implemented during the removal and construction of the bridge deck sections to minimize the potential for construction materials and debris and construction-related petroleum products to fall, blow, or leach into the aquatic environment.

4.3 SOCIO-ECONOMIC ENVIRONMENT

4.3.1 Archaeological, Historic, and Cultural Resources

Archaeological Resources

The information for this section is based on archaeological assessments prepared for the Lydgate to Kapa'a Bike/Pedestrian Path project and the Kapa'a Relief Route project (Cultural Surveys Hawai'i 2004 and 2003). Archaeological sites are shown in Figure 9.

The Wailua River, along both shores, was the most important high-status area on Kaua'i in pre-Contact times. This area was the royal center where the high chiefs and chiefesses carried on their business when they were not traveling about the island(s), and where they entertained visitors. Today a small portion of this royal center can be seen in the remnants of heiau (where official decision making was carried out), the Hauola Pu'u honua (place of refuge), the birthstones, the royal coconut grove, the bellstone, and the royal fishponds. There exist no visible surface remnants of the chiefly homes, the supporting lo'i and kula lands, the places of recreation, the burial place called Mahunapu'uone (just makai of the fishponds), the fish traps, and the canoe landings.

The Wailua Complex of Heiau National Historic Landmark, designated in 1988, is located within the Wailua River State Park and consists of five discontinuous properties: Site -104, Malae Heiau; Site -105, Hikinaakalā Heiau (and petroglyphs); Site -106, Holoholokū Heiau and Pōhaku Ho‘ohānau, Site -107, Poli‘ahu Heiau; and Site -335, the Wailua Bellstone(s). The designation of these properties for the National Register/National Historic Landmark listing is five circles each centered in the middle of each of the sites but only slightly greater than the radius of the sites themselves.

Wailua Complex of Heiau

Today, the Wailua Complex of Heiau is a National Historic Landmark (NHL) listed on both the National and State Registers of Historic Places. It is a complex of historical, cultural and archaeological sites designated as Site 50-30-08-502. In the nomination form for the National Register of Historic Places, the Wailua Complex of Heiau is called “one of the most important site complexes in the Hawaiian Islands.” The Wailua NHL is comprised of five separate sites located along the Wailua River.

- Malae Heiau
- Hikinaakalā Heiau and Pu‘uhonua o Hauola (place of refuge) and petroglyphs
- Kalaeokamanu Heiau (also known as Holoholokū) and associated Pōhaku Ho‘ohānau (birthstones)
- Poli‘ahu Heiau
- Wailua Bellstones

The Malae Heiau (State site 50-30-08-104) is the largest existing heiau structure on Kaua‘i and located 150 to 250 feet mauka of Kūhiō Highway. The massive stacked rock walls create a large, roughly square enclosure that encompasses two acres. Its origin is traditionally traced to the mythical menehune and there is a traditional relationship of this heiau with Poli‘ahu Heiau located further upriver. Other historical references suggest that the construction of the heiau may have been directed by the chief Mo‘ikeha, circa A.D. 1300. Part of this heiau’s importance lies in its position and visual relationship between Poli‘ahu Heiau (mauka) and Hikinaakalā Heiau (makai).

An associated Site 50-30-08-104A is an adze workshop/flake scatter located along the north and northeast exterior of Malae Heiau.

Hikinaakalā Heiau and Pu‘uhonua o Hauola (State site 50-30-80-105) comprise a site complex situated on the southern riverbank at the mouth of the Wailua River. These two sites are located within a portion of the Wailua River State Park located makai of Kūhiō Highway, and adjacent to the County’s Lydgate Park. Hikinaakalā is a walled rectangular enclosure, while Hauola, the place of refuge is where a kapu-breaker could enter and escape punishment. The boundaries of the pu‘uhonua are uncertain, but are believed to be located closer to Kūhiō Highway. This complex was first recorded in 1907, but by the

time it was surveyed in 1931, many of the stones had been removed from the heiau for road and bridge projects. In the early 1960's, the construction of a parking lot and comfort station (since removed) further impacted the structural integrity of this site.

The Wailua petroglyph site (Ka Pae Ki'i Mahu o Wailua, Site 50-30-08,105A) at the mouth of the Wailua River was clearly regarded as "historically part of the temple of Hikina-a-ka-lā and the City of Refuge, Hau'ola (both sites coded 50-30-08-05)" (Kikuchi, 1984). Thus the petroglyphs is regarded as a contributing element of the designated Wailua Complex of Heiau National Historic Landmark.

Kalaeokamanu Heiau (State site 50-30-80-106) lies on the north bank of the Wailua River at the base of Pu'ukī. This heiau is where the first temple drum (pahu) was brought from Kahiki by La'amaikahiki, son of Mo'ikeha. The stacked rock wall enclosure at the base of the pu'u has been called the heiau, but recent research suggests that the heiau may be situated atop the pu'u. Adjacent to the enclosure is Pōhaku Ho'ohanau, the birthstones where Kaua'i ali'i were born. This site has been called Holoholokū Heiau, but recent research indicates that Holoholokū is the place name for the larger area that includes the heiau and birthstones.

Poli'ahu Heiau (State site 50-30-80-107) is located on the ridge separating Wailua River and 'Ōpaeka'a Stream. This is another large, rectangular walled enclosure heiau, but Poli'ahu Heiau is noted for its notched corner and extensive stone paving. Thrum's description of Poli'ahu records a special relationship to Malae Heiau: "This heiau of medium size is situate[d] within sight of Malae, and was connected with it in its working."¹

Bellstones (State site 50-30-80-335) are located makai of Poli'ahu Heiau on the same ridge above the Wailua River. When these stones were struck in a particular spot, the resonant tone could be heard for great distances. They were usually "rung" to signal a significant event, such as a royal birth.

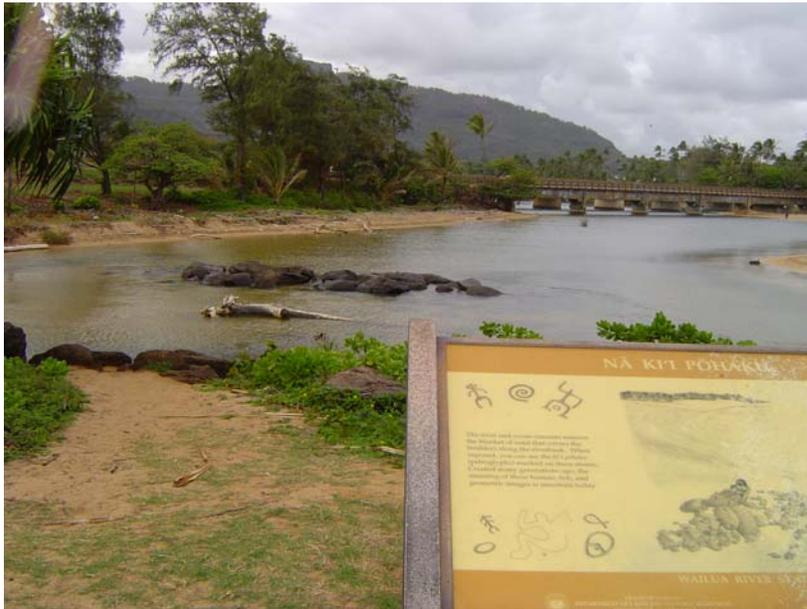
Burials and Cultural Layers (Coco Palms area)

There have been documented burials in the areas around the existing Kūhiō Highway in the vicinity of the Coco Palms Resort. The highest density of burials are believed to be located inland of the existing Kūhiō Highway. This area is also particularly rich in other non-burial cultural resources.

Mahunapu'uone Burial Ground (Site 50-30-08-681) is a reinterment site on the Coco Palms Hotel property, where over 85 sets of remains are buried. Cultural Surveys Hawai'i has noted that there are possibly many more burials remaining in the immediate vicinity,

¹ Thrum, in Cultural Surveys Hawai'i, 2003

within the larger designated “burial ground.” The burial area is located along the makai side of the hotel property, fronting Kūhiō Highway.



Interpretive sign for Ka Pae Kī'i Mahu o Wailua, the petroglyph field, in the foreground. Rock formation with petroglyphs about middle of photo with cane haul bridge to the right.

Potential Impacts on Archaeological Resources and Mitigation Measures

Potential impacts to archaeological sites and artifacts focus around two major areas—the Wailua Complex of Heiau and potential burials.

Wailua Complex of Heiau National Historic Landmark

The transportation improvements will not have a direct impact on the Wailua Complex of Heiau NHL.

Malae Heiau. The intersection of Kūhiō Highway and the marina access road will be improved to accommodate two lanes of southbound traffic coming off the Wailua River highway bridge. Since this roadway also provides access to Malae Heiau, the changes in traffic flow also will be beneficial to the heiau property. A new parking facility for heiau visitors, designed by the Division of State Parks, is located outside the project area.

Hikinaakalā Heiau and Pu‘uhonua o Hauola. The bike/pedestrian path is separated from Hikinaakalā Heiau and Hauola by a grass- and scrub-covered open space. Although the path will not encroach on the cultural sites, the Division of State Parks has expressed

concern that path users might wander off the path or use the heiau as a short-cut to Lydgate Park. To discourage inappropriate passage through sacred sites, the path will be clearly defined and a combination of landscaping and railings will be used as barriers. In addition, the path provides opportunities for interpretive signage that will help to educate path users about the cultural significance of the area.

Petroglyph Site. Field inspection and available maps indicate that the off-shore petroglyph field (Ka Pae Ki'i Mahu o Wailua) is well to the southeast of the cane haul bridge and will not be affected by this project.

Field Boulders. Large boulders are used for the existing retaining structures at the north and south abutments of the cane haul bridge. Sections of the existing retaining structures, including some of the boulders will be encased in a larger wall to support the wider the bridge deck. Staff at the SHPD and Division of State Parks consulted about the potential archaeological or cultural significance of the boulders indicated that the proposed action would not be an adverse impact.

Burials

Another archaeological issue is the potential impact to human remains. On the north side of the Wailua River mouth, excavations for roadway improvements and construction of the bike/pedestrian path may encounter burials and/or cultural artifacts. Areas of Jaucas sand in the Waipouli and Kapa'a ahupua'a are known for both burials and intact cultural deposits. It is understood that proposed roadway improvements generally will occur in areas that have been disturbed previously and that the path will have a very light footprint requiring minimal excavation. Many of the burials and cultural deposits previously documented, however, are quite shallow.

During the pre-assessment consultation period, the Office of Hawaiian Affairs commented that construction shall stop immediately upon discovery of significant cultural deposits or human skeletal remains and that SHPD be contacted (see letter dated February 27, 2006, Chapter 9). The Contractor for this project will be required to follow all procedures specified in Section 6E-46.6, Hawai'i Revised Statutes and Chapter 13-300, Hawai'i Administrative Rules in the event that inadvertent discoveries are made. Specific protocols will be described in an archaeological monitoring program (including a monitoring plan, a combination of on-call and on-site monitoring, and a monitoring report) to be prepared and implemented by the contractor per a Memorandum of Agreement for the Lydgate Park to Kapa'a Bike/Pedestrian Path previously signed by the County of Kaua'i, the FHWA, and the SHPD.

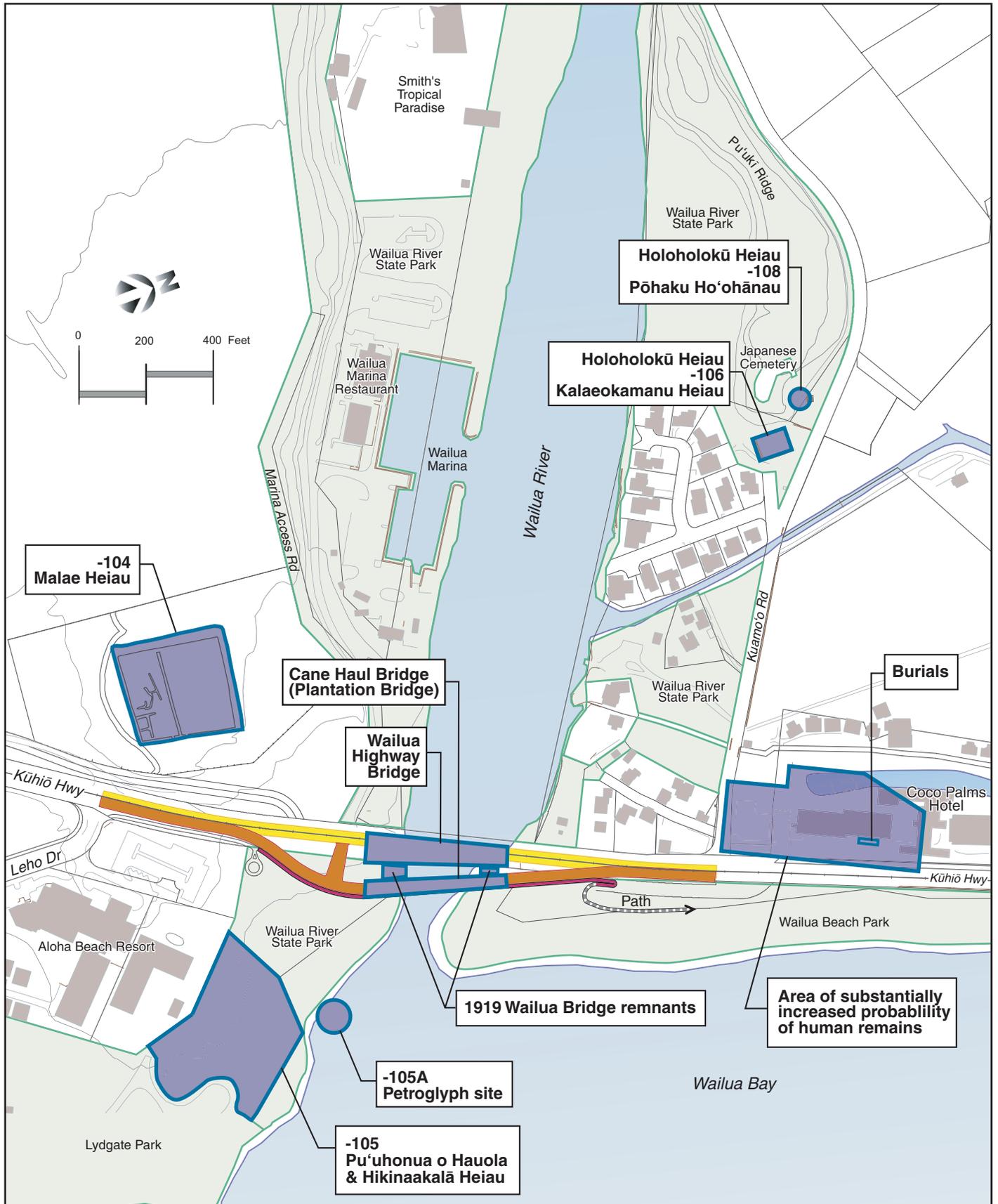


Figure 9
Archaeological and Historic Sites
Wailua River Bridge Improvements

Historic Buildings and Structures

In addition to archaeological resources, the proposed action will affect historic structures that may be eligible for listing on the National Register of Historic Places. The information for this section is drawn from an Historic Resources Survey prepared by Mason Architects (2003) for the Kapa‘a Relief Route project, which encompasses the subject project area. This study examined properties with construction dates of 1960 or earlier in areas where road construction or widening has been proposed. Historic sites within the project area are shown in Figure 9.

The National Register of Historic Places (Title 36, part 60 of the Code of Federal Regulations), defines the criteria for legally evaluating the significance of cultural resources. It states that “the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association,” and

- (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) that are associated with the lives of persons significant in our past; or
- (C) that embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) that have yielded, or may be likely to yield, information important in prehistory or history (U.S. Department of Interior, 1991, p. 37)

Mason Architects made a preliminary evaluation of eligibility based these criteria. The Hawai‘i State Register of Historic Places generally utilizes the same criteria as the National Register; therefore, properties listed on the Hawai‘i Register are usually considered eligible for the National Register.

Three historic properties are located in the project area.

- Wailua Plantation Bridge (cane haul bridge)
- Wailua Bridge (highway bridge)
- Former Wailua Bridge Remnants (1919 bridge)

Wailua Cane Haul (Plantation) Bridge

Description: The Wailua River cane haul bridge was acquired by the State recently and has not been included in any of the historic bridge inventory studies conducted over the years. It was constructed in 1921 and has a roadway length of 395 feet, supported on seven intermediate and two end piers.

The bridge is only one of two bridges on the island converted from railroad bridge to road bridge. It is also one of only two extant concrete railroad bridges on the island. These concrete bridges are distinctive since industrial and railroad bridges in Hawai‘i were primarily steel stringer bridges. The Wailua Railroad Bridge was an integral part of the sugar and pineapple economy on the eastern side of Kaua‘i. It is one of the few remaining parts of the rail line, which represents a change in the 1920s from individual plantation ship landings to a more centralized transportation system.

Assessment of Significance: Satisfies Criteria A and C

Potential Impacts: The proposed action would alter the bridge by removing the existing concrete deck and replacing it with a new, wider deck using a prefabricated panel system. Paving on the deck will be asphalt or concrete, while the side panels will be made of galvanized steel. New struts will be added under the bridge to support the wider structure. These changes, in effect, represent another step in the evolution of structure. The Mason study concludes that the bridge has minimal integrity of materials and workmanship because they are obscured by a gunite coating over most of the original concrete. The integrity of design was diminished by the post-WWII addition of the deck portion and the more recent guard rails. Despite these changes, the study’s authors note that the bridge retains its integrity of location and enough original physical features to convey the feeling and association of its historic character.

Mitigation Measures: Following Section 106 consultations for the Lydgate Park-Kapaa Bike/Pedestrian Path, the County of Kaua‘i, FHWA, and SHPD entered into a Memorandum of Agreement to mitigate expected impacts on the cane haul bridge. The bike/pedestrian path project proposed a cantilevered attachment to the cane haul bridge. The bridge crossing portion of the bike/pedestrian path as subsequently merged with HDOT’s short-term bridge improvement project. In both cases, the alterations affect the bridge deck, including a cantilevered attachment for the bike/pedestrian path. The MOA calls for documentation of the bridge prior to alteration (see Appendix B); mitigation is also indicated in the Programmatic Section 4(f) Determination on the Use of Historic Bridge (see Appendix C). The level of documentation will follow guidelines established by the Historic American Engineering Record (HAER).

Wailua River (Highway) Bridge

Description: The existing Wailua Bridge, built in 1949, is the fourth bridge to be built across the Wailua River. It replaced the 1919 concrete arch bridge (discussed below under “Former Wailua River Bridge Remnants”), which was considered too narrow, given its 18-foot width. The entire stretch of the Belt Road from Līhu‘e to Keālia was widened to 24 feet in 1948.

Assessment of Significance: The historic resources survey field work did not reveal any notable engineering or aesthetic design merit, “except for its distinctive setting at the mouth of Kaua`i’s widest and most beautiful river valleys.” (Mason Architects, Inc. 2003). It appears to be a standard bridge type of the post –WWII period.

The bridge appears to meet the National Register of Historic Places Criterion C, since it has the distinctive characteristics of its period of construction. It retains integrity of location, as the setting has undergone little change since 1949. It retains integrity of design, materials and workmanship, as only the addition of metal railings intrudes on the original design.

Expected Impacts: This project proposes temporary changes to the bridge, specifically partial removal of the sidewalk on the makai side of the bridge and the addition of a temporary guardrail. These changes would allow three travel lanes on the highway bridge while the cane haul bridge is closed for construction. After the cane haul bridge reopens, the makai sidewalk will be restored and the temporary guardrail removed. The highway bridge will be restriped and signed for two travel lanes in the southbound direction.

Mitigation. Based on consultations with SHPD and the Kauai Historic Preservation Review Commission (KHPRC), documented in Appendix B2, HDOT decided to restore the highway bridge to maintain historic integrity to the extent possible.

Former Wailua Bridge Remnants

Description: These are the remnants of the second bridge to cross the Wailua River, commonly known as the “Wailua River 1919 Bridge.” The remnants are located makai of the existing Wailua Bridge on Kūhiō Highway and mauka of the Wailua Plantation Bridge. Most of the 1919 bridge was dismantled when the current Wailua Bridge was building in 1949. Only the concrete abutments remain on both sides of the river, and the parapet walls of the approach section remain only on the Līhu`e side of the river. The bridge abutments and parapet walls are obscured by vegetation.

Assessment of Significance: The bridge abutments and parapet walls meet the National Register Criterion A for their association with the development Wailua River crossings, and the development of the belt road on Kaua`i. It also meets Criterion B for its association with former County Engineer Joseph H. Moragne. As structural remains, they have high integrity of location, design, materials, workmanship, and setting. However, the integrity of feeling and association is low.

Expected Impacts: The bridge remnants will not be affected and will remain as is.

Mitigation: No mitigation required.

Property Group-Wailua Road Lots

Description: The property group referred to as the Wailua Road Lots includes a group of lots along Wailua Road, near the intersection of Kūhiō Highway and Kuamo`o Road. It is also commonly known as the “Smith’s Visitor Services area.” Eight privately-owned parcels range in size from about 2,000 square feet to over 21,000 square feet. This group does not include two State-owned properties that are part of the Wailua River State Park, or a large, privately-owned riverfront parcel at the southwest end of Wailua Road.

Assessment of Significance: The Wailua Road Lots, as a grouping, do not appear to meet the significance or integrity criteria of the National Register of Historic Places. The area’s history and building styles are so mixed that it does not represent a “significant and distinguishable entity” which could be considered a historic district. There do not appear to be any National Register-eligible historic period buildings in this area.

Cultural Impact Assessment

Act 50, Session Laws of Hawai‘i, 2000, requires that a proposed action’s impacts on the community’s cultural practices be disclosed in the environmental review process. A cultural impact assessment was conducted for the proposed Kapa‘a Relief Route by Cultural Surveys Hawai‘i (Volumes I and II, 2004). Because the affected area for this project is fully contained within the Kapa‘a Relief Route study area and both are linear transportation projects, the findings of the 2004 cultural impact assessment were re-examined in this context.

CSH conducted historic research of the project to identify cultural resources and traditional cultural practices associated with the proposed relief route corridor. In addition, they conducted community consultations with contact overtures to 54 parties regarding cultural knowledge, land use history, cultural sites, and traditional Hawaiian or other cultural practices in the vicinity of the project area. Nine interviews were completed but only seven interviewees signed authorization and release forms.

One of the primary concerns voiced by several kama‘āina, including some interviewees was concern about potential impacts on human burials (iwi kupuna). Based on background research, the most likely location for burials is in the sandy coastline sediments. One kupuna who had witnessed the discovery of a large number of burials in the Wailua area adjacent to Coco Palms and Kūhiō Highway expressed serious concern about uncovering additional burials if a road were to be extended there. This area is thought to correlate with a documented historic sand dune burial ground, Mahunapu‘uone. Though the sandy sediments along the coastline are of primary concern, there have been a few isolated burials inland. The potential inland burial areas include locations of former kuleana, particularly in Wailua mauka of Coco Palms. Several of those consulted indicated that the

discovery of iwi (bones) is a very sensitive issue for the Hawaiian community requiring much mediation and appropriate protocol.

A second very important cultural concern identified during consultation is related to the heiau of Wailua. The heiau complex is on the National Register of Historic Sites and various groups have been working closely with the Division of State Parks to ensure protection of these historic properties and cultural sites. Those consulted stressed that the heiau are not just historic properties to preserve for their historic value, but also living cultural sites. Malae Heiau was mentioned specifically, but references to this site are more pertinent to the Kapa‘a Relief Route project—the short-term improvements will not impact Malae Heiau.

Fishing and gathering along the coastline from Hanamā‘ulu to Keālia was and continues to be a vital cultural activity. There is evidence that fishing and crabbing still occurs within the Wailua River. In many ways, fishing is not as easy as it once was, but fishing remains one of the few cultural traditions families still feel relatively free to engage in in this area. Kama‘āina consulted and interviewed indicated that most of their families had long histories of fishing at various locales. Fishing traditions have been passed down through the ‘ohana and are viewed as a way to continue to perpetuate important aspects of the Hawaiian culture. A number of individuals expressed their concern that construction related to any proposed transportation improvement take into account water quality and potential negative impact on fishing resources. This would be especially true in the case of the Wailua River, where bridge reconstruction would occur.

During the construction period, fishing, crabbing, and other gathering activities near the bridge will be temporarily restricted for safety reasons. All permitted activities will resume once the improvements have been completed.

Although most of the kama‘āina consulted grew up in an era when expressions of the Hawaiian culture were discouraged, they were all aware that Wailua was a unique place for their ancestors. The issues raised by the cultural impact assessment reflect a deep connection with the land and its resources. With both vehicular and bike/pedestrian components, this project will enhance accessibility to the Wailua area. The intent of the project is to improve access in a way that is respectful of historic and cultural resources.

4.3.2 Population and Demographic Factors

The project area is not located in a residential neighborhood. However, the stretch of Kūhiō Highway proposed for improvements is anchored by two resort properties: Aloha Beach Resort at the southern end and Coco Palms Resort at the northern end. A small residential cluster is located on the mauka side of Kūhiō Highway, between Wailua River and Kuamo‘o Road.

The larger Wailua- Kapa‘a region is composed of Census Tracts 402.02 (Wailua) and Census Tract 403 (Kapa‘a). According to the 2000 Census, 15,402 people lived in these two census tracts. The adjacent census tract to the north, Census Tract 402.01 (Keālia), had a population of 3,123, for a total population of 18,525 people in the three-tract region. This number constituted 31.6% of Kaua‘i’s total population (58,463 in 2000), or slightly less than a third.

In 2001, the Department of Business, Economic Development, and Tourism (DBEDT) reported that Kaua‘i’s average daily visitor census was 16,830. The 2000 *Kaua‘i General Plan*, reported that, in 1999, 30% of the island’s visitor units were located in the Kawaihau District. The Plan also pointed out that occupancy rates in the district are consistently 5 points below the islandwide average. After adjusting for these ratios, it is estimated that the average daily visitor census in the Wailua-Keālia region is 4,645. Combined with the residential population, the region had a *de facto* population of approximately 23,170 in the 2000-2001 time period. Assuming slight growth in the resident population since the 2000 census, and an increased visitor count due to a rebounding economy and travel market, an estimated daily census of 24,000 would be reasonable.

The demographic statistics show that the Wailua- Kapa‘a region has one of the largest concentrations of population on Kaua‘i. What distinguishes the region is the mix of residential and visitor populations and the density of commercial activity.

Potential Impacts and Mitigation Measures

The proposed action is not expected to have an impact on the number of people in the area or to change the demographic characteristics. However, an analysis of the existing population supports the need for a shared use path in the area. There is a concentration of residents and visitors within a relatively small area, and within comfortable walking and biking distances to numerous businesses and community facilities. The region is also home to large segments of the population that are unable to use the motorways, notably children and teens. Improving the transportation infrastructure for pedestrians and bicyclists will help to increase the mobility of these groups.

Environmental Justice. The project involves improvements to an existing structure and is not located in a residential area. Neither minority nor low-income populations will receive disproportionately high or adverse impacts as a result of the proposed project. Rather, given the project’s location, transportation benefits resulting from increased capacity will accrue to highway users throughout the east side of the island.

4.3.3 Economic and Fiscal Resources

The economy of Kaua‘i has transformed over time from a plantation economy to a modern economy with a mix of tourism, diversified agriculture, construction, retail, and professional businesses. Through the early 1990s, the island economy worked to recover from the closing of the sugar plantations, the devastating aftermath of Hurricane Iniki, and a national economic slowdown. Today, the economy appears buoyant as evidenced by an unemployment rate in April 2004 of 3.9% (not seasonally adjusted). Although slightly higher than the unemployment rate for the state as a whole (3.6%), it was nonetheless lower than the U.S. rate (5.4%). Moreover, the unemployment rate the year before, in April 2003, stood at 5.6% (State Department of Labor and Industrial Relations, 2004).

Industries

The largest industries in terms of jobs are trade (retail and wholesale) and services. In 2002, hotels and food services accounted for 6,650 jobs, retail trade had 7,950, and professional and business services had 4,400. In a study by the State Department of Labor and Industrial Relations, service and production jobs were expected to account for about half of all job growth through the year 2008.

Income

Personal income of County residents has been increasing over time, but not as fast as the State as a whole. The per capita disposable personal income level for residents of the County has fallen below income levels for the state since the mid 1970s. In 2001, per capita income in Kaua‘i County was \$23,786 (in current dollars) compared to \$29,034 for the state as whole. The per capita income for all counties (excluding the City and County of Honolulu) was \$23,666.

The 2000, the Hawai‘i Health Survey indicated that 21.9% of the County’s population was below the poverty line, compared to 14.1% of the statewide population. This study also found that the “extremely low” and “low” income groups (households with incomes up to \$30,000) form a larger share of the County population than the comparable state proportion. These statistics indicate a higher degree of segmentation in the island population among those at the higher and lower ends of the income spectrum.

Potential Impacts and Mitigation Measures

Economic Impacts

The proposed action is anticipated to have several types of economic impacts. One type is construction-related employment and income. With a preliminary estimated cost of \$18

million, the project is expected to support a number of engineers and construction workers for the duration of the project (approximately 18 months). Unless the economy expands significantly and existing firms are working at full capacity, this project is more likely to help sustain existing employment and income levels than to create new jobs. However, because project funds are coming from (federal) sources outside the region, the wages paid to workers on this project (direct income), payments to suppliers (indirect income), and their subsequent expenditures (induced income) could have a large cumulative impact as the monies circulate through the local economy.

Fiscal Impacts

Public funds will be needed for long-term maintenance and repair of the proposed facilities. In the case of bridge and highway improvements, reconstructing the cane haul bridge will allow HDOT to extend the timeframe for major bridge repair and maintenance. Additional, if small, costs savings will also be achieved by reducing the scale of contraflow operations. After this project is completed, and with the expected widening of Kūhiō Highway from Kuamo‘o Road to the temporary bypass road, contraflow will no longer be needed from Wailua River north. Contraflow operations will continue during the weekday morning peak period south of Wailua River.

For the County of Kaua‘i, additional costs will be incurred by the Division of Parks and Recreation to operate, maintain, and repair the bike/pedestrian path, a new facility. A budget allocation will be needed to support personnel and their equipment. At the same time, as the County’s path system expands, there may be economies of scale that allow for more efficient operations, for example, by making it cost effective to acquire specialized path-sweeping equipment.

4.3.4 Scenic and Aesthetic Resources

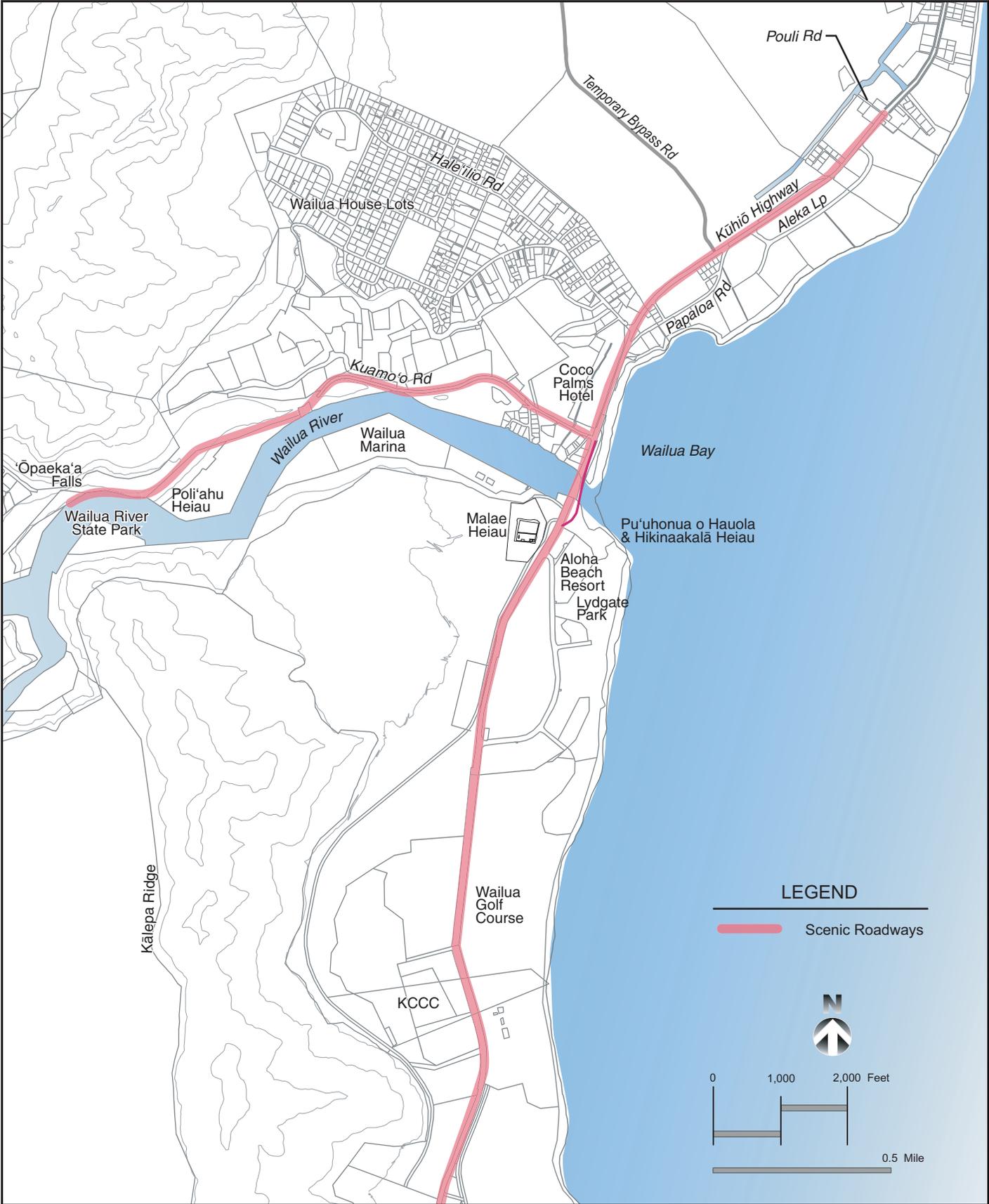
The 2000 *Kaua‘i General Plan* identifies important scenic resources, such as major land forms, open spaces, viewing points, and scenic drives. The Plan’s Kawaihau Planning District Heritage Resources map was reviewed to identify resources that may be affected by the project. Kūhiō Highway, from Lydgate Park to the coconut grove in Waipouli, is identified as a scenic roadway corridor. The project area is located within this stretch of Kūhiō Highway (see Figure 10).

Potential Impacts and Mitigation Measures

This project is not anticipated to have significant impacts on view planes of the coastline from the highway. The profile of the bridge will look different because of the steel panels used in the modular system; however, the bridge’s appearance will not change markedly.

Motorists will find that the side railings are slightly higher than the existing guardrails, but they will continue to enjoy mauka and makai views. One of the alternatives considered during the early planning stages of the project was rejected, in part, because the height of the vertical trusses (approximately 50 feet high) would have been a dramatic departure from the existing aesthetics of the Wailua River crossing.

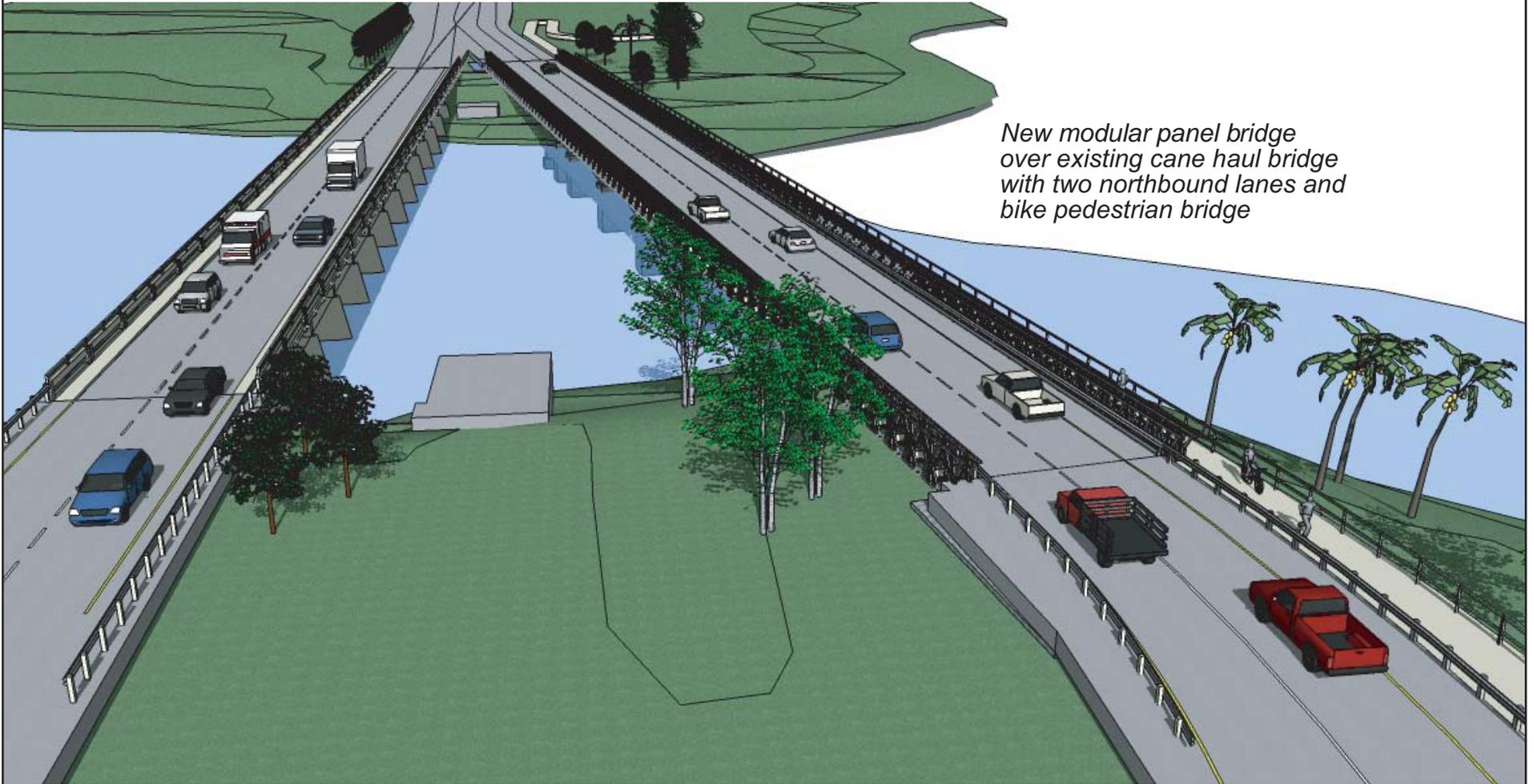
Figures 11 and 12 provide computerized simulations of the reconstructed bridge with the attached pedestrian lane.



Source: County of Kaua'i, Kaua'i General Plan, 2000

Figure **10**
Scenic Roadways
 Wailua River Bridge Improvements

*Existing Wailua Bridge
converted to
two southbound lanes*



*New modular panel bridge
over existing cane haul bridge
with two northbound lanes and
bike pedestrian bridge*

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Figure **11**
**Oblique Perspective of Cane Haul Bridge Improvements
(Looking North)**
Wailua River Bridge Improvements

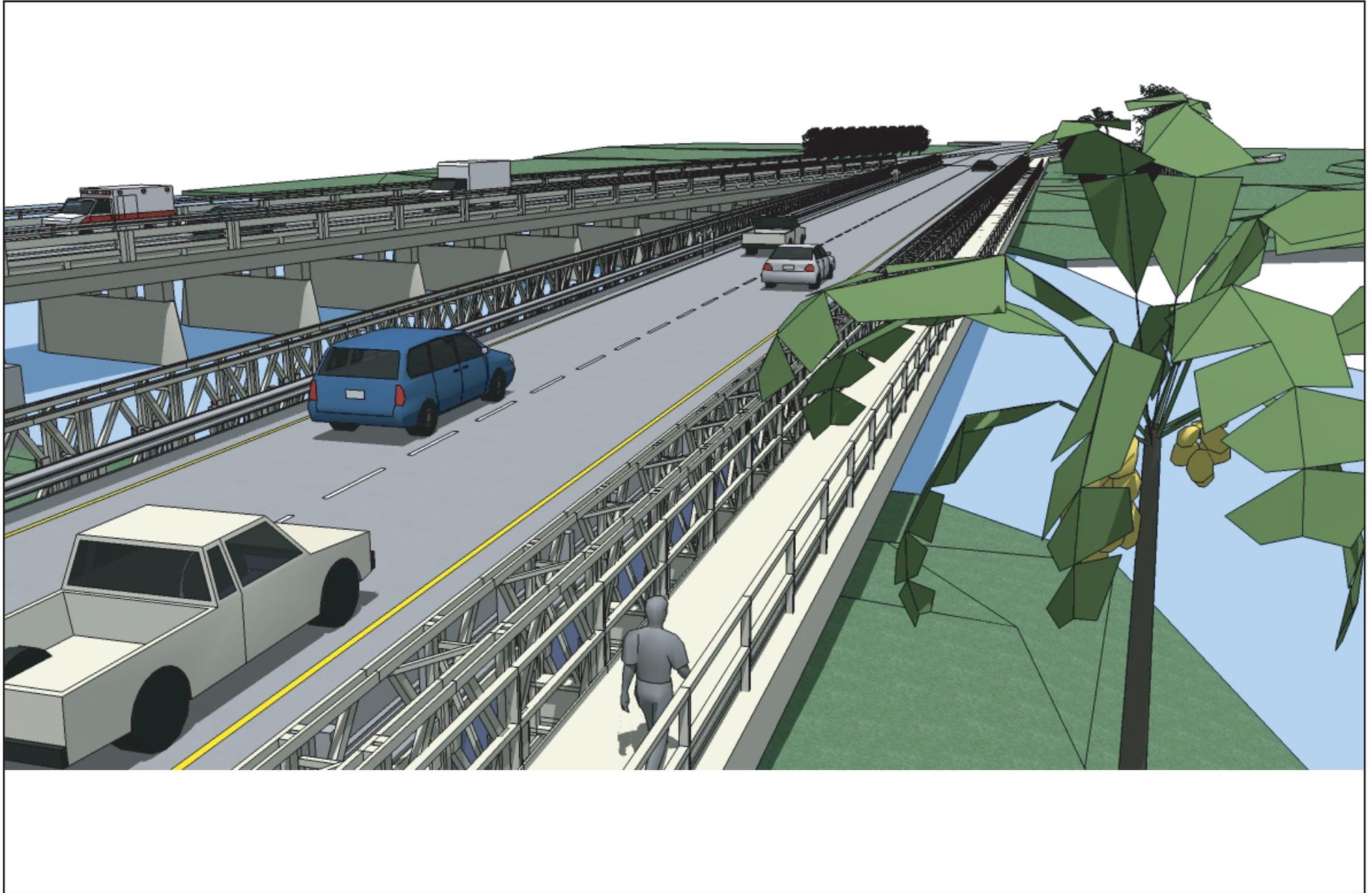


Figure 12
Oblique Perspective of Cane Haul Bridge and Walkway
(Looking North)
Wailua River Bridge Improvements

4.4 TRAFFIC AND CIRCULATION

Kūhiō Highway (State Highway No. 56) is the main transportation spine through the east side of the island. The highway serves regional through traffic between Līhu‘e and the North Shore. It also passes through the heart of the Waipouli-Kapa‘a commercial area; therefore, it also serves the local circulation needs of residents and businesses.

The proposed improvements will start at the north end of Leho Drive. Through the project area, Kūhiō Highway consists of two northbound lanes and one southbound lane. The three-lane configuration continues across Wailua River to Kaua‘i Village Shopping Center. South of Leho Drive, the highway is rural in character and the posted speed limit is 50 mph. North of Leho Drive, the posted speed limit varies between 25-35 mph crossing river and through the urbanized area. Except for the Wailua highway bridge, there are no curbs or sidewalks on Kūhiō Highway within the project area.

Potential Impacts and Mitigation Measures

Development in the State Highway Right-of-Way

This project will be constructed and operated within an existing highway facility. The highway and bridge improvements will occur in areas previously impacted by the original facility construction and subsequent upgrades and repairs.

The cane haul bridge has been used by the HDOT since the 1990s, when it became part of Kūhiō Highway and open to the motoring public. Improvements to the cane haul bridge were made initially through Project 56A-01-91 and, more recently, through Project STP 056-1(43) to refurbish the deck and install guardrails. Use of the cane haul bridge was granted through a right-of-entry with the Department of Land and Natural Resources. HDOT is in the process of obtaining an Executive Order to withdraw lands in the highway corridor from DLNR and convey the right-of-way to HDOT. The improvements proposed in this project are within the 60-foot limits of the cane haul bridge and its approaches.

The bike/pedestrian path on the south side of Wailua River is also located within the highway’s limits. On the north side of the river, the bike/pedestrian path is located in Wailua Beach Park with the written consent and approval of the County of Kaua‘i, Division of Parks and Recreation, obtained during consultations under Section 4(f) of the U.S. Department of Transportation Act.

Wailua Marina Access Road

An engineering evaluation was conducted at the intersection of Kūhiō Highway and the Wailua Marina Access Road to determine whether a traffic signal is warranted. Before any traffic signal is placed on a Federal-aid highway, the FHWA requires an evaluation to

determine whether one or more “signal warrants” are satisfied, as described in the *Manual of Uniform Control Devices for Streets and Highways (MUTCD)*. Of the eight warrants described in the MUTCD, consultant Julian Ng, Incorporated, addressed the three warrants related to traffic volumes. The warrants related to pedestrian volume, school crossing, coordinated traffic signal system, and roadway network are not applicable to this location. Data to evaluate the eighth warrant, for crash experience, was not readily available.

Based on existing and expected future conditions, the study found that traffic volumes at the intersection of Kūhiō Highway and the Marina Access Road are not expected to meet any of the volume warrants from the MUTCD. There is sufficient traffic volume on Kūhiō Highway to satisfy the minimum volumes for a major street. However, even anticipating a new visitor parking area at Malae Heiau, the Marina Access Road does not have the minor street volumes necessary to meet or exceed the federal traffic signal warrants.

After stopping at the stop sign, motorists leaving the marina area and wishing to travel northbound on Kūhiō Highway will need to cross the two southbound lanes to the connector road. The connector road will also serve as a shelter lane for drivers waiting to turn left (northbound) onto Kūhiō Highway. The connector road has sufficient storage length for one car plus one bus.

Accessibility of the Bike/Pedestrian Path

The bike/pedestrian path will be designed and constructed in compliance with design guidelines issued under the Americans with Disability Act (ADA). These guidelines require a minimum path width that is five feet wide. Sections of the path on land will be at least 10 feet wide, while the bridged section over water will be 8 feet wide. The path is not expected to exceed recommended maximum grades on sloped sections.

Wailua Beach Parking and Access

Vehicular access to the southern parking area for Wailua Beach Park will not be affected. Access to the parking area from Kūhiō Highway will continue to be right turn in and right turn out only. The overall capacity of the parking lot will remain substantially unchanged, although it may be reconfigured to accommodate the bike/pedestrian path.

A portion of the beach parking area may be used during bridge reconstruction for staging or to provide access to the construction site. Such usage will be temporary and kept to the minimum area necessary to expedite construction.

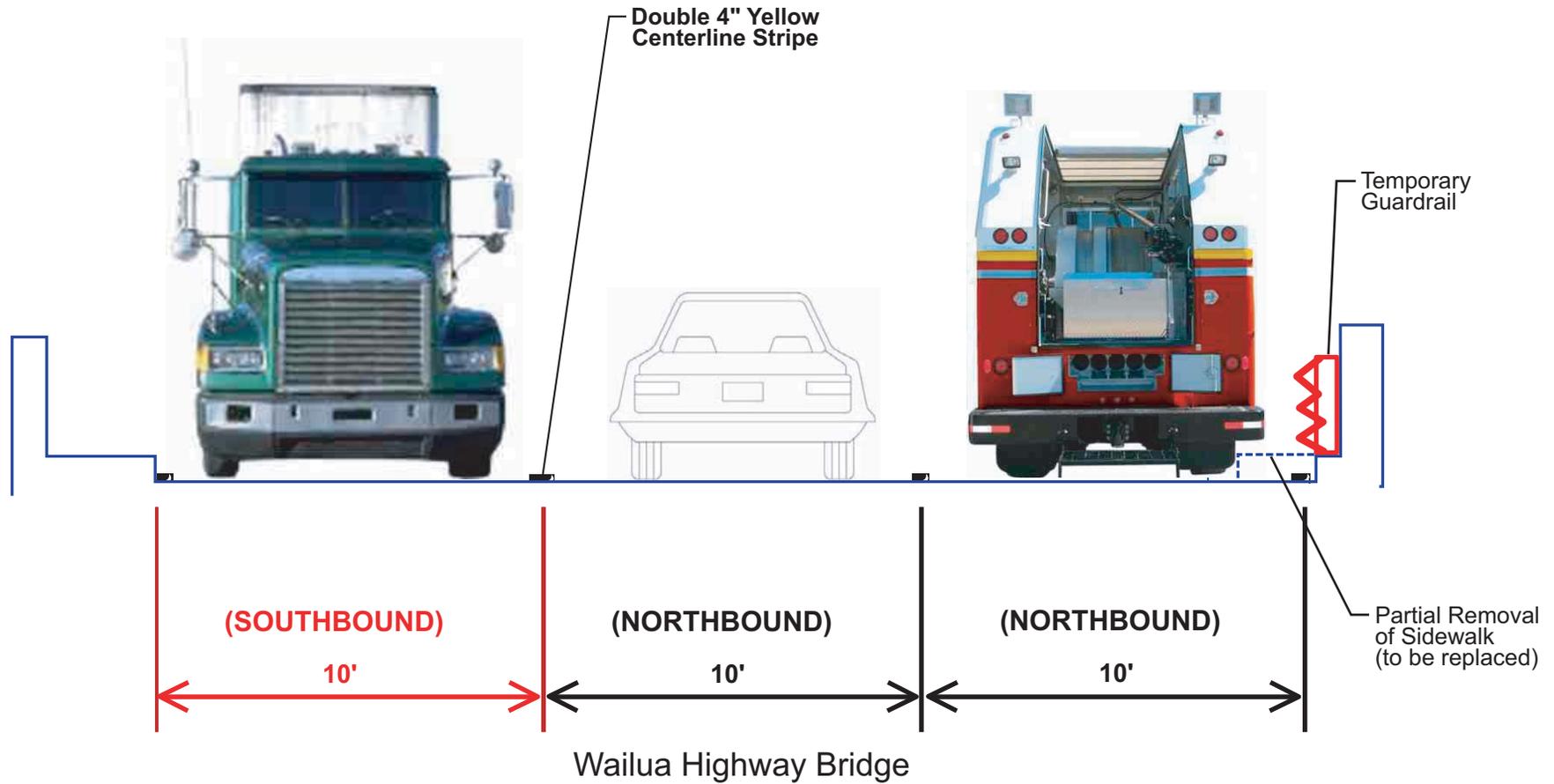
Traffic Impacts

Short-term Construction-related Impacts. Construction is expected to extend over 10-12 months. From a traffic perspective, the most severe impacts will occur when closure of the cane haul bridge is unavoidable, leaving two travel lanes on the highway bridge. A concerted effort will be made to limit the duration of closures; however, the bridge will be unavailable when concrete sections are poured, approaches are realigned and, of course, when the existing deck is removed and replaced. A prefabricated bridge design was selected to minimize the time needed for construction. Extending the workday will also help to accelerate the construction schedule.

Traffic Control. To mitigate congestion while the cane haul bridge is closed, HDOT will reconfigure the highway bridge temporarily for three travel lanes.

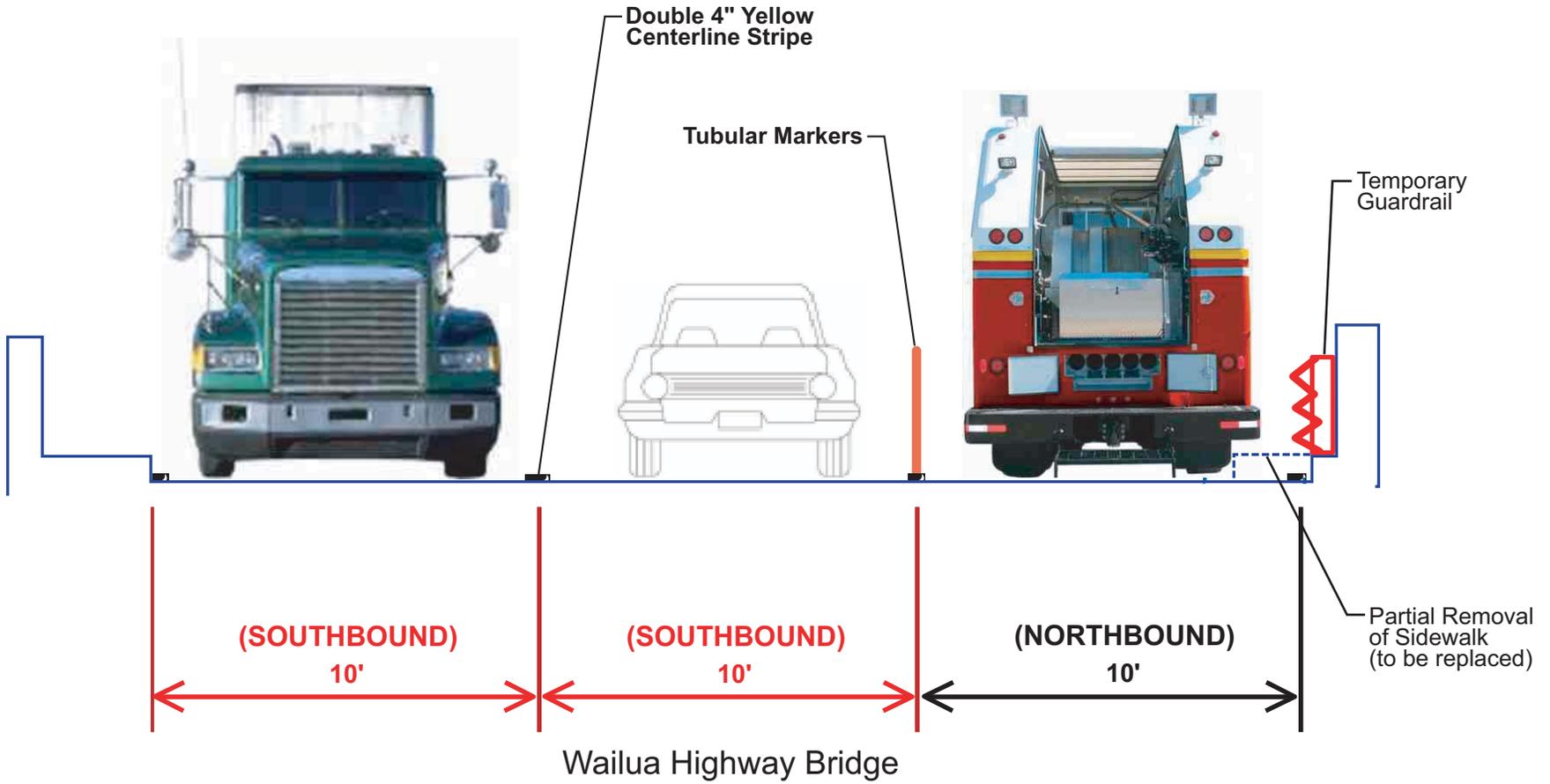
The three lanes will be configured for two lanes northbound and one lane southbound, except during the weekday morning peak period when contraflow operations will provide two southbound lanes (see Figures 13 and 14). This proposal involves partial removal of the sidewalk on the makai side of the highway bridge and installation of a temporary guardrail. The sidewalk on the mauka side will remain as is, and be open for pedestrians and bicyclists (to walk their bicycles across). After the cane haul bridge reopens, the makai sidewalk will be restored to its original dimensions and the guardrail will be removed. In the long-term the highway bridge will carry two southbound vehicular lanes.

Post-construction Impacts. At the Kuamo‘o Road intersection, the existing Kūhiō Highway normally has a single southbound through lane and a separate right turn lane to Kuamo‘o Road. There are two through lanes for northbound traffic with a separate left turn lane for vehicles turning onto Kuamo‘o Road. During the weekday AM peak period, cones are used to implement a contraflow operation in which one northbound lane is reversed to carry southbound traffic. After the project is completed, Kūhiō Highway will be widened to four lanes south of Kuamo‘o Road, thereby eliminating the need for contraflow operation in the AM peak period.



Normal Lane Configuration (Conceptual)

Figure **13**
Traffic Control
Wailua River Bridge Improvements



A.M. Contraflow Southbound (Conceptual)

Figure **14**
Traffic Control
Wailua River Bridge Improvements

The operational analysis described in the *Highway Capacity Manual* was used to evaluate existing operations at the Kuamo‘o Road intersection (see Table 1) and repeated for the proposed improvements.

Table 1. Levels of Service, Intersection of Kūhiō Highway and Kuamo‘o Road

	Average Delay per Vehicle (seconds), LOS					
	Kuamo‘o Road		Kūhiō Hwy northbound		Kūhiō Hwy southbound	
	Left turn	Right turn	Left turn	Through	Through	Right turn
AM Peak Hour						
Existing	132.9 F	371.9 F	54.2 D	16.4 B	119.9 F	3.1 A
After project	34.9 C	301.5 F	49.2 D	10.5 B	95.0 F	2.4 A
PM Peak Hour						
Existing	131.1 F	60.1 E	286.8 F	8.3 A	109.2 F	37.0 D
After project	54.6 D	27.5 C	42.4 D	5.9 A	29.9 C	23.9 C

Source: Traffic Report, Kūhiō Highway Short-term Improvements by Julian Ng, Incorporated, Nov 2005.

For existing conditions, signal timing parameters obtained from the Highways Division were used. A cycle length of 150 seconds was used for the AM Peak Hour and a cycle length of 240 seconds was used for the PM Peak Hour. The long cycle lengths result in long delays and poor levels of service for southbound traffic on the highway and for Kuamo‘o Road movements. If a shorter signal cycle (120 seconds) were used, overall capacity of the intersection would be reduced further.

All of the intersection measures are expected to improve after the project is completed in terms of reducing the average delay per vehicle. In most cases, the reduced delay times produce an improvement in the LOS rating. Predicted benefits to the LOS are especially notable during the PM Peak period which, under existing conditions, has only one southbound travel lane.

Contraflow Operations

The existing contraflow operation on Kūhiō Highway extends from the intersection of the temporary bypass road to the Kūhiō Highway and Kapule Highway intersection. The proposed improvements will alleviate the need to contraflow in the project area. However, contraflow operations will continue south of the project area, between Wailua River and Kapule Highway, to efficiently utilize the three lanes that are available on the highway.

Relationship to Other Transportation Improvement Projects

Kūhiō Highway Widening, Kuamo‘o Road to the Temporary Bypass Road. A related project is the widening of Kūhiō Highway from Kuamo‘o Road to the temporary bypass road. This project will add one southbound travel lane within the existing right-of-way. Because of the interface between this project and the Kūhiō Highway widening project, close coordination will be maintained to integrate the design work, and to organize and schedule construction to minimize disruptions to the motoring public.

Future Bypass Highway. HDOT is studying several alternatives to address long-term transportation needs in east Kaua‘i through the Kapa‘a Relief Route project. The short-term improvements proposed in this project will not eliminate the need for comprehensive measures to meet future traffic volumes. The Kapa‘a Relief Route project has a planning horizon to the year 2025. As seen in Table 1, this project will ease traffic congestion, but will not provide enough additional capacity to meet the long-term needs of a federal-aid highway.

At the outset of the Kapa‘a Relief Route project, proposals to add a fourth lane across Wailua River and to widen Kūhiō Highway from the river to the temporary bypass road were considered as part of a Transportation System Management (TSM) Alternative. Because these improvements are on an accelerated schedule, they will become part of the pre-existing condition in the Kapa‘a Relief Route project.

The Kapa‘a Relief Route project will continue to study two alternatives for the Wailua River crossing. One option is to build a new, six-lane bridge at the approximate location of the existing bridges. Preliminary engineering studies indicate that both bridges would have to be demolished, with the cane haul bridge site used to phase in construction. The new crossing would be designed with sufficient capacity to meet future traffic volumes and would comply with current design standards.

A second option is to build a new river crossing at a location approximately one-half mile further inland. The mauka bridge would carry four travel lanes, two in each direction. The existing bridges would remain in use.

Lydgate Park to Kapa‘a Bike/Pedestrian Path. The County of Kaua‘i, Department of Public Works is planning to construct a bike and pedestrian path from Lydgate Park path to Lihi Park (Waikā‘ea Canal). The southernmost section of this path (approximately one-third mile) will be construction in conjunction with the Kūhiō Highway improvements since both projects involve the cane haul bridge. The County will construct the rest of the path as a separate effort, beginning at Wailua Beach Park and continuing to Lihi Park.

4.5 PARK AND RECREATION FACILITIES

Public parks are a major land use in the project area (see Figure 15). Kūhiō Highway passes through the Wailua River State Park. The project will also affect the County's Wailua Beach Park.

Wailua River State Park

TMK: 3-9-06: 29

Owner: State of Hawai'i, Department of Land and Natural Resources, State Parks Division

Wailua River State Park is a State-owned park in the project area. The park was established in 1954, and has an estimated annual visitation of 615,812 based on a 2003 visitor survey conducted for the Hawai'i Tourism Authority. The Wailua River State Park is located along the banks of the Wailua River and covers a large tract of land extending from the shoreline makai of Kūhiō Highway up into the valley. It encompasses over 1,000 acres of land, of which about 50 acres are developed for recreational use, including sight seeing of natural and cultural sites, hiking, picnicking, and boat rides along the river.

This large State park complex is comprised of several other park areas including the Fern Grotto Area, the Marina Area, the Wailua River Reserve Area, Kaumuali'i Area, Poli'ahu Area, Hikinaakalā Heiau State Historic Site and Malae Heiau State Historic Site. Lessees include Smith's Tropical Paradise and the Marina Restaurant. Many of these areas are scattered within the 1,000 acres, which requires visitation by vehicle for most of these park areas. Wailua River State Park includes three waterfalls, two of which can be viewed from within the park (Wailua Falls on the river's south fork and 'Ōpaeka'a Falls on 'Ōpaeka'a Stream that feeds into the Wailua River). The Wailua Beach Park and Lydgate Park, located along the shoreline, were formerly part of the Wailua River State Park, before their transfer to the County in 1992.

The Fern Grotto and the Wailua River Reserve Area are located in the mauka areas of the park outside of the project corridor. These mauka areas are accessed via Kuamo'o Road, which connects with Kūhiō Highway just north of the Wailua River Bridge. Another recreational area in the upper river valley outside the project corridor is the Keahua Arboretum, where hiking and picnicking activities are managed by the Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife.

The Wailua Complex of Heiau National Historic Landmark (NHL) is located within the Wailua River State Park. This heiau complex is comprised of seven historic sites, grouped into five discrete sites. The path passes mauka of Hikinaakalā Heiau and Pu'uho'oua o Hauola (designated as State Historic Site No. 50-30-08-105 and one of the five NHL sites), but will not have an adverse impact on these important cultural sites. A cluster of boulders

with petroglyphs, known as Ka Pae Ki‘i Mahu o Wailua (State Historic Site No. 50-30-08-105A) is located offshore in a small inlet at the mouth of the Wailua River.

Vehicular access to the Wailua Marina area, also within the project area, is via Marina Access Road, which connects with Kūhiō Highway just south of the Wailua River Bridge. There are currently three private concessionaires in the Marina Area--the Wailua Marina Restaurant, a gift shop, and Smith’s boat tours. Smith’s Tropical Paradise is a 30-acre botanical and cultural garden, and includes luaus three evenings per week. An international pageant featuring dancers representing Pacific cultures is held on Monday, Wednesday and Friday evenings in the amphitheatre. Smith’s has a lease from the State for these facilities.

Wailua River is the largest navigable river in the state. Daily commercial boat tours transport visitors from the Marina to Fern Grotto, one of Kaua‘i’s most famous visitor attractions (Clark, 1990). The boat ramp at the Marina is used by the concessionaires, the permitted commercial water skiing company, the permitted commercial kayak/hiking tours, and by the State Department of Land and Natural Resources. There is also a boat ramp at the Kaumuali‘i area, which is used by public boaters. Several canoe clubs launch their canoes from Old Smith’s Landing on the northwest corner of Wailua Bridge. Fishing activities generally occur in the lower marina area along with crabbing along the banks. The marina dock and ramps and the Kaumuali‘i boat ramp are under the jurisdiction of the State of Hawai‘i Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DOBOR).

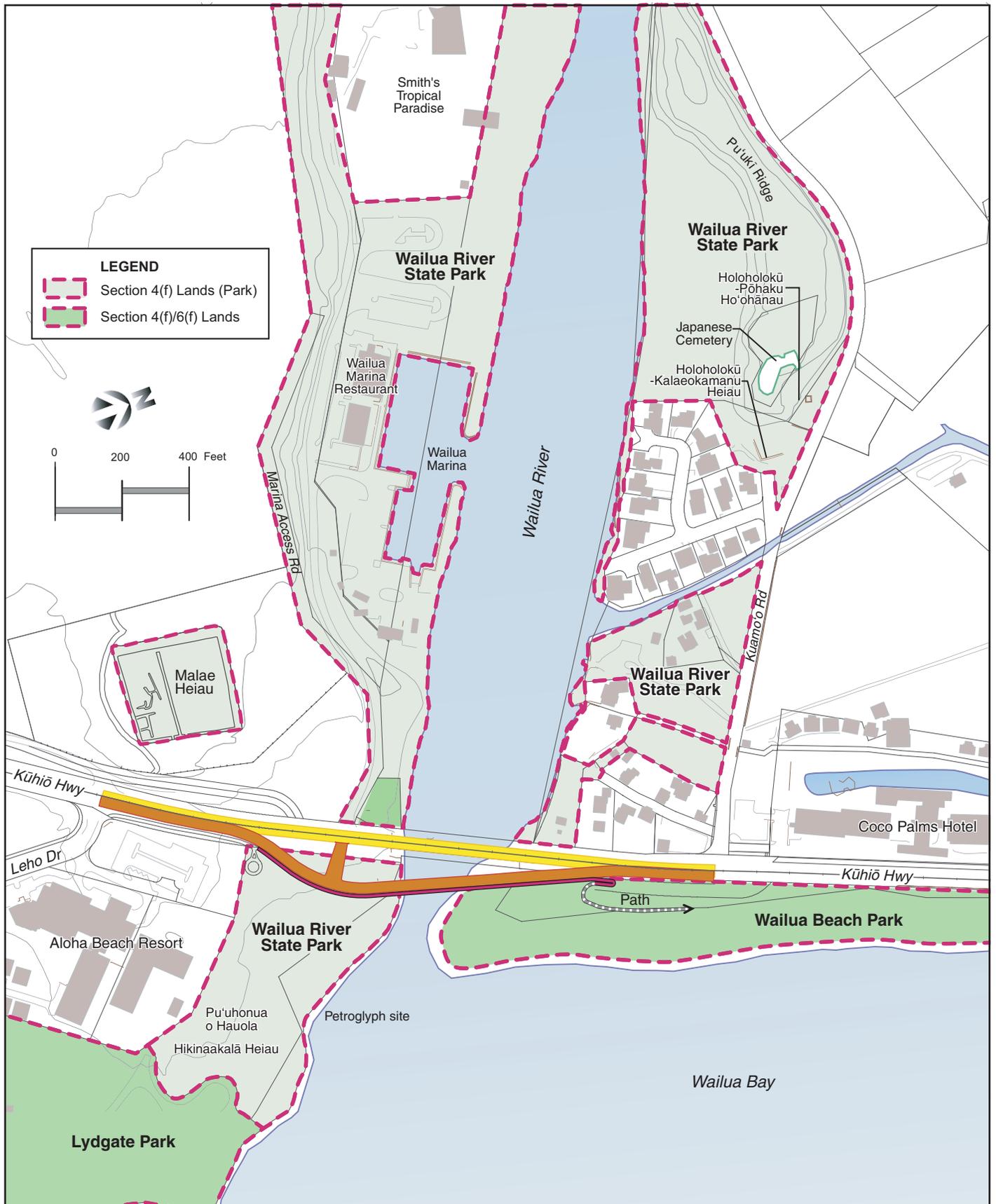


Figure 15
Parks

Wailua River Bridge Improvements

Wailua River Use Regulations

By amendments to Chapter 13-250 and 13-256, Hawai‘i Administrative Rules, adopted in September 2002, the State of Hawai‘i implemented regulations for navigable waters of the Wailua, with boundaries beginning at the high water mark at the mouth of the Wailua River and including all the navigable waters along the Wailua River in a westerly direction to the base of Kaholalele Falls on the north fork of the river and all of the navigable waters to the base of the Wailua Falls on the south fork of the river.

The restricted area is divided into four zones (see Figure 16):

- Zone A includes all the navigable waters beginning 50 feet into the river from the western side of the Wailua River bridge and from 75 feet into the Wailua River from the north shoreline to approximately 1,800 feet along the shoreline, then extending from the banks of the north shoreline to approximately 783 yards upstream, as indicated by navigational aids designating the boundary between Zones A and B.
- Zone B includes all waters extending approximately 2 miles upstream from the navigational aids on both sides of the river designating the boundary between Zones A and B.
- Zone C includes the waters beginning at the west side of the Wailua River ridge between the north and south banks and extends 50 feet into the river, then proceeds along the north shoreline extending 75 feet into the Wailua River from the north shoreline to a point approximately 1,800 feet along the shoreline.
- Zone D begins at the eastern boundary of Zone C and extends under the Wailua River bridge between the north and south banks, extending to the shoreline.

The eastern half of the lower Kaumuali‘i area, Zone A, is used exclusively for launching and recovery of Hawaiian outrigger canoes. The western half of lower Kaumuali‘i area, Zone A, may be utilized by recreational vessels other than Hawaiian outrigger canoes.

General Rules

Only commercial and recreational vessels not exceeding 21 feet in length are allowed to utilize the Wailua River and use is limited to vessels for waterskiing, motorized vessels (but excluding thrill craft), and manually propelled vessels (such as canoes and kayaks). Commercial activity is regulated by permits, restrictions on the number of vessels allowed per activity permit, and the activity zones.

- Recreational motorized vessels and recreational and rented manually propelled vessels may utilize Zones A, B, and C
- Zone C is designated a swimming zone, indicated by marker buoys.
- All manually propelled vessels required to operate along side the northern river bank.
- All vessel operators shall possess a state park permit to embark or disembark along the shores only within the state park in Zone B.
- Commercial barges or vessels allowed by the department may only use Zones A and B
- All commercial vessel activity is prohibited from Zones C and D.

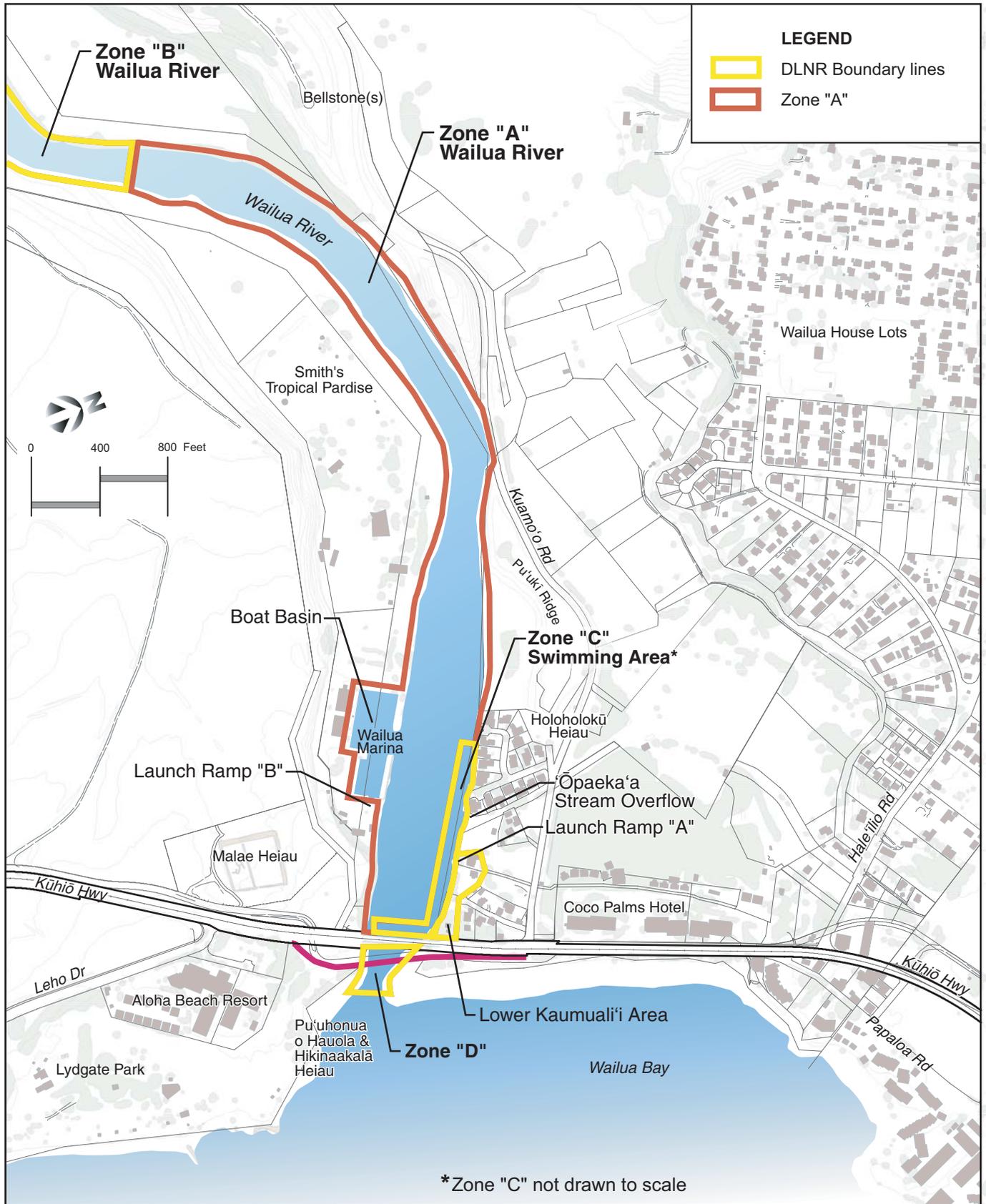


Figure **16**
Wailua River Use Management Zones
Wailua River Bridge Improvements

Wailua Beach Park

TMK: 4-1-04: 01; 4-1-05: 04; 4-3-02: 01

Owner: County of Kauaʻi

Wailua Beach Park encompasses about 6.0 acres of undeveloped beach area situated to the north of Wailua River and makai of Kūhiō Highway. This County-owned park is located near the mouth of the river, and is a popular area for both visitors and residents. The near shore bottom fronting most of the beach consists of a shallow sand bar, creating favorable surfing conditions. The beach is also used by swimmers, sunbathers, and fishermen.

The park was part of the Wailua River State Park complex before being transferred to the County in 1992. There are two unpaved parking areas off Kūhiō Highway, one just north of the Wailua River Bridge, and another adjacent to the vacant Seashell Restaurant. There are limited public facilities provided at this beach park—a few portable toilets, showerheads, and a lifeguard station.



Kūhiō Highway looking north, approaching the Kuamo'o Road intersection. Wailua Beach Park is to the right.



Wailua Beach Park



Wailua Beach Park makai of the Wailua Plantation Bridge



Park users on north end of Wailua River

County Pedestrian/Bike Path

The County is proposing the development of a 16-mile, shared use path on the east side of Kaua‘i, extending from Nāwiliwili (south of the project corridor) to Anahola (north of the project corridor). The path will be used by pedestrians, bicyclists, and other users. The pedestrian/bike path is being proposed in phases. A 2.3-mile phase was constructed in Lydgate Park in 2003. Future phases within the project corridor include a Lydgate Park to Waika‘ea Canal phase, and a Waika‘ea Canal to Keālia phase. The Lydgate Park to Waika‘ea Canal phase includes the bike/pedestrian path that is part of this project. Construction of the Waika‘ea Canal to Keālia phase began in early 2006.

Potential Impacts and Mitigations Measures

Wailua Beach Park. The highway component of the subject project is completely outside Wailua Beach Park. During construction, there may be temporary restrictions on recreational activities near the construction site.

The northern end of the bike/pedestrian path is in Wailua Beach Park. The path will ramp down from the cane haul bridge and reach ground level in the vicinity of the southern parking area. The bike/pedestrian path will improve access to the park and improve connectivity with the Wailua State Park and Lydgate Park on the south side of the Wailua River.

Wailua River State Park. Proposed highway improvements will be made within the existing alignment and are not expected to generate a net change in impacts on the State Park.

During consultations with the Division of State Parks, concern was expressed about the possibility that path users would go off the path and into the nearby sacred sites of Hikinaakalā Heiau and Hauola (see Appendix D, Programmatic Section 4(f) Determination for Independent Bikeway and Walkway). To mitigate these potential impacts, a combination of landscaping, railings, and signs will be used to educate path users about the cultural significance of the area and discourage them from deviating from the path.

The Division of State Parks also expressed concerns about the petroglyph rocks located off shore, but which are associated with Hikinaakalā. Given the distance between the rock formation and the cane haul bridge, no adverse construction-related or long-term impacts are expected.

4.6 PUBLIC HEALTH AND SAFETY

4.6.1 Police Services

The County of Kauaʻi Police Department has three stations located approximately 25 miles apart. The main station and administrative headquarters is located in Līhuʻe; smaller stations are co-located with fire stations in Waimea and Hanalei. A small substation is located on Niu Street adjacent to Kapaʻa Beach Park. To ensure continued high levels of public safety, a new police headquarters building was constructed recently in a newly established judiciary complex.

4.6.2 Fire and Emergency Medical Services

The Fire Department's main station and administration headquarters are located in Līhuʻe. There are six other stations, including one in Kapaʻa. The existing station is located on Kūhiō Highway, at Pouli Road. A new facility is being designed on a site near Mahelona Hospital. The County has a unified, island-wide system of fire protection and rescue services. Satellite stations typically have 2-3 men per station to provide quick response to medical calls.

The island's main trauma center is located at Wilcox Memorial Hospital in Līhuʻe, approximately five miles from Wailua River. Emergency-room services are also available at Samuel Mahelona Memorial Hospital in Kapaʻa, primarily for the treatment of non-life threatening illnesses, injuries, and conditions.

Potential Impacts and Mitigation Measures

In the short-term, construction activities may generate an increase in calls to the police from motorists who are confused by or have complaints about temporary lane closures and disruptions to portions of Kūhiō Highway and adjacent County roadways. To mitigate traffic impacts, a traffic control plan will be developed and coordinated with the appropriate State and County agencies. Police officers may be hired to assist with implementing traffic controls during construction. However, these added services should not negatively impact the Department's regular operations.

The Contractor will be required to make provisions for emergency access and will be required to maintain full access during non-working hours. Emergency services, including police, fire, and ambulance services, will be notified prior to implementation of any required roadway closures or detours.

The project is not expected to have long-term impacts on public safety services.

4.7 PUBLIC INFRASTRUCTURE AND UTILITIES

4.7.1 Water and Wastewater Systems

The County of Kauaʻi, Department of Water provides water service throughout the island. Water lines are generally located in the streets and distribute potable water for domestic, industrial, and commercial consumption and for fire protection. There is a 12-inch water line attached to the underside of the Wailua River highway bridge. This waterline will be replaced by a new 16-inch water line in the future.

Wastewater generated on Kauaʻi is processed by three types of systems: the County sewage system, private treatment facilities, and individual cesspools. The County's wastewater system is operated by the Department of Public Works, Wastewater Division. Sewage from the Kapaʻa, Waipouli and Wailua areas flows via gravity lines and collected at sewage pump stations located along Kūhiō Highway and Papaloa Road. Sewage is pumped through force mains to the Coco Palms sewage pump station located at the intersection of Kūhiō Highway and Haleʻilio Road. Crossing Wailua River, sewage passes through existing 10- and 16-inch sewer force mains attached to the makai side of the Wailua River highway bridge.

Sewage is then pumped to the Wailua Wastewater Treatment Plant (WWTP) located on Leho Drive, one of four County-owned wastewater treatment facilities on the island. The Wailua WWTP was constructed in 1968 and upgraded in the early 1990s. It currently has a design capacity of 1.0 MGD (million gallons per day). Secondary treatment is generally applied at the facility, but it also has the equipment to apply tertiary treatment if needed.

The WWTP treats about 0.8 MGD. The treated effluent is used primarily to irrigate Wailua Golf Course. An ocean outfall is available as a backup.

Potential Impacts and Mitigation Measures

The proposed action will not have a large demand for water. During construction, water will be used for dust control and to expedite the growth of plant cover for erosion control.

Over the long term, water use will be minimal. Landscaping will include low-maintenance, drought-tolerant plants where possible.

The proposed action will not generate additional wastewater flows.

Existing water and sewer lines are attached to the Wailua River highway bridge, which will not be affected by improvements to the cane haul bridge. Relocation of utility lines under the north and south approaches is not anticipated.

4.7.2 Solid Waste Management

The County of Kauaʻi, Department of Public Works, Solid Waste Division operates the primary refuse collection system. The County is responsible for regulating the disposal of all solid waste with the exception of hazardous materials. Refuse collection crews operate out of three baseyards on Kauaʻi, including one in Kapaʻa that covers trash collection from Puhi to Anahola.

The island has a single landfill located in Kekaha. The 34-acre Kekaha Landfill Phase II site opened in 1993 and was allowed by the State to have its height limit increased to 60 feet in 1998. In FY 1999, the landfill accepted approximately 67, 590 tons of solid waste. The facility also serves as a drop-off point for segregated recoverable waste, such as cardboard, newspaper, glass, aluminum cans, and batteries. The remaining lifespan of the landfill with the addition of the vertical expansion and assuming then-current waste levels was 5-6 years. The search for a new landfill site is in progress.

Potential Impacts and Mitigation Measures

Solid waste impacts are expected to be short-term and related to construction activities. Removing the existing deck from the cane haul bridge will generate debris consisting primarily of concrete slabs, asphalt pavement, and metal guardrails, posts, and fastenings. The contractor will be required to dispose of or recycle all materials at approved sites and with proper handling during transport. The contractor will be required to have a waste disposal plan that specifies proper removal and disposal of all debris from the project area.

Project-related waste material would be a small proportion of the islandwide total, and is not expected to have a significant impact on the County's solid waste facilities.

By State law, HRS §§103D-407, highway and road construction projects funded by the State or a County are required to use a minimum of 10% crushed glass aggregate in all base course and sub-base, when glass is available to the contractor at a price no greater than the equivalent aggregate.

4.7.3 Electrical and Telecommunications Systems

Electrical System

The Kaua'i Island Utility Cooperative (KIUC) is the local utility company that provides electrical power to service customers on the island. KIUC customers in the project area are served from two substations, the Lydgate Substation located south of Wailua River and the Kapa'a Substation located north of the river.

A major KIUC overhead pole line system runs along the entire length of the Kūhiō Highway corridor. The overhead system typically consists of a 57.1 kV transmission circuit, 12.47 kV distribution circuit(s) and secondary lines mounted on joint use poles. Pole-mounted transformers serve the smaller loads, including street lighting. Many larger loads are served from 12.47 kV lines that are run underground from the pole line along Kūhiō Highway to a pad-mounted transformer located on or near the customer's property.

Telecommunications Systems

Hawaiian Telcom (formerly Verizon Hawaii) is the utility company that provides land line telecommunications service to customers on the island. The company's main telecommunications lines run along the Kūhiō Highway corridor. These lines consist of a varying combination of cable (copper and fiber optic) and method of distribution (overhead and underground).

There are numerous copper cables that run along Kūhiō Highway. These copper cables support anywhere from several hundred to several thousand pairs of conductors. Except when crossing under the Wailua River, these main copper cables are routed overhead. The cables are mounted on joint use poles with KIUC cables and on dedicated telecommunications poles. Thus telecommunications lines may be found on poles on both sides of Kūhiō Highway in some locations.

Hawaiian Telcom's fiber optic cables also run along Kūhiō Highway. These cables support from 24 up to 72 fiber optic strands in different sections along the highway. The main fiber optic cables are routed underground to the Kapa'a Central Office. Hawaiian

Telcom also has existing fiber optic duct lines attached to the underside of Wailua River highway bridge.

Oceanic Time Warner Cable is the company that provides wired cable television (CATV) service to customers on the island. The CATV distribution system generally consists of overhead lines. Oceanic Cable fiber optic and coaxial cables are run overhead on joint use and dedicated telecommunications utility poles along the length of Kūhiō Highway. Laterals are also run overhead along secondary roads to service nearby residential areas.

Sandwich Isle Telecommunications is a utility company that provides land line telecommunications service to customers on the island via an existing underground fiber optic ductline which runs along the Kūhiō Highway corridor.

Highway Lighting and Power

The lighting system along Kūhiō Highway generally consists of street lights with metal arms mounted on wood utility poles. The street lights typically consist of a “cobra head” type luminaire with a high pressure sodium lamp. KIUC owns, operates, and maintains the highway lighting system.

While not owned, operated or maintained by utility companies, traffic signal control cables are routed overhead on poles shared with Hawaiian Telcom and/or KIUC along significant portions of Kūhiō Highway. These traffic signal cables are owned, operated, and maintained by the State Department of Transportation, Highways Division.

Potential Impacts and Mitigation Measures

The southern approach to the cane haul bridge will need to be reoriented, thereby requiring relocation of at least one utility pole which supports electrical cables. HDOT will coordinate with KIUC for proper relocation of affected facilities.

At present there are a number of cables and duct lines on the Wailua River highway bridge that will not be affected by this project. In pre-assessment comments, Hawaiian Telcom inquired about the possibility of attaching cables to the cane haul bridge to replace the overhead cables that are now located between the highway and cane haul bridges. The HDOT is disinclined to attach any utility line on the cane haul bridge because of the interim status of this bridge. Meanwhile, the existing overhead cables are a potential obstacle to cranes and other equipment, and will require special consideration during construction planning to ensure against damage or other adverse impacts.

There is an existing telephone booth near the existing entrance to the southern parking area of Wailua Beach Park. Project designers will work with Hawaiian Telcom to relocate the telephone booth to make it accessible according to the ADA Accessibility Guidelines.

5 LAND USE PLANS, POLICIES, AND CONTROLS

This chapter discusses the project’s relationship to and consistency with State of Hawai‘i and Kaua‘i County plans, policies and regulations.

5.1 STATE OF HAWAI‘I

5.1.1 Hawai‘i State Plan

The Hawai‘i State Plan, Chapter 226 Hawai‘i Revised Statutes (HRS), established a set of goals, objectives and policies that serve as long-range guidelines for the growth and development of the State. The Wailua Bridge improvement project is generally consistent with the objectives and policies of the Hawai‘i State Plan. The project is compatible with applicable elements of the State Plan, as described below.

Section 226-12, Objective and policies for the physical environment—scenic, natural beauty, and historic resources.

Objective: (a) Planning for the State’s environment shall be directed toward achievement of the objective of enhancement of Hawai‘i’s scenic assets, natural beauty, and multi-cultural/historical resources.

Policies: (1) Promote the preservation and restoration of significant natural and historic resources.
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes and other natural features
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai‘i’s ethnic and cultural heritage.

Discussion: The project is being planned to avoid and/or minimize impacts to significant natural and historic resources, and to preserve the views of these important resources in the project area.

Section 226-13, Objectives and policies for the physical environment—land, air and water quality.

Objective: (1) Maintenance and pursuit of improved quality in Hawai‘i’s land, air and water resources.

- Policies:
- (4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai‘i’s people.
 - (5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.
 - (6) Encourage design and construction practices that enhance the physical qualities of Hawai‘i’s communities.
 - (7) Encourage urban developments in close proximity to existing services and facilities.

Discussion: The project will improve traffic flow on Kūhiō Highway and result in improved air quality near the existing highway. The project will expand capacity across the river in the event of a natural disaster such as a tsunami or hurricane or road closure due to accidents, or other man-made events.

While the highway improvements alone will not generate or induce new development, improved vehicular access will support future infill development in close proximity to existing urbanized areas.

Section 226-17, Objectives and policies for facility systems—transportation.

- Objective:
- (1) An integrated, multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe and convenient movement of people and goods.
- Policies:
- (6) Encourage transportation systems that serve to accommodate present and future development needs of communities
 - (10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai‘i’s natural environment.

Discussion: The project will improve ground transportation facilities to accommodate the needs of residents and visitors on Kaua‘i. Widening of Kuhio Highway to a four-lane roadway was recommended in the Kaua‘i Long-Range Land Transportation Plan. The project is being planned with sensitivity to the needs of affected communities and the natural environment. The project will provide short-term construction employment, and enhance economic opportunities through the efficient transportation of people and goods. Furthermore, the bike/pedestrian path component of this project promotes a multi-modal transportation system and supports those who choose to travel by non-motorized modes.

5.1.2 State Functional Plans

The State Plan directs appropriate State agencies to prepare functional plans for their respective program areas. There are twelve State Functional Plans that serve as the primary implementing vehicle for the goals, objectives and policies of the State Plan. The following discusses the State Functional Plans that are applicable to the project.

State Transportation Functional Plan

The 1991 State Transportation Functional Plan identified the four most critical issues of transportation: congestion, economic development, funding and education. Objectives, policies and implementing actions were identified for each issue. The following objectives and policies apply to the project:

Objective: (I.A) Expansion of the transportation system.

Policies: (I.A.1) Increase transportation capacity and modernize transportation infrastructure in accordance with existing master plans and laws requiring accessibility for people with disabilities.

(I.A.2) Improve regional mobility in areas of the State experiencing rapid urban growth and road congestion. (Road infrastructure improvements from Līhu‘e to Kapa‘a were identified as implementing action I.A.2.c.).

Discussion: The project will increase capacity and modernize the ground transportation facilities needed to accommodate the needs of residents and visitors. The project is consistent with the Transportation Functional Plan, as a “bypass highway and/or widening” and “road infrastructure from Līhu‘e to Kapa‘a” were listed as implementing actions to address the issue of congestion.

Objective: (I.E) Planning and designing State highways to enhance inter-regional mobility.

Policy: (I.E.1) Design highways with controlled accesses, grade-separated crossings, and minimum four-lane divided highway standards where applicable. Encourage counties to develop local road networks for local travel and access.

Discussion: The project will enhance inter-regional mobility for residents and visitors traveling through the Wailua River corridor between Līhu‘e and north shore areas of the island. The project will not increase the number of accesses to Kūhiō Highway. Applicable highway standards are being utilized.

State Historic Preservation Functional Plan

The objectives, policies and implementing actions of the 1991 Historic Preservation Functional Plan are intended for implementation by the State Department of Land and Natural Resources and affiliated State agencies. Historic and archaeological sites within the project corridor have been identified and are described in this EA. Recommendations are included for those sites identified as significant for cultural, scientific or educational value.

State Tourism Functional Plan

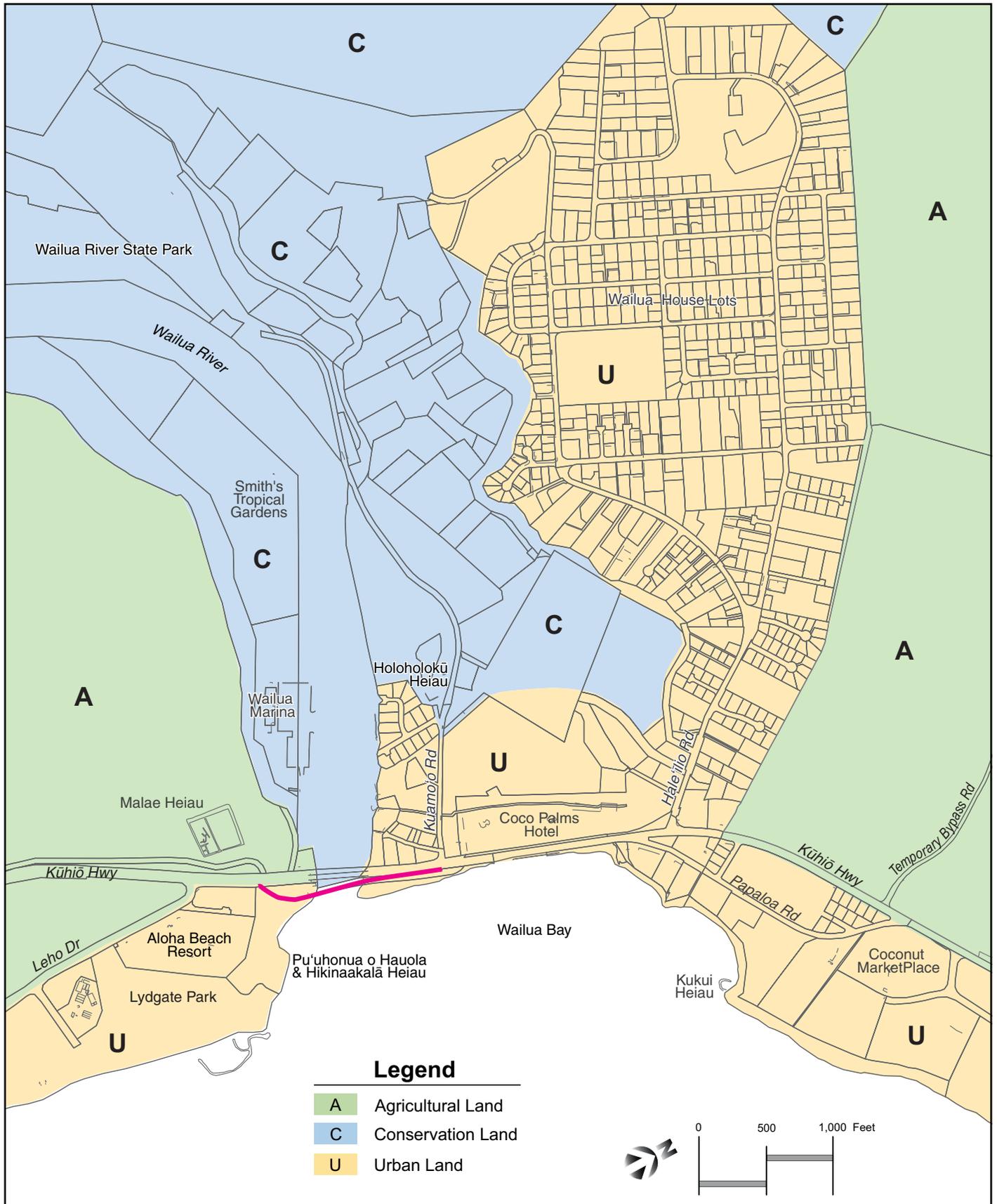
- Objective: (II.A) Development and maintenance of well-designed visitor facilities and related developments which are sensitive to the environment, sensitive to neighboring communities and activities, and adequately served by infrastructure and support services.
- Policy: (II.A.1) Maintain high standards of overall quality of existing visitor destination and attraction areas.

Discussion: The project is designed to meet the ground transportation needs of both residents and visitors. The Kūhiō Highway is the sole access for 3,410 visitor units, or 49% of the islandwide total, located in the Kawaihau and Hanalei Districts. The vast majority of the island's annual visitors rent vehicles during their stay. Improvement of roadway conditions, reduced traffic delays and alternate routes would all contribute to maintaining a high quality visitor experience.

5.1.3 State Land Use Classification

All lands in the State have been classified into one of four land use districts (Urban, Rural, Agricultural, and Conservation) by the State Land Use Commission (LUC), pursuant to Chapter 205, HRS. Figure 17 shows the State Land Use districts in the project corridor. Developed areas of the project corridor, particularly those north of the Wailua River immediately surrounding Kūhiō Highway are in the Urban District. The Wailua River and Wailua River State Park, including the existing highway river crossing, are in the Conservation District.

Public roadways and roadway improvements are allowed in the Urban District, per Chapter 205, HRS. During pre-assessment consultation, the Office of Conservation and Coastal Lands stated that the project is not located on Conservation land (OCCL letter dated March 12, 2007, in Chapter 9).



Source: Hawaii State Land Use 1964, Hawaii State GIS Program

Figure 17
State Land Use Districts
 Wailua River Bridge Improvements

5.1.4 Coastal Zone Management Act

The federal Coastal Zone Management Act of 1972 encourages the management and enhancement of the nation's coastal zone. The Hawai'i Coastal Zone Management (CZM) Program was promulgated in 1977 in response to the federal Coastal Zone Management Act. The objectives and policies of the state CZM program are described in Chapter 205-A-2, HRS, Part I. The objectives of the Hawai'i CZM program are to protect and maintain valuable coastal resources. The CZM area encompasses the entire state with the exception of forest reserves. The CZM area includes all marine waters seaward to the extent of the state's police power and management authority, including the 12-mile U.S. territorial sea and all archipelagic waters.

Federal activities and projects are required to be consistent with approved state coastal programs to the maximum extent practicable. Federal agencies cannot act without regard for, or in conflict with, state policies and related resource management programs that have been officially incorporated into state CZM programs.

Key areas of the CZM program include a permit system to control development within the designated Special Management Area (SMA); a Shoreline Setback Area, which serves as a buffer against coastal hazards and erosion, and protects view-planes; and a Federal Consistency provision requires that federal activities, permits and financial assistance be consistent with the Hawai'i CZM program.

This project is located in the SMA and will be required to comply with CZM provisions.

The State's CZM program is built upon ten policy areas. A brief discussion of the project's conformance with the CZM objectives is included below:

1. Recreational Resources

To provide coastal recreational opportunities accessible to the public and protect coastal resources uniquely suited for recreational activities that cannot be provided elsewhere.

Comments: The project follows the existing highway corridor across the Wailua River, abutting State and County parks, including the Wailua River State Park and Wailua Beach Park. None of the alternatives will obstruct access to the shoreline or other recreational facilities. During roadway construction, access may be temporarily rerouted or diverted, but will remain available.

2. Historic Resources

To protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Comments: The project will not have an adverse impact on historic resources, as determined by the State Historic Preservation Division (letter dated March 16, 2006).

3. Scenic and Open Space Resources

To protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Comments: The project corridor includes scenic and open space resources, including the Wailua River and Wailua River State Park, the Wailua Complex of Heiau National Historic Landmark, and coastal areas. The project will result in a wider roadway and bridge structure. The improvements will be visible from public parks, but will not alter existing view planes.

4. Coastal Ecosystems

To protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Comments: The project will not involve construction work in the river channel. During construction work on the river banks, best management practices will be utilized and all federal and state water quality permit conditions will be followed. Water quality impact studies found that there are no consistent, measurable inputs of petroleum products from the existing highway into surface waters, though there may be periodic and isolated inputs at some locations due to high rainfall. This situation is expected to be similar with the bridge improvements.

5. Economic Uses

To provide public or private facilities and improvements important to the state's economy in suitable locations; and ensure that coastal dependent development such as harbors and ports, energy facilities, and visitor facilities, are located, designed, and constructed to minimize adverse impacts in the coastal zone area.

Comments: The purpose and need for the project is consistent with the CZM objective of providing facilities and improvements important to the state's economy. One of the primary purposes of the project is to provide roadway capacity enhancements, addressing existing limitations through the project corridor. The existing highway provides access between the island's two major economic centers, Līhu'e and Kapa'a, and to the majority of the island's visitor units which are, located on the east and north sides of the island. Reduction in existing travel delays will have a positive economic impact.

6. Coastal Hazards

To reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion, subsidence, and pollution.

Comments: The project will enhance emergency evacuation and access by increasing capacity at the river crossing. Improvements to the existing cane haul bridge will not increase the risk of stream flooding or erosion.

7. Managing Development

To improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Comments: This project has involved outreach and public participation, including a public information meeting and the upcoming Draft EA public review and comment period.

8. Public Participation

To stimulate public awareness, education, and participation in coastal management; and maintain a public advisory body to identify coastal management problems and provide policy advice and assistance to the CZM program.

Comments: As noted above, there has been public participation in the planning process to date. Additional meeting will be convened during the design phase and public notices provided to keep the community apprised of project developments.

9. Beach Protection

To protect beaches for public use and recreation; locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion.

Comments: The project follows the existing Kūhiō Highway alignment, which passes close to the shoreline in the Wailua segment. However, these alternatives will not contribute to or cause shoreline erosion, or impede access to beach or coastal areas.

10. Marine Resources

To implement the state's ocean resources management plan.

Comments: None of the alternatives will directly impact ocean resources or impact the state's ocean resources management plan. The project will not adversely affect marine water quality due to non-point source pollution or runoff.

5.1.5 Kaua‘i Long-Range Land Transportation Plan

The Kaua‘i Long-Range Land Transportation Plan (LRLTP) was completed in 1997 by the State Department of Transportation in cooperation with the County of Kaua‘i Department of Public Works and Planning Department. The LRLTP identifies the land transportation improvements needed to support projected growth for the island of Kaua‘i to the year 2020. It was prepared in accordance with federal requirements, as a prerequisite to receiving federal highway transportation funds. The LRLTP uses a State-generated set of economic and population projections that is substantially higher than the 2020 projections utilized by the Kaua‘i Planning Department.

The proposed project is consistent with the recommendations of the Kaua‘i Long-Range Land Transportation Plan, which included Kūhiō Highway widening.

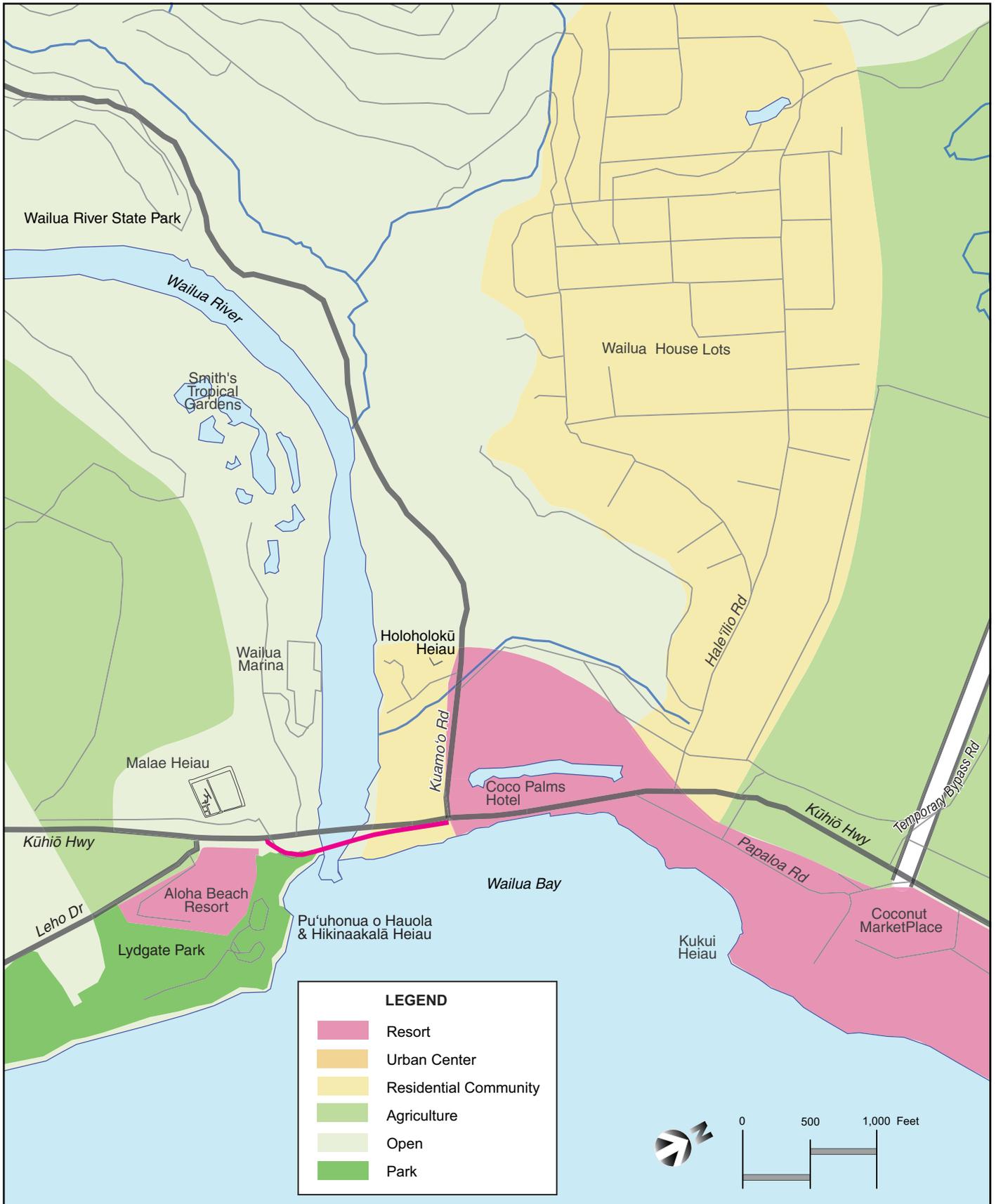
A circulation study was recommended to assess Wailua-Kapa‘a area access and circulation roadway needs. A Kapa‘a Circulation Study was completed by Wilson Okamoto and Associates (2002) for the HDOT. The study focused on readily implemented solutions to improve local traffic circulation, rather than ways to address long-term travel demand. Although the limits of the circulation study ended north of Wailua River, the widening of Kuhio Highway was endorsed between Kuamoo Road and the temporary bypass road.

5.2 COUNTY OF KAUA‘I

5.2.1 Kaua‘i General Plan

The County of Kaua‘i General Plan was recently revised and adopted in November 2000. The General Plan establishes policy for the long-range development, conservation, use and allocation of land, water, and other resources in the County. The General plan identifies geographic areas of the County that are intended to be used for various general purposes such as agriculture, resorts, urban communities, and preservation of natural, cultural and scenic resources. The General Plan sets for the basic policy of the County, which is elaborated through the more detailed plans, zoning and land use regulations. The General Plan land uses for the project corridor are shown in Figure 18.

The General Plan includes vision statements which describe the desired state of the County 20 years in the future. The General Plan also contains policies intended to achieve that vision and specific implementing actions that set forth recommended course of action to carry out the policies.



Source: Kaua'i General Plan 2000, GDSI Kaua'i County Tax Assessor Data 2001, Hawai'i State GIS Program

Figure **18**
General Plan Land Use
Wailua River Bridge Improvements

Scenic Roadway Corridors

The General Plan discussion of Scenic Roadway Corridors also includes policies that are directly applicable to the project:

- (a) In planning, designing and constructing highway and road improvements, transportation agencies shall balance conservation of the area’s natural, historic and scenic qualities with transportation objectives. In some cases, it will be preferable to accept a lesser design speed or capacity in order to maintain the rural character and appearance of the Garden Island.
- (b) Maintain the small scale of Kaua‘i’s roadways by limiting roadway width.
- (c) Maintain the unique features of historic bridges, striking a balance between safety needs and preserving historic and scenic character
- (d) Design new bridges and bridge improvements to afford scenic views
- (e) Develop and maintain green highways and roads, providing trees and vegetation in rights-of-way as appropriate to the character of the area. For divided highways, provide a landscaped median.

Discussion: One of the primary objectives of this Draft EA is to evaluate the proposed project and potential impacts on the area’s natural, historic, and scenic resources. This document will provide information for decision makers to balance conservation of these resources with transportation objectives. The preferred alternative increases highway capacity with limited modifications to the existing infrastructure.

Regional Highways and Roads

The chapter of the General Plan most applicable to the proposed project is Chapter 7, Building Public Facilities and Services. In Section 7.1, Regional Highways and Roads, the General Plan identifies “New Facilities Needed by 2020,” and specifically identifies road widening, combined with the eventual construction of a new bypass road.

Policies

The following are General Plan policies for Regional Highways and Roads:

- (a) Use General Plan policies concerning rural character, preservation of historic and scenic resources, and scenic roadway corridors as part of the criteria for long-range highway planning and design. The goal of efficient movement of through traffic

should be weighed against community goals and policies relating to community character, livability, and natural beauty.

- (b) Consider transportation alternatives to increasing the size and capacity of roadways. Alternatives include increased utilization of public transit.
- (c) Planning for the Kapa‘a By-Pass should incorporate connector roads between the By-Bypass and the coastal highway and between the By-Pass and roads serving the valley.

Discussion: The project is consistent with the General Plan’s recommendation for new facilities needed by 2020, which include road widening and future construction of a new bypass road. The bike/pedestrian path component of the project is a complementary transportation alternative. Since it is one link in an expanding pathway system that provides greater connectivity and access, Kauaians are gaining meaningful travel options.

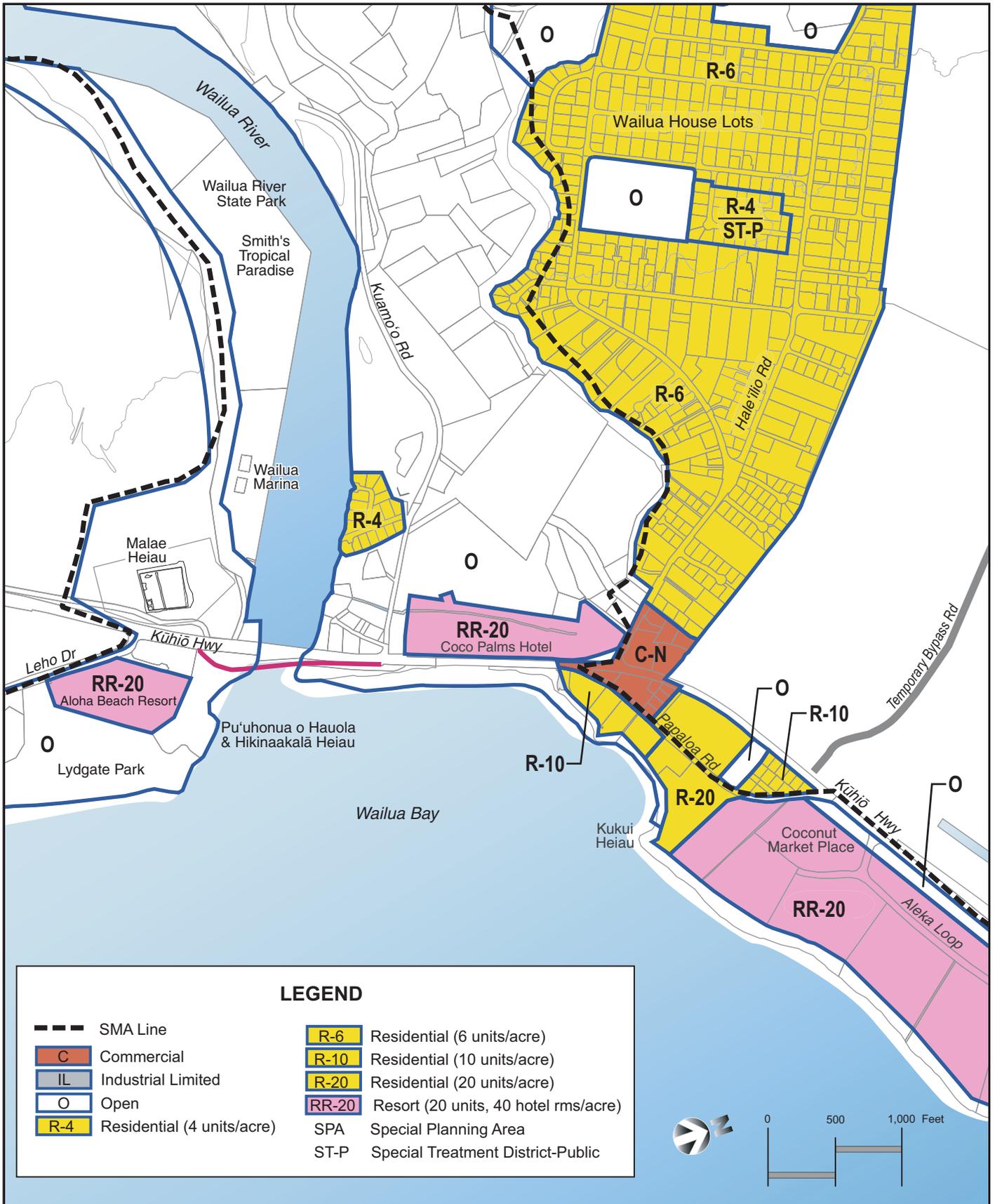
The project follows General Plan policies concerning rural character and preservation of historic and scenic resources and scenic roadway corridors. The project will not encroach on important archaeological and historic sites and will maintain existing buffer space. Users of the bike/pedestrian path will be discouraged from inappropriate activities that may adversely affect nearby sacred sites, particularly Hikinaakalā Heiau and Pu‘uhonua o Hauola, through design features, such as barriers, landscaping, and interpretive signs.

5.2.2 Development Plan

A Development Plan is intended to direct physical development and public improvements within a specific geographic area of the County within the framework of the General Plan. Six Development Plans were prepared in the 1970’s as a follow-up to the original 1971 General Plan. They addressed urban-designated lands in six Planning Areas, and established zoning districts within urban areas. Since the adoption of the Kauai General Plan in 2000, the County is systematically updating the Development Plans. Planning for East Kauai (covering Wailua to Kealia) began in 2006 and is currently in progress.

5.2.3 Zoning

County zoning provides the most detailed set of regulations affecting land development, prior to actual construction. Zoning is typically limited to land within the State’s Urban District. The Kaaui Comprehensive Zoning Ordinance (CZO) provides regulations and standards for development of land uses and the construction of structures. The CZO establishes various zoning districts and overlay districts; delineates uses and development standards for each district; establishes permits and permit processes, and establishes



Source: County of Kaua'i

Figure 19
Zoning & Special Management Area
Wailua River Bridge Improvements

criteria for granting permits. The CZO and zoning maps are revised as necessary to conform to the General Plan.

As shown in Figure 19, all of the lands within the project corridor are designated Open (O). The proposed action will not require any zoning changes.

5.2.4 Special Management Area (SMA)

Coastal Zone Management objectives and policies (Section 205A-2, HRS) were developed to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai‘i. The SMA and shoreline setback area receive more intensive management by Hawai‘i’s four counties. The SMA originally encompassed all lands extending not less than 100 yards inland from the shoreline. The shoreline is defined as the upper reaches of the wash of the waves (other than storm or seismic waves) at high tide during the season of the year in which the highest wash of the waves occurs. The shoreline is usually evidenced by vegetation growth, or the upper limit of debris left by the wash of waves.

As shown in Figure 19, the project is located entirely within the boundary of the SMA. No development can occur in the SMA unless the County first issues a permit. Since this project has a development cost exceeding \$125,000, it will require a Special Management Area Use Permit (SMP)-Major. The permitting process provides a heightened level of government and public scrutiny to ensure consistency with SMA objectives. A portion of the project area on the north side of Wailua River is located within the 40-foot shoreline setback area; therefore, the project requires a Shoreline Setback Variance.

5.3 OTHER PLANS

5.3.1 Bike Plan Hawaii

Bike Plan Hawaii is the statewide bicycle master plan prepared periodically by the State Department of Transportation. The latest update was completed in September 2003. *Bike Plan Hawaii* addresses the bicycling component of the Long-range Land Transportation Plans (LRLTP)—each County has its own plan—and is incorporated into the LRLTP by reference. At present there is no master plan for pedestrian facilities, except in the case of shared use (bike-pedestrian) paths that are included in *Bike Plan Hawaii*.

The plan is important for several reasons:

- To establish a long-term strategy for transportation facilities improvements
- To enable better coordination between transportation and land-use planning
- To create the ability to leverage funds for transportation facilities
- To provide a mechanism to achieve community consensus

In order to qualify for federal funds, bikeway and roadway improvements are at an advantage if they are listed and shown in appropriate transportation planning documents. To FHWA, this demonstrates that the projects are part of a coherent transportation system and have been vetted through a public planning process.

The bike/pedestrian path component of the proposed bridge improvements are part of a larger proposal for a “coastal bikepath” from Anahola to Nāwiliwili that first appeared in the 1994 edition of *Bike Plan Hawaii*. That proposal was endorsed by participants attending two public meetings on Kaua‘i and in comments received on the bicycle master plan.

5.3.2 State Comprehensive Outdoor Recreation Plan

The Department of Land and Natural Resources prepares the *State Comprehensive Outdoor Recreation Plan (SCORP)* as part of a requirement to qualify for federal grants of outdoor recreation projects. *SCORP* provides technical guidance to various government agencies and private entities that plan, develop, and manage outdoor recreation resources in the state. The eighth update of *SCORP* was completed in March 2003.

Focus group meetings with representatives of various outdoor recreation user groups and a series of general public information meetings were held as part of the planning process for *SCORP 2003*. After combining the output obtained from the meetings and surveys, *SCORP* found that Hawai‘i residents were most concerned about the following recreational needs and issues (in order of importance):

- Park maintenance and cleanliness, particularly restrooms
- Need for more youth-oriented facilities
- Overcrowding at popular recreation sites
- Need for more facilities, such as beach parks, playgrounds, ball fields, paths for biking/jogging, skate parks, and expansion of mauka trail systems for multiple users
- Public access to mauka and makai recreation areas
- Safety issues

The perceived need for walking and bicycling facilities is relatively high and the level of demand has been sustained from earlier versions of *SCORP*. For example, a survey conducted during the planning process for the 1997 edition revealed that more than three-quarters of the respondents (76%) felt that Hawai‘i needed more paths for jogging and biking. Close to half of the respondents (47%) said that the state needed more of them, while 29% felt that a few more paths were needed. That study also found that the most popular activities were (in order): fitness walking, hiking, and bicycling.

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6 DETERMINATION

Based on the information presented and examined in this document, the proposed project is not expected to result in significant social, economic, cultural, or environmental impacts. Consequently, a finding of no significant impact is warranted, pursuant to the provisions of Subchapter 6 of Chapter 200, Title 11, Hawai‘i Administrative Rules of the Department of Health.

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7 FINDINGS AND REASONS SUPPORTING THE DETERMINATION

This Environmental Assessment (EA), prepared in accordance with Chapter 343, HRS, as amended, has found that the potential for impacts associated with the proposed action will not be significant. Potential environmental impacts will be temporary. Short-term, construction-related impacts will be mitigated through best management practices and the project will have no long-term, adverse effects on the environmental quality of the area.

The potential effects of the proposed project were evaluated based on the significance criteria in Section 11-200-12, Hawai‘i Administrative Rules. The following is a summary of potential effects of the action. Public and agency comments received during the review period for the Draft EA did not raise any new concern of significant adverse effect.

SIGNIFICANCE CRITERIA

1. Irrevocable commitment to loss or destruction of natural or cultural resources.

The proposed action will improve transportation facilities across Wailua River. The crossing involves a long-term commitment of land, but the improvements are not irrevocable. Environmental impacts will be minimized by constructing within the existing roadway corridor or, in the case, of the shared use path, adjacent to it.

2. Curtailment of the range of beneficial uses of the environment.

The project will not curtail the range of beneficial uses of the environment. Lands surrounding project area are used primarily for recreational purposes. This project will not reduce recreational opportunities. Indeed, highway improvements and construction of the bike/pedestrian path is expected to increase access to outdoor spaces, provide more travel options, and create new opportunities for recreation and fitness activities.

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

The proposed project is consistent with the environmental policies, goals, and guidelines defined in Chapter 344, HRS. In particular, the project is consistent with the following guidelines by improving the region’s transportation infrastructure and expanding its recreation facilities.

Transportation

- A. *Encourage transportation systems in harmony with the lifestyle of the people and environment of the State.*
- C. *Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emissions, including noise, and provide safe and convenient accommodations for their users.*

Parks, Recreation and Open Space

- A. *Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational and scientific uses.*
- B. *Protect the shorelines of the State from encroachment of manmade improvements, structures, and activities.*
- C. *Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.*

4. Substantially affects the economic or social welfare of the community or state.

The project will provide a needed increase in transportation capacity between the two largest urban centers on Kaua‘i. A substantial proportion of the island’s visitor accommodations are located in the Wailua-Kapa‘a area and on the North Shore, with hundreds of new units currently in construction. The project lies at the gateway to the east side commercial and resort district. The continued vitality of tourism depends, in part, on a convenient and reliable transportation system, especially between airport and harbor facilities and the major visitor destination areas. The improved crossing will also be used by a substantial proportion of the east side resident population as they commute to jobs in Līhu‘e and the west side.

5. Substantially affects public health.

The bike/pedestrian path component of the project is anticipated to have a beneficial effect on public health. Widespread news coverage has focused attention on the growing number of obese adults and children and the need to encourage a sedentary population to exercise more. Walking is reported to be especially beneficial because it is low-impact, low-cost, and low-skill. The path at Lydgate Park has become a popular venue for those engaged in physical exercise. The extended path is expected to receive comparable use.

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

The project itself is not expected to generate population or business growth, but is expected to accommodate traffic associated with new development that is currently under construction and proposed infill development.

7. Involves substantial degradation of environmental quality.

The highway improvements will not substantially degrade environmental quality. The proposed action will not change the existing land use. With increased capacity, the roadway will accommodate existing volumes in a more efficient manner.

The bike/pedestrian path component of the project will increase the volume of non-motorized traffic (pedestrians, joggers, bicyclists, etc.) crossing Wailua River. This improvement will enhance mobility and access while minimizing harm to the surrounding environment. To reduce the potential for adverse impacts on nearby cultural sites— notably Hikinaakalā Heiau and Pu‘uhonua o Hauola—the project will incorporate a combination of landscaping, signs, and barriers.

8. Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for large actions.

The proposed project is being coordinated with a separate project to widen Kūhiō Highway from Kuamo‘o Road to the southern terminus of the temporary bypass road. However, the bridge improvement project is proceeding independently from the highway widening project.

Although the two projects will maximize traffic relief in tandem, each alone will achieve the respective purpose and needs established at the outset. As a project with independent utility, the fourth lane (i.e., the second southbound lane) will accommodate traffic from Kuamo‘o Road, which services Wailua Homesteads and the soon to reopen Coco Palms Resort. Reducing southbound queues at the Kuamo‘o Road intersection will help to improve backups at adjoining intersections. Contraflow operation will not be needed on weekday mornings and the traffic pattern for northbound motorists will be simplified.

The bike/pedestrian path component of the project is being coordinated with the Lydgate Park to Kapa‘a bike/pedestrian path project. The Wailua River crossing section of the bike/pedestrian path has been folded into this project because of their shared use of the cane haul bridge. A safe means for pedestrians and bicyclists to cross Wailua River is beneficial even without the full build-out of the two-mile long path to Waika‘ea Canal in Kapa‘a.

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

The project will not affect any protected species or its habitat. Because no additional lighting is proposed within the scope of this project, this project will not have an adverse impact on the Newell's shearwater.

10. Detrimentially affects air or water quality or ambient noise levels.

There may be short-term impacts on air quality and noise levels during the construction period. Mitigation measures will be implemented to minimize construction-related impacts. Long-term, adverse impacts to air or water quality or ambient noise levels are not expected.

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

The existing cane haul bridge is located in a flood plain and tsunami inundation zone. The existing cane haul bridge does not meet current design standards for flood elevation. Remediating the flood clearance issue would require large-scale reconstruction that would not be possible if the existing pier system is reused. Similarly, relocating the bridge outside the tsunami zone requires a more extensive solution. These issues are being addressed by the HDOT as part of the separate Kapa'a Relief Route project. The subject improvement, therefore, is intended as an interim measure for congestion management.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies.

The State of Hawai'i does not have a scenic highways or byways program. The *Kaua'i General Plan* identifies scenic roadway corridors, whose purpose is "to conserve open space, scenic features, and views within and along Kaua'i's most heavily-traveled routes" (*General Plan*, p. 5-20). The project is located in a scenic road corridor that runs between Wailua River and the Coconut Grove. The modular system used for the new bridge deck will have side rails that are higher than the existing guardrails, but motorists will continue to enjoy unobstructed views.

13. Requires substantial energy consumption.

Fuel will be consumed by construction vehicles and equipment, but this use is not expected to be extraordinary. Over the long term, reducing congestion will improve vehicular fuel use. And, to the extent that trips taken on the bike/pedestrian path replace travel by motor vehicles, the project will help to reduce the consumption of non-renewable fossil fuel.

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9 CONSULTATION AND COORDINATION

9.1 Organizations Contacted During Preparation of the Draft EA

As part of the early consultation process, the following agencies and organizations were sent a pre-assessment letter dated February 6, 2006, requesting comments prior to completion of the Draft Environmental Assessment. Comments were requested by March 1, 2006.

Agency	Response Date	Additional Consultation
FEDERAL AGENCIES		
14 th U.S. Coast Guard District	11-6-06	Meeting with Lt. Jannusch on 9-19-06
U.S. Army Corps of Engineers	2-16-06	Coordination at progress meetings
U.S. Environmental Protection Agency		
U.S. Fish and Wildlife Service		
National Marine Fisheries Service		
STATE AGENCIES		
Department of Hawaiian Home Lands	2-23-06	
Department of Health		
Environmental Planning Office		
Office of Environmental Quality Control	2-22-06	
Department of Land and Natural Resources		
Commission on Water Resource Management	2-9-06	
Division of Boating and Ocean Recreation		
Division of State Parks		Meetings with Martha Yent on 6-27-06; 8-28-06
Kaua'i Land Agent		
Office of Conservation and Coastal Lands	2-13-06	
State Historic Preservation Division	3-16-06	Meeting with Nancy MacMahon on 10-17-05

Agency	Response Date	Additional Consultation
Office of Hawaiian Affairs	2-27-06	Meeting with LaFrance Kapaka-Arboleda on 10-17-05
Office of Planning, CZM Program	2-14-06	
COUNTY AGENCIES		
Department of Planning	2-13-06	
Kaua‘i Historic Preservation Review Commission	4-10-06	
Department of Public Works		
Building Division		
Parks Division		
Department of Water	2-17-06	
Kaua‘i Fire Department		
Kaua‘i Police Department		
Kaua‘i Transportation Agency		
Office of the Mayor		
ELECTED OFFICIALS		
Council Chair Bill “Kaipo” Asing		
Council Vice Chair James Kunane Tokioka		
Councilmember Jay Furfaro		
Councilmember Daryl W. Kaneshiro		
Councilmember Shaylene Iseri-Carvalho		
Councilmember Mel Rapozo		
Councilmember JoAnn A. Yukimura		
State Senator Gary L. Hooser		
State Representative Hermina M. Morita		
State Representative Ezra R. Kanoho		
OTHERS		
Hawaiian Telcom	2-18-06	
Kaua‘i Island Utility Cooperative (KIUC)		

Agency	Response Date	Additional Consultation
Sandwich Isles Communications	2-21-06	
Oceanic Time Warner Cable		
American Medical Response		
Kapa‘a Business Association		
Aloha Beach Resort		
Smith’s Kauai		
Marina Restaurant		
Wailua Kayak & Canoe, Inc.		
The Weiser Companies, Inc.		
Rotary Club of Kapa‘a		
Kaua‘i Chamber of Commerce		
Friends of Kamalani and Lydgate Park		
Na Kahu Hikina A Ka Lā		

9.2 Early Consultation Comment Letters

Eleven agencies provided letters during the pre-consultation period. Substantive comments are summarized below and complete letters are reproduced in Appendix F (by date of letter).

Agency comments received during the early consultation period:

Federal Agencies

- **Department of Army** (letter dated February 16, 2006). Preliminary evaluation that DA permit under Section 404 of the Clean Water Act is not required for any of the alternatives. However, all alternatives will require authorization under Section 10 of the Rivers and Harbors Act, either under Nationwide #14, Linear Transportation Projects for Alternatives 2 and 3, or Nationwide #3 for Alternative 1.
- **U.S. Coast Guard** (letter dated November 6, 2006). The Kūhiō Highway highway bridge and the cane haul bridge do not presently have, nor are they subject to, federal permits by the USCG.

State Agencies

- **Commission on Water Resource Management** (letter dated February 9, 2006). Stream Channel Alternation Permit (SCAP) needed for Alternative 2, but not Alternatives 1 and 3. CWRM requests review of final design to make a definitive determination.
- **Office of Conservation and Coastal Lands** (letter dated February 13, 2006). Alternatives that require placing or retrofitting piers in the river would require a Conservation District Use Permit. Alternative 3 and possibly Alternative 1 would not take place on Conservation land. Further consultation needed.
- **Office of Planning** (letter dated February 14, 2006). Coastal Zone Management federal consistency review is needed.
- **Office of Environmental Quality Control** (letter dated February 21, 2006). If Kapaa Relief Route project does not materialize, will the improvements in this project become permanent?
- **Department of Hawaiian Home Lands** (letter dated February 23, 2006). Notification that, in the 5-10 year time frame, DHHL is planning to construct a shopping complex and timeshares on the makai side of Kuhio Highway and approximately 500 residential units on the mauka side of the highway, which would generate a substantial increase in traffic volumes. Alternative 3 is preferred to minimize disruptions in traffic flow and allows the possibility of expanding three bridges in the future.
- **Office of Hawaiian Affairs** (letter dated February 27, 2006). Section 6E-46.6 HRS mandates certain procedures in the even of inadvertent archaeological discoveries.
- **State Historic Preservation Division** (letter dated March 16, 2006). No archaeological concerns for any of the alternative proposals. The cane haul bridge has been repaved several times; use of the bridge was approved previously for the bike/pedestrian path. The project will have “no effect” on significant historic sites.

County Agencies

- **Kauai Department of Water** (letter dated February 17, 2006). There is a 12-inch waterline mounted to the Wailua River Bridge, but will not be affected by the proposed improvements. No water facilities along the cane haul bridge.
 - **Kauai Planning Department** (letter dated February 13, 2006). Recommendation that the problem of debris trapped in the bridge piers (particularly during floods) be
-

considered in planning bridge improvements. A new, single span bridge is preferred for this reason.

- **Kauai Historic Preservation Review Commission** (memorandum dated April 10, 2006). KHPC reviewed the project and preliminarily concurred with Alternative 1. In using the bridge, KHPRC recommends that the existing structure be maintained to the extent possible.

Other Agencies

- **Hawaiian Telcom** (letter dated February 18, 2006). Proposes coordinating highway/bridge improvements with replacement of existing overhead copper cables.
- **Sandwich Isles Communications, Inc.** (letter dated February 21, 2006). Concerned about potential adverse impact to safety and operation of its fiber optic cable system. Requests coordination to determine impacts.

9.3 Public Information Meeting

A public information meeting was held on Thursday, February 16, 2006, at Kapaa Middle School. The purpose of this meeting was to provide information about the project and solicit feedback and concerns from members of the general public. The meeting was attended by 31 members of the community. During the Q&A session that followed the presentation, questions were raised and comments offered about project costs, schedule, construction-related traffic disruptions, and suggestions for additional measures to relieve congestion. Minutes of the meeting are attached as Appendix A.

9.4 Environmental Justice

Executive Order (E.O.) 12898 on Environmental Justice requires that federal agencies and recipients of federal funds take appropriate steps to identify and address “disproportionately high and adverse human health or environmental effects” of federal projects on minority or low-income populations. Title VI of the Civil Rights Act of 1964, as amended, provides similar non-discrimination protection.

The project involves improvements to an existing structure and is not located in a residential area. However, to obtain input from the broadest segment of the community, notice about the project and an informational meeting was disseminated through a variety of means, including publication in *The Garden Island* and announcements on radio programs and Ho‘ike, public access TV.

HDOT will continue to inform the public about the project’s status, construction activities, and potential inconveniences through mass media, electronic signs, and possible community briefings.

Based on consultations that occurred during the planning process, the subject project will not cause disproportionately high and adverse effects on any minority or low-income population as per E.O. 12898 regarding environmental justice.

9.5 Coordination related to Federal Environmental Regulations

Regulatory Authority	Agencies Consulted	Summary of Coordination
Section 404, Clean Water Act	U.S. Army Corps of Engineers	Joint field visit 9-21-05 Letter from USCOE 2-16-06 USCOE representative at project meetings 9-29-05, 1-23-06, 2-21-06, 4-24-06, 7-10-06, 8-11-06
Section 10, Rivers and Harbors Act of 1899	U.S. Army Corps of Engineers	Letter from USCOE 2-16-06 USCOE representative at project meetings 9-29-05, 1-23-06, 2-21-06, 4-24-06, 7-10-06, 8-11-06
Section 7, Endangered Species Act	U.S. Fish and Wildlife Service U.S. National Marine Fisheries Service	NMFS Meeting 6-6-05 Letter from NMFS 7-15-05 Letter from FWS 8-11-05 Letter to FWS 7-9-07
Section 106, National Historic Preservation Act Chapter 6E, Hawaii Revised Statutes	State Historic Preservation Division Kauai Historic Preservation Review Commission	SHPD Meetings 10-17-05, 11-21-06, 3-2-07 KHPRC Meetings 3-2-06, 3-1-07, 7-5-07 Letter from SHPD 3-16-06 Memo from KHPRC 4-10-06 Letter to KHPRC 2-16-07 Letter from SHPD 4-27-07 Memo to SHPD 5-3-07 Letter from SHPD 6-12-07 Letter to KHPRC 6-19-07 Memo from KHPRC 7-5-07

Section 4(f), U.S. DOT Act	State Parks Division County Parks, Department of Public Works	State Parks Meetings 6-27-06, 8-28-06 Letter from County Parks 12-7-05 Letter from State Parks 8-22-06 Letter to State Parks 12-5-06 Letter from State Parks 7-6-07
Rivers and Harbors Act of 1899; General Bridge Act of 1946	U.S. Coast Guard	USCG Meeting 9-19-06 Letter from USCG 11-6-06

9.6 Comments Received on the Draft Environmental Assessment

Availability of the DEA was announced in the March 8, 2007 issue of the OEQC *Environmental Notice*, which initiated a 30-day public comment period that ended on April 9, 2007. A news article containing information about the project and the DEA was published in *The Garden Island* on March 13, 2007.

Copies of the DEA were mailed to federal, State, and County agencies; elected officials; and other stakeholders. In addition, copies of the DEA were mailed to the Kapa‘a Public Library, Lihu‘e Regional Library, and Hawai‘i Document Center (Main Library). All DEA recipients were asked to provide comments.

Substantive comments were received from nine agencies and individuals:

State of Hawai‘i

- Division of Aquatic Resources, Department of Land and Natural Resources
- Engineering Division, Department of Land and Natural Resources
- Office of Conservation and Coastal Lands, Department of Land and Natural Resources

County of Kaua‘i

- Building Division, Department of Public Works
- Wastewater Management Division, Department of Public Works
- Department of Public Works
- Councilmember JoAnn A. Yukimura

Others

- Sandwich Isles Communications, Inc.
- Scott Wylie, Designer

All written comments and their associated responses are reproduced in this chapter. In some cases, comments resulted in changes, clarification, or correction to the EA, as indicated in the written responses.

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

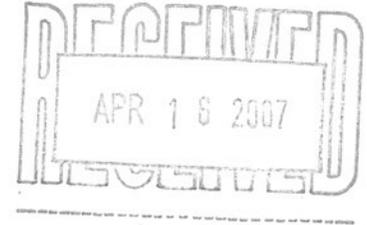
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 11, 2007

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
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HISTORIC PRESERVATION
KAIHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS



Kimura International
1600 Kapiolani Blvd Suite 1610
Honolulu, Hawaii 96814
Attention: Glenn Kimura

Office of Environmental Quality Control
235 South Beretania Street Suite 702
Honolulu, Hawaii 96813

Gentlemen:

Subject: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements Wailua Cane Haul Bridge, Lihue, Kauai, Tax Map Key: (4) 3-9-2 and 3-9-6

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Aquatic Resources, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII



RS ✓
GRHV

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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AQUATIC RESOURCES: 783

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COMM. FISH.	
AQ RES/ENV	
AQ REC	
PLANNER	
STAFF SVCS	
RCUH/UH	
STATISTICS	
AFRC/FED AID	
EDUCATION	
SECRETARY	
OFFICE SVCS	
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Return to:	
No. Copies	
Copies to:	
Due Date:	

March 7, 2007

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Div. of Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District/Barry/Morris



FROM:

Russell Y. Tsuji

SUBJECT:

Draft Environmental Assessment for Kuhio Highway Short-Term Improvements
Wailua Cane Haul Bridge

LOCATION:

Lihue, Kauai, TMK: (4) 3-9-2; 3-9-6

APPLICANT:

Kimura International Inc. on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 7, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- () We have no objections.
- () We have no comments.
- (X) Comments are attached.

Signed:
Date: 4/11/07

STATE OF HAWAII
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

MEMORANDUM

TO: Dan A. Polhemus, Administrator ^{DA}
FROM: Glenn R. Higashi, Aquatic Biologist ^{GRH}
SUBJECT: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements Wailua Cane Haul Bridge
Comments: Russell Y. Tsuji
Requested By: Land Division
Date of Request: 3/7/07 Date Received: 3/12/07

Summary of Project

Title: Draft Environmental Assessment for Kuhio Highway Short-term Improvements Wailua Cane Haul Bridge
Project By: Department of Transportation
Kauai
Location: Lihue, Kauai – TMK: (4) 3-9-2; 3-9-6

Brief Description:

The applicant, Kimura International Inc. on behalf of the State of Hawaii, Department of Transportation, is proposing to replace Stream Bridge which crosses Wailua River. The bridge is located on Kamehameha Highway, in the District of Koolau Loa, on the North Shore of Oahu.

This project will make improvements to a section of Kuhio Highway measuring approximately one-third mile from the north end of Leho Drive, across Wailua River to the vicinity south of Kuamo'o Road. The cane haul bridge (also known as the plantation bridge) will be reconstructed. The existing deck, 14 feet wide, provides one northbound travel lane. It will be replaced with a wider deck capable of carrying two northbound vehicular lanes. The new upper structure will be constructed using a modular system which can be constructed efficiently. Attached to the deck will be a cantilevered walkway/bikeway.

Vehicular travel lanes will measure 11 feet wide. Shoulders on the bridge will be 2 feet wide on the left side and 6 feet wide on the right side. Shoulders on the approaches will be 8 feet wide on either side. The bike and pedestrian path will be 10 feet wide on land; 8 feet wide crossing the river, and will accommodate two-way travel.

The new deck will be constructed using a prefabricated panel system made of galvanized steel. In order to transition to the wider, prefabricated bridge, new concrete bridge sections will be built: a 43-foot section on the south end and a 33-foot section on the north end. Additionally, new piers and abutments will be constructed landward of the existing abutments, and roadway approaches will be modified on both sides of the crossing.

Upon completion, the deck of the cane haul bridge will be approximately two feet higher than it is currently, but this difference will not be noticeable to motorists. The modular system, selected for its economical cost and relatively ease of construction, involves standard panels that are 7.5 feet high. When attached to the deck, approximately 4.5 feet will be above the deck, and 3 feet will be at deck level and below. The new side panels will be slightly higher than the existing railing system, but motorists will be able to see above them and/or through the open grid of metalwork.

Underneath the bridge, existing piers will remain in place and unaltered, except for the addition of struts extending from the pile cap to the underside of the deck. No underwater construction work will be involved.

Other improvements will include retaining walls, drainage inlets, guardrails, signage, striping, and landscaping.

Comments:

The Wailua River provides habitat for 11 species of native macrofauna. These include native fish species such as *Mugil cephalus*, *Kuhlia sp.*, *Eleotris sandwicensis*, *Stenogobius hawaiiensis*, *Awaous guamensis*, *Sicyopterus stimpsoni*, and *Lentipes concolor*. It also provides habitat for the native crustaceans *Macrobrachium grandimanus*, and *Atyoida bisulcata* and the native mollusks *Neritina vespertina* and *Neritina granosa* (ref. DAR Aquatic Resources Database, Oct. 6, 2006).

The proposed widening of the cane haul bridge with the replacement of the existing deck with a new wider modular system is not expected to have any significant impact on the aquatic resource values in this area, since no underwater construction work is involved. However, the mitigative measures should be implemented during the removal and construction of the bridge deck sections and to minimize the potential of construction materials and debris construction-related petroleum products from falling, blowing or leaching into the aquatic environment.



July 19, 2007

Mr. Dan A. Polhemus, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Polhemus,

Comments on the Draft Environmental Assessment
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on the subject document transmitted via the Land Division on April 11, 2007.

Section 4.2.4, Stream Fauna of the Final Environmental Assessment has been revised to incorporate the more specific language on mitigation measures, as suggested in your comments.

We appreciate your participation in the environmental review process for this project.

Sincerely,
KIMURA INTERNATIONAL, INC.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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April 10, 2007

Kimura International
1600 Kapiolani Blvd Suite 1610
Honolulu, Hawaii 96814
Attention: Glenn Kimura

Office of Environmental Quality Control
235 South Beretania Street Suite 702
Honolulu, Hawaii 96813

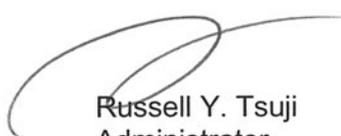
Gentlemen:

Subject: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements Wailua Cane Haul Bridge, Lihue, Kauai, Tax Map Key: (4) 3-9-2 and 3-9-6

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Boating & Ocean Recreation, Engineering Division, Division of Water Resource Management, Land Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,


Russell Y. Tsuji
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
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March 7, 2007

MEMORANDUM

TO: **DLNR Agencies:**
 Div. of Aquatic Resources
 Div. of Boating & Ocean Recreation
 Engineering Division
 Div. of Forestry & Wildlife
 Div. of State Parks
 Div. of Water Resource Management
 Office of Conservation & Coastal Lands
 Land Division – Kauai District/Barry/Morris

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2007 MAR 12 A 11:23
DEPT. OF LAND AND NATURAL RESOURCES
STATE OF HAWAII

FROM: Russell Y. Tsuji
SUBJECT: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements
Wailua Cane Haul Bridge
LOCATION: Lihue, Kauai, TMK: (4) 3-9-2; 3-9-6
APPLICANT: Kimura International Inc. on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 7, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: [Signature]
Date: 3/9/07

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GOVERNOR OF HAWAII



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DEPARTMENT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

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HONOLULU, HAWAII 96809

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DEPUTY DIRECTOR
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 7, 2007

MEMORANDUM

TO: **DLNR Agencies:**
 Div. of Aquatic Resources
 Div. of Boating & Ocean Recreation
 Engineering Division
 Div. of Forestry & Wildlife
 Div. of State Parks
 Div. of Water Resource Management
 Office of Conservation & Coastal Lands
 Land Division – Kauai District/Barry/Morris

FROM: Russell Y. Tsuji
SUBJECT: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements
Wailua Cane Haul Bridge
LOCATION: Lihue, Kauai, TMK: (4) 3-9-2; 3-9-6
APPLICANT: Kimura International Inc. on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 7, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: Edwin T. Sabota
Date: 3/9/07

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 7, 2007

MEMORANDUM

TO: **DLNR Agencies:**
 Div. of Aquatic Resources
 Div. of Boating & Ocean Recreation
 Engineering Division
 Div. of Forestry & Wildlife
 Div. of State Parks
 Div. of Water Resource Management
 Office of Conservation & Coastal Lands
 Land Division – Kauai District/Barry/Morris

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2007 MAR 14 A 10:12

FROM: Russell Y. Tsuji
SUBJECT: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements
Wailua Cane Haul Bridge
LOCATION: Lihue, Kauai, TMK: (4) 3-9-2; 3-9-6
APPLICANT: Kimura International Inc. on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 7, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *C. T. Young*
Date: 3/14/07

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/RYT

Ref.: DEAKuhioHiwayWailuaCaneBridge
Oahu.535

COMMENTS

- () We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ____.
- (X) **Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zones X and AE Floodway. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X however, it has strict developments regulations within Zone AE Floodway as indicated in bold letters below.**
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- (X) **Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- () Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
- () Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
- () Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
- (X) **Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.**
- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

(X) **Additional Comments:** **SEE ATTAC HED**

() Other: _____

Should you have any questions, please call Mr. Alyson Yim of the Planning Branch at 587-0259.

Signed: 
ERIC T. HIRANO, CHIEF ENGINEER

Date: 3/14/07

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

**REF: DEAKuhioHiwayWailuaCane Bridge
Kauai.54**

ADDITIONAL COMMENTS

For the proposed construction of a bridge replacement and widening and related improvements, we offer the following suggestions:

1. If utilities (sewer, gas, water, etc.) are to be suspended along the bridge structure, they should be located and constructed to minimize flood damage, leakage and prevent snagging of debris.
2. The proposed bridge should not impede the storm water carrying capacity of the body of water it crosses.
3. A scour analysis should be conducted to ensure that the design of the structure will minimize erosion of the foundation. If the channel opening at the structure is widened, evaluate downstream reaches to provide for adequate capacity and erosion.



July 19, 2007

Mr. Eric T. Hirano, Chief Engineer
Engineering Division
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Hirano,

Comments on the Draft Environmental Assessment
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on the subject document dated March 14, 2007 and transmitted via the Land Division.

The following are responses to your comments:

1. Please take note that the project site according to the Flood Insurance Rate Map (FIRM) is located in Zones X and AE Floodway. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X however, it has strict development regulations within the Zone AE Floodway.

Response: We acknowledge that the project is located within Zones X and AE of the Special Flood Hazard Area and a portion of the project is located within the Floodway as indicated on the Flood Insurance Rate Map (FIRM).

2. Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44 CFR), whenever development within a Special Flood Hazard Area is undertaken.

Response: The project will comply with the rules and regulations of the NFIP.

3. Please be advised that 44 CFR indicated the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards.

Response: A “No-Rise Determination” with supporting data will be prepared by a professional civil engineer licensed in the State of Hawaii and submitted to the County of Kauai, Department of Public Works for review and approval.

4. If utilities (sewer, gas, water, etc.) are to be suspended along the bridge structure, they should be located and constructed to minimize flood damage, leakage and prevent snagging of debris.

Response: The HDOT will require all utilities that are suspended from the bridge structure to be located and constructed to minimize flood damage, leakage, and prevent snagging of debris.

5. The proposed bridge should not impede the storm water carrying capacity of the body of water it crosses.

Response: The proposed improvements will be evaluated to determine their impacts on the stormwater carrying capacity of Wailua River.

6. A scour analysis should be conducted to ensure that the design of the structure will minimize erosion of the foundation. If the channel opening at the structure is widened, evaluate downstream reaches to provide for adequate capacity and erosion.

Response: The HDOT has determined that a bridge scour analysis and construction of bridge scour countermeasures will not be included as part of the short-term improvement project because it does not modify the existing channel opening. However, as part of a separate planning study, called the Kapaa Relief Route project, HDOT is investigating comprehensive, long-term highway improvements that will address flood, bridge scour, and related issues in more detail.

Stream channel improvements and widening of Wailua River at the bridge structure are not anticipated for this project.

We appreciate your participation in the environmental review process for this project.

Sincerely,
KIMURA INTERNATIONAL, INC.



Glenn T. Kimura
President

Cc: Darell Young, HDOT

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 7, 2007

MEMORANDUM

TO: JR.

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Div. of Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District/Barry/Morris

To:
FROM:

Russell Y. Tsuji

SUBJECT: Draft Environmental Assessment for Kuhio Highway Short-Term Improvements
Wailua Cane Haul Bridge

LOCATION: Lihue, Kauai, TMK: (4) 3-9-2; 3-9-6

APPLICANT: Kimura International Inc. on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 7, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- () We have no objections.
- () We have no comments.
- (*) Comments are attached.

Signed: Barry Champ ODL0
Date: 2/3/07

* The Board approved the issuance of a right-of-entry to DOT on February 9, 2007 regarding the subject area.

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

Office of Conservation and Coastal Lands
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF:OCCL: MC

Correspondence: KA-07-200

Glenn Kimura, President
Kimura International, Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu HI 96814

MAR 12 2007

RECEIVED MAR 13 2007

Dear Mr. Kimura:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KŪHIŌ HIGHWAY SHORT-TERM IMPROVEMENTS: WAILUA CANE HAUL BRIDGE
TMK (4) 3-9-002
Wailua, Līhu'e, Kaua'i

The Office of Conservation and Coastal Lands (OCCL) has received your request for comments on the Draft Environmental Assessment (DEA) for the State of Hawai'i Department of Transportation's (DOT) proposed modifications to the Wailua Cane Haul Bridge on the above subject parcel. The bridge crosses the Wailua River, which lies within the Resource Subdivision of the Conservation District.

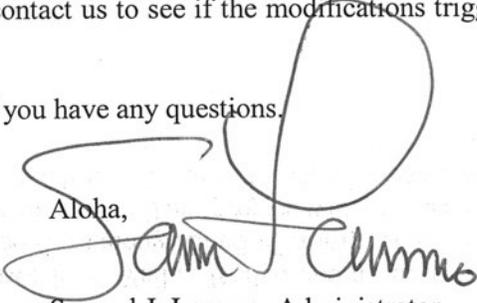
Motorists currently cross the Wailua River on the two-lane Wailua Bridge and a one lane Cane Haul bridge. As part of its project to improve driving conditions along Kūhiō Highway the DOT proposes to upgrade the Cane Haul bridge to handle two lanes of traffic. This project will include replacing the existing concrete deck with a wider deck made of a prefabricated panel system of galvanized steel. The DOT will build new piers and abutments landward of the existing abutments to accommodate the increased load on the bridge.

Only the posts and piers supporting the Cane Haul Bridge lie in the Conservation District. There will be no change to these, nor will additional piers or abutments be placed in the Conservation District. The staging area and all construction will also occur on drylands on either side of the Wailua River. As such, OCCL does not consider this a land use, and the preferred alternative will not need a permit from DLNR.

OCCL would like to note that some of the alternatives would require a permit from DLNR, so if the preferred alternative is modified DOT will need to contact us to see if the modifications trigger the need for a permit.

Please call staff planner Michael Cain at 587-0048 if you have any questions.

Aloha,


Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: Chair



July 19, 2007

Mr. Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Lemmo,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated March 12, 2007.

We agree with your summarization of the preferred alternative and note that this alternative will not need a permit from DLNR.

We will contact your office if there is any change in the project description.

Sincerely,
KIMURA INTERNATIONAL, INC.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

BRYAN J. BAPTISTE
MAYOR



DONALD M. FUJIMOTO
COUNTY ENGINEER
TELEPHONE 241-6600

GARY K. HEU
ADMINISTRATIVE ASSISTANT

KYLAN K. DELA CRUZ
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6600

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766-1340

RECEIVED MAR 13 2007

March 7, 2007

Kimura International Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814
ATTENTION: Ms. Nancy Nishikawa

SUBJECT: WAILUA SHORT-TERM IMPROVEMENTS, CANE HAUL BRIDGE DEA
TMK: 3-9-06: 12, 29 (portion); 4-1-04:01 (portion), 20

Dear Ms. Nancy Nishikawa:

The County of Kaua'i Flood Ordinance No. 831 states that in the floodway, "Encroachments...are prohibited in the floodway unless certified by a registered professional civil engineer, with supporting data that the encroachment will not cause any increase in base flood elevations during the occurrence of the base flood discharge." Although the cane haul bridge with its piers and abutments are already in existence, the proposed project will be adding new structures in the floodway below the Base Flood elevation of 12.0 feet MSL. A "No-Rise Determination" by a professional civil engineer licensed in the State of Hawa'i needs to be submitted for our review and approval.

Should you have any questions, please contact Mario T. Antonio of my staff at (808)241-6859.

Very truly yours,


DOUGLAS HAIGH, P.E.
Chief of Building Division

MTA

Copy to: Steve Kyono, D.O.T. Highways (Kauai District)
Donald M. Fujimoto, County Engineer



July 19, 2007

Mr. Douglas Haigh, Chief
Building Division
Department of Public Works
4444 Rice Street, Suite 275
Lihue, HI 96766

Dear Mr. Haigh,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated March 7, 2007.

As required by County of Kauai Flood Ordinance No. 831, a “No-Rise Determination” with supporting data will be prepared by a professional civil engineer licensed in the State of Hawaii and submitted to your office for review and approval.

We appreciate your participation in the environmental review process.

Sincerely,
KIMURA INTERNATIONAL, INC.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

BRYAN J. BAPTISTE
MAYOR



DONALD M. FUJIMOTO
COUNTY ENGINEER
TELEPHONE 241-6600

GARY K. HEU
ADMINISTRATIVE ASSISTANT

KYLAN K. DELA CRUZ
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6640

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766-1340

RECEIVED APR 06 2007

April 5, 2007

State of Hawaii, Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, Hawaii 96813
Attn: Mr. Darell Young

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT, KŪHI'Ō HIGHWAY
SHORT TERM IMPROVEMENTS, WAILUA CANE HAUL BRIDGE

Dear Mr. Young:

The County of Kauai Department of Public Works Wastewater Management Division (WWMD) appreciates the opportunity to comment on the subject Draft Environmental Impact Statement (DEIS). The DEIS describes the presence of the County's wastewater infrastructure within the project area. It is possible that wastewater gravity or force mains within the project area will be disturbed during construction. We request that the State Department of Transportation and your contractors continue to coordinate with the WWMD to avoid damage to, or disruption of service of the wastewater system in the area.

Thank you for the opportunity to provide our comments. If you have any questions, please contact us at (808) 241-6610.

Very truly yours,

CONCUR:

EDWARD TSCHUPP, P.E.
Chief, Wastewater Management Division

DONALD M. FUJIMOTO
County Engineer

cc: Building Division
Engineering Division
Planning Department
Ms. Genevieve Salmonson, Director, OEQC
Kimura International

'APR 04 2007



July 19, 2007

Mr. Edward Tschupp, Chief
Wastewater Management Division
Department of Public Works
4444 Rice Street, Suite 275
Lihue, HI 96766

Dear Mr. Tschupp,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated April 5, 2007.

We note that wastewater gravity or force mains within the project area may be disturbed during construction. Project designers and the selected contractor will coordinate with your office to avoid damage to, or disruption of service in and adjacent to the project area.

We appreciate your participation in the environmental review process.

Sincerely,
KIMURA INTERNATIONAL, INC.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

BRYAN J. BAPTISTE
MAYOR



DONALD M. FUJIMOTO
COUNTY ENGINEER
TELEPHONE 241-6600

GARY K. HEU
ADMINISTRATIVE ASSISTANT

KYLAN K. DELA CRUZ
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6640

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUAI, HAWAII 96766-1340

RECEIVED MAR 27 2007

March 22, 2007

State of Hawai'i
Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, HI 96813
ATTENTION: Mr. Darell Young

SUBJECT: Kūhiō Highway Short-Term Improvements
Draft Environmental Assessment for Wailua Cane Haul Bridge
TMK 3-9-06-012 (Cane Haul Bridge) PW 3.07.004

Gentlemen,

We reviewed the subject draft environmental assessment. We offer the following comments:

- Based on panel no 212 E of the Federal Insurance Rate Maps (FIRM) dated September 16, 2005, the subject Wailua Cane Haul Bridge is susceptible to flooding. The flood zoning is a zone AE with a corresponding base flood elevation of 13 feet above mean sea level. The subject bridge is also located within the established floodway limits of Wailua River.

Figure 8 is the Flood Insurance Rate Map (FIRM) based on panel no 130D 9/30/95. We wish to point out that the FIRM has been superceded with the September 16, 2005 FIRM panel no 212 E. Although there is not much difference in the mapping 1995 and 2005, the Wailua Bridge is definitely located within the floodway limits of Wailua River. Hence encroachments within the floodway limits are prohibited unless certified by a registered professional engineer, with supporting data that the encroachments will not cause any increase in the base flood elevations during the occurrence of the base flood discharge. We are concerned that the bridge abutments and retaining walls that will be constructed within the flood way limits of Wailua River. These floodway encroachments will need to be mitigated. We request that comments be solicited from our Building Division. The Building Division is responsible for administering the County's flood plain management program.

March 22, 2007

Page (2)

- At sheet 4-14, we are concerned with the statement "The existing cane haul bridge (like the highway bridge) **does not meet** current standards for flood elevation". The FIRM maps show the flood elevation upstream of the Wailua Cane Haul Bridge to be 12 feet above mean sea level. We recommend that the lowest bridge chord be constructed 1 foot above the determined 100 year flood elevation (12 feet MSL). Due to the amount of debris that comes down and collects at the river mouth it would be prudent to construct the lowest bridge chord above the determined flood elevation with adequate free board. The debris could also cause additional horizontal loading and could cause the bridge to collapse.
- We believe there will be structural fills within the flood prone areas. Our Erosion and Sediment Control Ordinance No. 808 requires that all fills within the Shoreline setback area established by our Planning Director shall be of material compatible with the marine environment. The use of soil as fill is prohibited within any shoreline area as defined by Sec 205A-1, Haw. Rev. Stat., except for sand.
- Best Management Practices (BMP's) shall be implemented to the maximum extent practicable to prevent damage by sedimentation, erosion or dust to streams, watercourses, natural areas and the property of others. We believe BMP's are required for construction and staging areas that will be disturbed where the area is more than one acre. These BMP's should be a part of the construction plans.
- We are concerned with the demolition of the existing sidewalk on the makai side of the existing Wailua Bridge. We believe the existing sidewalk provides pedestrian connectivity from the Aloha Beach Resort to the commercial activities at Wailua Road. There will need to be temporary provisions for the pedestrian to cross a heavy used Kūhi'ō Highway. We recommend comments be solicited from the Disability and Communication Access Board.

Thank you for this opportunity to provide our comments. Should you have any questions, please contact us.

Very truly yours,



DONALD M. FUJIMOTO
County Engineer

WK

cc: Building Division
Construction Inspection
Design and Permitting
Office of Environmental Quality Control, Ms. Genevieve Salmonson
Kimura International, Mr. Glenn T. Kimura



July 19, 2007

Mr. Donald Fujimoto
County Engineer
Department of Public Works
4444 Rice Street, Suite 275
Lihue, HI 96766

Dear Mr. Fujimoto,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated March 22, 2007.

1. Encroachments within the floodway limits are prohibited unless certified by a registered professional engineer, with supporting data that the encroachments will not cause any increase in the base flood elevations during the occurrence of the base flood discharge. We are concerned that the bridge abutments and retaining walls that will be constructed within the flood way limits of Wailua River. These floodway encroachments will need to be mitigated. We request that comments be solicited from our Building Division.

Response: We acknowledge that a portion of the proposed improvements are located within Zone AE and established Floodway as shown on Panel No. 212E of the Federal Insurance Rate Map (FIRM) dated September 16, 2005. However, we would like to clarify that the base flood elevation near the Wailua Cane Haul Bridge is approximately 12 feet above mean sea level.

Figure 8 will be revised to show and reference the special flood hazard areas and base flood elevations from the current FIRM Panel No. 212E, dated September 16, 2005. A “No Rise Determination” with supporting data will be prepared by a professional civil engineer licensed in the State of Hawaii and submitted to the County of Kauai, Building Division for review and approval.

2. We recommend that the lowest bridge chord be constructed 1 foot above the determined 100 year flood elevation (12 feet MSL). Due to the amount of debris that

comes down and collects at the river mouth it would be prudent to construct the lowest bridge chord above the determined flood elevation with adequate free board.

Response: The substructure of the existing cane haul bridge, including foundation, piers and girders will remain unchanged and in place. The proposed interim improvements include the replacement of the bridge decking and support structures only.

The bottom of the existing girders or lowest bridge chord is approximately 0.5 feet above the 100-year base flood elevation.

Horizontal loading caused by debris will be considered during the design of the proposed improvements for the cane haul bridge.

As discussed in the Draft EA, construction of a new replacement bridge is being considered in the Department of Transportation's long-term planning of the Kapaa Relief Route project.

3. We believe there will be structural fills within the flood prone areas. Our Erosion and Sediment control Ordinance No. 808 requires that all fills within the shoreline setback area established by our Planning Director shall be of material compatible with the marine environment. The use of soil as fill is prohibited within any shoreline area, as defined by Sec. 205A-1, Hawaii Revised Statutes, except for sand.

Response: As discussed in the Draft EA, the preferred alternative is to extend the north and south ends of the cane haul bridge with a prefabricated metal bridge and concrete slab bridge. This method of construction will minimize structural fill within the flood prone areas and eliminate the need for structural fill within the shoreline setback area. Based on the certified shoreline dated January 7, 2007, all improvements will be located outside of the shoreline setback area.

4. We believe Best Management Practices (BMPs) are required for construction and staging areas, where more than one acre will be disturbed. These BMPs should be part of the construction plans.

Response: BMPs will be included in the construction plans and implemented during construction of the proposed improvements. The limits of construction and staging are anticipated to disturb an area of greater than one acre. As stated in the Draft EA, a National Pollutant Discharge Elimination System (NPDES) permit will be obtained for discharges of stormwater associated with construction activities (NOI-Form C). The contractor will be required to develop and implement site-specific BMPs.

Mr. Donald Fujimoto
July 19, 2007
Page 3

5. We are concerned about the demolition of the existing sidewalk on the makai side of the existing Wailua Bridge. We recommend comments be solicited from the Disability and Communication Access Board.

Response: The existing sidewalk on the mauka side of the existing Wailua Bridge will remain to provide access across Wailua River.

Construction plans will be submitted to the Disability and Communication Access Board for review and comment.

We appreciate your participation in the environmental review process.

Sincerely,
KIMURA INTERNATIONAL, INC.

A handwritten signature in black ink, appearing to read "Glenn T. Kimura", with a long horizontal flourish extending to the right.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

COUNTY COUNCIL
Bill "Kaipo" Asing, Chair
Mel Rapozo, Vice Chair
Tim Bynum
Jay Furfaro
Shaylene Iseri-Carvalho
Ronald Kouchi
JoAnn A. Yukimura



Council Services Division
4396 Rice Street, Room 206
Līhu'e, Kaua'i, Hawai'i 96766-1371

OFFICE OF THE COUNTY CLERK

Peter A. Nakamura, County Clerk
Ernesto G. Pasion, Deputy County Clerk

Telephone (808) 241-6371
Fax (808) 241-6349
Email cokcouncil@kauai.gov

April 9, 2007

RECEIVED APR 10 2007

Department of Transportation
Highways Division, Planning Branch
ATTN: DARELL YOUNG
869 Punchbowl Street
Honolulu, HI 96813

Ladies and Gentlemen:

RE: Draft Environmental Assessment (DEA)
Wailua Short-term Improvements, Cane Haul Bridge
Līhu'e District, Kaua'i
TMK: 3-9-002, 3-0-06:12 (cane haul bridge)

I am pleased to submit comments on the subject DEA.

I concur with the goals of eliminating existing highway capacity deficiencies, addressing future travel demand, and improving highway safety, not only for motorists but for pedestrians, bicyclists and other non-motorized travelers.

Will The Preferred Alternative Meet Its Primary Goal?

I question, however, whether the proposed preferred alternative will significantly reduce existing highway capacity deficiencies if it simply moves the deficiencies several blocks to Kapa'a Town and several miles to the Kapule-Kūhiō Highway intersection. DOT needs to demonstrate that the present bottleneck will not simply move a short distance from the existing bottleneck, for what then is the gain?

I also disagree that reasonable alternatives have been adequately and creatively addressed.

The Kaua'i Bus Alternative

No serious multi-modal analysis is developed or discussed in the DEA. I request that an alternative utilizing the Kaua'i Bus be developed. Please present a plan to spend \$10 million dollars (\$2 million less than the proposed preferred alternative) by adding to the county's existing Kaua'i Bus program by providing additional routes for the Kaua'i bus, along with adequate bus shelters, a couple of well positioned informal park-and-ride facilities and education and outreach could

meet all of the above mentioned goals in a more permanent and effective way. It would also address the additional goals of reducing green house gases and fossil fuel use. It would also avoid the problem that the preferred alternative will face—that of moving the congestion only a mere few blocks to Kapa'a Town and a few miles to the Kūhiō Highway-Kapule Highway intersection at which points another multi-million dollar highway capacity building project would be needed belying its status as the "cheapest" alternative.

The development of a Kaua'i Bus expansion alternative is beyond my expertise, but not beyond that of the consultants, and should be required for review by all stakeholders, including the business community, the public at large, the various governmental entities Office of Environmental Quality Control (OEQC) and the Federal Highway Administration (FHWA). How many additional buses would it take to reduce the car traffic from Wailua Homesteads, Wailua Houselots, Kapa'a Town, Kapahi and the Northshore by 25% each? Where are all these cars/vehicles going and where are they coming from? What kind of incentives would be required? Bus passes from employers? Flextime from employers? Luggage on buses to the Airport? Newspapers and coffee in the morning? Using the very best, most creative and effective public relations program, once we set up the additional routes, how many people could we get to use the bus? I am certain that the best minds could figure this out. What if we created informal park and ride stations at the Smith's parking lot (across from entrance to Coco Palms or near the river park) and at the Kapa'a Ball field? I challenge the DOT and its consultants to put 10% of the time and money and 100% of the sincerity spent on developing the preferred alternative into the Kaua'i Bus Alternative and see what you come up with.

The Double Decker Alternative

There is also no discussion about the alternative of creating a beautifully designed double decker highway above the existing Wailua Bridge. This second level could bring the Wailua Homestead bound traffic over the present intersection without requiring the left hand turn into Kuamoo Road at the present intersection of Kuamoo Road and Kuhio Highway. Conceivably, those turning right from Kuamoo Road on to Kuhio Highway to Lihue could also swoop up to the second level.

Thank you for considering this input.

Sincerely,


JOANN A. YUKIMURA
Councilmember

cc: Office of Environmental Quality Control
Kimura International
Janine Rapozo, County Executive on Transportation
County Transit Advisory Committee



July 19, 2007

The Honorable JoAnn A. Yukimura
Kauai County Council
4396 Rice Street, Room 206
Lihue, HI 96766

Dear Councilmember Yukimura,

Comments on the Draft Environmental Assessment
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on the subject document dated April 9, 2007.

The following are responses to your comments:

1. Will the preferred alternative meet its primary goal? Or will existing highway capacity deficiencies simply move a short distance away?

Response: The primary goal of this project is to provide congestion relief in the Wailua River corridor by maximizing the capacity of the existing highway facility. The bridge widening, in tandem with an additional, southbound lane between Kuamoo Road and the temporary bypass road will facilitate the flow of southbound vehicles exiting from the bypass. With the newly opened extension of the bypass, and the widening projects currently in the pipeline, the Department of Transportation (HDOT) will have incrementally added one highway lane from north of Kapaa Town to Wailua River.

2. The Kauai Bus alternative. No serious multi-modal analysis is developed or discussed in the DEA.

Response: All communities need to find the right venues and study vehicles to investigate and deliberate comprehensive transportation strategies and, ultimately, the relationships between modes of travel and land uses. HDOT's Long Range Land Transportation Plan (LRLTP) is one such study vehicle. The County has the General Plan and regional development plans, with the East Kauai Development Plan currently in development.

The scope of this project was far narrower. Its purpose was to examine alternatives by which the main highway could be improved to address traffic congestion at a known bottleneck, the Wailua River corridor. Other improvements may also contribute to relieving the region's traffic congestion, including improvements to the Kauai Bus system, but this particular asset is not under HDOT's jurisdiction.

3. The double decker alternative. There is no discussion about the alternative of creating a beautifully designed double decker highway over the existing Wailua Bridge.

Response: Two alternatives considered in the early planning stages of this project (and discussed in the DEA) involved constructing new bridge structures. One option involved a new pier system (and, therefore, construction in the river) and the other option involved a clear span across the river channel. The new-bridge options were dismissed because the types and/or magnitude of environmental impacts generated would have triggered more extensive environmental permitting, and these options were more costly and involved lengthier time schedules than the preferred alternative to reconstruct the cane haul bridge. The complexity of the double decker proposal is more appropriate for consideration under the long-term, Kapaa Relief Route project.

We appreciate your participation in the environmental review process for this project.

Sincerely,
KIMURA INTERNATIONAL, INC.



Glenn T. Kimura
President

Cc: Darell Young, HDOT



Sandwich Isles
Communications, Inc.

A Waimana Company

RECEIVED MAR 29 2007

March 28, 2007

Mr. Darell Young
Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, HI 96813

RE: Draft Environmental Assessment
Wailua Short-term Improvements, Cane Haul Bridge
Tax Map Key Number: 3-9-002; 3-0-06: 12

Dear Mr. Young:

After reviewing the above noted report, I have the following comments:

Page 4-61, paragraph 2, notes that:

“Sandwich Isle Telecommunications [should be Sandwich Isles Communications] has an existing fiber optic ductline.....underside of Wailua River highway bridge.”

This is a correct statement. However, in addition to the bridge attachment it should be noted that:

Sandwich Isles Communications is a utility company that provides land line telecommunications service to customers on the island via an existing underground fiber optic ductline which runs along the Kuhio Highway corridor.

This should probably be noted due to the road work required in addition to the bridge work.

If you have any questions regarding this, please call me at 540-5780.

Sincerely,

Judi Ushio
Operations Planning & Service Manager

cc: Office of Environmental Quality Control
Kimura International



July 19, 2007

Ms. Judi Ushio
Operations Planning & Service Manager
Sandwich Isles Communications, Inc.
1001 Bishop Street, 27th Floor
Honolulu, HI 96813

Dear Ms. Ushio,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated March 28, 2007.

The text you provided has been incorporated into the Final EA in order to clarify the description of Sandwich Isles' facility in the project corridor.

We appreciate your participation in the environmental review process.

Sincerely,
KIMURA INTERNATIONAL, INC.

Glenn T. Kimura
President

Cc: Darell Young, HDOT

Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, HI 96813

Dear Highways Division Staff;

The enclosed regard the widening of the Wailua Cane Haul Bridge. Please find included:

- Pages 1 and 2 of written testimony
- Schematic Section, WAILUA CROSSING Proposal 1
- Schematic Section, WAILUA CROSSING Proposal 2

Please keep me apprised of developments.

Thank you very much for your consideration.

Yours truly,



Scott Wylie, Designer
339 South E Street
Springfield, Oregon 97477

RECEIVED
HIGHWAYS DIVISION
PLANNING BRANCH
AUG 11 1977
HONOLULU, HI

I write to you as an environmental designer, a historic preservationist, and as a Kauaiian timeshare guest of 11 years counting. I found out about the proposed widening of Wailua Sugar Cane Haul Bridge in the 13 March *Garden Island*.

In my years as a guest in Waipouli, I've become very familiar with the progressive severity of the Wailua/Waipouli/Kapaa congestion problem. I feel this problem is caused at least as much by the street intersections/traffic controls flanking Coco Palms and the constriction of the Kuhio Highway right of way through built-up Wailua as the bridges cause it. While I do feel the bridges certainly are worth addressing, [and that is what I wish to speak to, presently] I do not think there will be much relief until the other causes are also worked on.

I feel the bridge traffic handling capacity can be increased without any highway closure. I also feel strongly that Sugar Cane Haul Bridge (SCHB) is historically and architecturally significant and that changes to it be minimized while continuing to use it far into the future. I enjoy driving on it whenever I travel from the south; its immediacy to the ocean's beauty and its single lane scale are a picturesque and refreshing highlight of my ride. SCHB has great architectural and sculptural interest from below and I'm positive that the beachgoers and canoeists appreciate this. A couple of years ago the SCHB road surface was redone and the railings were upgraded so it appears to me that the bridge is valued as a continuingly viable part of Kauai's highway system.

Here are 2 proposals that are alternatives to the widening of Sugar Cane Haul Bridge.

1. [See Schematic 1] Build a second single lane bridge for northbound traffic. Position it in the space that exists between the present bridges. The piers supporting the existing bridges align upstream/downstream with one another. Align the new bridge piers with the existing ones. Both anchorages of a long-vanished single lane bridge still exist close to the 2-lane Wailua Bridge. The southerly anchorage can be reactivated and the northerly one reactivated and expanded. As a historic interest note, on the south anchorage still sit remnants of the former concrete bridge rail and ornamental gateway obelisks. These obelisks can be salvaged and re-installed as gateway sentinels on the new bridge as a remembrance of the old bridge. In connection with using the old south anchorage as the exclusive basis for supporting this end of the bridge, the merits of doing this might need to be weighed with the possible repositioning or redesign of a large power pole near the south bank.

Continue to use the SCHB as a one lane northbound vehicular crossing. Build the bike and pedestrian path seawards of SCHB supporting it with an outrigger system attached and architecturally sympathetic to SCHB. Or construct a separate bridge, also seawards of SCHB. If the latter idea is adopted, align the new piers with those of SCHB.

2. [See Schematic 2] Build a northbound 2-lane bridge between SCHB and the existing 2-lane bridge. Convert the present 2-lane bridge to an exclusively southbound one. As with Proposal 1, salvage the obelisks and reinstate them as gateway sentinels at the south end of the new bridge.

Convert Sugar Cane Haul Bridge to bicycle and pedestrian use.

2)

Most of the year I live in Oregon near the coast. Crossing the bays, rivers and estuaries is a series of historic concrete and steel bridges that extends the entire length of the coast. These bridges are precise contemporaries of the state highway bridges in Kauai. Over 20 years ago Oregon started appreciating its coastal bridges. A visionary engineer of the Oregon Department of Transportation designed them in the '30's. His name was Conde B. McCullough. At the inception of the Coastal Bridge Rehabilitation and Restoration Program, the problems of many of the bridges were recognized; reinforced concrete, in places, deteriorated and some of the rebar was exposed to the salt air and rust was subjecting the rebar to becoming elephantine. Cathodic protection technology has successfully been used (see footnote) to arrest this problem on many of the bridges, permanently rescuing them.

ODOT had an enlightened answer for bridges beyond rescue, too. There was one instance where one of the more imposing bridges was too damaged to restore. ODOT treated this situation as a creative opportunity to design a new bridge (Waldport) that would have such architectural merit on its own that it now truly compensates, aesthetically, for the one lost.

Whatever its actual condition, the Sugar Cane Haul Bridge warrants functional continuity on its historic, experiential and architectural merits.

Also, Oregon is in the midst of a massive bridge rehabilitation and replacement program for many of its major spans across the state. A significant fraction of bridge replacement budgets are dedicated to the aesthetics of the bridges they fund. I find this a timely and commendable criterion for changing such important parts of our built environment.

Oregon has exhibited great commitment to preserving its historic highways. The crowning achievement of this charge was to restore the original Columbia River Gorge Highway, built in 1912. The drive along this motorway offers a wonderful interlude that takes us back 95 years. Correspondingly, rides on Sugar Cane Haul Bridge and the small bridges of Hanalei and Haena offer refreshing and important returns to former times.

Also, on a regular basis in Oregon, stretches of highways and bridges are replaced without restricting current traffic patterns for more than a day, thanks to innovative project planning.

Thank you for your consideration.

Sincerely,



Scott Wylie, Designer

339 South E Street, Springfield, Oregon, 97477-5433

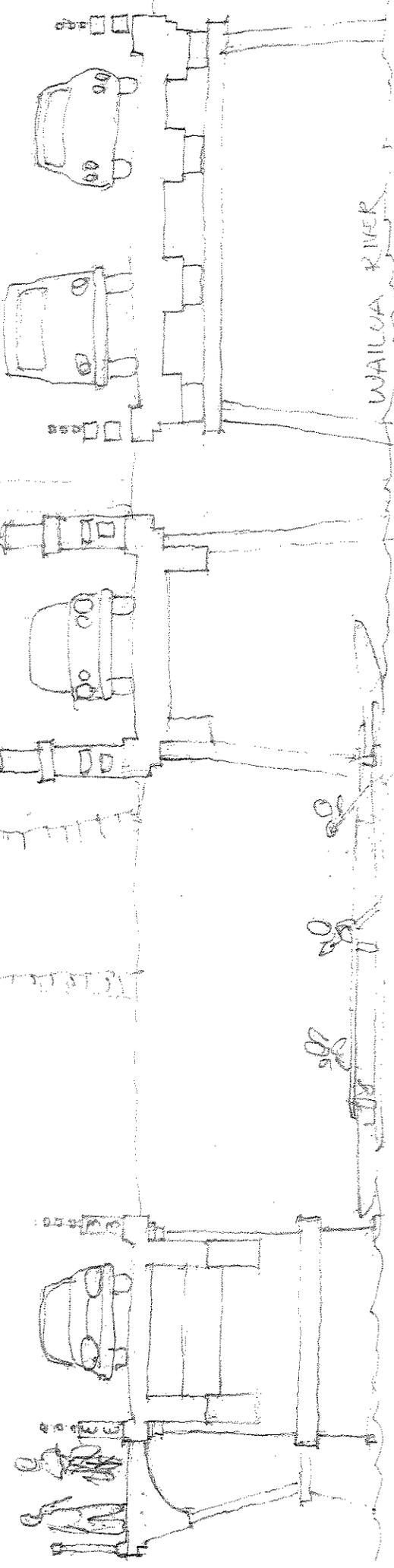
wylieaerie@att.net

Cathodic protection technology has been applied successfully through a project design and construction process that includes ongoing interaction among design engineers, researchers, construction project management and contractors. From: Resume' from Abstract of Oregon's Coastal Bridge Program written by G. McGill and T. Shike.

- VERIFY POWER POLE POSITION
RELATIVE TO NEW BRIDGE SOUTH
ANCHORAGE POSITION

EXISTING
PALMS

REINSTATE OBELISKS



↑ SUGAR CANE HADL BRIDGE

- MAINTAIN AS NORTHBOUND
- CATHODIC PROTECTION PROCESS, IF REQUIRED.

PEDESTRIAN / BICYCLE CROSSING:
(NOT IN PROPORTION AS DRAWN HERE)

- EITHER AS OUTRIGGER TO SCMB OR AS INDEPENDENT STRUCTURE

NEW 1 LANE BRIDGE:

- NORTHBOUND
- ALIGN PIERS WITHOSE OF WAILUA BRIDGE
- REACTIVATE OLD SOUTH ANCHORAGE IF PRACTICAL
- REACTIVATE ALL PART OF OLD NORTH ANCHORAGE, IF PRACTICAL
- SAVE OLD GATEWAY OBELISKS AND REINSTATE AT SOUTH END OF BRIDGE

EXISTING WAILUA BRIDGE:
- CONVERT TO 2 LANES SOUTHBOUND

WAILUA CROSSING | PROPOSAL 1

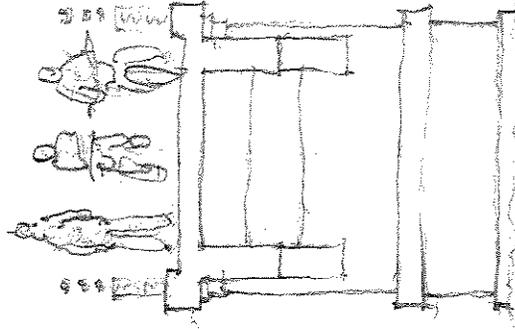
NEW 1 LANE BRIDGE
NEW PEDESTRIAN BIKE LANE

SCHEMATIC SECTION LOOKING SOUTH

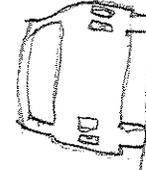
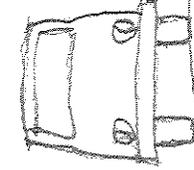
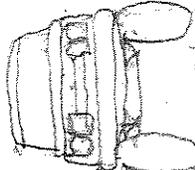
VERIFY POWER POLE POSITION FOR PLANNING NEW BRIDGE SOUTH ANCHORAGE

KENOTATED OBELISKS, MORE IMPOSING SETTING THAN THAT OF PROPOSAL 1

KEEP 1 PALM



WAILUA R.



SUGAR CANE HAUL BRIDGE

- CONVERT TO PEDESTRIAN / BIKE USE
- CATHODIC PROTECTION PROCESS IF REQUIRED

NEW 2 LANE BRIDGE:

- NORTHBOUND
- ALIGN PIERS WITHOSE OF WAILUA BRIDGE
- ENLARGE OLD SOUTH ANCHORAGE, IF PRACTICABLE
- ENLARGE OLD NORTH ANCHORAGE, IF PRACTICABLE
- SAVE OLD GATEWAY OBELISKS AND REINSTATE AT SOUTH END OF BRIDGE

EXISTING WAILUA BRIDGE:

- CONVERT TO 2 LANES, SOUTHBOUND

WAILUA CROSSING | PROPOSAL 2 | NEW 2 LANE BRIDGE

SCHEMATIC SECTION LOOKING SOUTH.

Kimura International
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814



To whom this may concern;

Regarding Wailua Sugar Cane Haul Bridge:

Please find two pages of pictures of the bridge and environs. Please reference these as companions for my previous mailing, postmarked 30 March, containing two pages of testimony and two schematic cross-sections that advocate alternatives to widening Sugar Cane Haul Bridge.

Thank you very much for your attention.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Wylie".

Scott Wylie, Designer
339 South E Street
Springfield, OR 97477



WAILUA SUGAR CANE HAUL BRIDGE, 1940, general view from beachside. This spot, at the mouth of the Wailua River, is a favorite push-off point for canoes and kayaks. March 2007



Close-up view, showing architectural detailing and sculptural presence. Two-lane Wailua Bridge visible through pylons. See also, partially, the south anchorage of vanished one-lane bridge.



Wailua Sugar Cane Haul Bridge, its sculptural presence from directly under.
March 2007



Main Wailua Bridge, two lanes, is a one-way southbound bridge in the morning and becomes two-way during the rest of the day and night. South anchorage of vanished one-way bridge, its decorative gateway obelisks and railing remnants are clearly visible.



July 19, 2007

Mr. Scott Wylie, Designer
339 South E. Street
Springfield, OR 97477

Dear Mr. Wylie,

Comments on the Draft Environmental Assessment (EA)
For Kuhio Highway Improvements—Wailua Cane Haul Bridge
TMK: (4) 3-9-2; 3-9-6

Thank you for comments on proposed improvements to Wailua Cane Haul Bridge dated March 30, 2007 and follow-up photographs.

Enclosed, for your information, is a CD-ROM which includes the Draft EA, in entirety. The March 13, 2007 article in The Garden Island provided only a brief overview of the project.

The following are responses to your comments:

1. I feel the bridge traffic handling capacity can be increased without any highway closure.

Response: The State of Hawaii, Department of Transportation (HDOT) has developed a traffic control plan that will not require closing Kuhio Highway. Before the cane haul bridge is closed for reconstruction, the existing highway bridge (on the inland side) will be reconfigured temporarily for three lanes of traffic.

2. I also feel strongly that Sugar Cane Haul Bridge is historically and architecturally significant and that changes to it be minimized while continuing to use it far into the future.

Response: The cane haul bridge has evolved from a former railway bridge to a bridge used only by cane hauling trucks to a bridge for the motoring public. The bridge has undergone a series of modifications as its functions have changed. Nevertheless, an historic resources survey conducted in 2003 concluded that the bridge is historically significant because it retains its integrity of location and enough original physical features to convey the feeling and association of its historic character.

This project minimizes physical changes to the bridge. The bridge deck will be replaced by a wider deck; however, the existing piers and girders will remain in place. To mitigate impacts on the bridge, a Memorandum of Agreement (MOA) was developed pursuant to Section 106 of the Historic Preservation Act. The MOA stipulates that the bridge be documented according to guidelines established by the Historic American Engineering Record prior to any alteration.

3. Here are two proposals that are alternatives to the widening of the Sugar Cane Haul Bridge.

Schematic 1: Build a second single lane bridge for northbound traffic, positioned in the space that exists between the present bridges.

Schematic 2: Build a northbound two-lane bridge between SCHB and the existing two-lane bridge. Convert the sugar cane haul bridge to bicycle and pedestrian use.

Response: Among the alternatives considered in the Draft EA were two alternatives to construct new bridge structures between the two existing bridges. One option involved a new pier system (and, therefore, construction in the river) and the other option involved a clear span across the river channel. The new-bridge options were dismissed because the types and/or magnitude of environmental impacts generated would have triggered more extensive environmental permitting, and these options were more costly and involved lengthier time schedules than the preferred alternative to reconstruct the cane haul bridge.

We appreciate your detailed consideration of the proposed improvements and your participation in the environmental review process.

Sincerely,
KIMURA INTERNATIONAL, INC.



Glenn T. Kimura
President

Cc: Darell Young, HDOT