

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
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JEREMY HARRIS
MAYOR



November 27, 2002

CHERYL D. SOON
DIRECTOR

RECEIVED

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

'02 DEC -3 A11:58

OFF. OF ENVIRONMENTAL
QUALITY CONTROL

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) for Waiialua Beach Road
Bikeway, TMK: 6-8-06: 010 and 017 and 6-7-001: 006 and 026

The City and County of Honolulu Department of Transportation Services has reviewed the comments received during the 30-day public comment period which began on July 8, 2002. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish FONSI in the December 8, 2002 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the Final EA.

If you have any questions regarding this matter, please contact Mike Kato of my staff at 523-4622.

Sincerely,

Handwritten signature of Cheryl D. Soon in cursive.

CHERYL D. SOON
Director

Enclosures

DEC 23 2002

FILE COPY

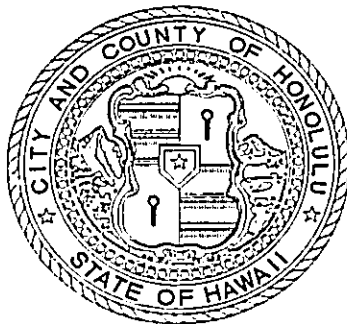
2002-12-23-0A-PEA-

**FINAL ENVIRONMENTAL
ASSESSMENT**

WAIALUA BEACH ROAD BIKEWAY

Prepared in Fulfillment of the Requirements of Chapter 25,
Revised Ordinances of Honolulu (ROH), as amended

Prepared for:
**DEPARTMENT OF
TRANSPORTATION SERVICES**



by:
ParEn Inc., dba Park Engineering
December 2002

FINAL ENVIRONMENTAL ASSESSMENT

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- A HALF-SIZE CONSTRUCTION PLANS
- B FLOOD CERTIFICATION DOCUMENTS
- C SUMMARY OF COMMENTS FOR PLANS AND ENVIRONMENTAL ASSESSMENT

FINAL ENVIRONMENTAL ASSESSMENT

I. GENERAL INFORMATION

A. Applicant: Cheryl D. Soon, Director
City and County of Honolulu
Department of Transportation Services (DTS)
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813
(808) 523-4125

B. Approving Agency: Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813

C. Recorded Fee Owners: City and County of Honolulu
Honolulu, Hawai'i 96813

(1) Barbara Maggs A/Trust
2011 Silver CT E
Urbana, Illinois 61801-6330
(217) 367-6410

(2) Dole Food Co., Inc.
Property Management
1116 Whitmore Ave.
Wahiawa, Hawai'i 96786

- (1) Bikeway goes through existing easement on property (Maggs, 6-7-001: 006)
- (2) Bikeway goes through proposed easement on property (Dole Food, 6-7-001: 026 & 6-8-06:010)
Portion of box culvert extension goes through property (Dole Food, 6-7-001: 026)

D. Tax Map Key(s): 6-8-06:010 & 017, Portion of 6-7-001: 006 & 026

E. Project Area: Approximately 4.9 acres

F. Agencies Consulted In Making Assessment:

<i>State of Hawai'i</i>	Department of Health Office of Environmental Quality Control
<i>City and County of Honolulu</i>	Department of Planning & Permitting Site Development Division - Subdivision Branch Civil Engineering Branch Stormwater Quality Branch Land Use Approvals Branch Board of Water Supply Department of Transportation Services Fixed Route Operations Branch
<i>Public Utility Companies</i>	Hawai'ian Electric Company, Incorporated Verizon Hawai'i Oceanic Cable
<i>Public Transportation</i>	Oahu Transit Services (TheBus)
<i>Others</i>	Dole Food Company North Shore Neighborhood Board No. 27 Disability and Communication Access Board Waialua Public Library (Placement)

Appendix C contains a summary of the comments received for this project during the development of the plans and Environmental Assessment.

II. DESCRIPTION OF THE PROPOSED ACTION

A. General Description

(1) Purpose and Need for Project

The bikeway will provide a safe avenue for bicyclists and footpath for pedestrians that can be used as a recreational path or a link between Mokuleia and Waialua. Another project involving realignment of a section of Waialua Beach Road and sidewalk/bikepath improvements fronting Waialua Elementary School and Waialua District Park will connect to the second and third sections of this project. Together these projects will improve safety for pedestrians and bikers, especially children. Access to nearby beaches and parks along Kaiaka and Waialua Bays will also be improved.

Because the project will make use of County funds and land it is subject to the requirements of Chapter 343 Hawai'i Revised Statutes (HRS). DTS has considered the effects of this project and has declared it exempt from Chapter 343 environmental review. The footpath and bikepath located predominately in the existing City and County right-of-way is deemed a "Minor alteration in the conditions of land, water, or vegetation" (exemption class 4). However, because portions of the project fall within the SMA boundary this EA is required per the requirements of Chapter 25, Revised Ordinances of Honolulu.

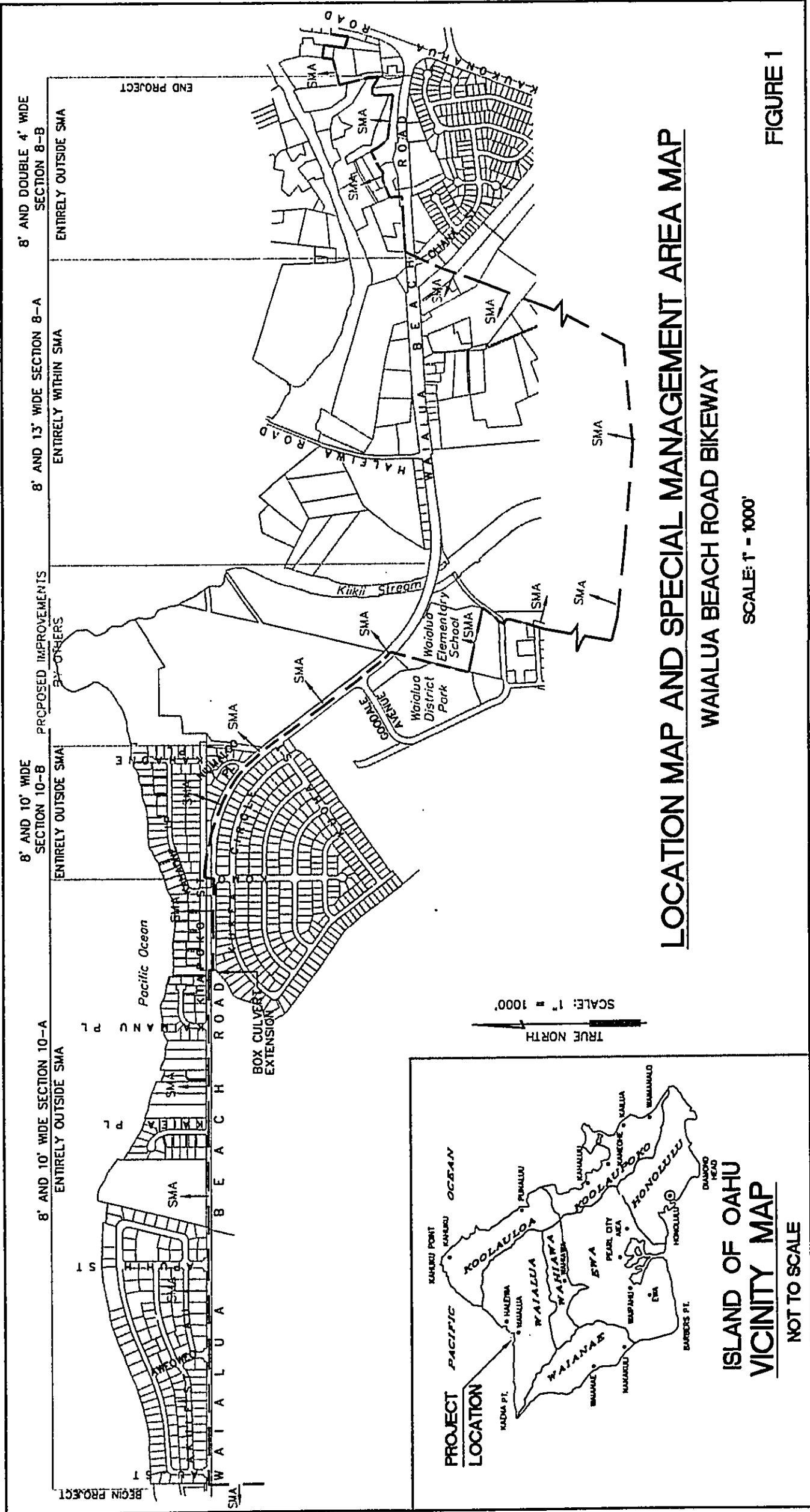
(2) Brief Narrative Description of Proposed Project

The project is comprised of four sections located along the south (Mauka) side of Waialua Beach Road. Pertinent information for these sections is shown below. See figure 1.

Section	Width (ft.)	Length (ft.)	Extent of Section
10-A	8 & 10	5,320	Au St. to Komo St.
10-B	8 & 10	1,337	Komo St. to Kuoha St.
<i>Waialua Beach Road Realignment, Sidewalk/Bikepath (by others)</i>			
8-A	8 & 13 *	2,400	East of Ki'iKi'i Stream to Oliana St.
8-B	8 & double 4 **	1,620	Oliana St. to west of Weed Junction

* The bikeway diverges around utility poles at seven locations in section 8-A. At these locations the bikeway increases to 13 feet wide.

** This section of the bikeway has a section approximately 340 feet in length where it divides into separate 4-foot wide sections.

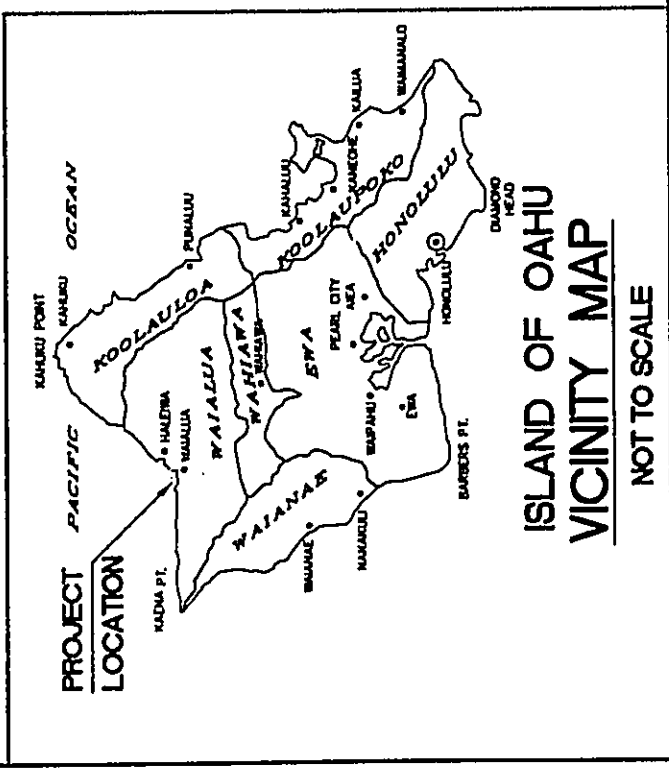


LOCATION MAP AND SPECIAL MANAGEMENT AREA MAP

WAIALUA BEACH ROAD BIKEWAY

SCALE: 1" = 1000'

FIGURE 1



**ISLAND OF OAHU
VICINITY MAP**

NOT TO SCALE



The project also includes retaining walls with railings, fencing, bikeway signage, a box culvert extension, reconstruction of driveways, removal and replacement of guardrails and relocation of underground and surface improvements.

Although the proposed bikeway lies outside of the geographical scope of the *Honolulu Bicycle Master Plan* (April 1999), which covers the urban corridor of Honolulu it is consistent with the plan in terms of its vision:

"Honolulu is a bicycle-friendly city where bicycling is a viable and popular travel choice for residents and visitors of all ages."

The bikeway also conforms to the goals and objectives of the plan:

- To increase the mode share of bicycle trips

In conjunction with the Department of Design and Construction (DDC) sidewalk/bikepath and roadway improvements project fronting Waialua District Park and Elementary School this project provides a continuous avenue for bicyclists and pedestrians between Mokuleia and Weed Junction.

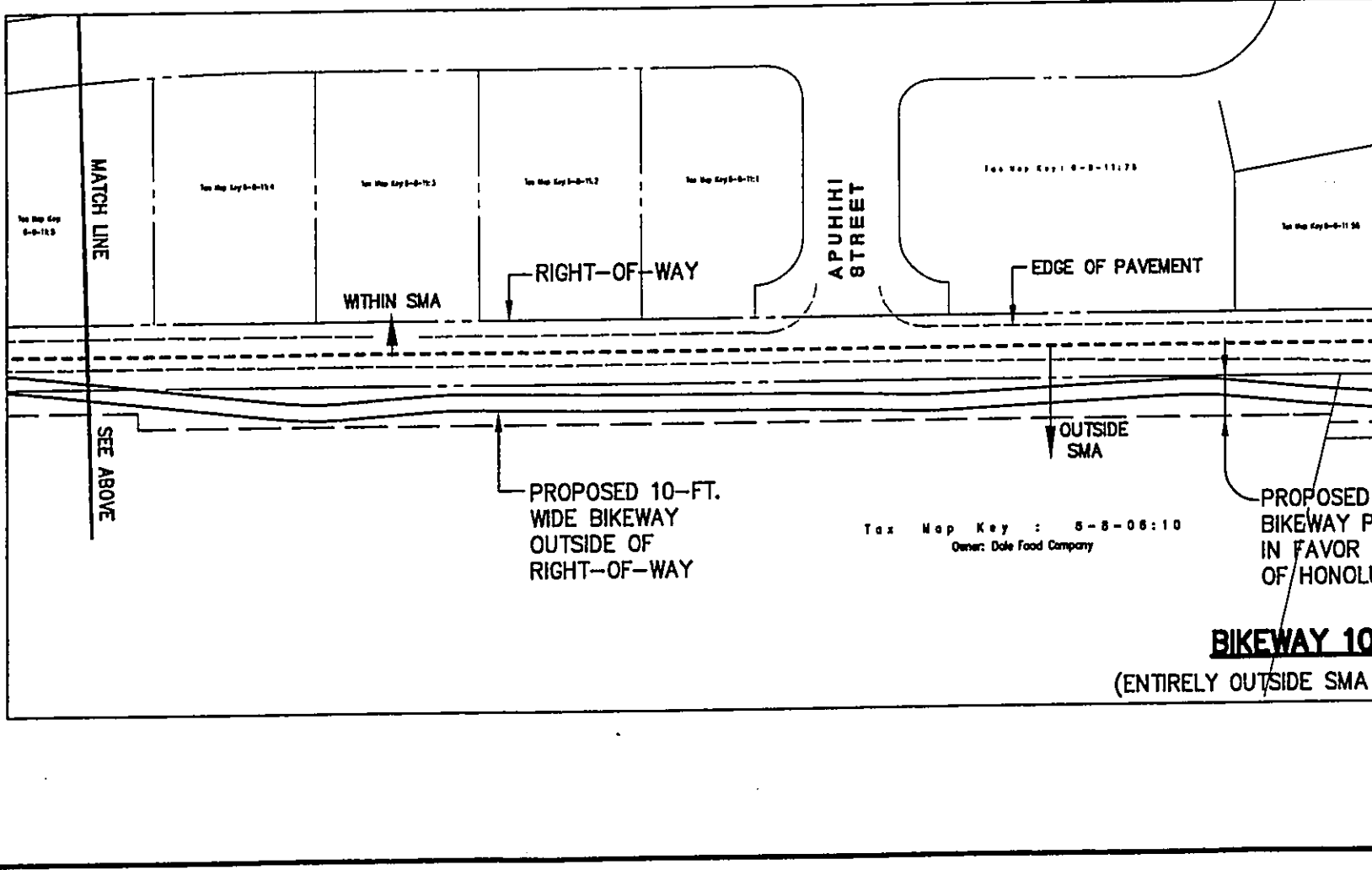
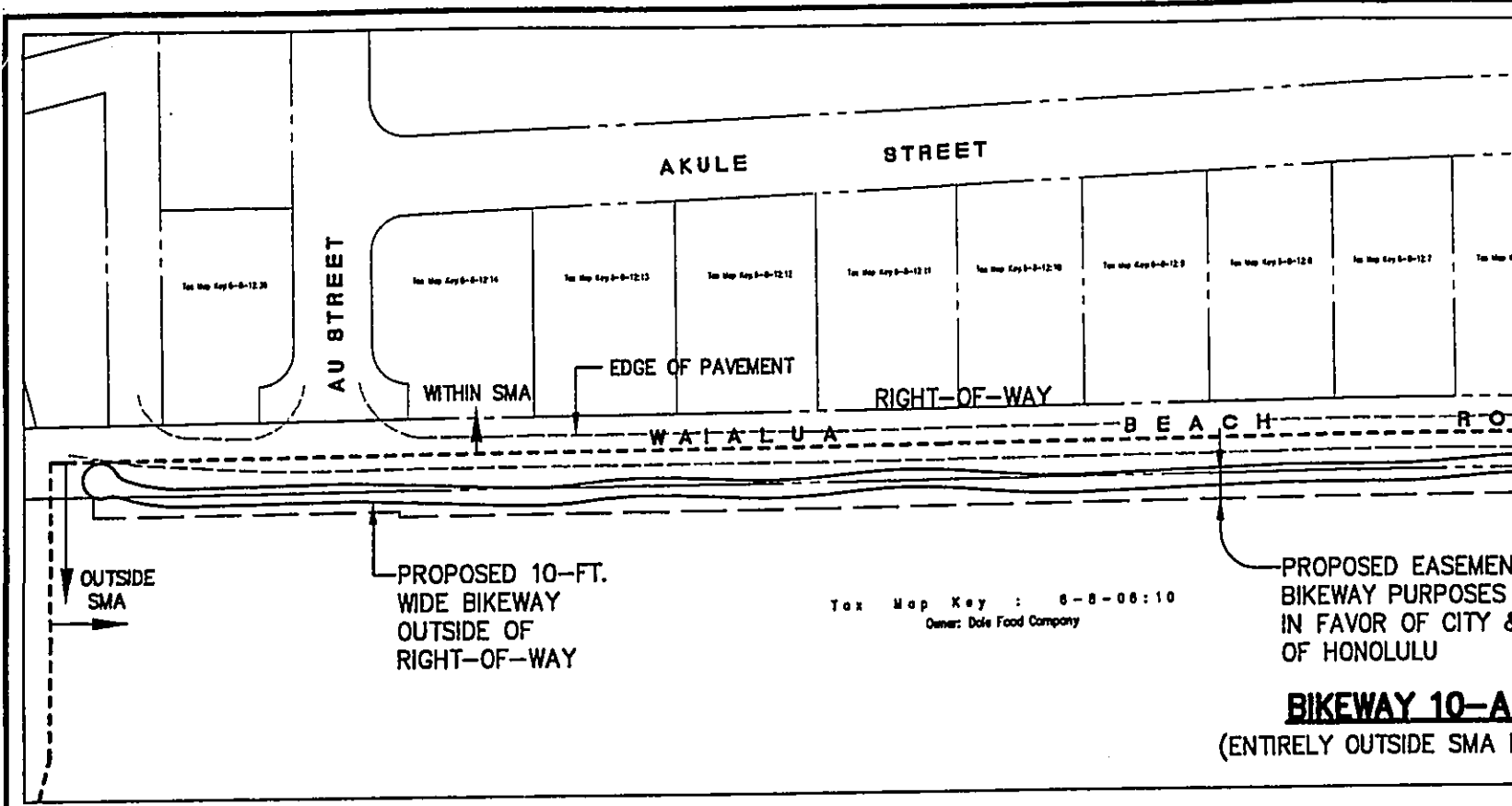
- To encourage bicycling as a safe, convenient, and pleasurable means of transportation

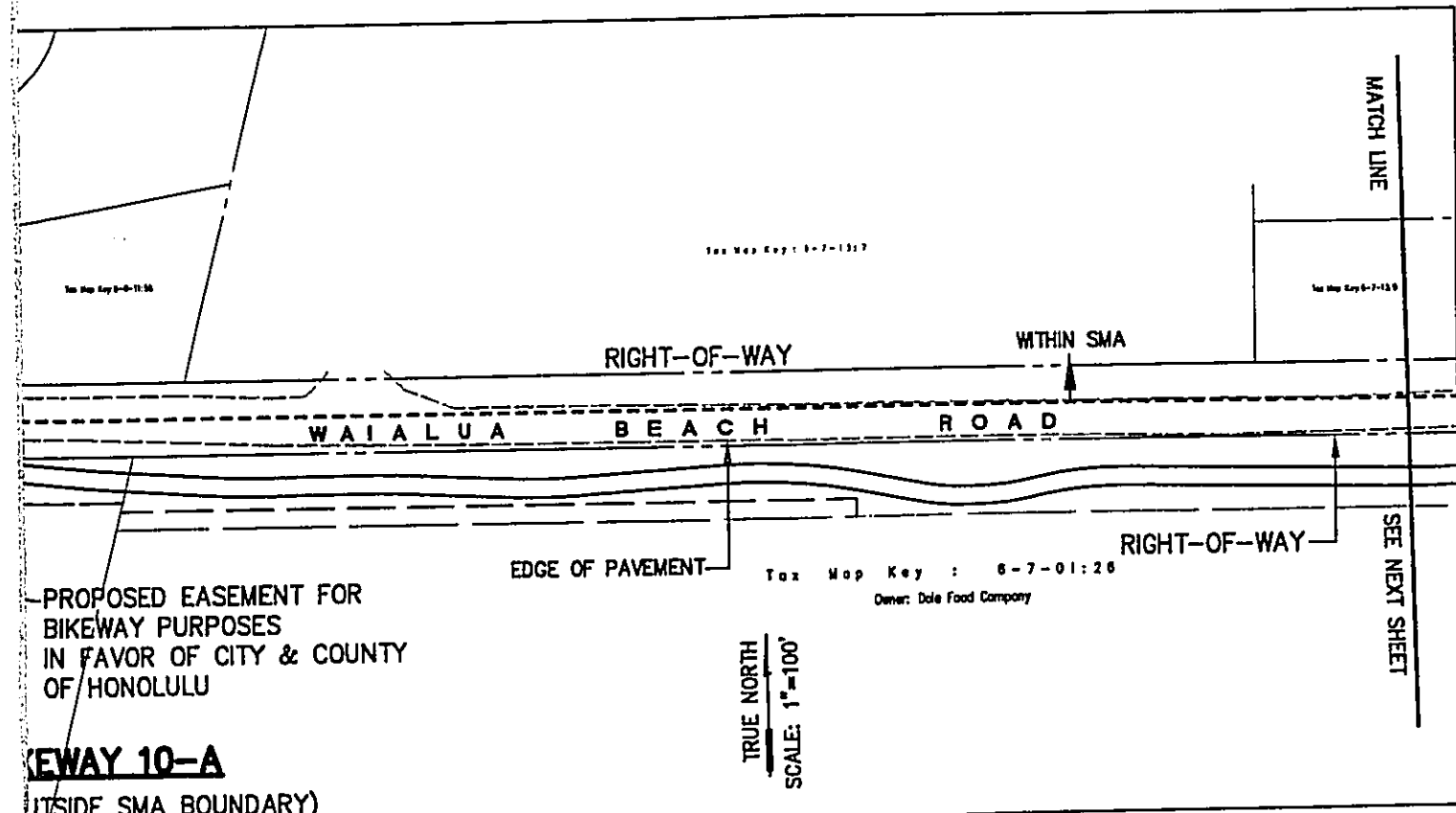
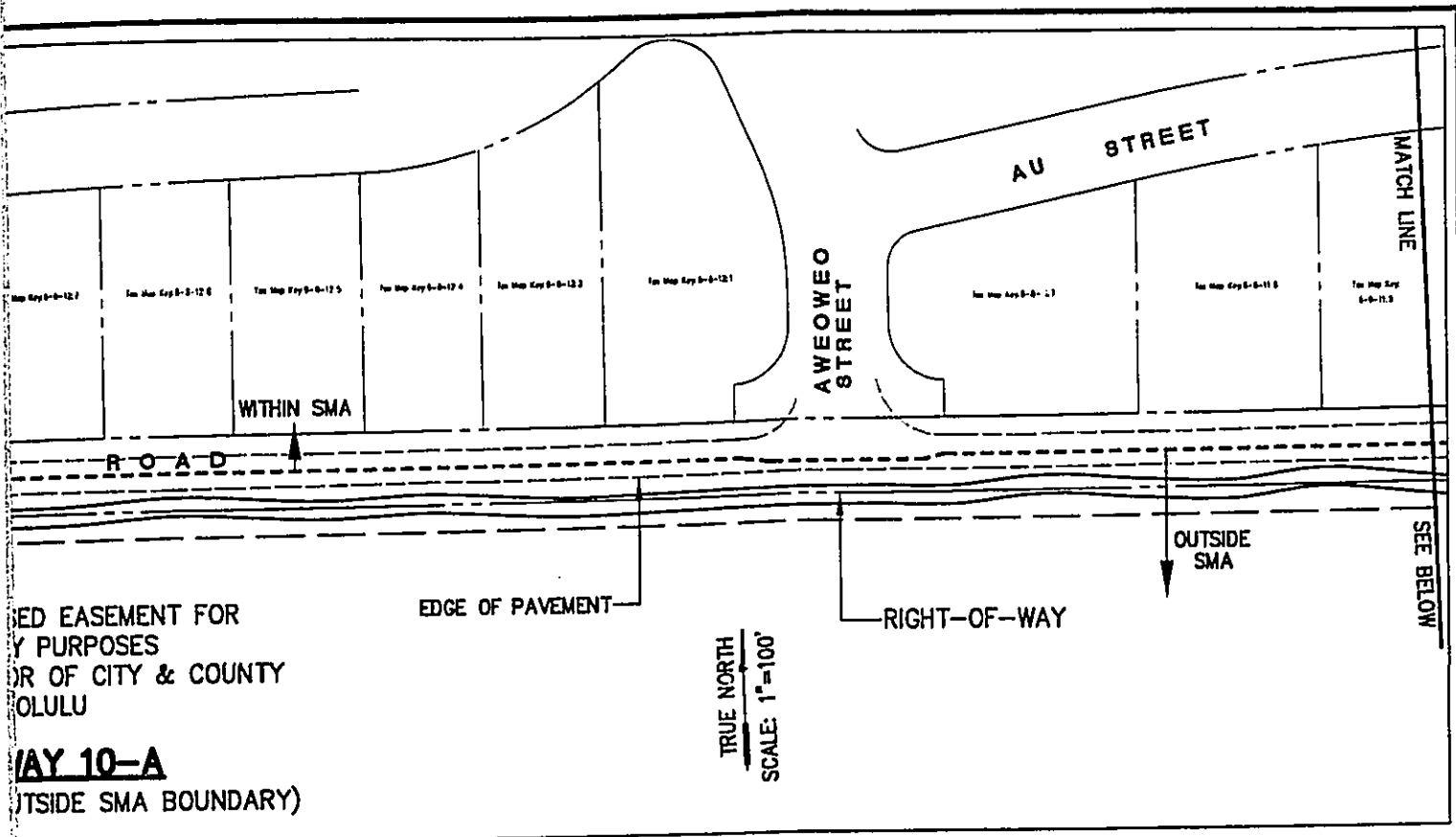
The bikeway is relatively flat, physically separated from Waialua Beach Road and along a bus route providing a safe, convenient and pleasurable experience for residents and tourists alike.

(3) Relation to SMA Boundary

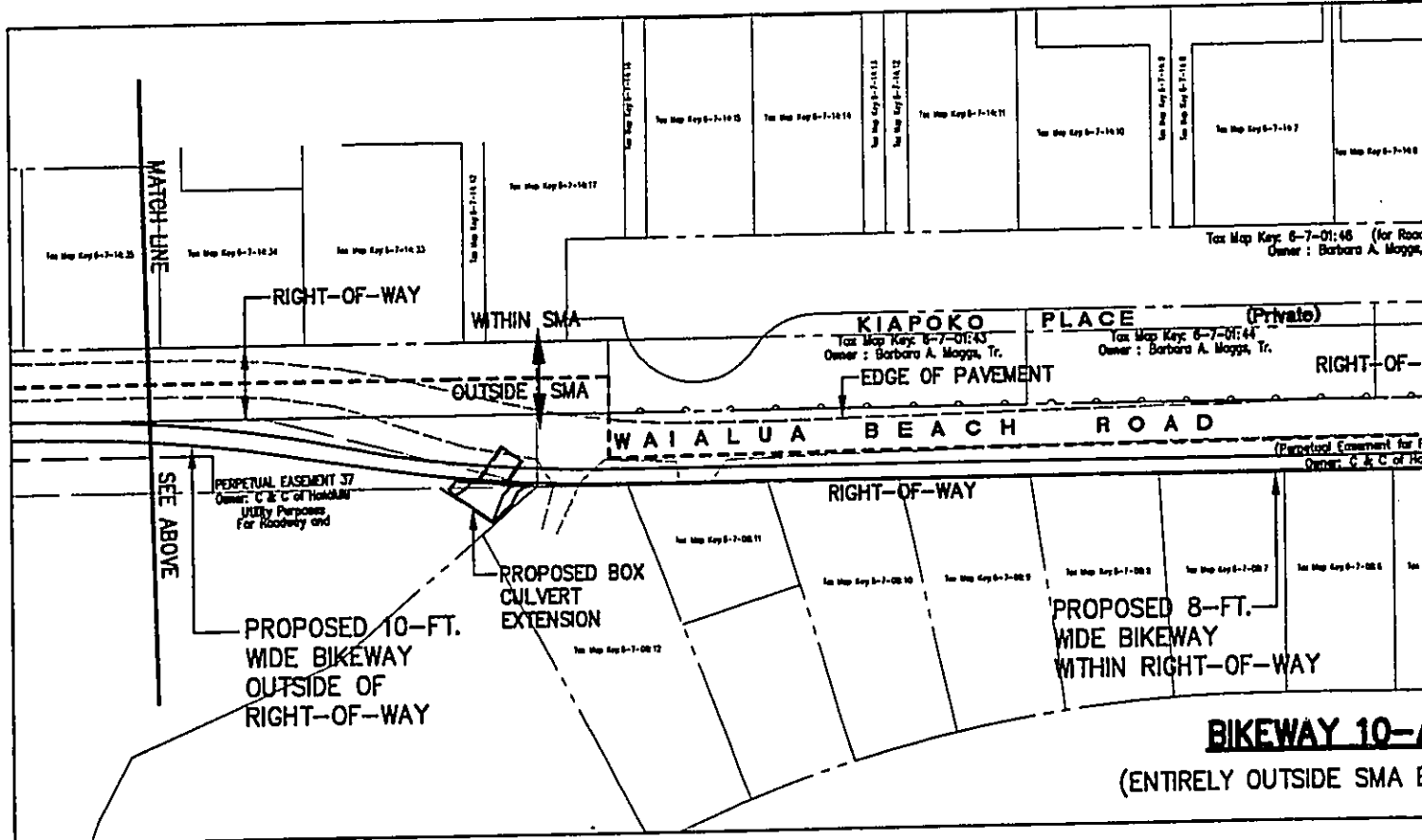
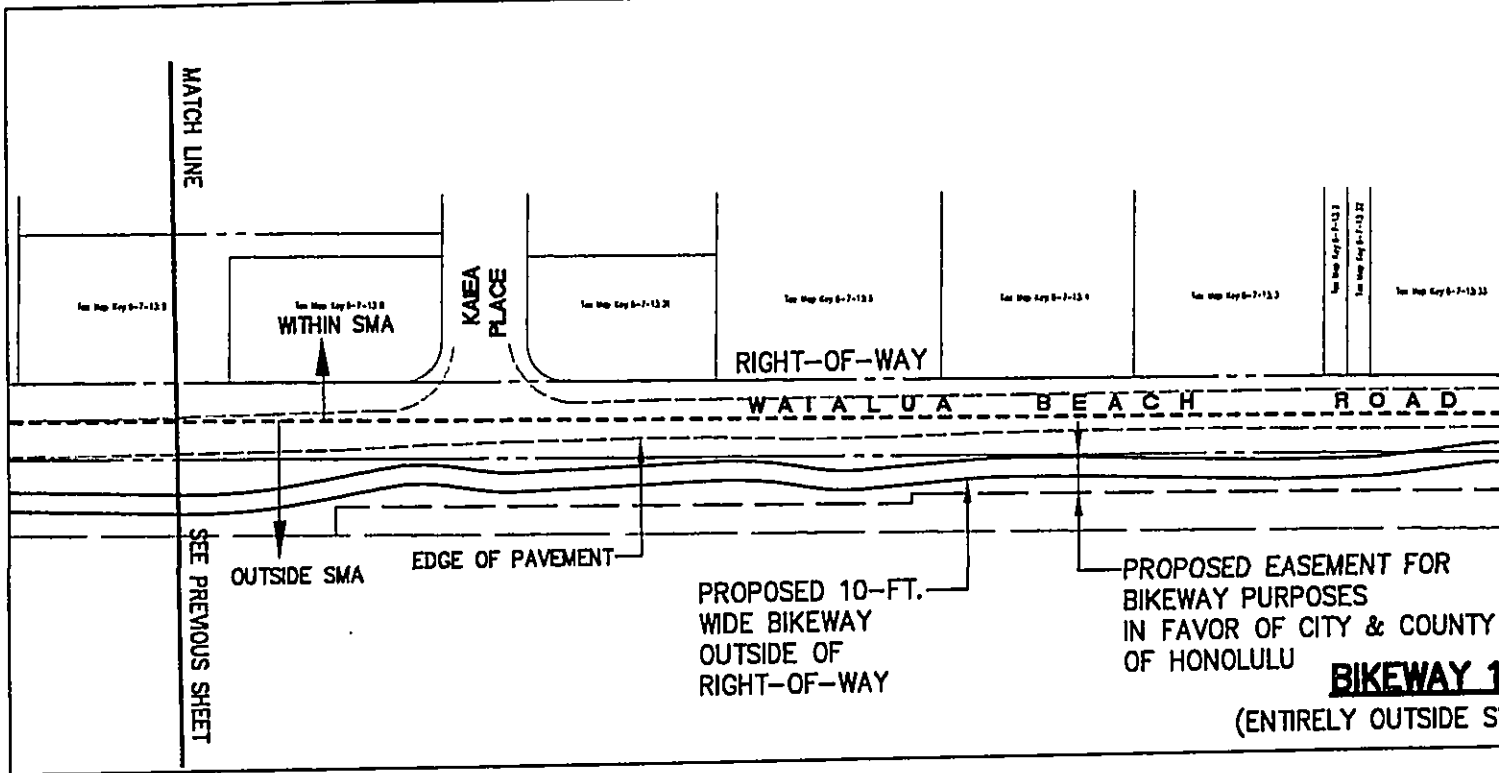
The first two and last segments of the project, sections 10-A, 10-B and 8-B are entirely outside the SMA boundary. The boundary generally follows the centerline of the road right-of-way and then extends in a southerly (inland) direction towards Kukea Circle past the proposed box culvert extension. The last 800 feet of bikeway section 10-A lies between the SMA boundary and residential properties along Kukea Circle. At the Komo Street intersection where section 10-B starts, the SMA boundary extends in a northerly direction (towards Kiapoko Street) for about 80 feet and then returns to the centerline of the road right-of-way about 500 feet east of Komo Street.

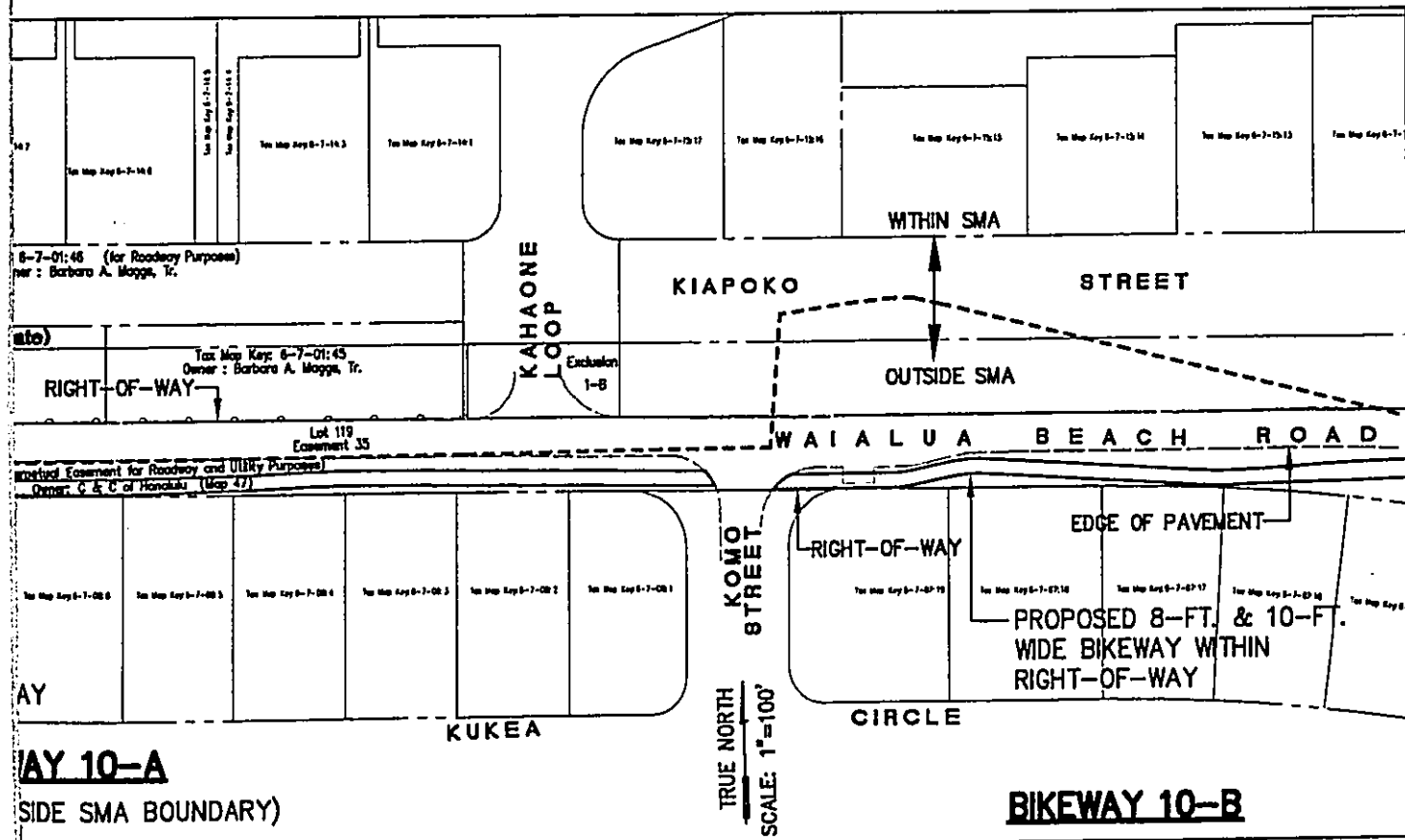
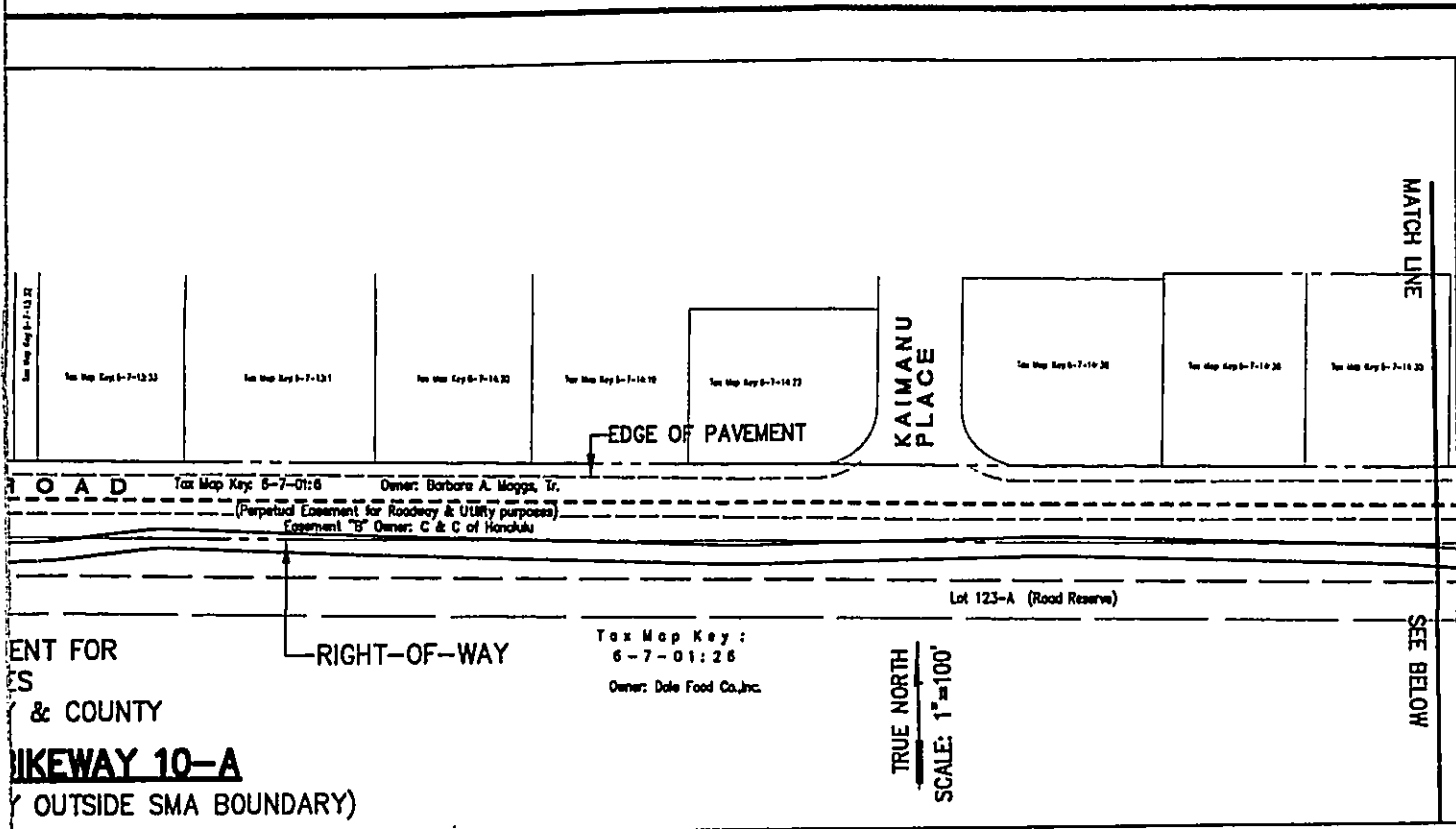
Between Waialua Elementary School and Oliana Street the SMA boundary moves inland and encompasses the entire third segment of the bikeway, section 8-A. Section 8-A starts east of Ki'iKi'i Stream and extends to Oliana Street. Section 8-B is entirely outside the SMA boundary. See figures 2A, 2B and 2C and Appendix A.



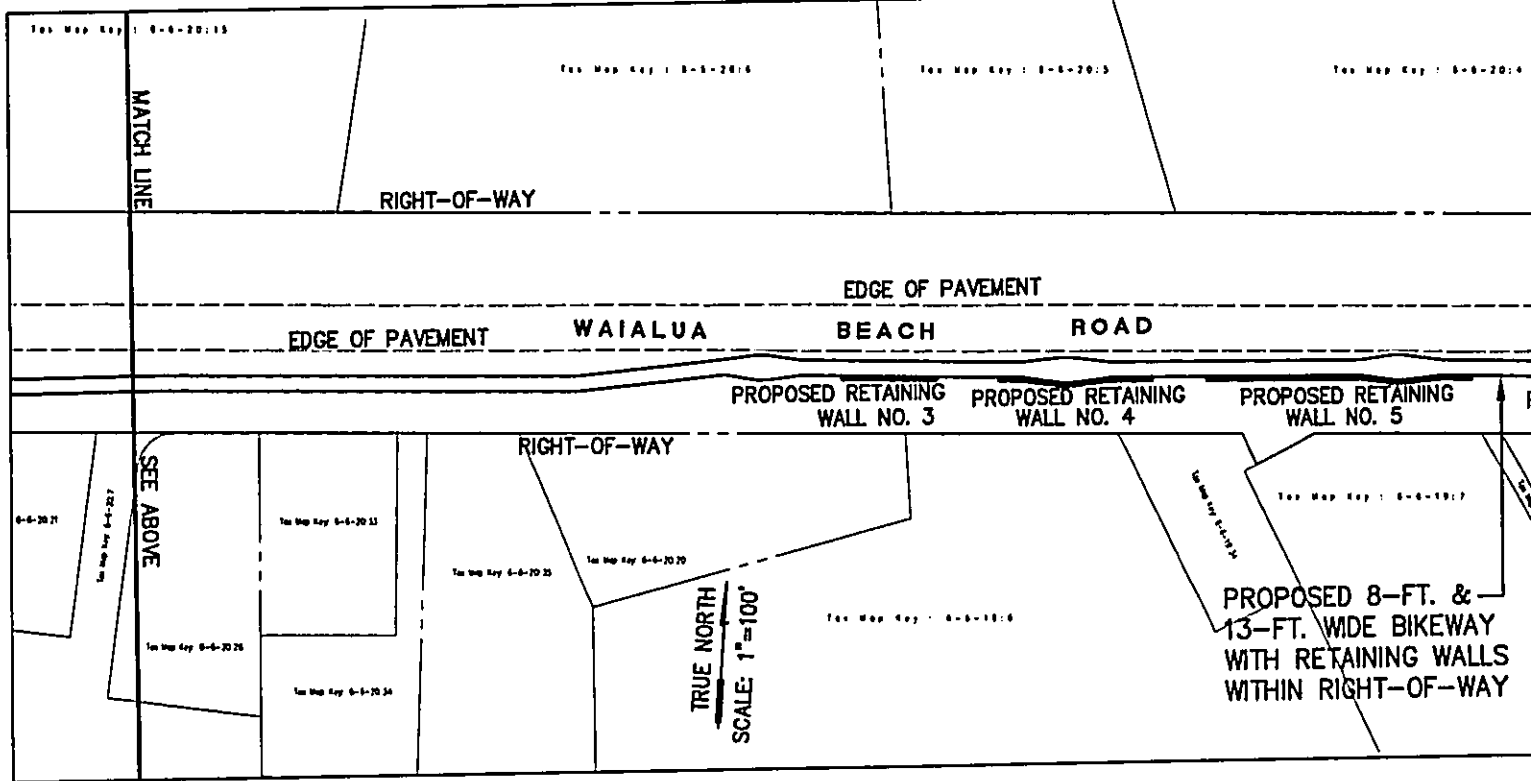
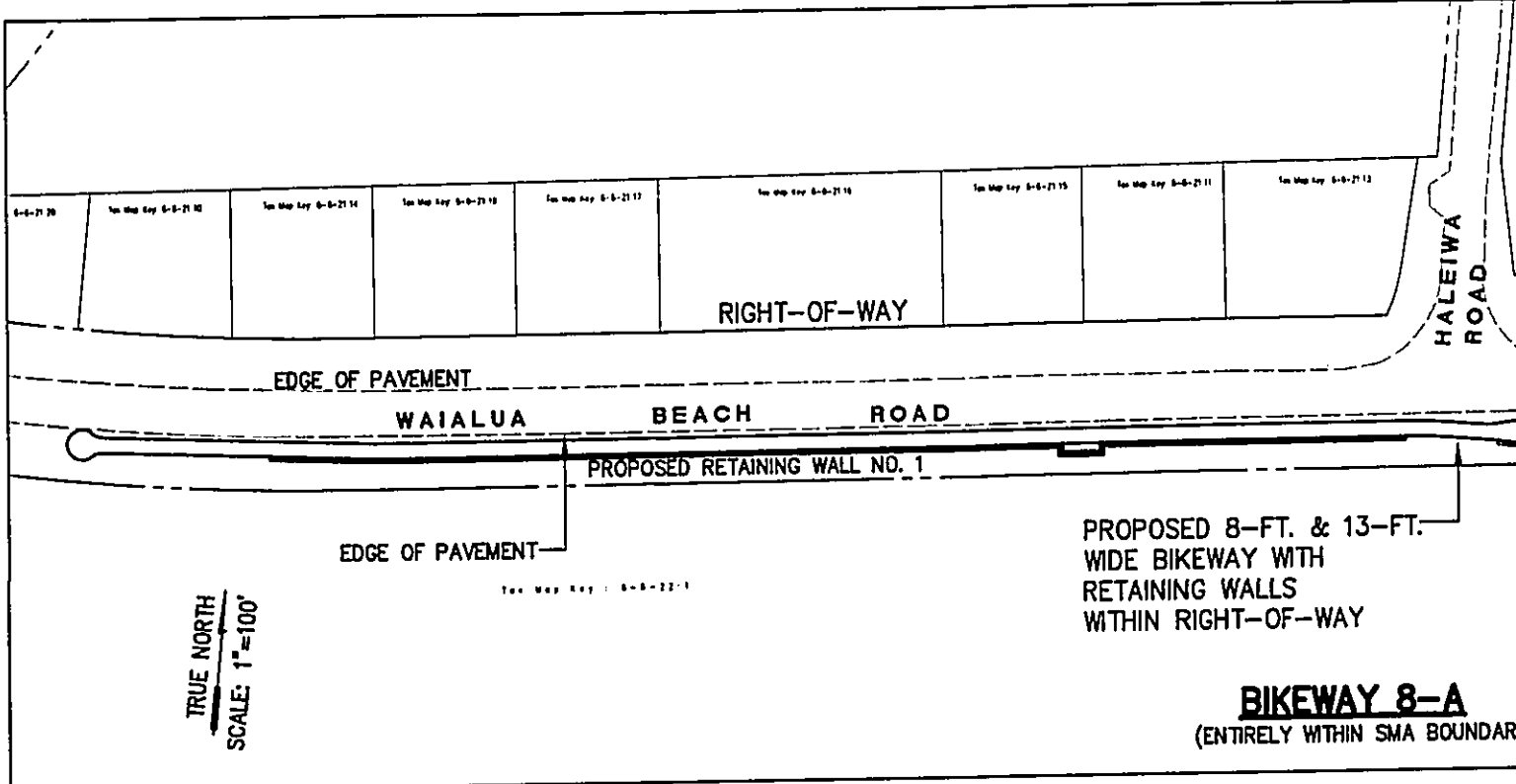


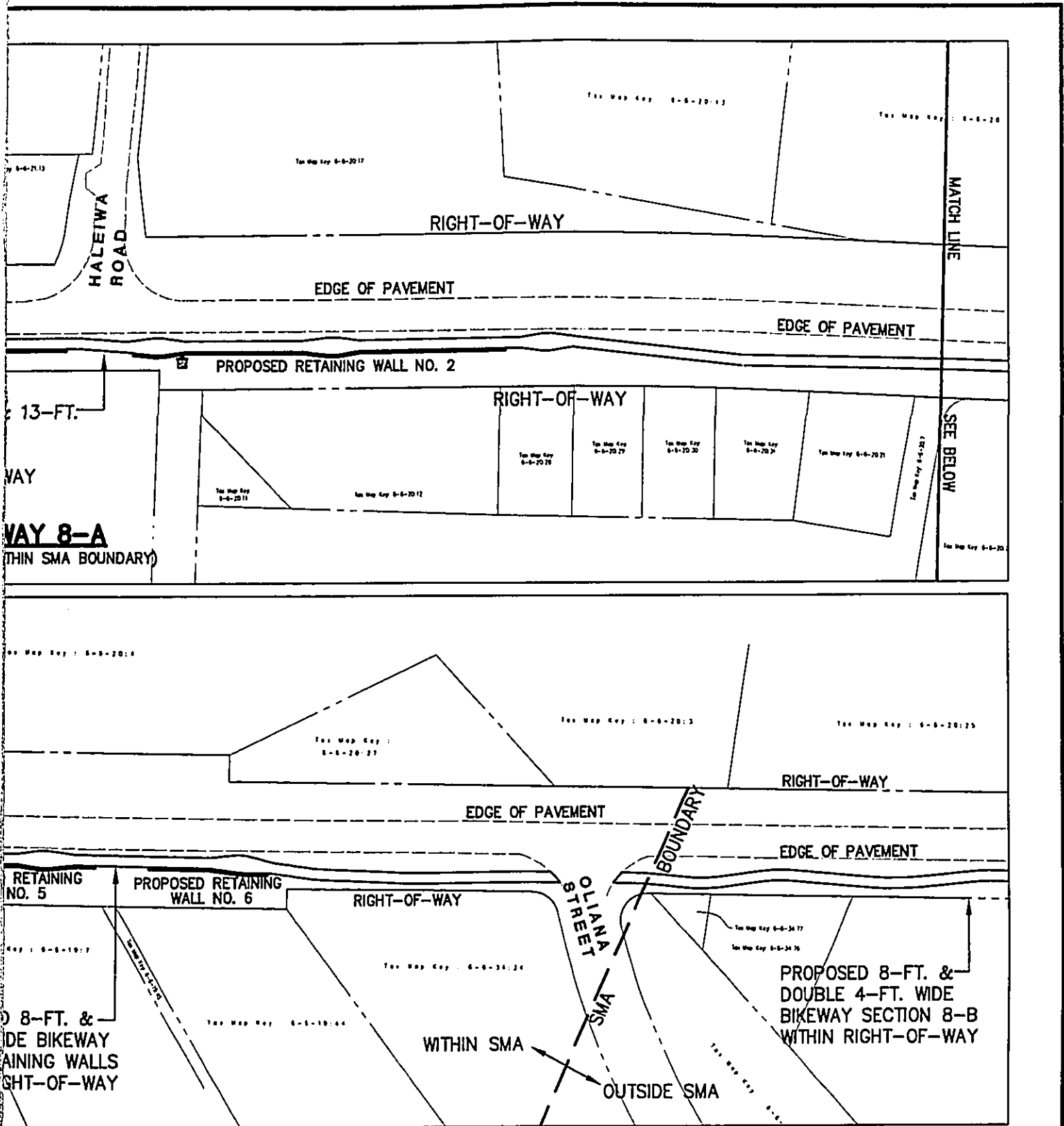
PROPOSED PROJECT RELATIVE TO SMA &
 EXISTING ROAD RIGHT-OF-WAY FIGURE 2A





PROPOSED PROJECT RELATIVE TO SMA & EXISTING ROAD RIGHT-OF-WAY FIGURE 2B





BIKEWAY 8-B
(ENTIRELY OUTSIDE SMA BOUNDARY)

PROPOSED PROJECT RELATIVE TO SMA & EXISTING ROAD RIGHT-OF-WAY **FIGURE 2C**

(4) Location Map

See figure 1.

(5) Land Use Approvals Granted and/or Approvals Required

Authority	Permit / Approval Required
Department of Planning & Permitting	Grubbing, Grading & Stockpiling Permit
Department of Planning & Permitting	Building Permit for Bikeway / Driveway, demolition work
Department of Planning & Permitting	Permit to excavate public right-of-way
Department of Health	Variance from Pollution Controls
Department of Health	Noise Permit or Variance

Note: Sections 10-A, 10-B and 8-B of the bikeway are entirely outside the SMA boundary. Section 8-A and six (6) retaining walls are entirely within the SMA, but will be constructed within the existing road right-of-way. See Figures 1,2 and Appendix A plans.

B. Technical Characteristics

(1) Use Characteristics

The bikeway is intended to be a two-directional path for bicyclists and pedestrians. Bicycle traffic and pedestrian use is not expected to be heavy. The horizontal and vertical alignment will allow safe and frequent passing opportunities for bicyclists. The bikeway is also suitable for disabled or handicap accessibility. The seven locations along bikeway 8-A in which the pathway increases from 8 feet to 13 feet wide provides adequate room for bicyclists to maneuver around existing utility poles. A segment of bikeway 8-B was divided into two separate 4-foot wide sections to minimize the height of the retaining wall adjacent to the bikeway while providing adequate separation from Waialua Beach Road.

(2) Physical Characteristics

The bikeway meanders along the south side of Waialua Beach Road with about 2-1/2 to 3 feet separation from the road edge of pavement. To set the horizontal alignment, existing features along the road such as poles, guy wires, utility boxes, walls and trees were avoided, where possible. Relocation of structures where avoidance was not possible is called out in the plans. The profile of the bikeway generally follows the existing flat terrain of the area with most of the grades less than 1%. Towards the end of the project the bikeway grades approach 3.5%. The bikeway will be constructed of asphalt concrete (a.c.) over a base course layer and will be bordered by reinforced concrete headers on both sides, except at retaining wall sections where the wall will act as a header on the south side of the bikeway. The bikeway will have a 2% cross slope, either sloped towards the road or away from the road depending on existing natural drainage patterns. The bikeway profile was set to match or be slightly higher than the grades of twenty-nine (29) driveways that it will intersect. These driveways will be reconstructed with asphalt concrete, concrete or coral/crushed rock. A total of seven (7) retaining walls will be required along the last two sections of the bikeway that run alongside narrow gullies located south of the road. These walls will be the segmental type and range in length from 50 to 600 feet and height from 4 to 9 feet.

(3) Construction Characteristics

Construction of the bikeway will require removal, adjustment and/or relocation of existing vegetation and structures within the right-of-way. These include shrubbery, trees, Hawai'ian Electric and Verizon Hawai'i guy wires and utility boxes, water meters, mailboxes and guardrails. Verizon Hawai'i will relocate one pole and attached wires. Approximately 2,720 cubic yards of excavation and 1,270 cubic yards of embankment will be required.

An existing box culvert and drainline will be extended to accommodate the bikeway. Two bus stops (with benches) will also be relocated onto new asphalt concrete pads.

(4) Utility Requirements

Facilities owned by the various utility companies will be adjusted or relocated in accordance with applicable standards and requirements of those utility companies. The Contractor will be responsible for contacting and coordinating utility work with Hawai'ian Electric, Verizon Hawai'i and Waialua Sugar Company as specified in the plans. Utility poles currently owned by Waialua Sugar Company will eventually be taken over by HECO.

(5) Liquid Water Disposal

Not applicable

(6) Solid Waste Disposal

Not applicable

(7) Access to Site

The project site is readily accessible from Waialua Beach Road, which can be reached by turning west at Weed Junction from Kaukonahuna Road. Waialua Beach Road can also be reached by traveling south on Haleiwa Road. During construction, a number of coarse gravel entries will allow ingress and egress for heavy equipment. These entries are specified in the erosion control plans.

(8) Other Pertinent Information

A standard City and County of Honolulu 6-foot high chain link fence will be provided from the beginning of the project to just before the box culvert extension. The fence will be installed within the proposed bikeway easement and provide separation between the bikeway and adjacent Dole Food land. Appropriate signing, striping and pavement markers will be provided to guide bikeway users. A bicycle railing will be installed on the retaining walls to provide a measure of safety for bikeway users. A 6-inch high asphalt header will also be installed adjacent to Waialua Beach Road at appropriate locations to replace removed guardrails.

C. Economic and Social Characteristics

Estimated construction cost for the project is \$2.3 million. Construction is tentatively scheduled to start in 2003 and end in 2004. The vertical alignment of the bikeway was set to match or be slightly higher than driveways crossed by the bikeway to preclude the need to make major changes to those driveways. These driveways will be reconstructed or resurfaced. No residences or business establishments will be displaced as a result of this project.

D. Environmental Characteristics

(1) Soils

Existing soils in the project site are Fill Land (Fd), Jaucas Sand (JaC), Waialua Silty Clay (WkA), and Haleiwa Silty Clay (HeA). Fill Land consists mostly of areas filled with bagasse and slurry from sugar mills or material from dredging or excavations from adjacent uplands. The Jaucas Sand series consists of excessively drained

calcareous soils with flat slopes to 15%. Permeability is rapid and runoff is very slow to slow. Waialua Silty Clay soils occur on smooth coastal plains on slopes from flat to 3 percent. It has moderate permeability and slow runoff. Haleiwa Silty Clay occurs on alluvial fans and in drainageways, on slopes from flat to 2 percent. They have moderate permeability and very slow runoff. ("Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawai'i" Soil Conservation Service).

(2) Topography

Existing ground along the centerline of the first three sections of the bikeway is relatively flat with cross slopes varying between 1% and 6%. Excavation through an existing embankment between the bikeway and the Dole Food property to the south will be required in the first section of the bikeway.

After crossing the Haleiwa Road intersection the existing ground along the bikeway centerline increases to about 3.3% with cross slopes up to 42%. A series of narrow gullies, about 4 to 8 feet in depth lie to the south of the last two sections of the proposed bikeway alignment.

The Pacific Ocean is about 300 feet north of the proposed bikeway. Kiiiki Stream lies about 440 feet west of the beginning of the third section of the bikeway. An irrigation ditch crosses under Waialua Beach Road about 470 feet past the Kaimanu Place intersection where the box culvert will be extended.

(3) Surface Runoff, Drainage and Erosion Hazard

Along most of the proposed bikeway there is no existing drainage system for collecting and transporting stormwater runoff away from the project site. Runoff currently sheet flows off the existing pavement and surrounding ground, not following any consistent flow pattern and collecting in low spots adjacent to the roadway.

Along Section 8-A, east of the Haleiwa Road intersection flows are conveyed in a northerly direction through a series of drainlines that cross under Waialua Beach Road. To the extent possible natural drainageways along the bikeway will be retained. Existing storm water systems near the project area, like much of the north shore does not meet current City Drainage Standards (North Shore Sustainable Communities Plan).

The existing soil types on the project site are Fill Land (Fd), Jaucas Sand (JaC), Waialua Silty Clay (WkA) and Haleiwa Silty Clay (HeA). The following data was extracted from *Rules Relating to Soil Erosion Standards and Guidelines for the City and County of Honolulu*, April 1999 as part of the Erosion Control Plan prepared for this project: Soil erodibility factor (K), Hydrologic Group and Erosion Resistance Group.

Fd	K=0.10, T=1 tons/ac/yr., Hydrologic Group – C, Erosion Resistance Group - N/A
JaC	K=0.10, T=5 tons/ac/yr., Hydrologic Group – A, Erosion Resistance Group – IV, Slight water erosion hazard, Wind erosion is severe in areas where vegetation is removed
HeA	K=0.17, T=5 tons/ac/yr., Hydrologic Group – B Erosion Resistance Group – II, Erosion hazard no more than slight
WkA	K=0.28, T=5 tons/ac/yr., Hydrologic Group – B Erosion Resistance Group – III, Erosion hazard no more than slight

(4) Federal FIRM Zone, LUO Flood Hazard, Other Geologic Hazards

A significant portion of the proposed bikeway will be constructed in flood zones designated by the Federal Emergency Management Agency (FEMA). These flood zones as they pertain to the bikeway are listed below and shown in Figures 3 and 4.

Special Flood Hazard Areas inundated by 100-year flood

Zone A: No base flood determined

Zone AE: Base flood elevations determined

Zone AEF: Floodway areas in Zone AE

Zone VE: Coastal flood with velocity hazard (wave action), base flood elevations determined.

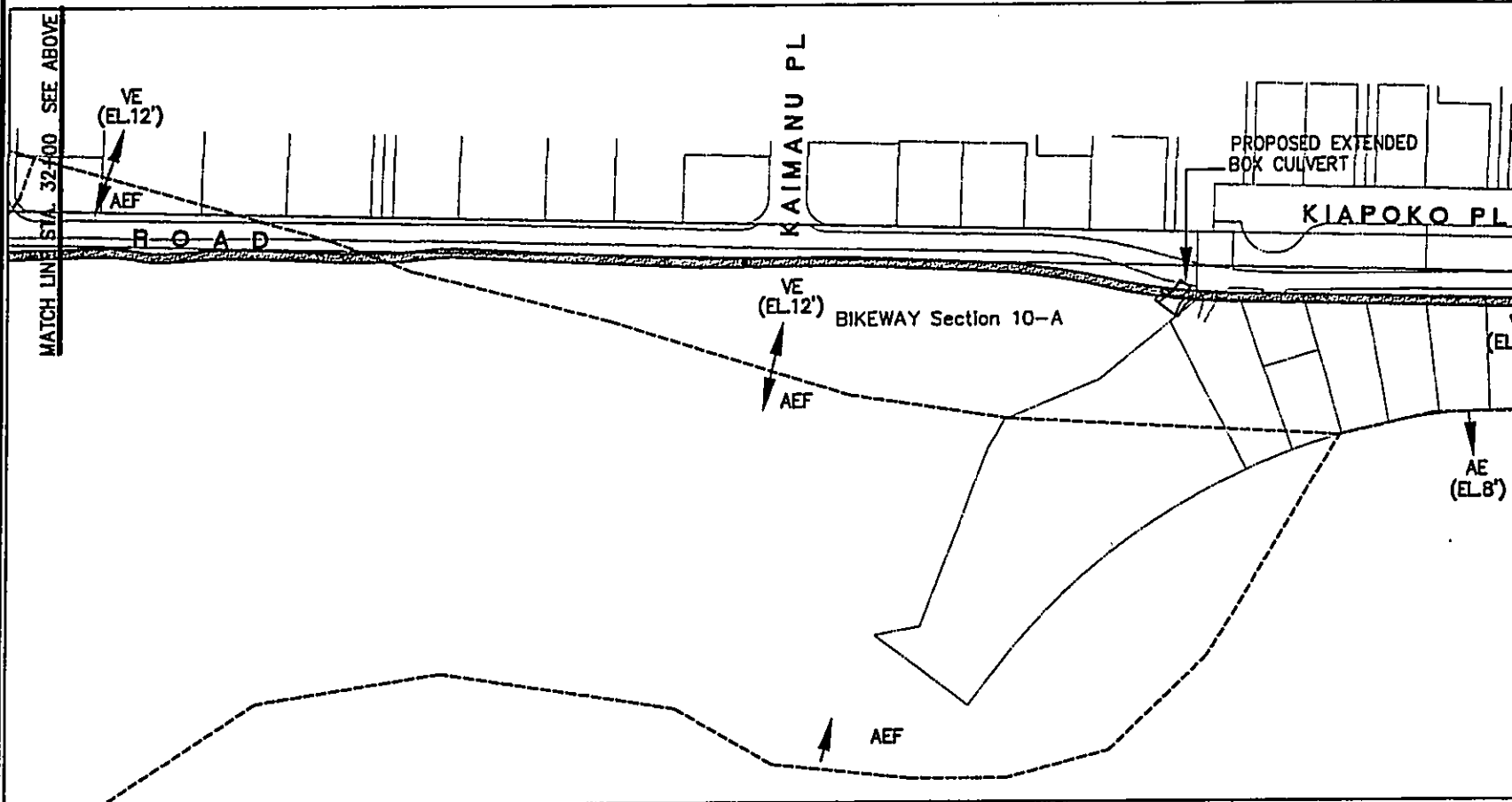
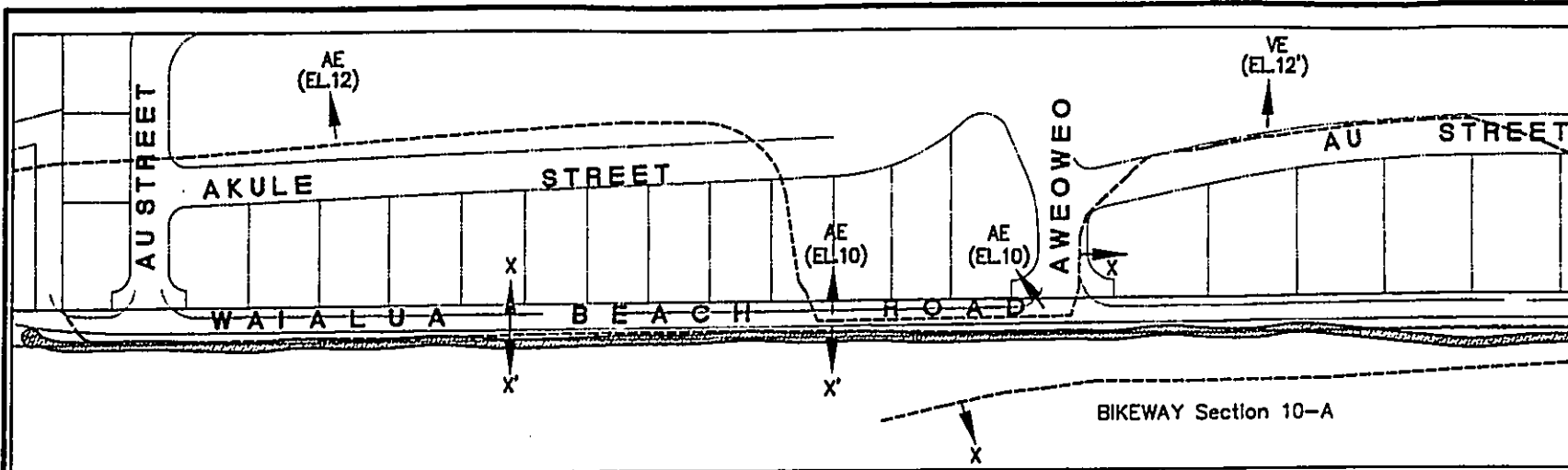
Other Flood Areas

Zone X: Areas of 500-year Flood; Areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and areas protected by levees from 100-year flood.

Zone X': Areas determined to be outside of 500-year Floodplain

Bikeway (Section 10-A)

East of the Apuhihi intersection to Kaiea Place the bikeway falls within zones X and AE8'. From the Kaiea Place to Komo Street intersections the bikeway crosses zones AEF and VE12'.

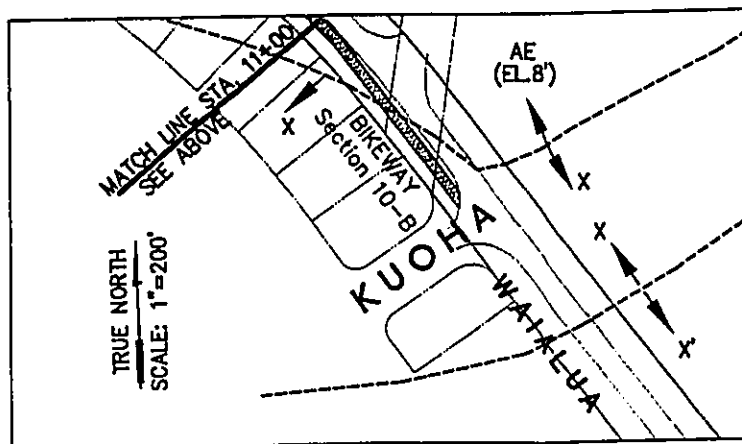
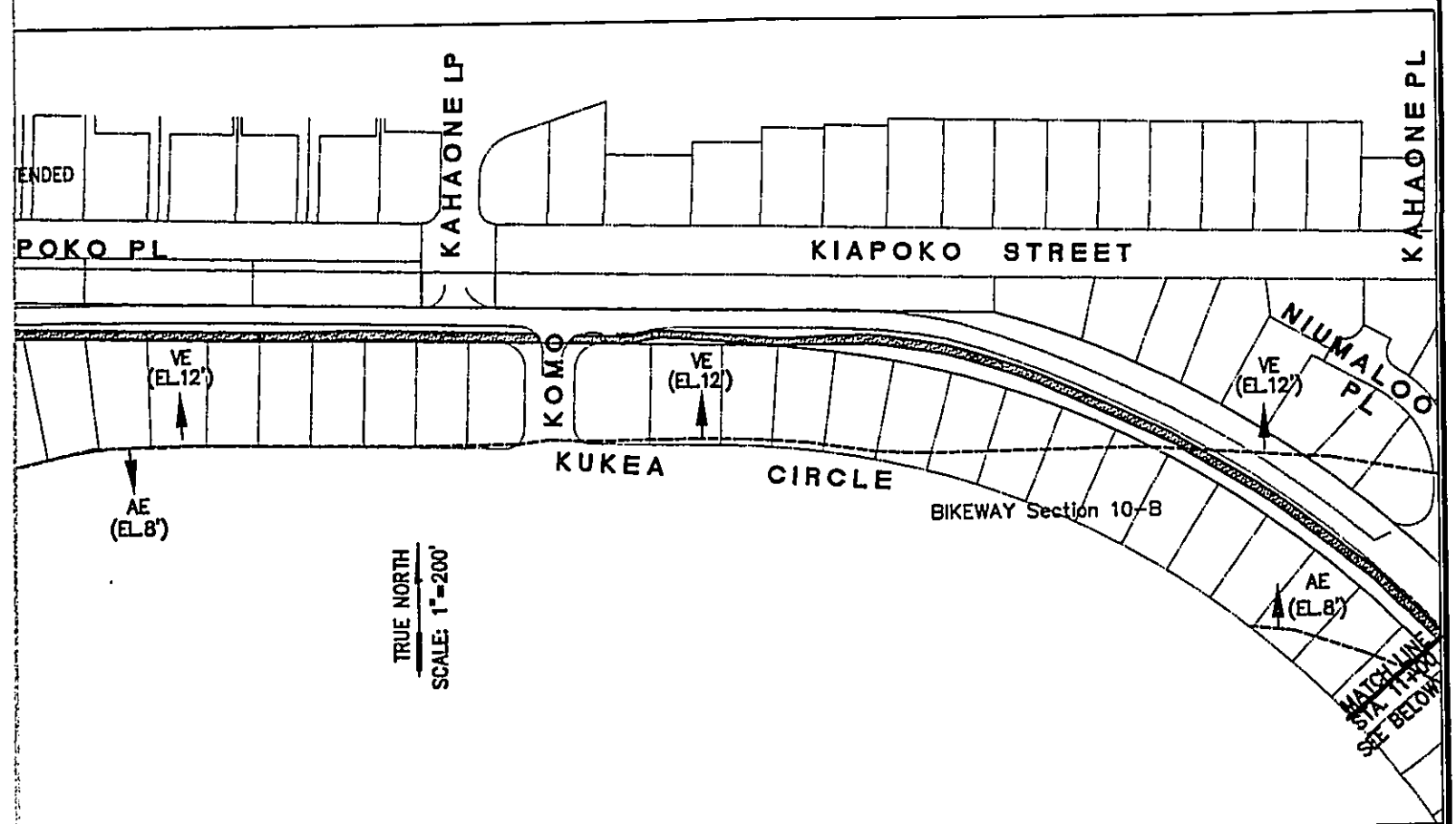
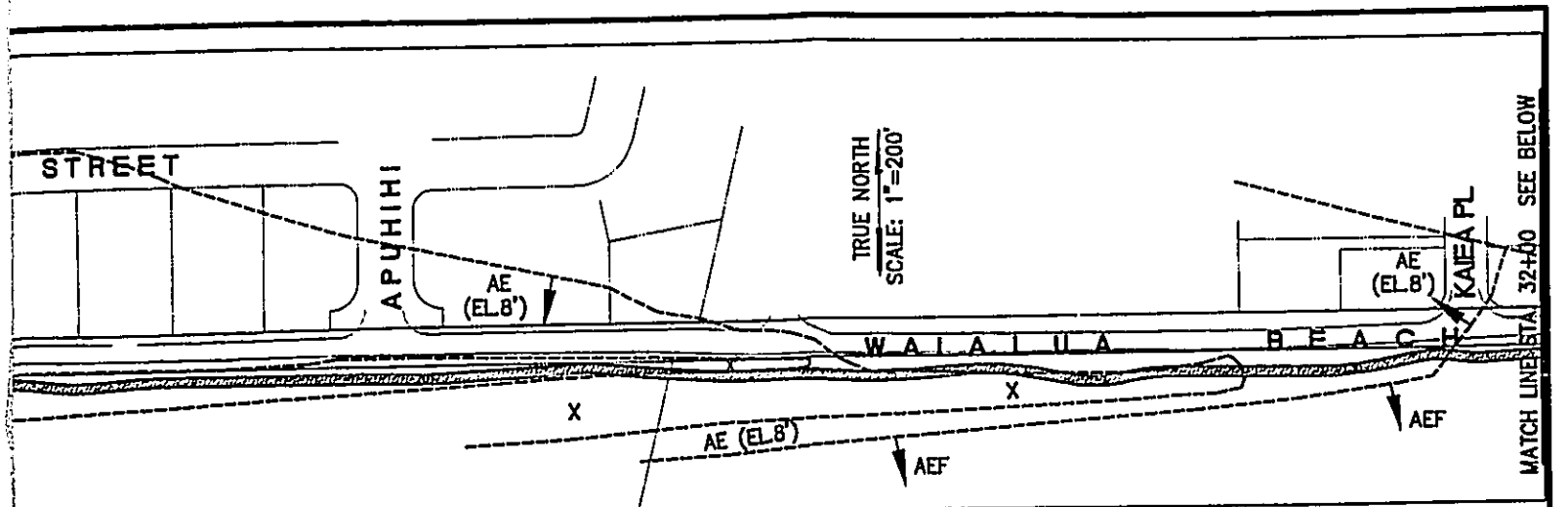


SOURCE: FEMA FLOOD INSURANCE RATE MAP NO. 15003C0105 E DATED 11/20/00

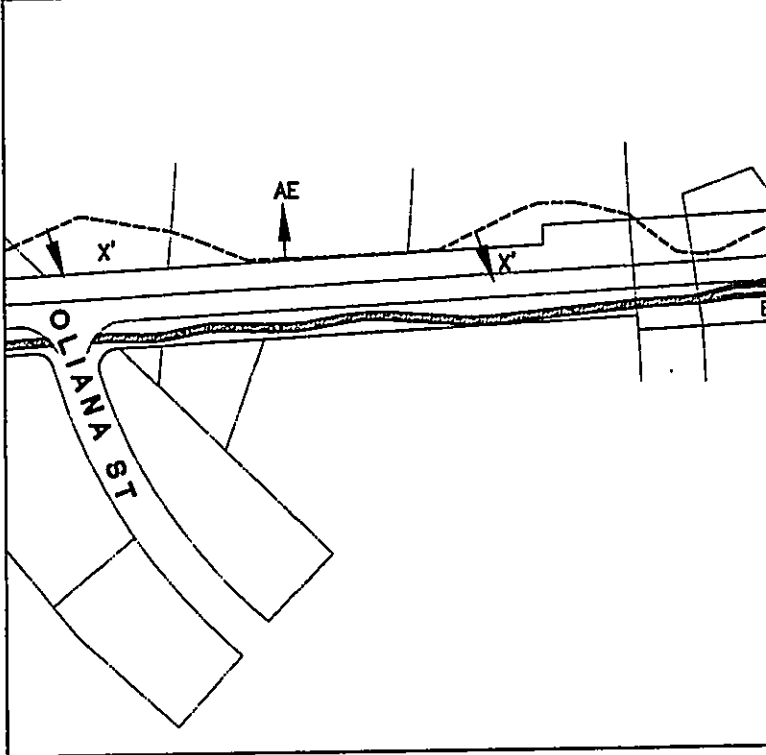
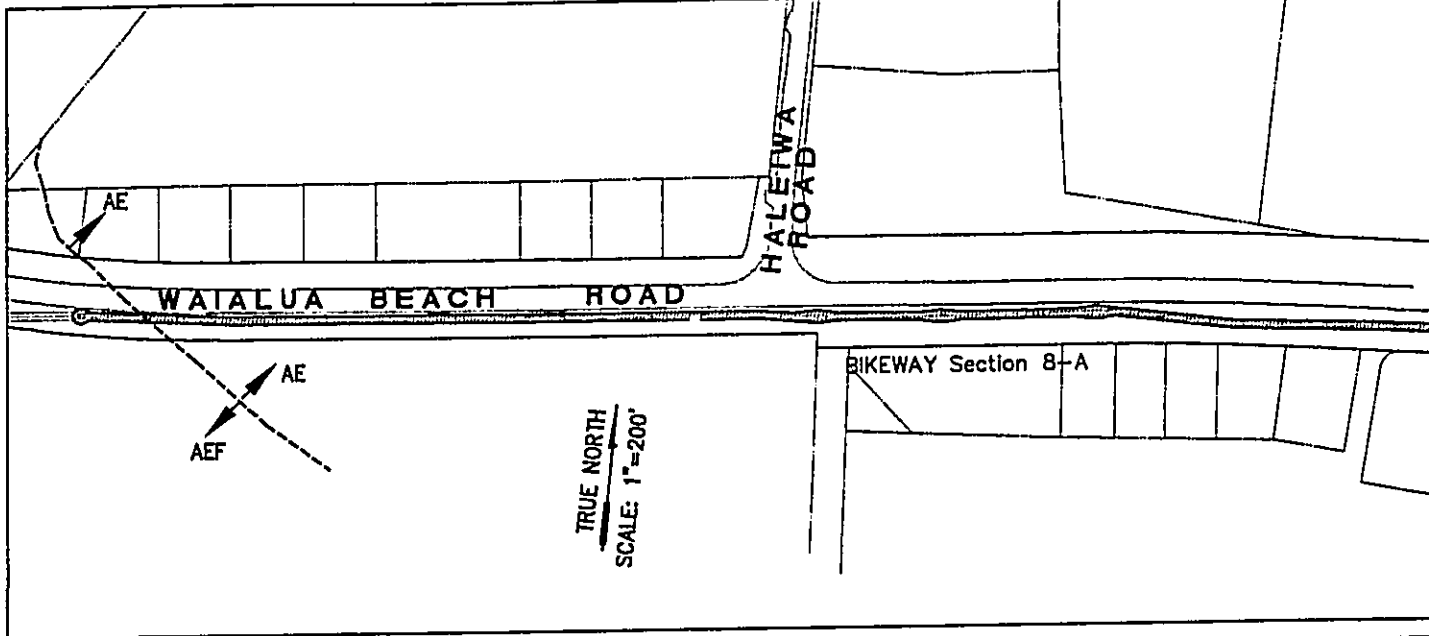
LEGEND

**SPECIAL FLOOD HAZARD AREAS
INUNDATED BY 100-YEAR FLOOD**
 ZONE AE - BASE FLOOD ELEVATIONS DETERMINED
 ZONE AEF - FLOODWAY AREAS IN ZONE AE
 ZONE VE-- COASTAL FLOOD WITH VELOCITY HAZARD
(WAVE ACTION); BASE FLOOD ELEVATIONS
DETERMINED

OTHER FLOOD AREAS
 ZONE X - AREAS OF 500-YEAR FLOOD;
 AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS
 OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS
 THAN 1 SQUARE MILE; AND AREAS PROTECTED
 BY LEVEES FROM 100-YEAR FLOOD
 ZONE X' - AREAS DETERMINED TO BE OUTSIDE
 500-YEAR FLOODPLAIN



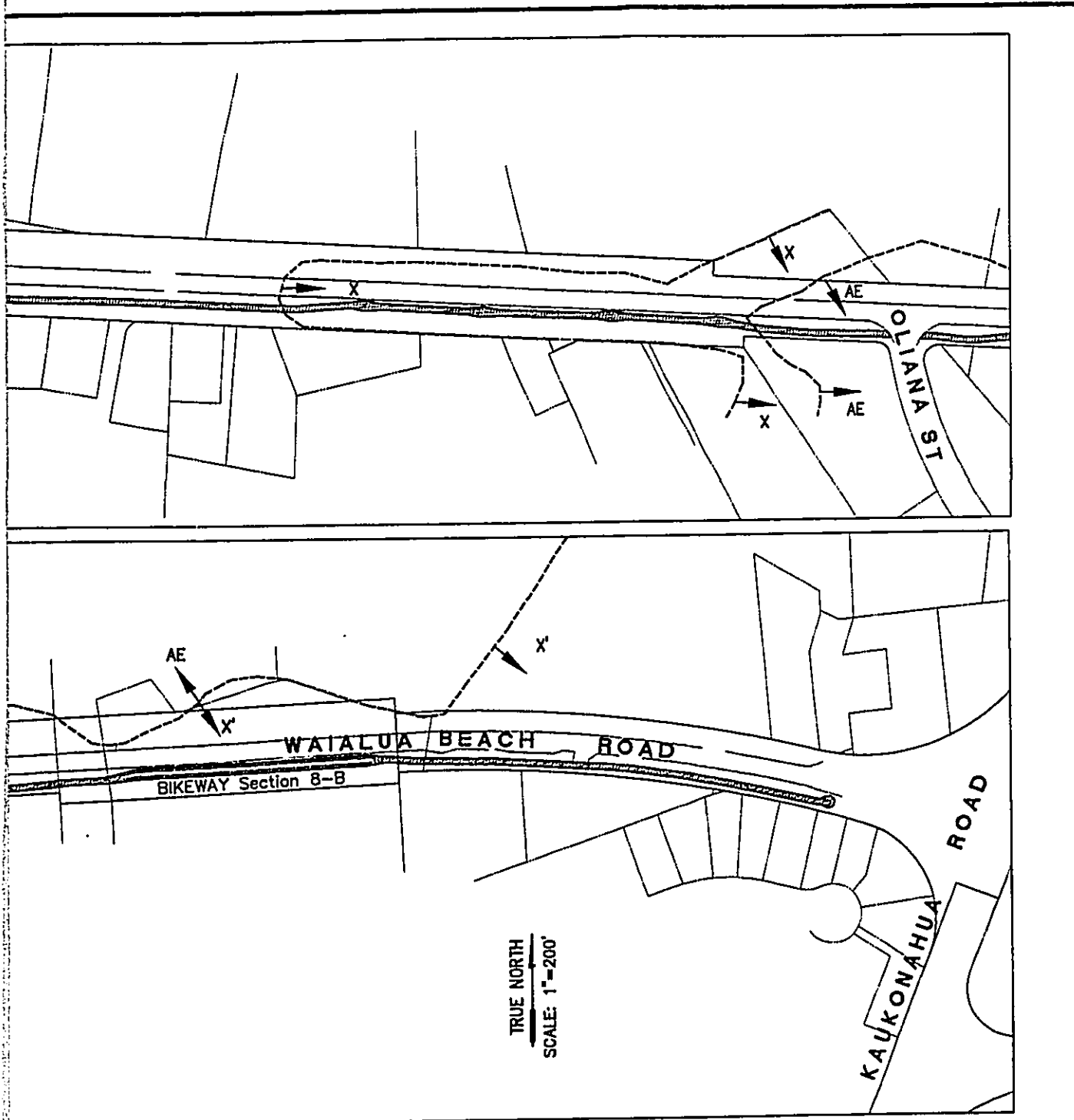
FLOOD ZONE MAP
BIKEWAY SECTIONS
10-A and 10-B
FIGURE 3



SOURCE: FEMA FLOOD INSURANCE RATE MAP NO. 15003C0105

LEGEND

- SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**
- ZONE AE - BASE FLOOD ELEVATIONS DETERMINED
 - ZONE AEF - FLOODWAY AREAS IN ZONE AE
 - ZONE VE- COASTAL FLOOD WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED
- OTHER**
- ZONE X - AREAS OF LESS THAN 1 SQUARE FOOT BY LEVEES
 - ZONE X' - 500-YEAR FLOOD



MAP NO. 15003C0105 E DATED 11/20/00

Q

OTHER FLOOD AREAS
 ZONE X - AREAS OF 500-YEAR FLOOD;
 AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS
 OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS
 THAN 1 SQUARE MILE; AND AREAS PROTECTED
 BY LEVEES FROM 100-YEAR FLOOD
 ZONE X' - AREAS DETERMINED TO BE OUTSIDE
 500-YEAR FLOODPLAIN

**FLOOD ZONE MAP
 BIKEWAY SECTIONS
 8-A and 8-B
 FIGURE 4**

Bikeway (Section 10-B)

From Komo to Kuoha Street intersections the bikeway crosses zones VE12', AE8' and X.

Bikeway (Section 8-A)

Near beginning of this section to Oliana Street intersection the bikeway crosses zones AE and X.

Bikeway (Section 8-B)

Bikeway outside of any flood zone

III. AFFECTED ENVIRONMENT

A. Relation to Surrounding Area

The project is located in the rural north shore community of Waialua. The proposed alignment of the first section of the bikeway will deviate in and out of the City's right-of-way into an adjacent lot owned by Dole Food Company (6-7-001: 026 and 6-8-06:010). The lot is currently designated for Road Reserve. An easement for bikeway purposes on behalf of the City and County of Honolulu within the existing Road Reserve has been applied for. The bikeway also crosses through an existing perpetual roadway and utility easement on property owned by Barbara Maggs (6-7-001: 006). The remainder of the bikeway is proposed for construction within the City road right-of-way, which varies between 40 and 15 feet in width.

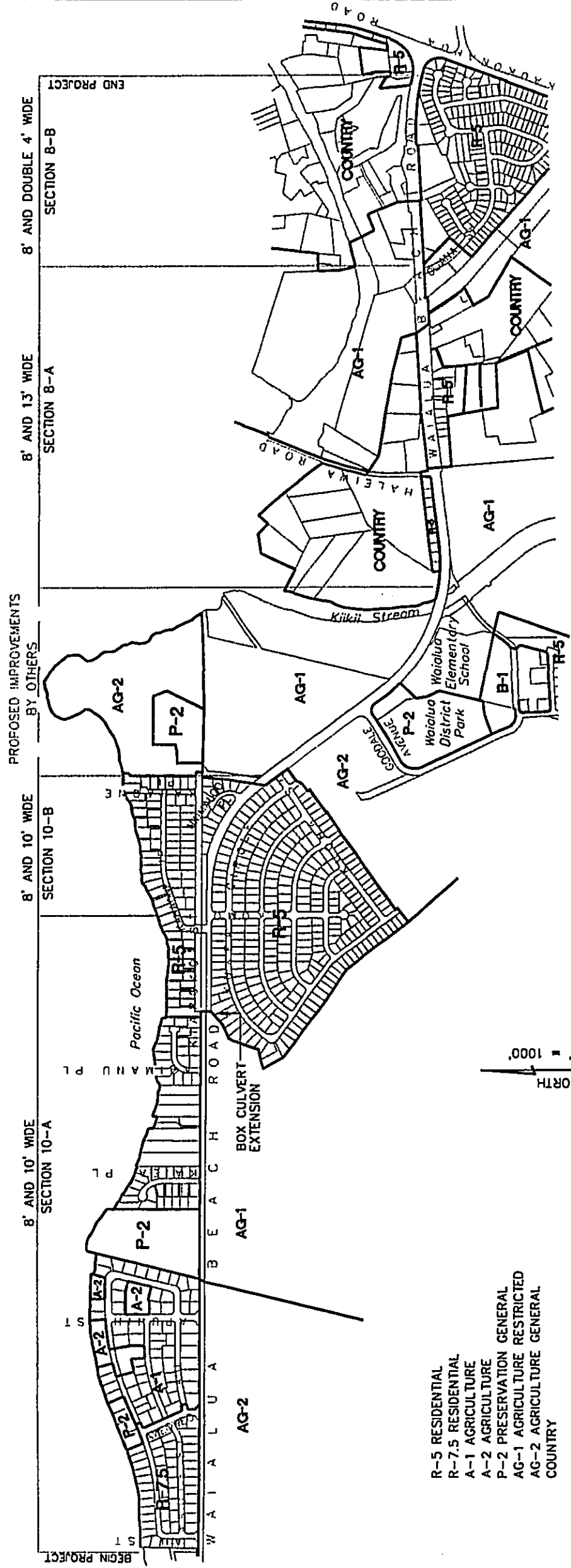
Table 1
Land Use Designations

<i>Bikeway Section</i>	<i>Development Plan Figure 5</i>	<i>State Land Use Figure 6</i>	<i>Zoning Figure 7</i>
Beginning of Section 10-A to east of Kaimanu Place	Agriculture	Agricultural	AG-1 Restricted AG-2 General
Beginning of Section 10-B to east of Kuoha St.	Residential	Urban	R-5 Residential
Beginning of Section 8-A to Haleiwa Rd.	Agriculture	Agricultural	AG-1 Restricted
Haleiwa Rd. to Oliana St.	Residential Agriculture	Urban, Agricultural	R-5 Residential Country
Beginning of Section 8-B to end of project	Public Facilities, Residential	Urban	R-5 Residential

B. Relation to Other Uses

(1) Publicly Owned or Used Beaches, Parks and Recreation Areas

The bikeway will not block or hamper access to the beach or any park or recreation area. Bikeway sections 10-A and 10-B are in close proximity to a number of small parks and beach accesses that lead to the Kaiaka Bay. Waialua District Park is between the second and third sections of the bikeway.



- R-5 RESIDENTIAL
- R-7.5 RESIDENTIAL
- A-1 AGRICULTURE
- A-2 AGRICULTURE
- P-2 PRESERVATION GENERAL
- AG-1 AGRICULTURE RESTRICTED
- AG-2 AGRICULTURE GENERAL
- COUNTRY

TRUE NORTH
SCALE: 1" = 1000'

ZONING MAP
WAIALUA BEACH ROAD BIKEWAY

SCALE: 1" = 1000'

(2) Rare, Threatened or Endangered Species and Their Habitats, Wildlife and Wildlife Preserves

The proposed bikeway is adjacent to a roadway and residential homes. No rare, threatened or endangered species or their habitats are likely to exist in the project site. Similarly, no wildlife preserves are located within the project area.

(3) Wetlands

The bikeway will not cross any designated wetlands. The coastline, which is located between 400 and 1000 feet north of the first two sections of the proposed bikeway is classified as a Marine Intertidal wetland. Other wetlands near the bikeway are located east of Haleiwa Road, and east of Oliana Street, on both sides of the Wailua Beach Road right-of-way.

C. Historic, Cultural and Archaeological Resources

Since the proposed bikeway is within a road right-of-way and adjacent to residential developments no historic, cultural or archaeological resources are likely to exist in the project site.

D. Coastal Views from Surrounding Public Viewpoints

The bikeway will follow the natural contours of the existing ground along its alignment and will not affect surrounding public viewpoints.

E. Quality of Receiving Water and Groundwater Resources

The State of Hawai'i Department of Health (DOH) has designated Kaiaka and Waialua Bays near the project site as AA waters. The Contractor shall follow Best Management Practices (BMPs) to assure there are no adverse impacts and protect the natural pristine conditions of near shore waters.

F. Location and Plan and Profile Drawings

See Figure 1 and attached half-size drawings in Appendix A

IV. PROJECT IMPACTS

A. Relative to Special Management Area Guidelines Section 25-3.2 Revised Ordinances Of Honolulu (ROH)

The following guidelines are specified in Section 25 of ROH and shall be used by the council or its designated agency for the review of developments proposed in the special management area.

All development in the special management area shall be subject to reasonable terms and conditions set by the council to ensure that:

(1) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles.

The proposed project will improve access to publicly owned or used beaches and recreation areas in the area.

(2) Adequate and properly located public recreation areas and wildlife preserves are reserved.

The bikeway will not block or hamper access to the beach or any park or public recreation area. The first two sections of the bikeway are a short bike ride away from a number of small parks and beach accesses that lead to the Kaiaka Bay. The bikeway will connect to another bikepath that passes Waialua District Park and Waialua Elementary School.

(3) Provisions are made for solid and liquid waste treatment, disposition and management, which will minimize adverse effects upon special management area resources.

The bikeway will have no effect on SMA area resources in terms of solid and liquid waste treatment.

(4) Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.

The bikeway profile will generally follow the existing flat terrain of the area. Some vegetation such as shrubbery and coconut trees will need to be removed or relocated. Removal of these plants will not have an adverse effect on water

resources or scenic and recreational amenities of the area. Construction of the proposed project will not create health or safety hazards in the event of a flood or earthquake.

Several sections of an existing earth berm on Dole Food land adjacent to the bikeway will be altered to accommodate the bikeway. According to Dole Food Property Management the berm is not a drain or flood control structure and was built to discourage illegal dumping onto their land. The City has received permission from the landowner to remove portions of the berm and install a chain link fence in its place.

Erosion control measures are specified in the construction plans and will be employed during construction to prevent erosion and siltation.

No development shall be approved unless the council has first found that:

(5) The development will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options.

The project will not have a substantial cumulative adverse environmental or ecological effect on the SMA.

(6) The development is consistent with the objectives and policies set forth in Section 25-3.1 and area guidelines contained in HRS Section 205A-26.

The proposed project is consistent with the objectives and policies of the Coastal Zone Management Program. This will be discussed in more detail in the next section.

(7) The development is consistent with the County General Plan, development plans and zoning.

The proposed project implements the County General Plan in the following areas.

"To maintain the viability of Oahu's visitor industry"

The bikeway will help enhance a wide range of recreational activities already available to North Shore visitors.

"To protect and preserve the natural environment."

The bikeway will be compatible with its surroundings. It will allow visitors and residents who use it to experience and foster an appreciation for the island environment without disturbing its ecosystem.

"To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu."

The bikeway will provide a recreational opportunity for people visiting the north shore as well as residents, while improving access to and from Waialua and Haleiwa for bicyclists and pedestrians.

The portion of the proposed project that falls within the SMA is consistent with the development plan, State Land Use and Zoning designations. The bikeway is also consistent with the North Shore *Sustainable* Communities Plan that calls for "an integrated system of pedestrian paths/bikeways linking the parks, schools, and town centers in Haleiwa and Waialua."

The council shall seek to minimize, where reasonable:

(8) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon.

No dredging, filling or altering of a bay, estuary, salt marsh, river mouth, slough or lagoon will occur as a result of this project.

(9) Any development which would reduce the size of any beach or other area usable for public recreation.

The project will not effect any beach or area usable for public recreation.

(10) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach.

The project will not effect any public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach.

(11) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast.

The project will not effect any line of sight towards the sea as the bikeway profile will generally follow the existing flat terrain of the area.

(12) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

None of the structures or activities involved with this project will adversely affect water quality of surrounding water bodies. An approved erosion control plan shall be included with the construction plans. Erosion control measures to be implemented during construction include silt fences, temporary gravel access roads for ingress and egress and silt filters at drain inlet openings.

**B. Relative to Coastal Zone Management Program Guidelines
Chapter 205A-2 Hawai'i Revised Statutes (HRS)**

The project site is partially within the SMA and is therefore under the jurisdiction of HRS 205A-26. Coastal Zone Management policies and objectives pertinent to this EA are described below.

(1) Recreational Resources: Provide coastal recreational opportunities accessible to the public.

The bikeway will provide improved access to the beach and parks along Kaiaka and Waialua Bays. It will also improve access to Waialua District Park, which is between the second and third sections of the bikeway.

(2) Historic Resources: Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawai'ian and American history and culture.

Since the proposed bikeway is within an existing developed road right-of-way no historic, cultural or archaeological resources are likely to exist in the project site.

(3) Scenic and Open Space Resources: Protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources.

The bikeway will follow the natural contours of the existing ground along its alignment and will not affect surrounding public viewpoints.

(4) Coastal Ecosystems: Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems.

The bikeway will not disrupt or adversely affect any coastal ecosystems

(5) Economic Uses: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Although the bikeway will not have a major impact on the State's economy it will add to the wide range of recreational activities that supports the businesses in the area.

(6) Coastal Hazards: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

The bikeway will not reduce hazard to life and property in the event of tsunami or stream flooding. Appropriate erosion control measures as specified in the construction plans will be employed during construction and nearby areas will be restored to pre-construction conditions or better.

C. Relative to Guidelines for Sustainable Building Design in Hawai'i

These guidelines for *sustainable* building design are intended to develop projects that have minimal impact on the environment and make wise use of our natural resources. The proposed project implements the guidelines in the following areas.

(1) Site Selection

The bikeway will have a positive social and economic impact on the neighborhood. Factors such as existing vegetation and topography, natural access and impact on existing utilities were assessed before selection of the site. It's close proximity to Waiialua Beach Road and the busline will make the bikeway convenient for both bicyclists and pedestrians.

(2) Site Preparation and Design

With the bikeway profile following existing contours at the site, impacts on the topography will be minimized. Some vegetation such as shrubbery and coconut trees will need to be removed or relocated. Only those areas required for construction of the bikepath will be cleared. Vegetation on exposed soil areas will be replanted as soon as possible and excavated soils will be reused for fill as much as possible. Grade slopes adjacent to the bikeway will be no more than 2:1 (run to rise).

D. Indigenous and Polynesian Introduced Plants for Use in Public Landscaping

The project does not involve new landscaping of the area surrounding the bikeway. However, the Contractor is required to restore any existing landscaping disturbed as a result of his construction activities to their original condition. The coconut trees identified for relocation in the plans shall be moved to areas designated by the City as close to its original location as possible.

V. MITIGATION MEASURES

A. Short-term during Construction

During the construction period impacts shall be mitigated by the Contractor in accordance with the General Provisions of the construction contract and an erosion control plan included with the plans. Construction will progress from one location to another along the proposed alignment. Although impacts related to construction will be repetitive over the length of the project, immediate effects will be temporary at any one location.

Construction shall be predominately within the City road right-of-way including driveways crossed by the bikeway. The first section of the bikeway will deviate into an adjacent lot owned by Dole Food Company that is currently designated for Road Reserve. An easement for bikeway purposes within the existing Road Reserve is being applied for. The bikeway also crosses through an existing perpetual roadway and utility easement on property owned by Barbara Maggs. The construction plans will specify items within the right-of-way that will need to be removed and/or relocated to accommodate the bikeway. The Contractor shall be responsible for general housekeeping of the site and to keep nearby drainage structures free of mud, sediment and debris. Reasonable efforts shall be made to avoid damage to private property along the bikeway. After completion of construction the Contractor shall restore the nearby ground surface to pre-construction conditions or better.

The Contractor shall maintain stringent controls to minimize dust nuisance to residents and workers and comply with appropriate DOH regulations. A Dust Control Management Plan shall be implemented by the Contractor to control the generation of fugitive dust during construction activities. This plan shall identify and address activities that have a significant potential for fugitive dust and must comply with provisions of Hawai'i Administrative Rules 11-60.1-33. As a minimum, the components of this plan shall include:

- Planning in order to minimize the amount of dust-generating materials and activities. This might involve centralizing material transfer points and on-site vehicular traffic routes and locating dusty equipment in the areas of least impact.
- Providing an adequate water source at the site for dust control prior to the start of construction.
- Landscaping and rapid covering of bare areas, including slopes starting from the initial grading phase.

- Controlling of dust from shoulders, project entrances and access roads.
- Providing adequate dust control measures during weekends, after hours and prior to daily start-up of construction activities.

Grading and stockpiling of earth shall be performed in accordance with erosion control standards of the City and County of Honolulu and an erosion control plan approved by the Department of Planning and Permitting.

Equipment noise controls will be implemented according to Department of Health (DOH) guidelines. The Contractor shall also be responsible for obtaining and complying with conditions set forth in a noise permit or variance approved by DOH. Specifically, the permit will regulate the times during which construction noise that exceeds maximum permissible levels are allowed. The Contractor shall also be required to employ appropriate noise attenuating devices for his equipment.

The project area is under five (5) acres, thus a National Pollution Discharge Elimination System (NPDES) General Permit authorizing discharges of stormwater associated with construction activity is not required.

The Contractor may choose to close off portions of the eastbound lane of Waialua Beach Road and temporarily divert traffic to the westbound lane for safety purposes. An approved traffic control plan will be included with the construction plans to mitigate traffic impacts. The plans shall include positioning of appropriate signs, cones, directional devices and flagmen to provide advance warning and safely guide motorists and pedestrians around the work area.

The Contractor shall be responsible for coordinating driveway work with owners.

Two existing bus stops will be relocated. These bus stops will not be closed until the new bus stops are completed. Oahu Transit Services, the operators of the bus system have been consulted regarding the locations of relocated bus stops and their specific requirements.

In the event of accidental breakage of water lines, electrical or other utility lines or structures the Contractor shall immediately notify the appropriate utility companies.

The Contractor shall be responsible for coordinating the work with the utility companies.

B. Long-term after Project Completion

In the long term, the project will not negatively impact the environment with respect to water resources, scenic or recreational resources.

The proposed bikeway is predominantly within the City road right-of-way adjacent to Waialua Beach Road, including areas where the bikeway crosses residential driveways. The driveways will be reconstructed and improved from their present condition with attention given to the bikeway/driveway transition.

Improvements at intersections crossed by the bikeway will provide safer pedestrian crossings.

The retaining walls required to border sections of the bikeway alignment that run alongside narrow roadside gullies should prevent the spread of erosion. These walls will also have railings installed for safety.

The bikeway will provide a safe footpath for pedestrians and an avenue for bicyclists that can be used as a recreational path or a link between Mokuleia and Waialua. The bikeway will benefit residents of the area especially children walking or biking to and from Waialua Elementary School and Recreation Center.

The project is on the outskirts of Waialua Town and helps set the tone and character for people entering the area with improved signage, landscaping and pedestrian and bicyclist accessibility.

VI. ALTERNATIVES CONSIDERED

A. Alternative Alignments

A number of different horizontal alignments were considered for the bikeway. The final proposed bikeway alignment was made to provide a maximum separation with Waialua Beach Road while avoiding existing obstructions installed in the right-of-way such as utility poles, fences and walls. A major alignment consideration in the third and fourth sections (8-A and 8-B) was keeping the bikeway as much as possible out of the adjacent slope south of the bikeway to minimize the height of the retaining walls. The vertical alignment was set to follow the existing grades along the alignment as much as possible in order to minimize required excavation and fill and minimize work on driveways crossed by the bikeway.

Two alternative alignments diverging away from Waialua Beach Road were considered (requested in Neighborhood Board Meeting, September 1999). Residents at the meeting expressed concern about the proposed bikeway crossing near the front of their homes at the north end of Kukea Circle. The first alternative route considered was through Kukea Circle, which was discarded because of the lack of space on the interior roads within the subdivision. The second alternative route was around the subdivision roughly following the Cane Haul Road. This alignment was discarded by the community because it would add a significant distance to the bikeway, go through a deserted, potentially dangerous area out of the public view and the added cost. The bikeway would also affect more residences than the proposed alignment, crossing in the back of those homes.

Realigning a segment of Waialua Beach Road to remove a "kink" west of the box culvert was also considered for this project. Because of the additional costs associated with this realignment including relocation of a utility pole this portion of the project was deferred. The proposed bikeway alignment will accommodate a realignment of the road when funds become available at a future date.

VII. SIGNIFICANCE CRITERIA

Chapter 200 of Title 11, Administrative Rules of the State of Hawai'i describes the criteria used to determine whether an action will have significant effects on the environment. The relationship of the proposed action to these criteria is described below.

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

There are no natural or cultural resources within the project limits that would be affected by the proposed action.

2. Curtails the range of beneficial uses of the environment;

The proposed action will not curtail the beneficial uses of the environment.

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 action does not conflict with any of the state's long-term term environmental policies or goals and guidelines.

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

The proposed action will not substantially affect the economic or social welfare of the community or state.

5. Substantially affects public health;

Construction-related dust and noise from equipment will be temporary and short-term in nature. The Contractor will comply with air quality and noise pollution regulations of the DOH.

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

No substantial secondary impacts will occur as a result of this action.

7. The proposed actions will not involve a substantial degradation of environmental quality;

No substantial degradation of environmental quality will occur as a result of this action.

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

The proposed action will not result in significant adverse short-term or long-term environmental impacts or involve a commitment for larger actions.

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

There is no known rare, threatened or endangered species or habitat associated with the project site.

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

The proposed actions will not have any permanent detrimental effects on air or water quality, or ambient noise levels. Short-term air quality will be affected by fugitive dust and combustion emissions from construction equipment but these impacts will be mitigated by measures described in this EA. Construction noise will be highest during site grading and preparation and should diminish once structural improvements are complete. The Contractor will comply with air quality and noise pollution regulations of the DOH.

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

Much of the proposed improvements are located in flood zones as described in Section II.D (4) and shown in figures 3 and 4. The likelihood of the proposed bikeway and adjacent improvements suffering major damage is low as the bikeway pavement structure is bounded on both sides by 18-inch deep reinforced concrete headers with its top surface installed flush with the pavement. A 2% bikeway cross slope will divert surface runoff off the bikepath into natural flow patterns of the area. A shoulder swale between the bikeway and Waialua Beach Road was recommended in one area along the bikepath to minimize disruption of existing natural flow patterns. The top surface of the proposed retaining walls will also be installed flush with the pavement and constructed with appropriate drainage improvements. The extended box culvert should not increase the regulatory flood elevation nor aggravate existing related erosion hazards during a 100-year design storm (Appendix B).

12. **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies;**

The proposed action will not affect scenic vistas or viewplanes.

13. Requires substantial energy consumption.

The proposed action will not require substantial energy consumption. Energy consuming construction equipment such as backhoes, trucks, compactors will be used to grade the existing ground and construct the bikeway.

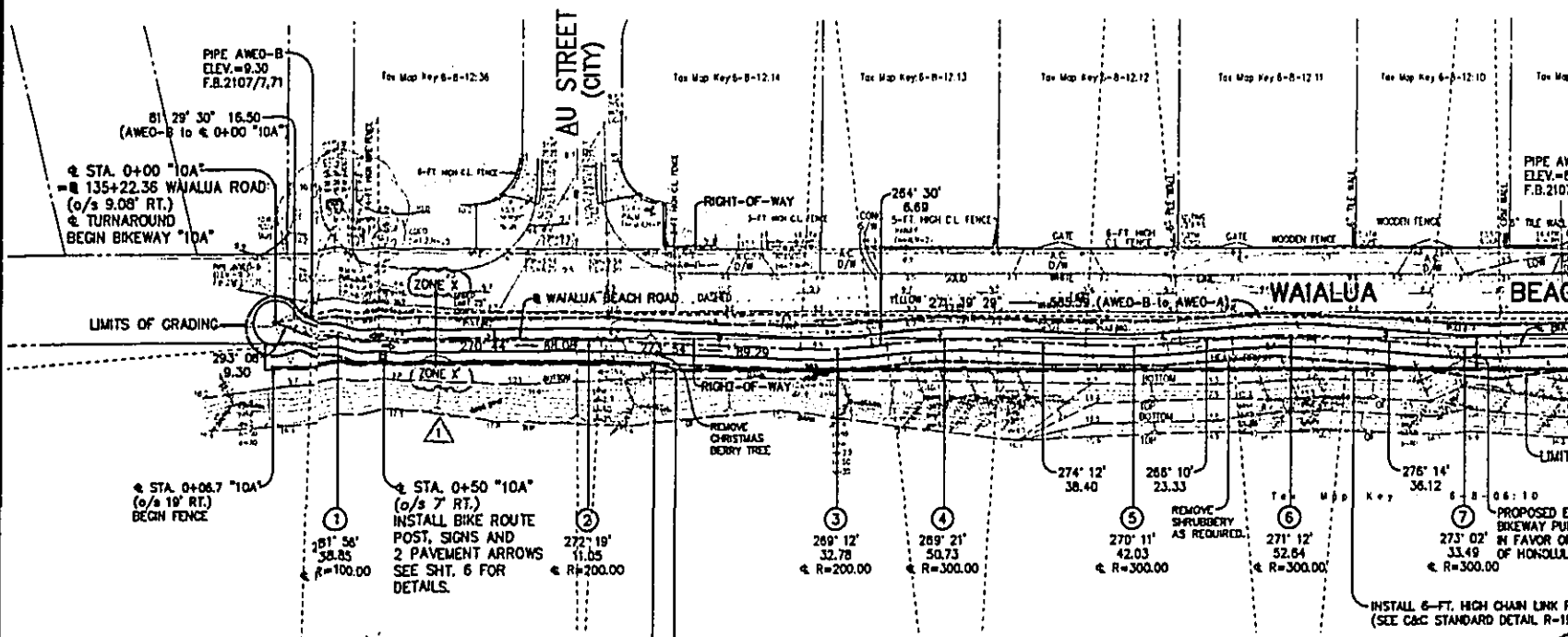
APPENDIX A

(HALF-SIZE CONSTRUCTION PLANS)

<u>SHEET</u>	<u>DESCRIPTION</u>
4	Typical Sections
7 -11	Plan & Profile (1 st Section) Bikeway "10A"
12 -13	Plan & Profile (2nd Section) Bikeway "10B"
14-16	Plan & Profile (3rd Section) Bikeway "8A"
16-17	Plan & Profile (4 th Section) Bikeway "8B"

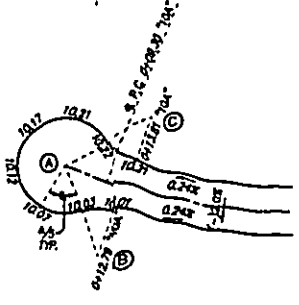
BIKEPATH "10A" CURV

①	②	③	④	⑤	⑥
PC 0+09.30 to PT 0+46.40	PC 1+36.48 to PT 1+47.53	PC 2+36.87 to PT 2+69.63	PC 2+76.32 to PT 3+27.11	PC 3+65.51 to PT 4+07.57	PC 4+30.90 to PT 4+83.61
$\Delta = 22^\circ 24'$	$\Delta = 3^\circ 10'$	$\Delta = 8^\circ 24'$	$\Delta = 9^\circ 42'$	$\Delta = 8^\circ 02'$	$\Delta = 10^\circ 04'$
$\Delta/2 = 11^\circ 12'$	$\Delta/2 = 1^\circ 35'$	$\Delta/2 = 4^\circ 12'$	$\Delta/2 = 4^\circ 51'$	$\Delta/2 = 4^\circ 01'$	$\Delta/2 = 5^\circ 02'$
R = 100.00	R = 200.00	R = 200.00	R = 300.00	R = 300.00	R = 300.00
T = 19.80	T = 5.53	T = 16.44	T = 25.48	T = 21.07	T = 26.42
C = 38.85	C = 11.05	C = 32.78	C = 50.73	C = 42.03	C = 52.64
Lc = 39.10	Lc = 11.05	Lc = 32.81	Lc = 50.79	Lc = 42.06	Lc = 52.71



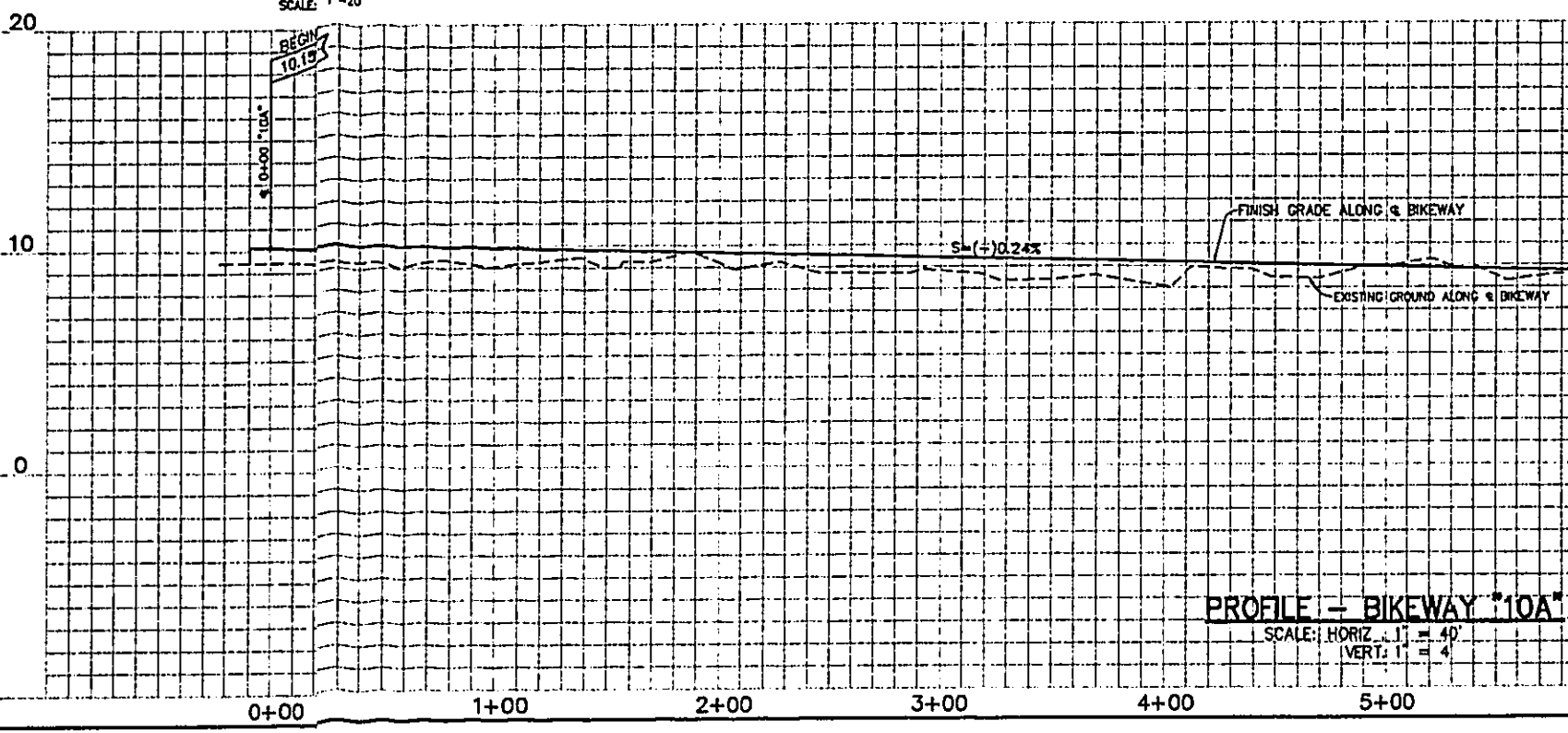
CURVE DATA

- ① $\Delta = 43^\circ 37' 05''$
 $\Delta/2 = 21^\circ 48' 32.5''$
 R = 10.00
 T = 4.00
 C = 7.43
 Lc = 7.81
- ② $\Delta = 282^\circ 44' 44''$
 $\Delta/2 = 141^\circ 22' 22''$
 R = 10.00
 T = 43.86
- ③ $\Delta = 33^\circ 47' 48''$
 $\Delta/2 = 16^\circ 53' 54''$
 R = 10.00
 T = 3.81
 C = 6.78
 Lc = 6.83



TURNAROUND E.P. GRADES
SCALE: 1" = 20'

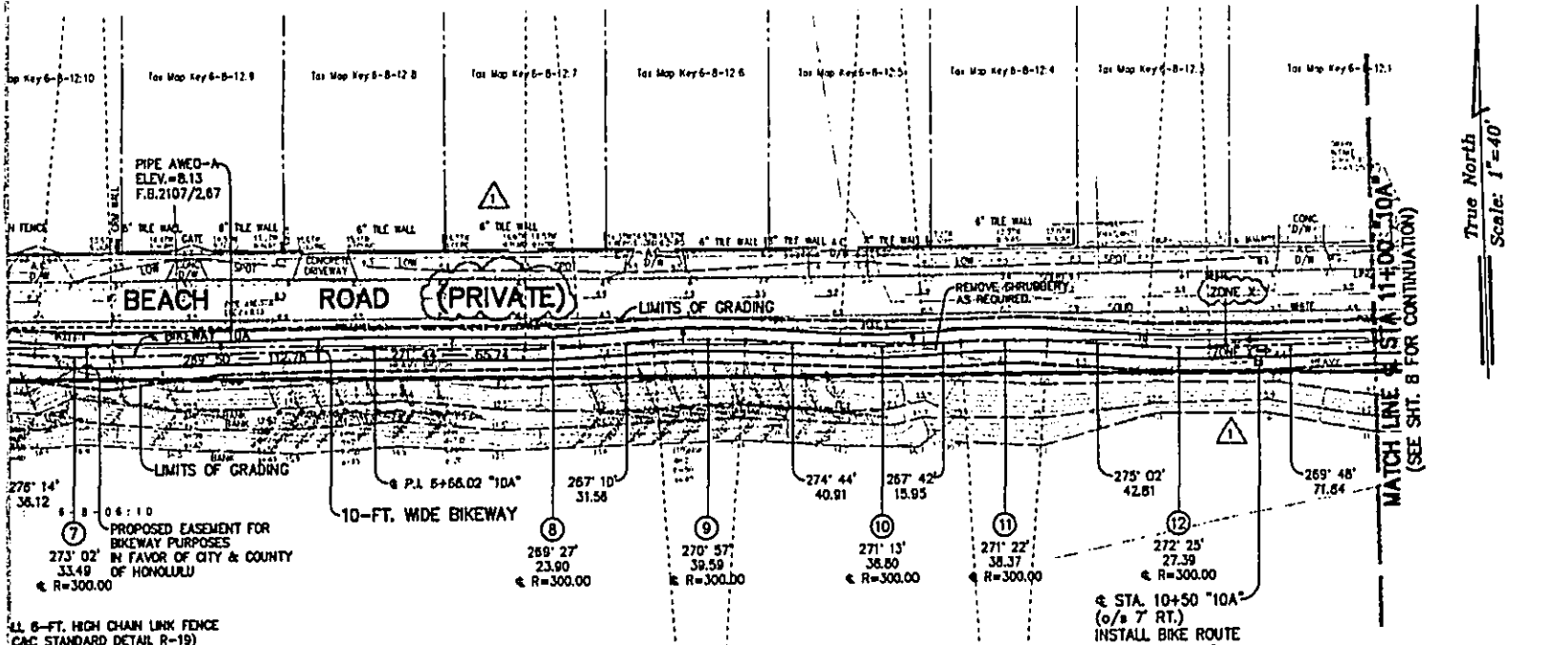
PLAN - BIKEWAY "10A"
SCALE: 1" = 40'



PROFILE - BIKEWAY "10A"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

SEPATH "10A" CURVE DATA

Curve No.	Stationing	Δ	Δ/2	R	T	C	Lc
7	P.T. 4+83.61 to P.C. 5+19.73 to P.T. 5+33.24	5° 24'	3° 12'	300.00	18.77	33.49	33.51
8	P.C. 7+31.78 to P.T. 7+55.67	4° 34'	2° 17'	300.00	11.90	23.90	23.91
9	P.C. 7+87.21 to P.T. 8+28.85	7° 34'	3° 47'	300.00	19.84	39.59	39.62
10	P.C. 8+67.78 to P.T. 9+04.59	7° 02'	3° 31'	300.00	18.44	36.80	36.83
11	P.C. 9+20.54 to P.T. 9+58.94	7° 20'	3° 40'	300.00	19.22	38.37	38.40
12	P.C. 10+01.75 to P.T. 10+29.15	5° 14'	2° 37'	300.00	13.71	27.39	27.40



EARTHWORK QUANTITIES:

BIKEWAY	EXC.	EMB.	GRADING AREA
10A	1,819 C.Y.	852 C.Y.	2.48 ACS.
10B	272 C.Y.	93 C.Y.	0.56 ACS.
8A	112 C.Y.	280 C.Y.	1.08 ACS.
8B	514 C.Y.	46 C.Y.	0.78 ACS.
TOTALS	2,717 C.Y.	1,271 C.Y.	4.90 ACS.

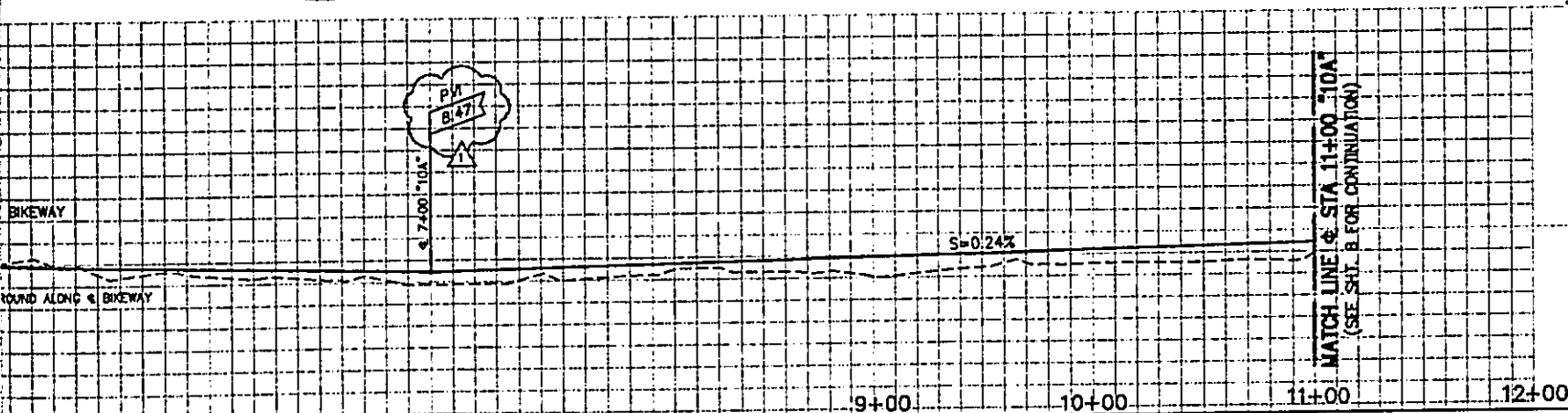
EARTHWORK NOTES:

- QUANTITIES SHOWN ARE FOR PERMIT PURPOSES ONLY AND SHALL NOT BE USED FOR BIDDING PURPOSES.
- CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE THE GRADING WORK TO THE GRADES AND DIMENSIONS SHOWN ON THE PLANS.
- EARTHWORK QUANTITIES FOR SECTIONS ALONG RETAINING WALLS NOT INCLUDED IN EARTHWORK TOTALS. EARTHWORK COST IS INCIDENTAL TO COST OF RETAINING WALLS.

FLOOD ZONE LEGEND

ZONE X
 AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD

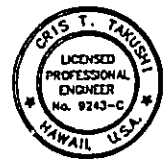
ZONE X'
 AREAS DETERMINED TO BE OUTSIDE OF 500-YEAR FLOODPLAIN



BIKEWAY "10A"

1" = 40'
 1/4" = 4'

REVISIONS
 1 DPP COMMENTS, REVISED PROFILE, EARTHWORK QTY'S. 8/22/02



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DEPARTMENT OF TRANSPORTATION SERVICES
 CITY AND COUNTY OF HONOLULU

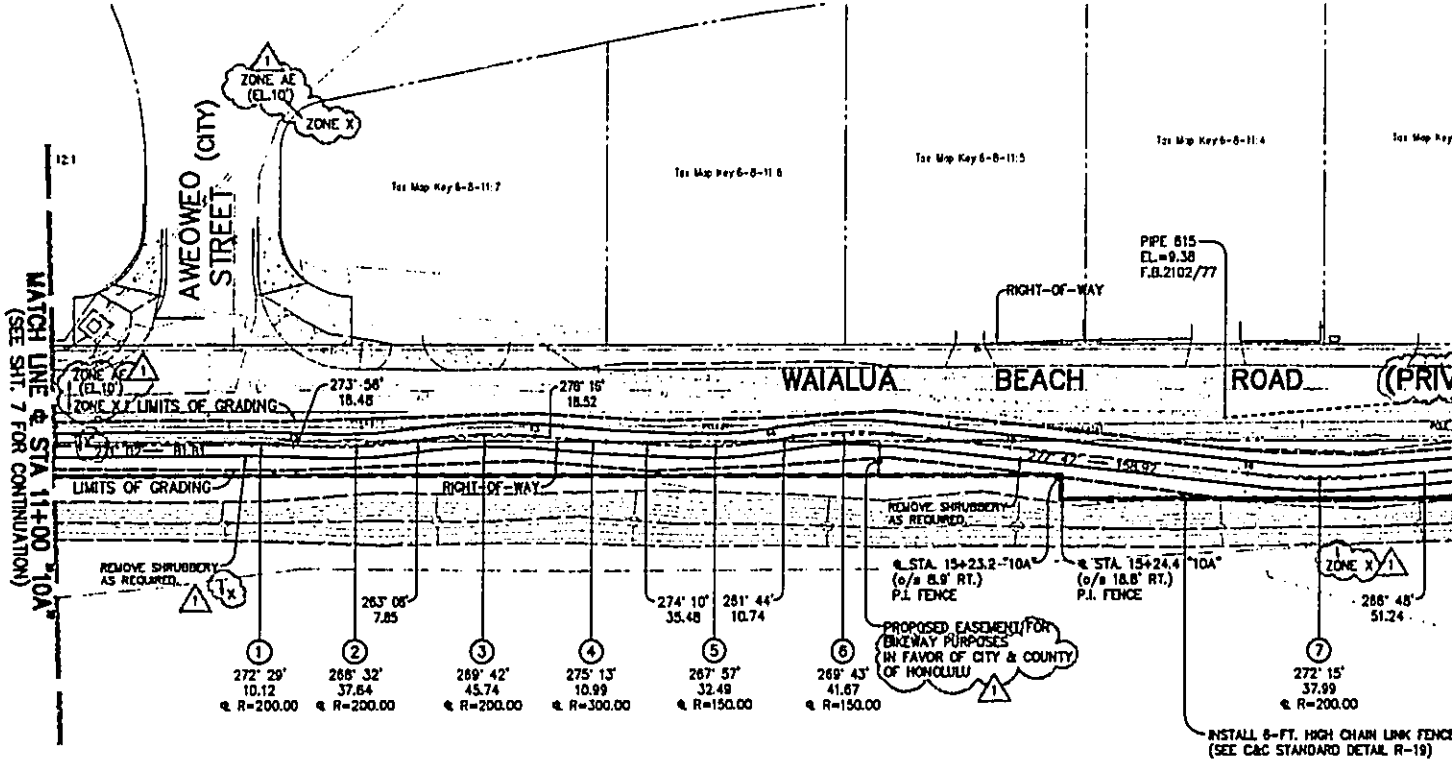
WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-06:017 & 010, PORTION OF 6-7-01:008 & KAMAHANUI, WAIALUA, OAHU, HAWAII
PLAN & PROFILE - BIKEWAY "10A"
 (STA. 0+00 TO STA. 11+00)

ENGINEER: GEL, GUY, JSS DATE: _____
 DRAFTSMAN: GHT, ANN, MSC SCALE: _____
 CHK. BY: DCE REF: _____
 APPROVED: _____ APPROVED: _____

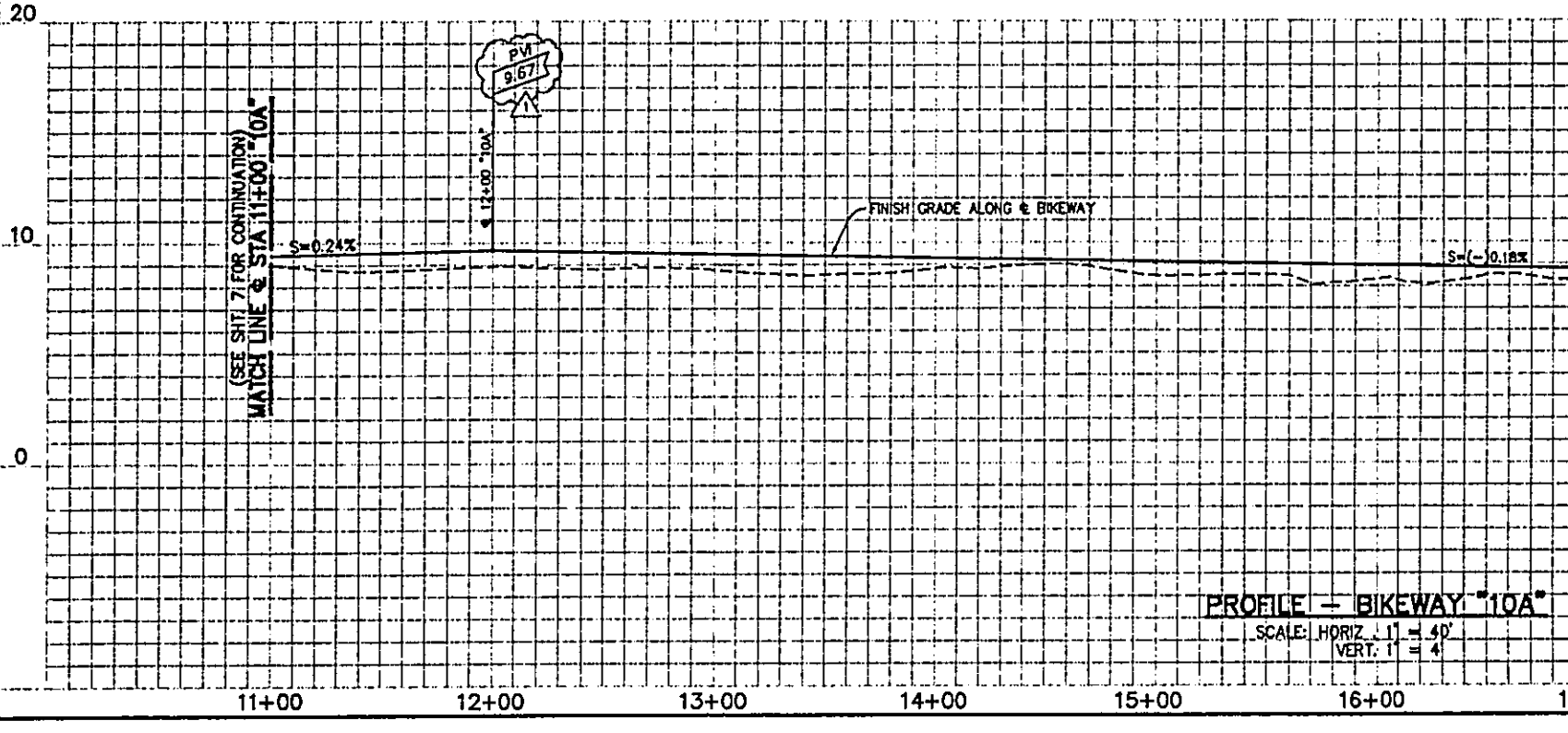
FILE	ISSUE	FOURD

BIKEPATH "10A" CURB

①	②	③	④	⑤
Δ = 2' 54"	Δ = 10' 48"	Δ = 13' 08"	Δ = 2' 08"	Δ = 12' 28"
Δ/2 = 1' 27"	Δ/2 = 5' 24"	Δ/2 = 6' 34"	Δ/2 = 1' 03"	Δ/2 = 6' 13"
R = 200.00	R = 200.00	R = 200.00	R = 300.00	R = 150.00
T = 5.06	T = 18.91	T = 23.02	T = 5.50	T = 18.34
C = 10.12	C = 37.84	C = 45.74	C = 10.99	C = 32.49
Lc = 10.12	Lc = 37.70	Lc = 45.84	Lc = 11.00	Lc = 32.55

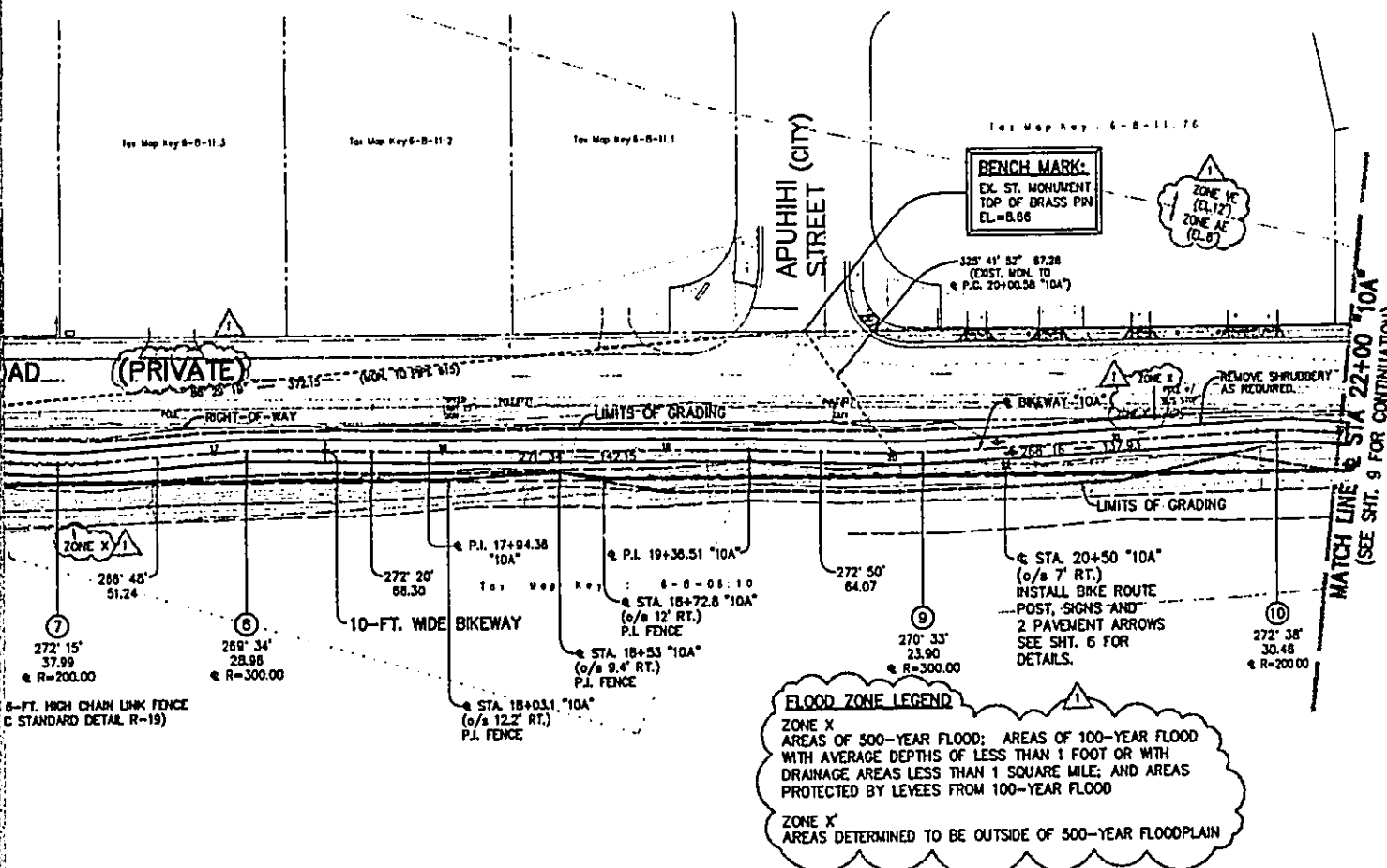


PLAN - BIKEWAY "10A"
SCALE: 1" = 40'



BIKEPATH "10A" CURVE DATA

Curve No.	Stationing	Δ	Δ/2	R	T	C	Lc
6	P.T. 13+98.34 to P.C. 14+09.08 to P.T. 14+50.89	15° 58'	7° 59'	150.00	21.04	41.67	41.80
7	P.C. 16+09.89 to P.T. 16+47.85	10° 54'	5° 27'	200.00	19.08	37.99	36.05
8	P.C. 16+99.09 to P.T. 17+28.08	5° 32'	2° 46'	300.00	14.50	28.96	28.97
9	P.C. 20+00.58 to P.T. 20+24.48	4° 34'	2° 17'	300.00	11.96	23.90	23.91
10	P.C. 21+62.42 to P.T. 21+92.91	8° 44'	4° 22'	200.00	15.27	30.46	30.49

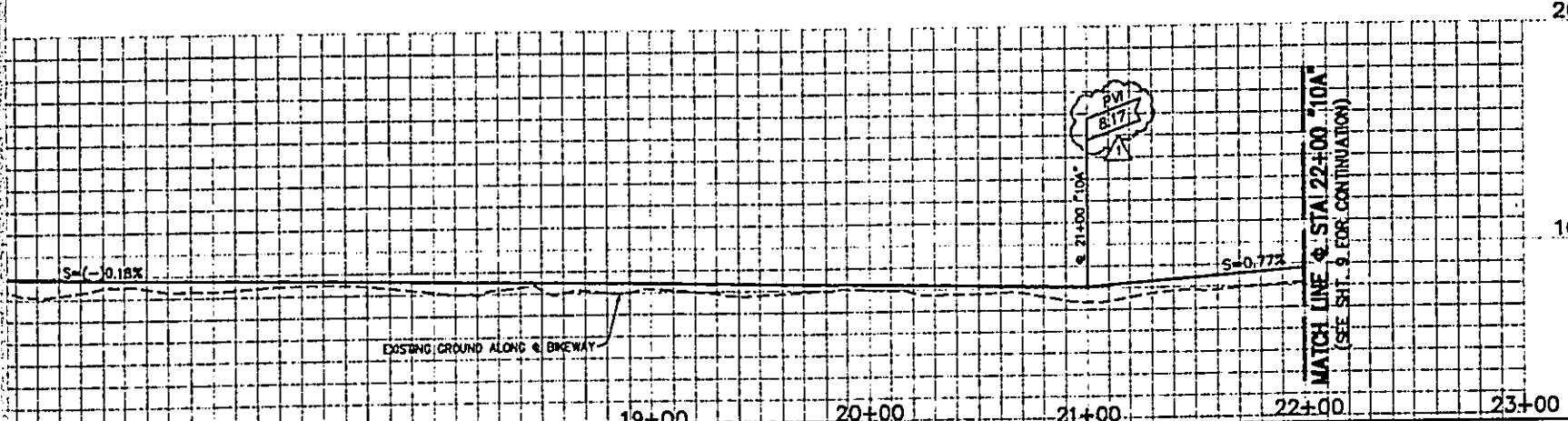


FLOOD ZONE LEGEND

ZONE X
 AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD

ZONE X'
 AREAS DETERMINED TO BE OUTSIDE OF 500-YEAR FLOODPLAIN

WAY "10A"
 = 40'



BIKEWAY "10A"
 1" = 40'
 1" = 4'

REVISIONS

1 DPP COMMENTS, REVISED PROFILE 8/22/02



DEPARTMENT OF TRANSPORTATION SERVICE
 CITY AND COUNTY OF HONOLULU

WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-06-017 & 010, PORTION OF 6-7-01-006 & 02 KAMAHANUI, WAIALUA, OAHU, HAWAII

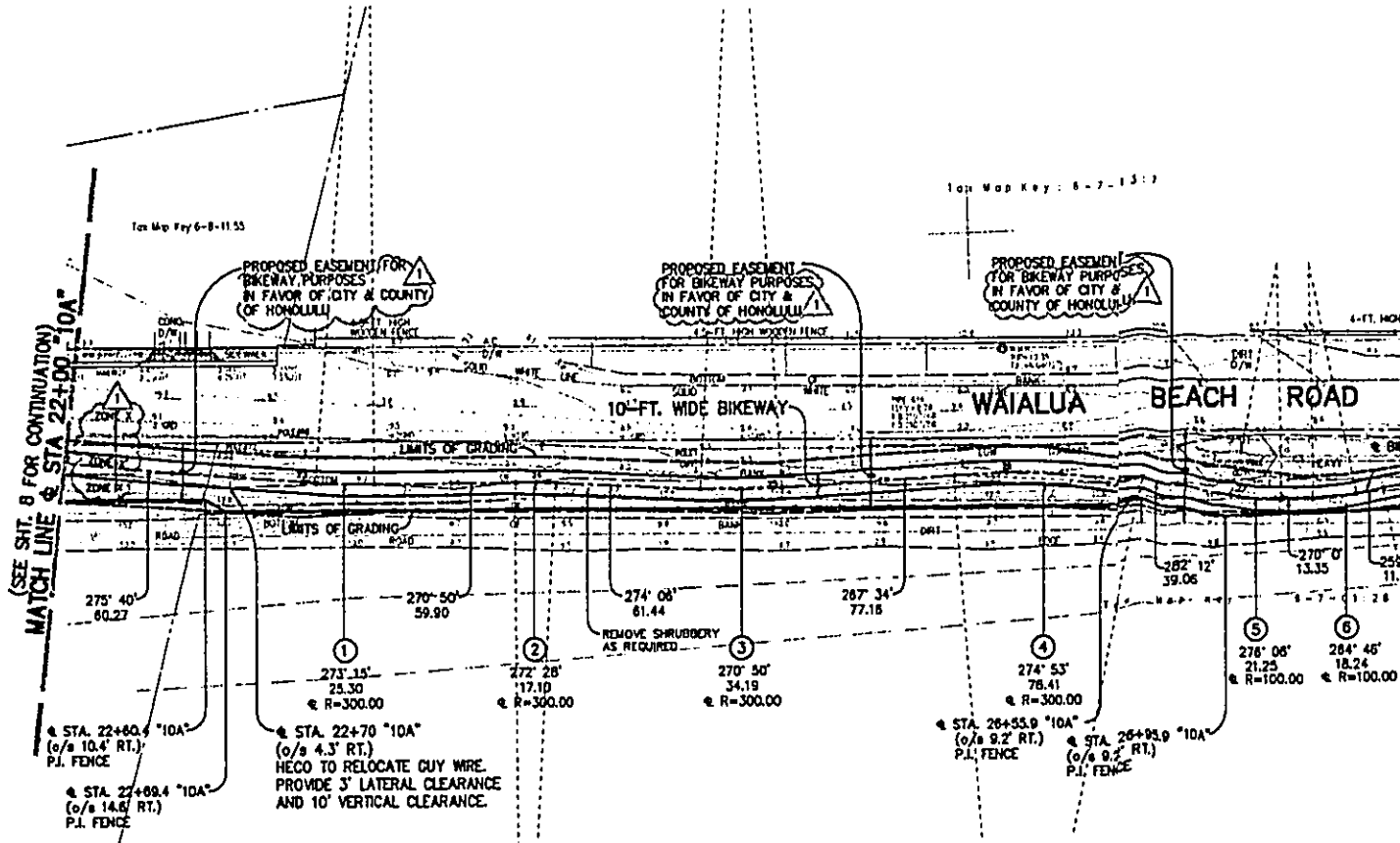
PLAN & PROFILE - BIKEWAY "10A"
 (STA. 11+00 TO STA. 22+00)

ENGINEER: CRIS T. TAKUHI
 DRAFTSMAN: GHT, ANN, MSC
 CHK. BY: DCE
 APPROVED: _____
 DATE: _____
 SCALE: _____
 REF: _____
 APPROVED: _____

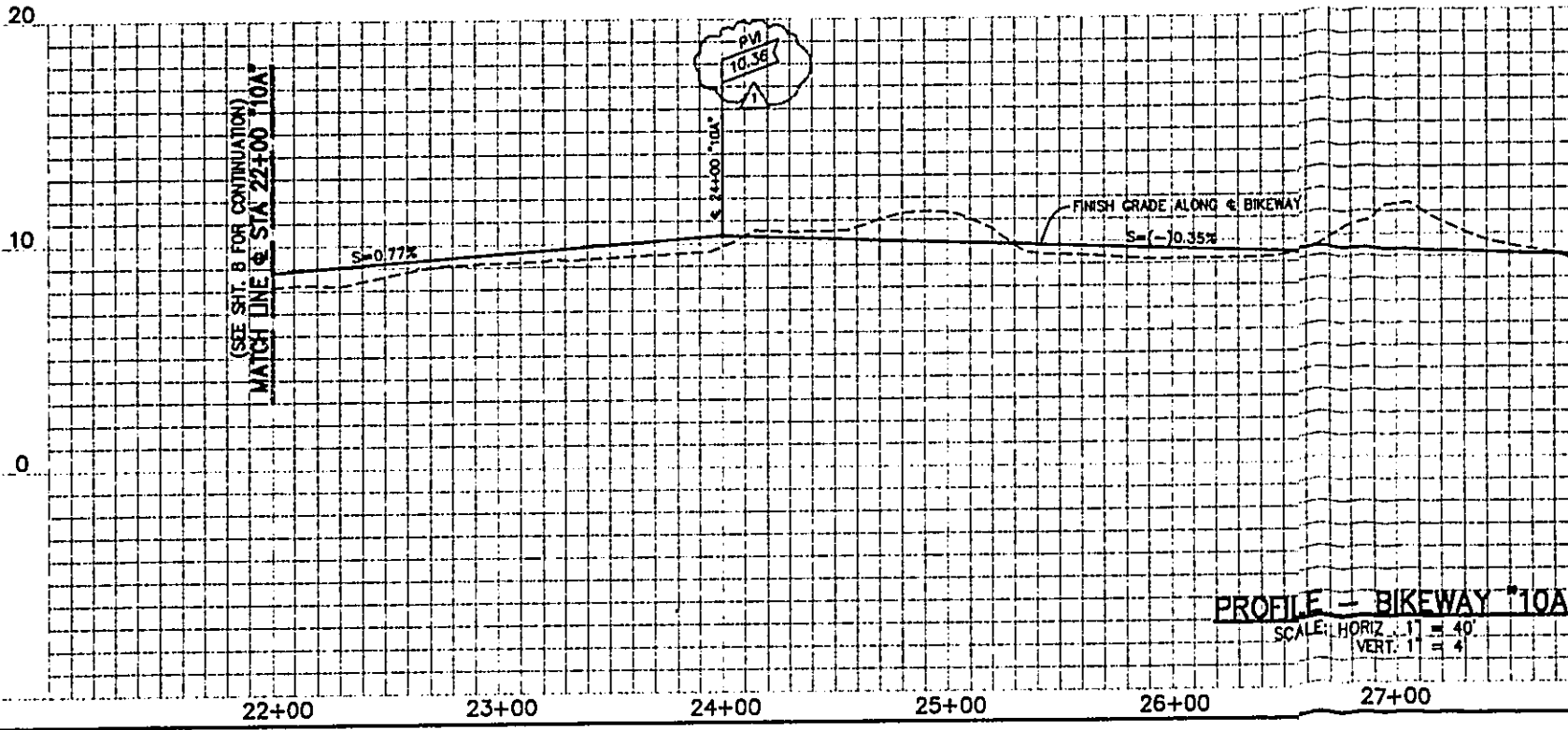
REV.	REVISION	DATE

BIKEPATH "10A" C

①	②	③	④	⑤
△ = 4' 50"	△ = 3' 18"	△ = 6' 32"	△ = 14' 38"	△ = 12' 12"
4/2 = 2' 25"	4/2 = 1' 38"	4/2 = 3' 18"	4/2 = 7' 19"	4/2 = 6' 6"
R = 300.00	R = 300.00	R = 300.00	R = 300.00	R = 100.00
T = 12.66	T = 8.53	T = 17.12	T = 38.52	T = 10.69
C = 25.30	C = 17.10	C = 34.19	C = 78.41	C = 21.25
Lc = 25.31	Lc = 17.10	Lc = 34.21	Lc = 78.82	Lc = 21.29



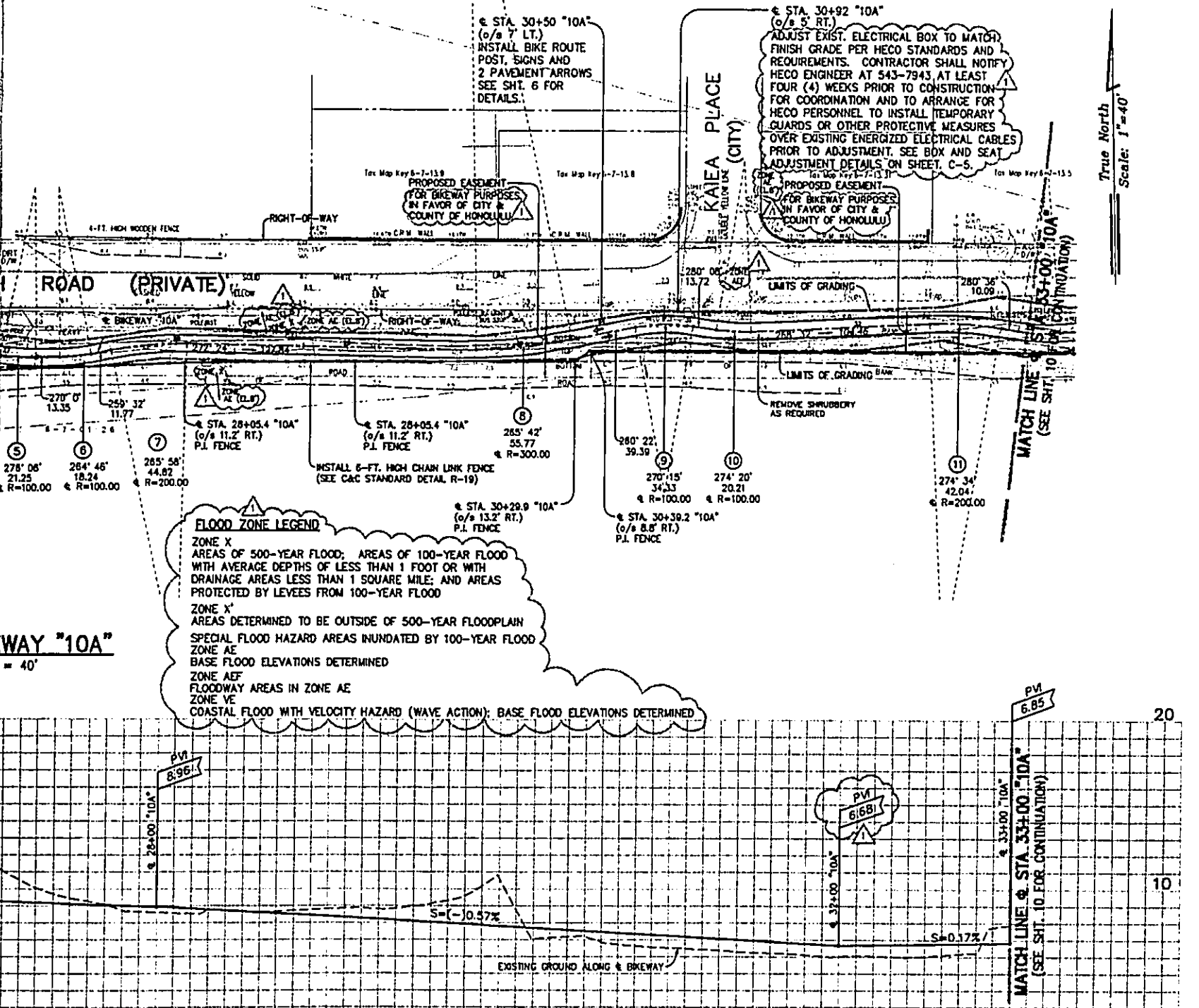
PLAN - BIKEWAY "10A"
SCALE: 1" = 40'



PROFILE - BIKEWAY "10A"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

BIKEPATH "10A" CURVE DATA

Station Range	Curve Data
PT. 27+18.03 to P.C. 27+31.38	Δ = 10° 28' 4/2 = 5' 14" R = 100.00 T = 9.16 C = 18.24 Lc = 18.27
P.T. 27+49.65 to P.C. 27+61.42	Δ = 12° 52' 4/2 = 6' 28" R = 200.00 T = 22.85 C = 44.82 Lc = 44.91
P.T. 28+06.33 to P.C. 29+74.08	Δ = 10° 40' 4/2 = 5' 20" R = 300.00 T = 28.01 C = 55.77 Lc = 55.85
P.C. 30+69.32 to P.T. 31+03.82	Δ = 19° 46' 4/2 = 9' 53" R = 100.00 T = 17.42 C = 34.33 Lc = 34.50
P.C. 31+17.54 to P.T. 31+37.79	Δ = 11° 36' 4/2 = 5' 48" R = 100.00 T = 10.16 C = 20.21 Lc = 20.25
P.C. 32+94.48 to P.T. 33+19.85	Δ = 14° 26' 4/2 = 7' 13" R = 100.00 T = 12.66 C = 25.12 Lc = 25.19



WAY "10A"
= 40'

EWAY "10A"
= 40'

True North
Scale: 1"=40'

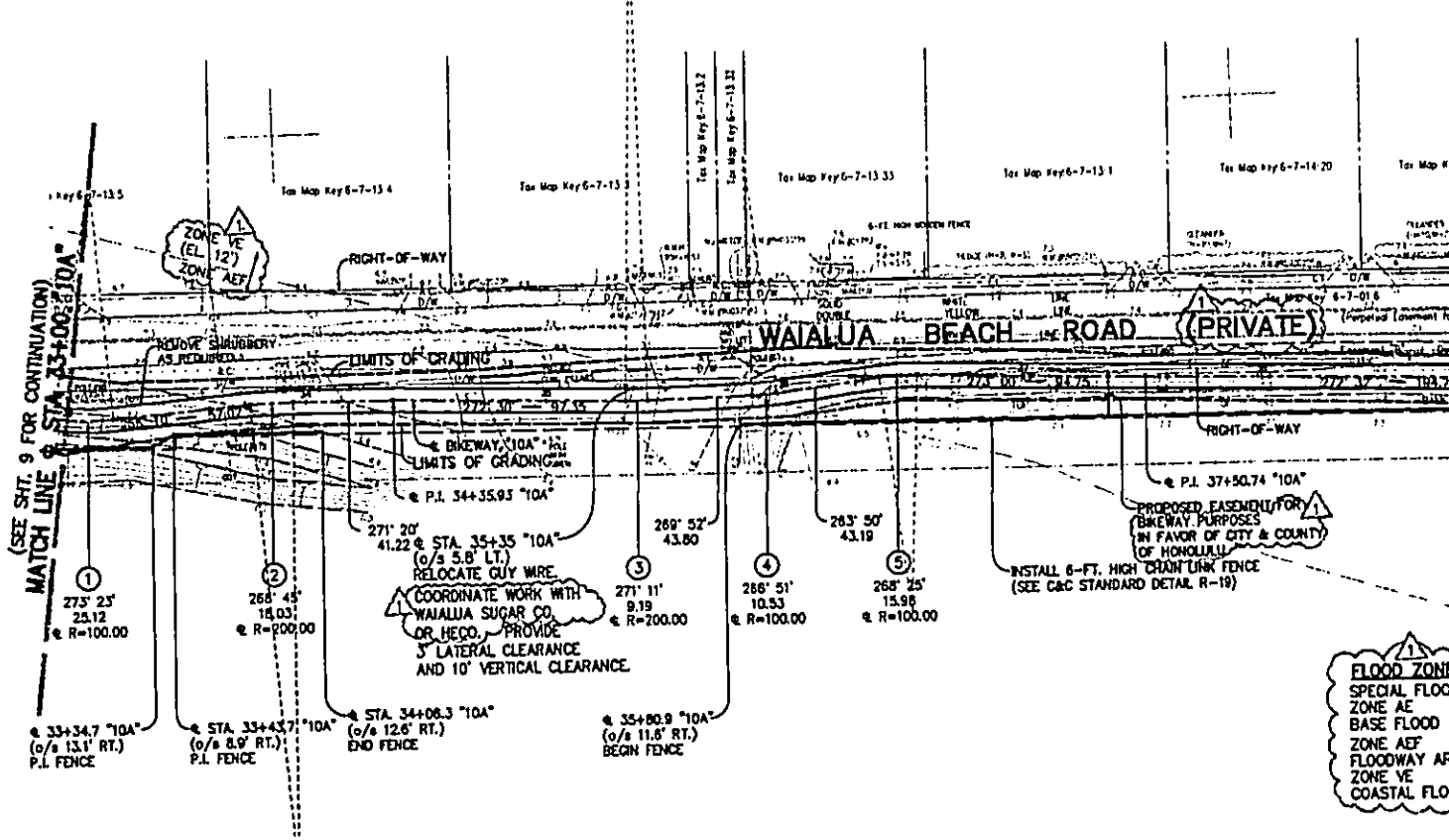
FLOOD ZONE LEGEND
 ZONE X
 AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD
 ZONE X'
 AREAS DETERMINED TO BE OUTSIDE OF 500-YEAR FLOODPLAIN
 SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 ZONE AE
 BASE FLOOD ELEVATIONS DETERMINED
 ZONE AEF
 FLOODWAY AREAS IN ZONE AE
 ZONE VE
 COASTAL FLOOD WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED

<p>REVISIONS</p> <p>▲ DPP, HECO COMMENTS, REVISED PROFILE 8/22/02</p>	<p>GRIS T. YAKUSHI LICENSED PROFESSIONAL ENGINEER No. 8243-C HAWAII, U.S.A.</p> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p> <p>PRIMA INC. 280 PARK ENGINEERING</p>	<p>DERRICK C. ELFALAN LICENSED PROFESSIONAL ENGINEER No. 5448-C HAWAII, U.S.A.</p> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p> <p>PRIMA INC. 280 PARK ENGINEERING</p>	<p>DEPARTMENT OF TRANSPORTATION SERVICES CITY AND COUNTY OF HONOLULU</p> <p>WAIALUA BEACH ROAD BIKEWAY TMK: 6-8-06:017 & 010, PORTION OF 6-7-01:006 & 026 KAMAHANUI, WAIALUA, DAHU, HAWAII</p> <p>PLAN & PROFILE - BIKEWAY "10A" (STA. 22+00 TO STA. 33+00)</p> <p>ENGINEER: GRI, FIT, TSS DRAFTSMAN: GHT, ANN, WSC CHK. BY: DCF APPROVED:</p> <p>DATE: _____ SCALE: _____ REF: _____ APPROVED: _____</p>
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NO.	REVISION	DATE

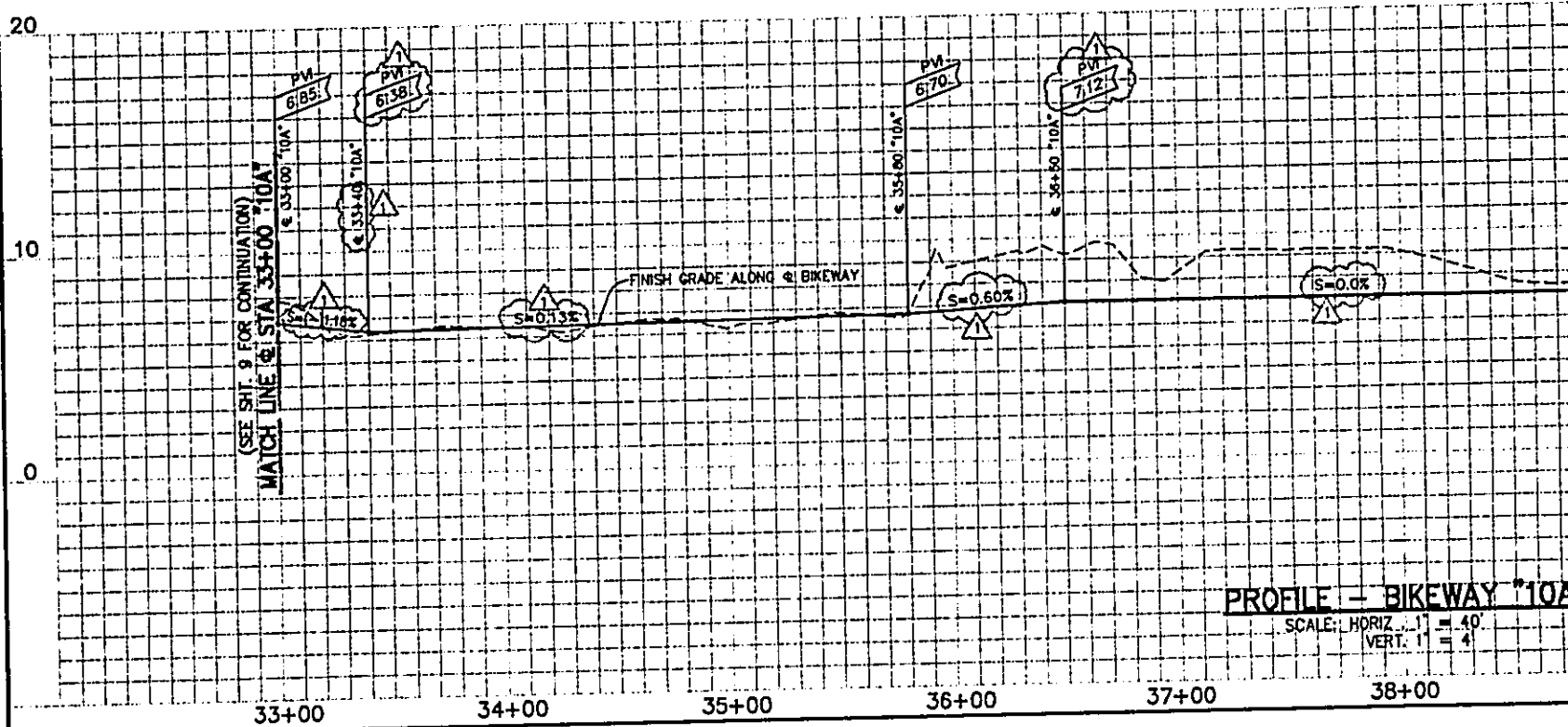
BIKEPATH "10A" CUR

①	②	③	④
PC 32+94.48 to P.T. 33+19.85	PC 33+76.67 to P.T. 33+94.71	PC 35+33.28 to P.T. 35+42.47	PC 35+86.27 to P.T. 35+96.80
Δ = 14' 26"	Δ = 5' 10"	Δ = 2' 38"	Δ = 6' 02"
Δ/2 = 7' 13"	Δ/2 = 2' 35"	Δ/2 = 1' 19"	Δ/2 = 3' 01"
R = 100.00	R = 200.00	R = 200.00	R = 100.00
T = 12.66	T = 9.02	T = 4.80	T = 5.27
C = 25.12	C = 18.03	C = 9.19	C = 18.53
Lc = 25.19	Lc = 18.04	Lc = 9.19	Lc = 10.53



FLOOD ZONE
SPECIAL FLOOD
ZONE AE
BASE FLOOD
ZONE AEF
FLOODWAY AREAS
ZONE VE
COASTAL FLOOD

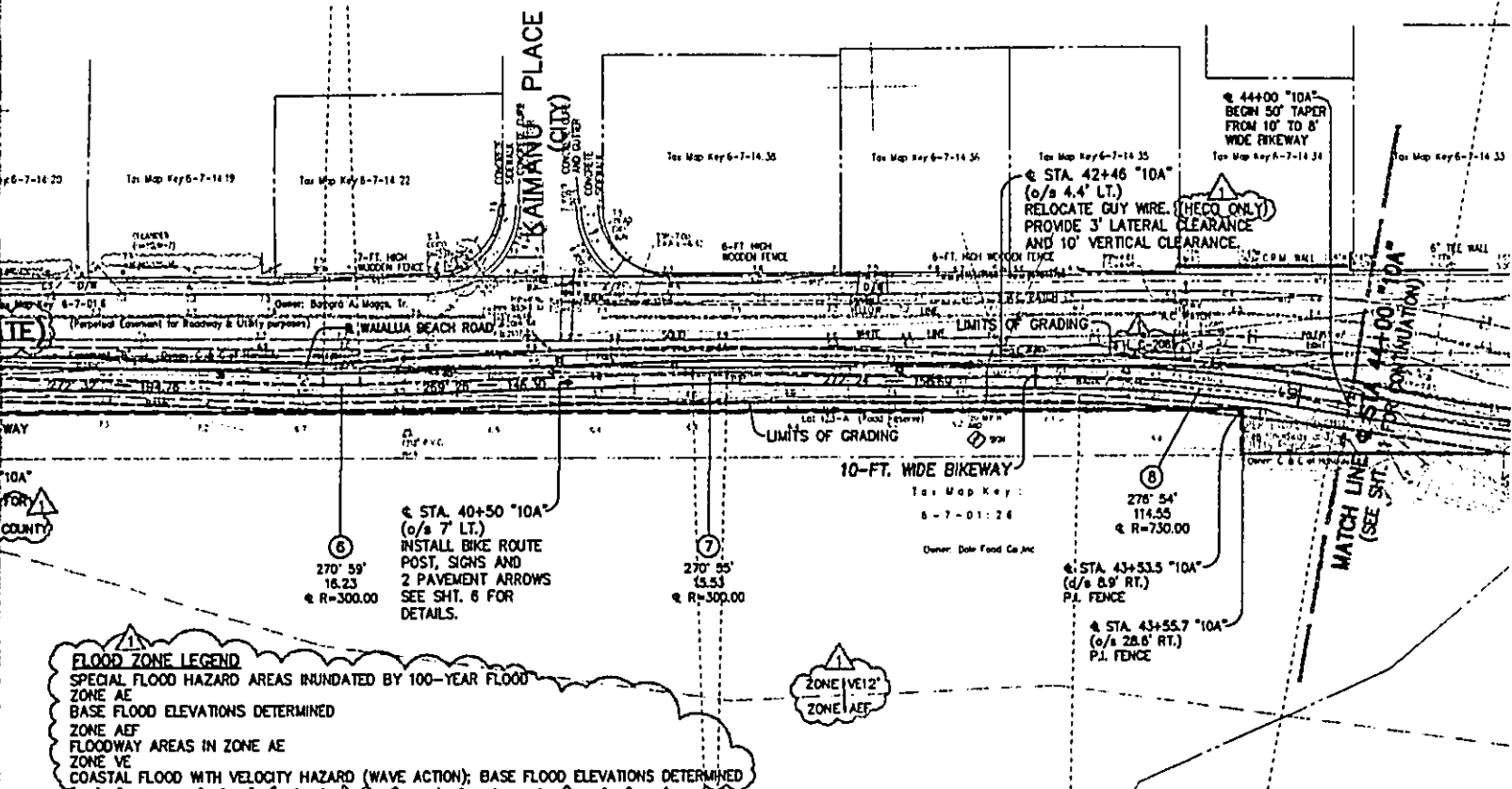
PLAN - BIKEWAY "10A"
SCALE: 1" = 40'



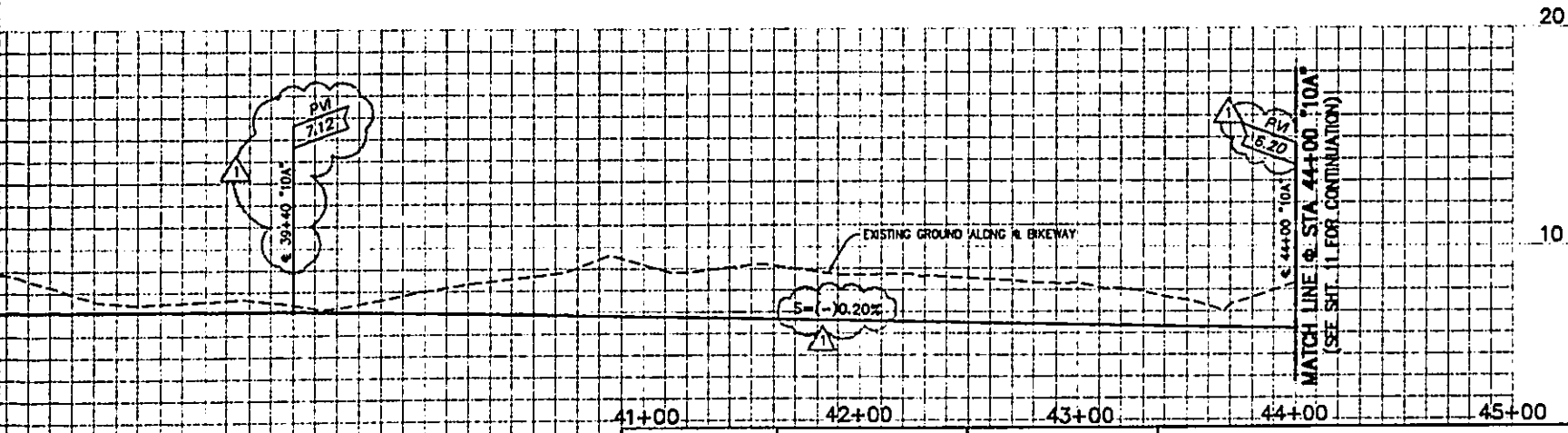
PROFILE - BIKEWAY "10A"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

BIKEPATH "10A" CURVE DATA

⑤	⑥	⑦	⑧
PT. 35+96.80	PT. 38+39.99 to PT. 38+55.99	PT. 39+81.73	PT. 41+23.58
PC. 38+39.99	PC. 39+45.50	PC. 41+08.03	PC. 42+80.25
PT. 38+55.99	PT. 39+81.73	PT. 41+23.58	PT. 43+94.92
$\Delta = 9' 10"$	$\Delta = 3' 06"$	$\Delta = 2' 58"$	$\Delta = 9' 00"$
$\Delta/2 = 4' 35"$	$\Delta/2 = 1' 33"$	$\Delta/2 = 1' 29"$	$\Delta/2 = 4' 30"$
R = 102.00	R = 300.00	R = 300.00	R = 730.00
T = 8.02	T = 8.12	T = 7.77	T = 57.45
C = 15.98	C = 16.23	C = 15.53	C = 114.55
Lc = 16.00	Lc = 16.23	Lc = 15.33	Lc = 114.67



WAY "10A"
= 40'

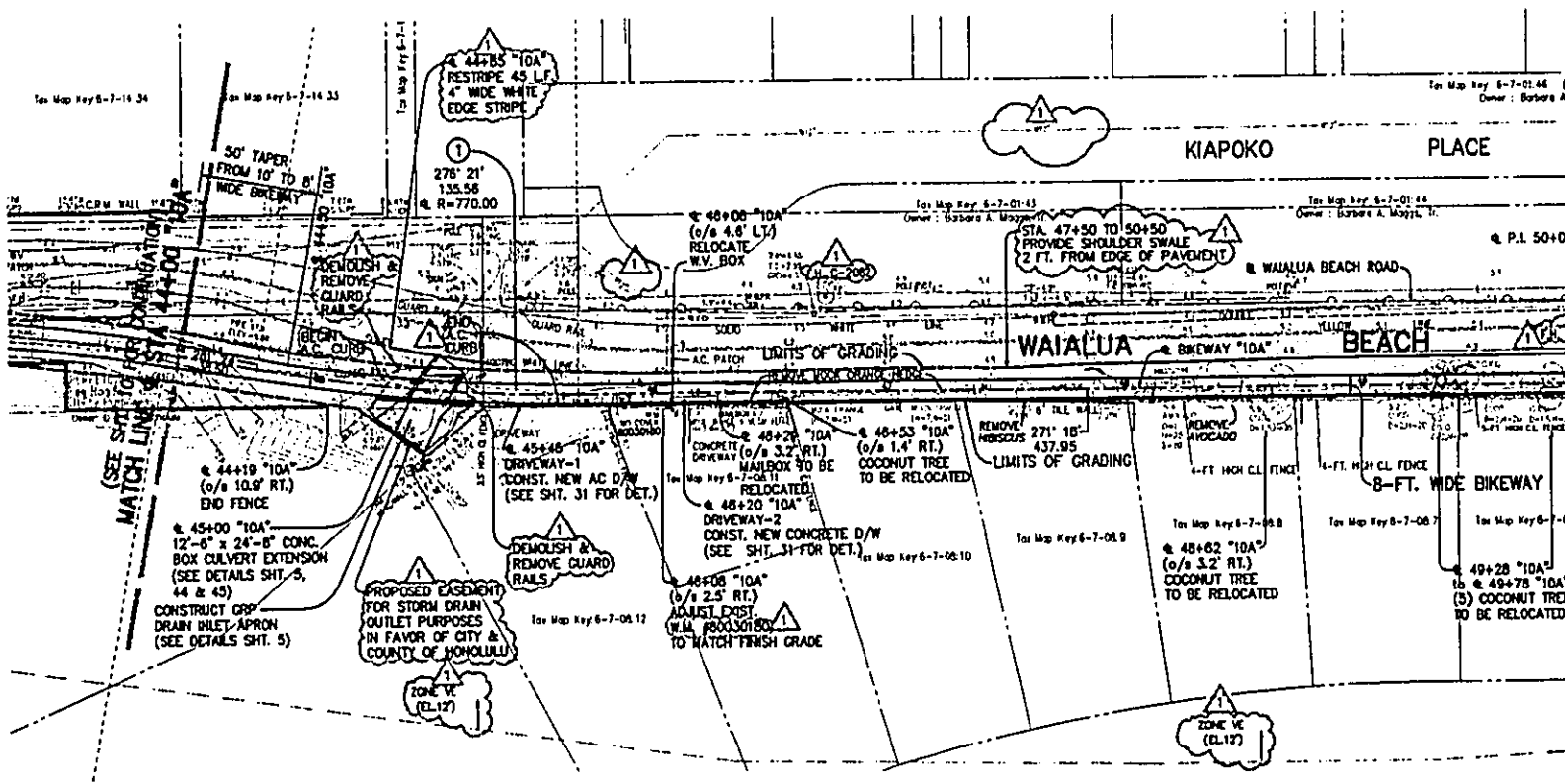


EWAY "10A"
= 40'

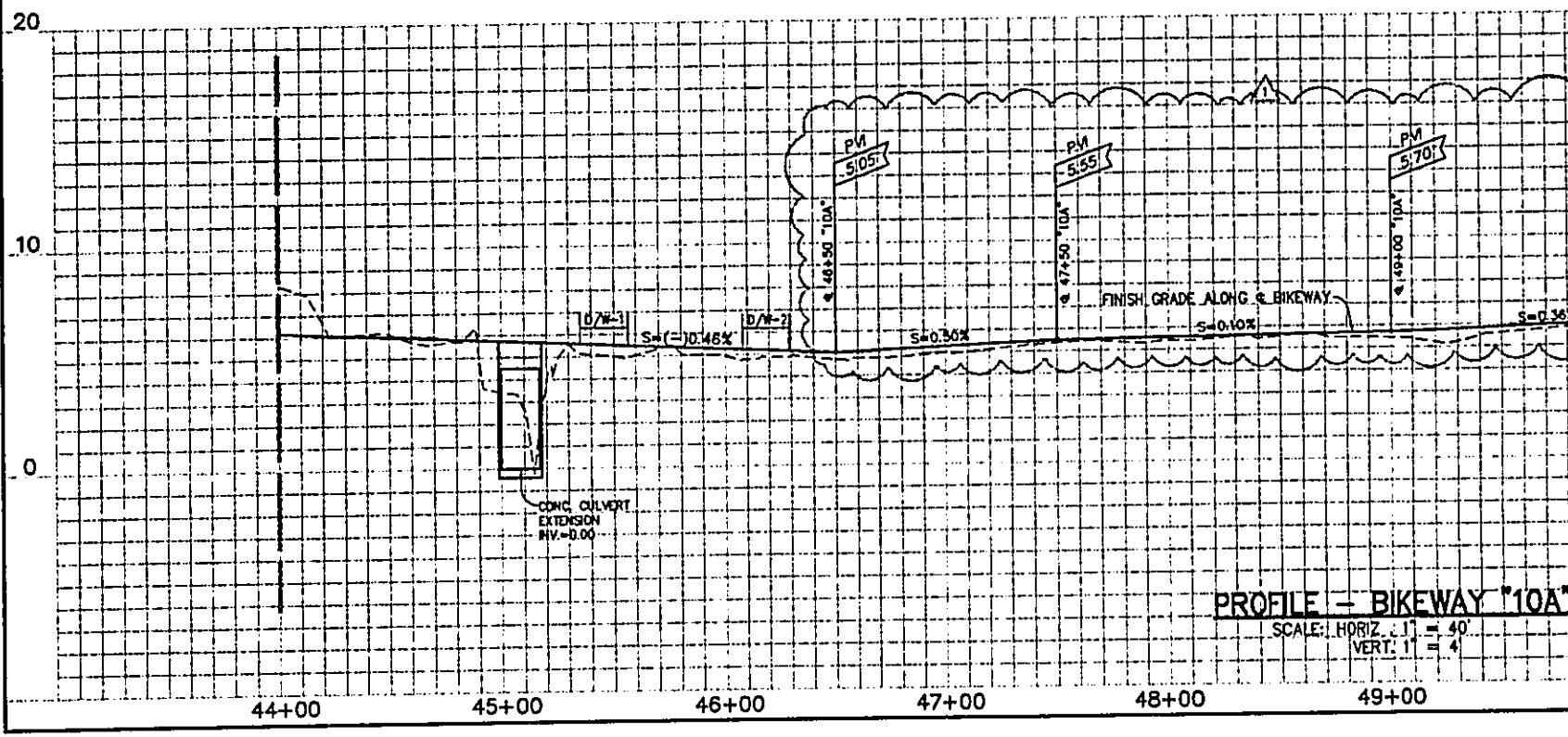
<p>REVISIONS</p> <p>△ DPP, HECD, BWS COMMENTS. 8/22/02</p>	<p>CRIS T. TAKUSHI LICENSED PROFESSIONAL ENGINEER No. 9243-C HAWAII U.S.A.</p> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p>	<p>DERICK C. ELFAIM LICENSED PROFESSIONAL ENGINEER No. 5448-C HAWAII U.S.A.</p> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p>	<p>DEPARTMENT OF TRANSPORTATION SERVICES CITY AND COUNTY OF HONOLULU</p> <p>WAIALUA BEACH ROAD BIKEWAY TMK: 6-8-06-017 & 010, PORTION OF 6-7-01:006 & 026 KAMAHANUI, WAIALUA, OAHU, HAWAII</p> <p>PLAN & PROFILE - BIKEWAY "10A" (STA. 33+00 TO STA. 44+00)</p>
			<p>ENGINEER: GRI, GRI, ISS</p> <p>DRAFTSMAN: GRI, ANM, MSC</p> <p>CHK. BY: DCE</p> <p>APPROVED:</p>

BIKEPATH "10A" CURVE DATA

①	②
P.C. 44+33.42 to P.T. 45+09.15	P.C. 51+02.80 to P.T. 51+22.02
$\Delta = 10' 06"$	$\Delta = 3' 46"$
$\frac{\Delta}{2} = 5' 03"$	$\frac{\Delta}{2} = 1' 53"$
$R = 770.00$	$R = 300.00$
$T = 66.04$	$T = 9.86$
$C = 135.56$	$C = 19.72$
$Lc = 135.73$	$Lc = 19.72$



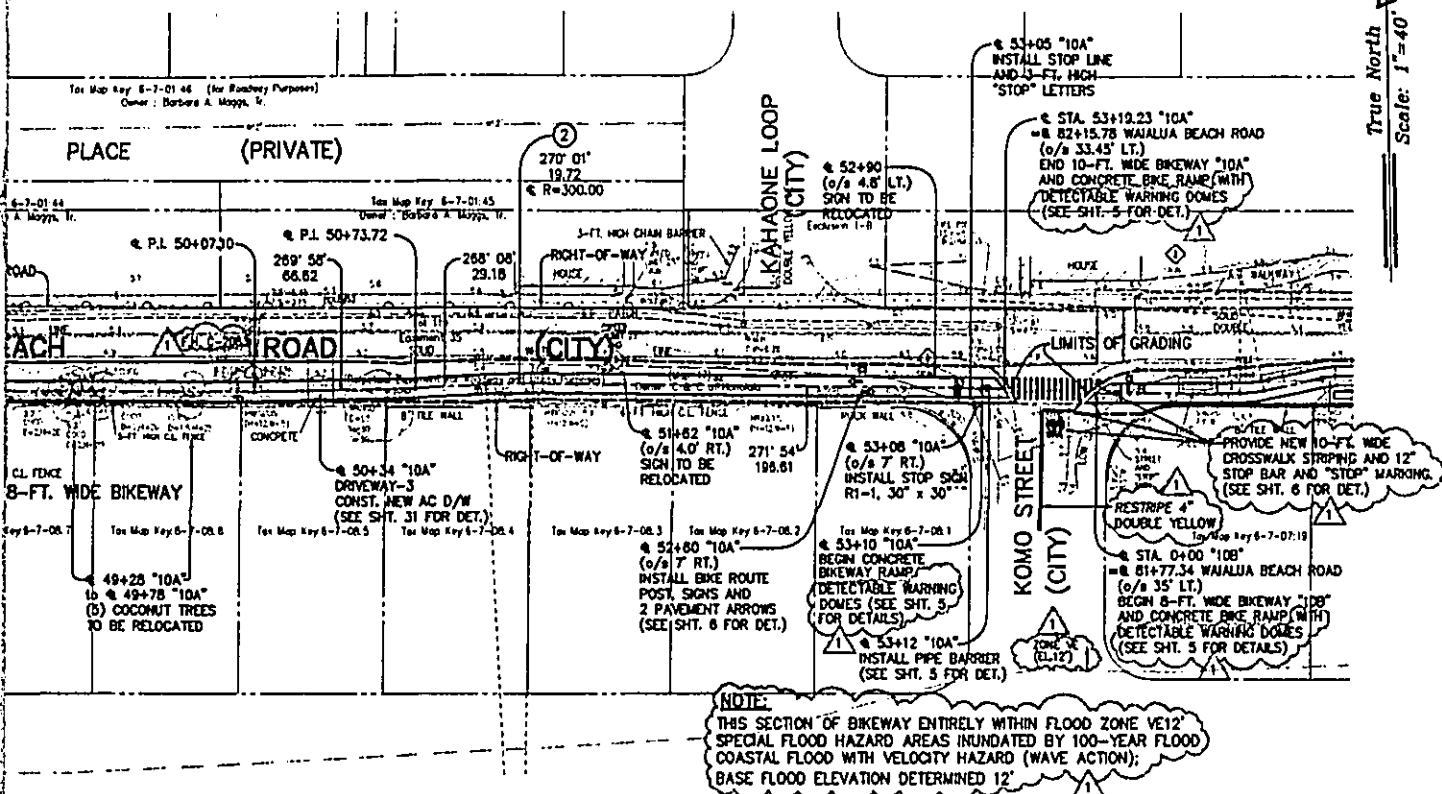
PLAN - BIKEWAY "10A"
SCALE: 1" = 40'



PROFILE - BIKEWAY "10A"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

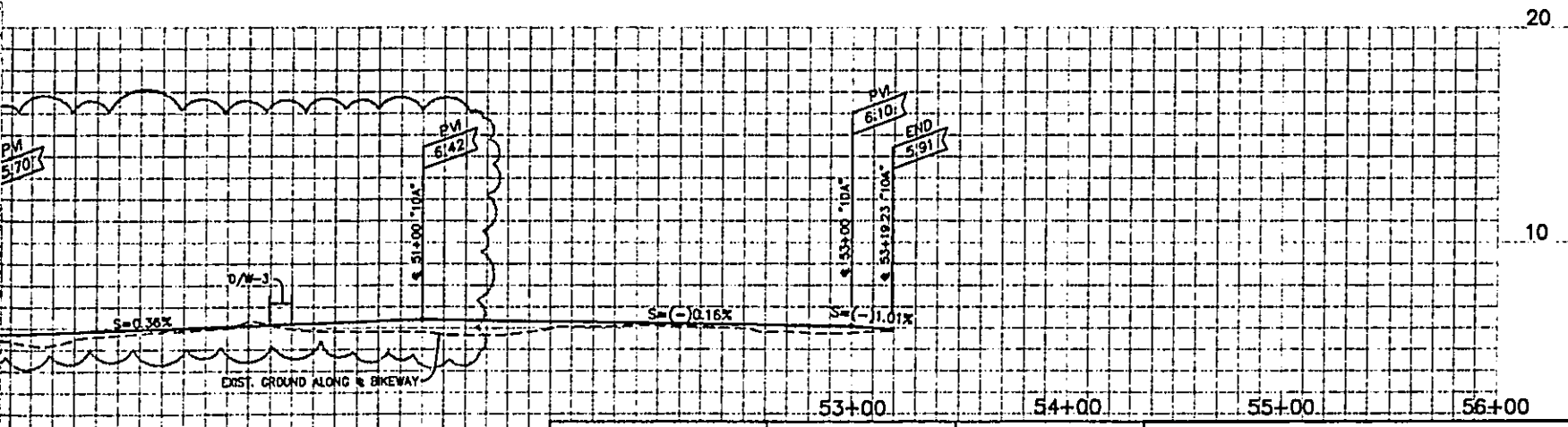
VE DATA

②
 2.00 to & P.T. 51+22.02
 Δ = 3' 48"
 Z = 1' 53"
 R = 300.00
 T = 9.88
 C = 19.72
 c = 19.72



True North
 Scale: 1"=40'

BIKEWAY "10A"
 = 40'



BIKEWAY "10A"
 = 40'

REVISIONS	
1	DPP,BWS, OCAB COMMENTS REVISED PROFILE, ADDED CALLOUTS FOR DEMO, AND REMOVAL OF GUARDRAIL, NEW STRIPING & AC SWALE. 8/22/02

CRIS T. TANUSHI
 LICENSED PROFESSIONAL ENGINEER
 No. 9243-C
 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DATE: 08/22/02
 606 PARK ENGINEERING

DERICK C. ELLFMAN
 LICENSED PROFESSIONAL ENGINEER
 No. 5448-C
 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DATE: 08/22/02
 606 PARK ENGINEERING

DEPARTMENT OF TRANSPORTATION SERVICES
 CITY AND COUNTY OF HONOLULU

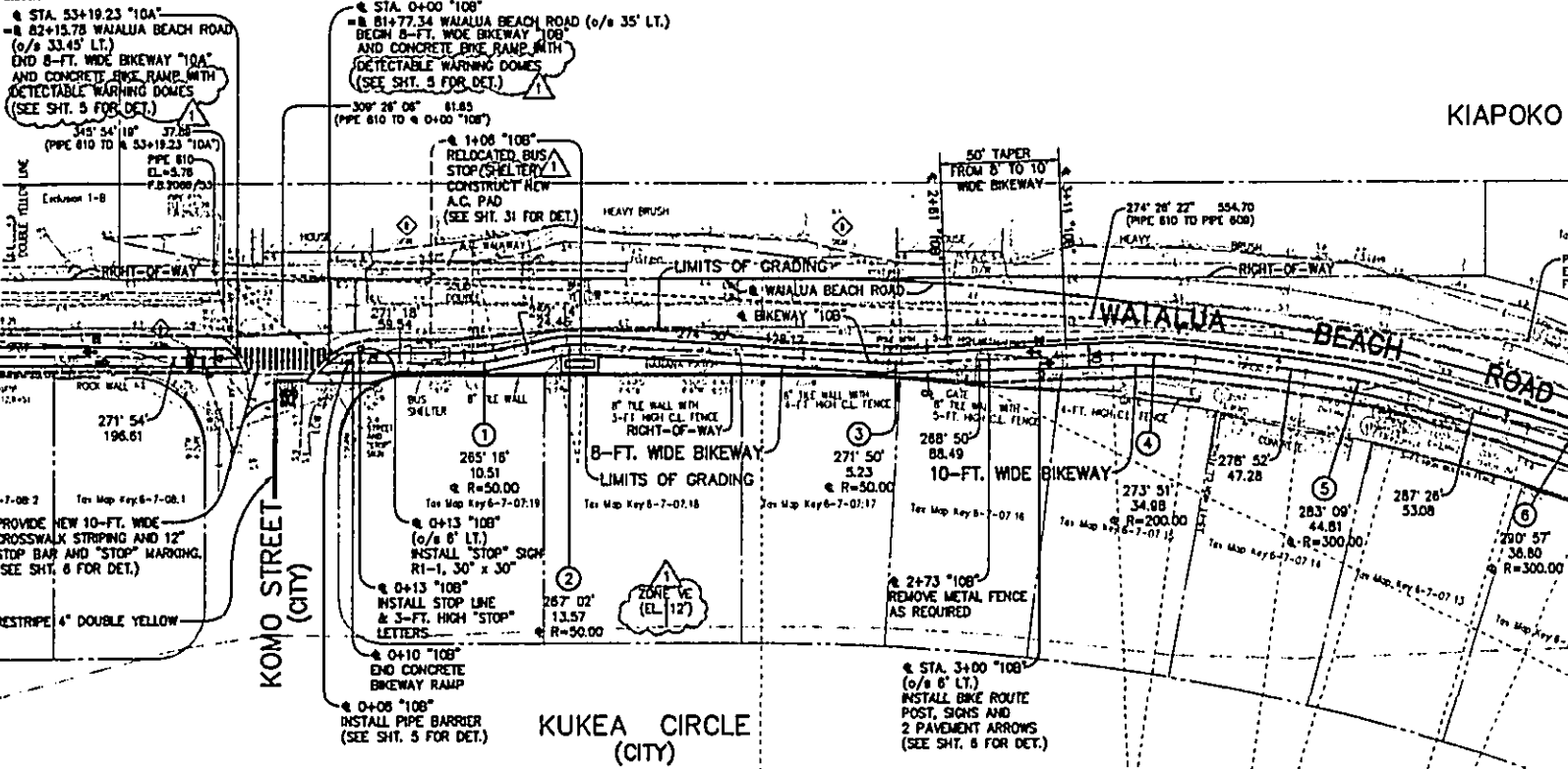
WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-06:017 & 010, PORTION OF 6-7-01:008 & 028
 KAMANANUI, WAIALUA, OAHU, HAWAII

PLAN & PROFILE - BIKEWAY "10A"
 (STA. 44+00 TO STA. 53+19.23)

ENGINEER: GSK, CTT, ISS
 DRAFTSMAN: GHT, AMV, NSE
 CHK. BY: DCE
 APPROVED:

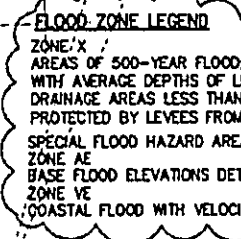
DATE:
 SCALE:
 REF:
 APPROVED:

REV.	DESCRIPTION	DATE	NO.



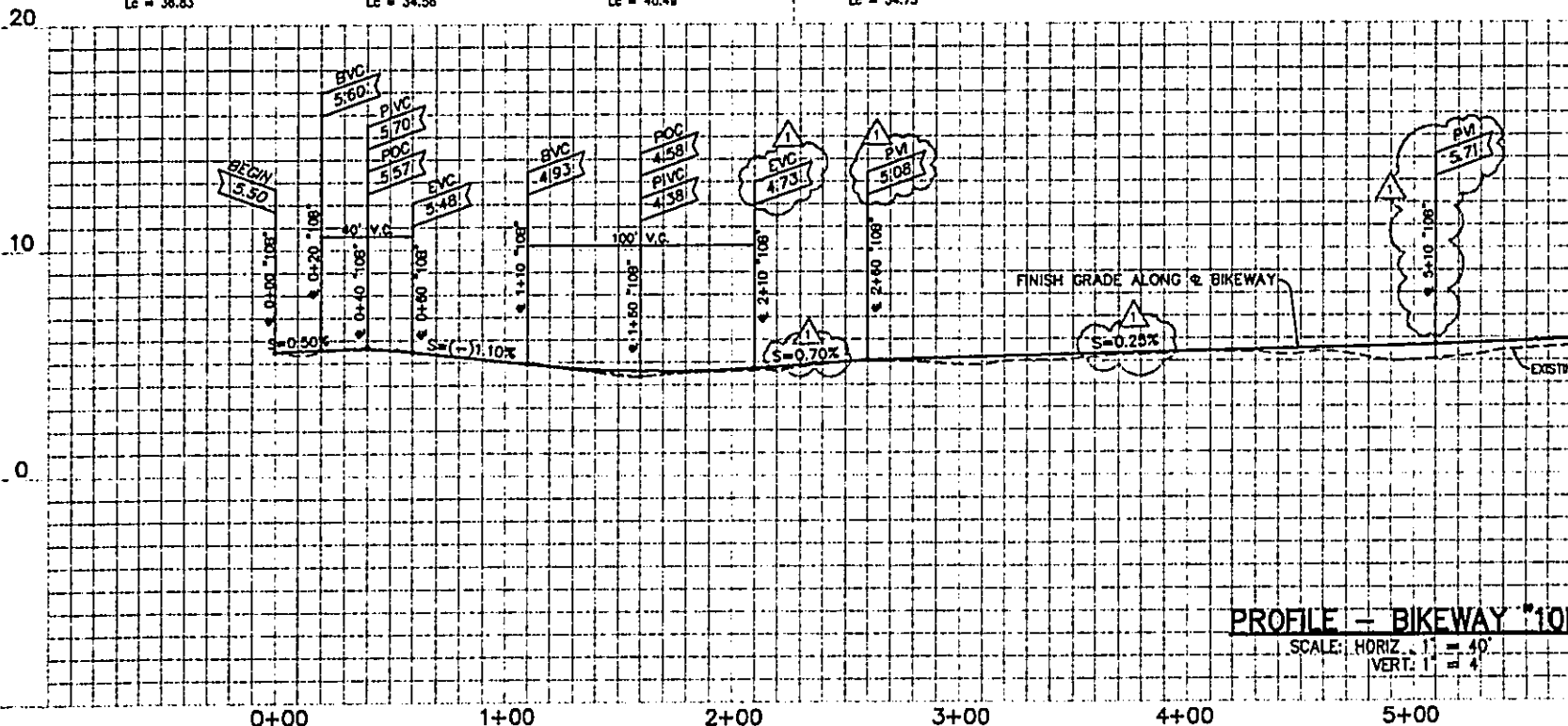
BIKEPATH "10B" CURVE DATA

Station Range	Curve Data
0+59.34 to 0+70.07	$\Delta = 12' 04"$ $\Delta/2 = 6' 02"$ $R = 50.00$ $T = 5.28$ $C = 10.31$ $Lc = 10.33$
0+94.53 to 1+08.14	$\Delta = 15' 36"$ $\Delta/2 = 7' 48"$ $R = 50.00$ $T = 6.85$ $C = 13.57$ $Lc = 13.61$
2+36.31 to 2+41.35	$\Delta = 6' 00"$ $\Delta/2 = 3' 00"$ $R = 50.00$ $T = 2.82$ $C = 5.23$ $Lc = 5.24$
3+30.04 to 3+65.00	$\Delta = 10' 02"$ $\Delta/2 = 5' 01"$ $R = 200.00$ $T = 17.56$ $C = 34.98$ $Lc = 35.02$
4+12.34 to 4+57.19	$\Delta = 8' 34"$ $\Delta/2 = 4' 17"$ $R = 300.00$ $T = 22.47$ $C = 44.81$ $Lc = 44.85$
5+10.77 to 5+47.10	$\Delta = 7' 02"$ $\Delta/2 = 3' 31"$ $R = 300.00$ $T = 18.44$ $C = 36.80$ $Lc = 36.83$
6+90.75 to 7+25.31	$\Delta = 6' 36"$ $\Delta/2 = 3' 18"$ $R = 300.00$ $T = 17.30$ $C = 34.54$ $Lc = 34.58$
8+28.85 to 8+70.14	$\Delta = 7' 44"$ $\Delta/2 = 3' 52"$ $R = 300.00$ $T = 20.28$ $C = 40.46$ $Lc = 40.49$
9+78.83 to 10+14.56	$\Delta = 6' 36"$ $\Delta/2 = 3' 19"$ $R = 300.00$ $T = 17.39$ $C = 34.71$ $Lc = 34.73$



PLAN - BIKEPATH "10B"

SCALE: 1" = 40'

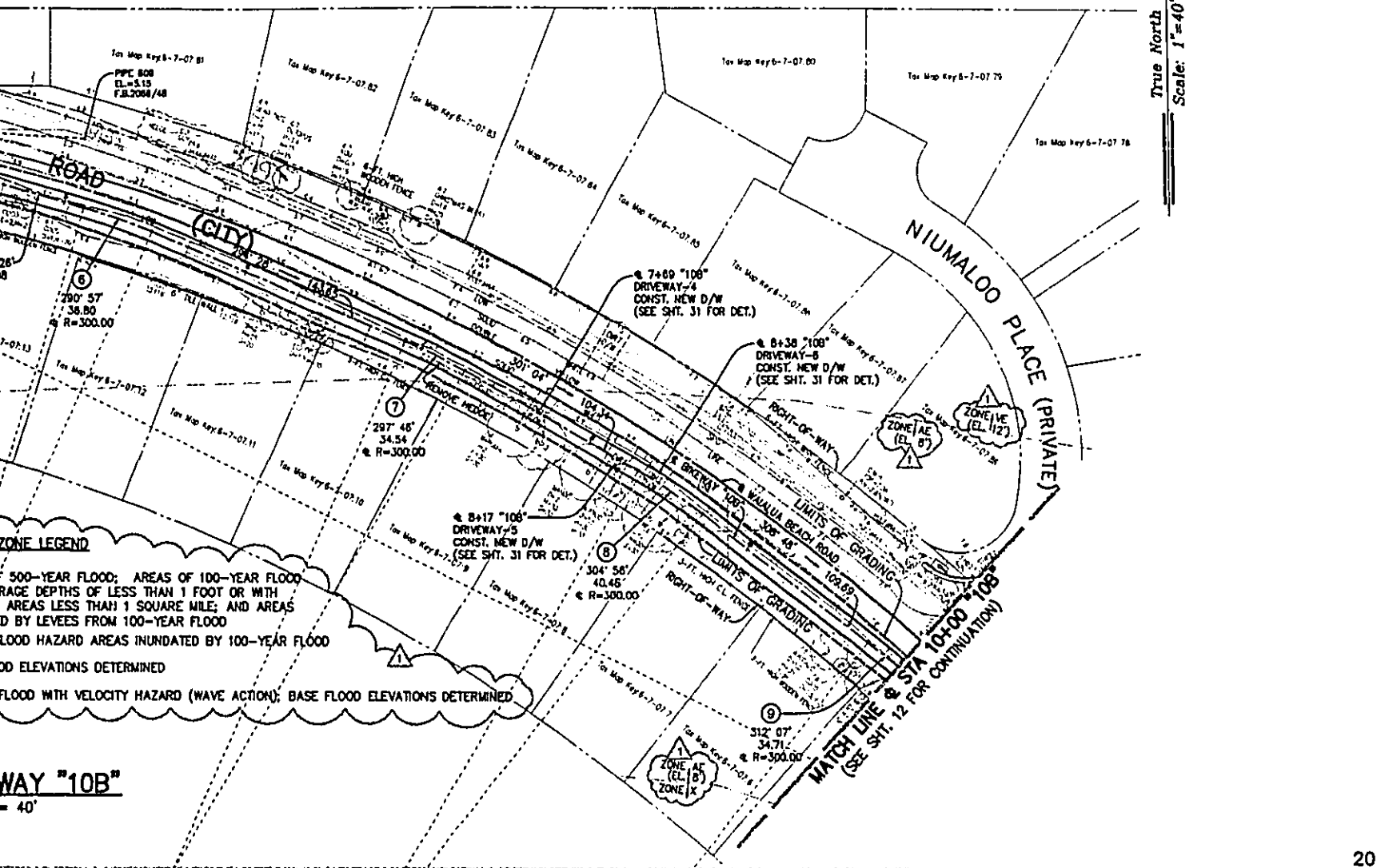


PROFILE - BIKEPATH "10B"

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

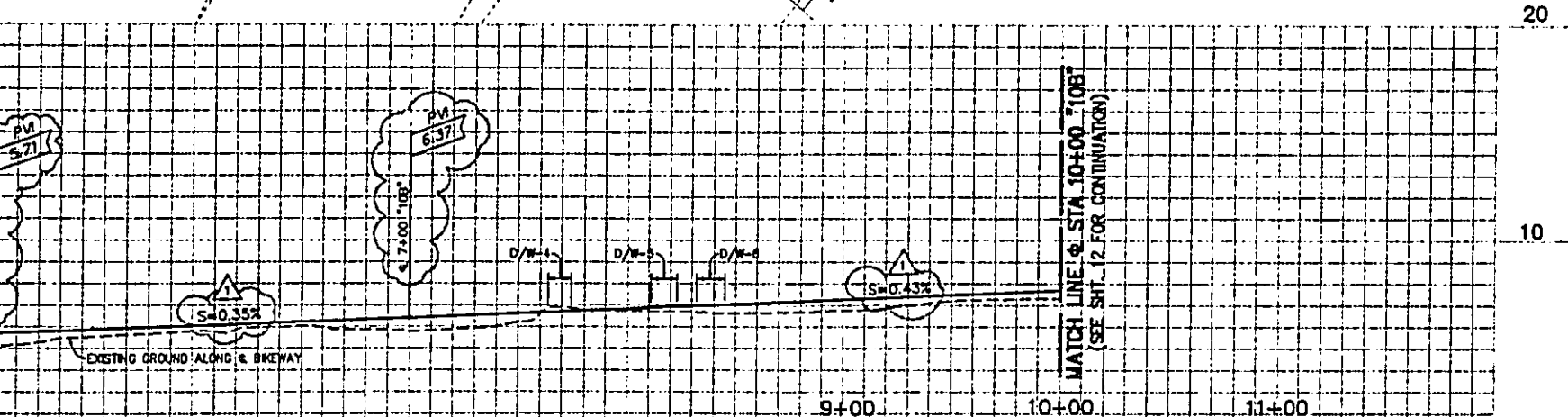
KIAPOKO STREET (PRIVATE)

True North
Scale: 1"=40'



ZONE LEGEND
 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD
 GRADE DEPTHS OF LESS THAN 1 FOOT OR WITH
 AREAS LESS THAN 1 SQUARE MILE; AND AREAS
 D BY LEVEES FROM 100-YEAR FLOOD
 FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 FLOOD ELEVATIONS DETERMINED
 FLOOD WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED

WAY "10B"
= 40'



WAY "10B"
= 40'
= 4'

REVISIONS

△	DPP, DTS, DCAB COMMENTS, REVISED PROFILE, 8/22/02
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THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

WAIALUA BEACH ROAD BIKEWAY
 TMK: 8-8-08:017 & 010, PORTION OF 6-7-01:005 & 026
 KAMANAHUI, WAIALUA, OAHU, HAWAII
PLAN & PROFILE - BIKEWAY "10B"
 (STA. 0+00 TO STA. 10+00)

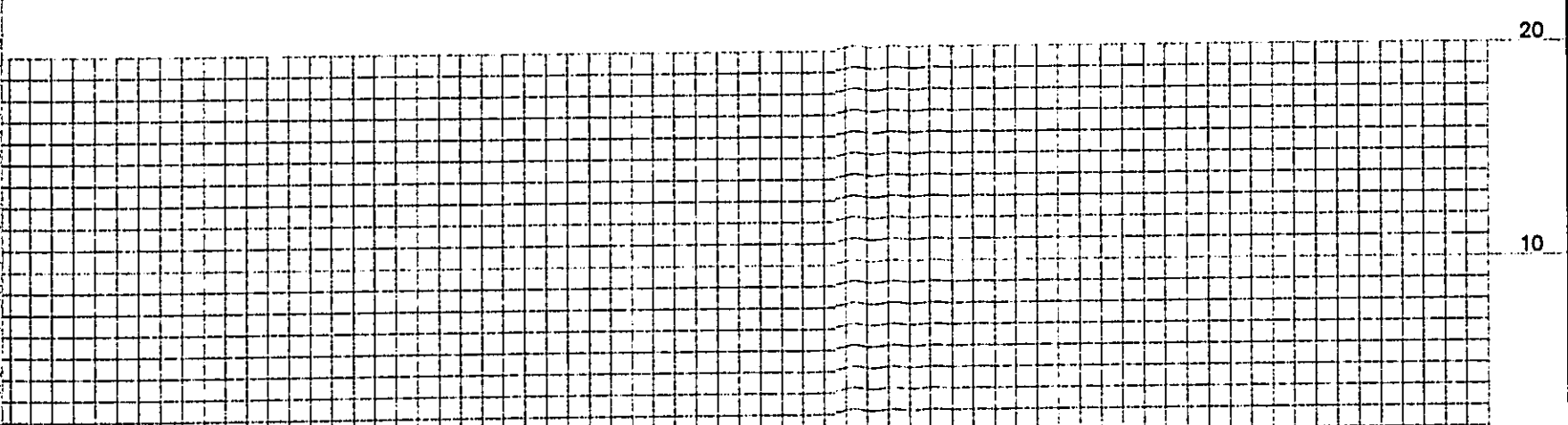
ENGINEER: GEL, GTF, ESS
 DRAFTSMAN: GHT, AMM, MSC
 CHK. BY: DGE
 APPROVED: _____
 DATE: _____
 SCALE: _____
 REF: _____
 APPROVED: _____

FILE	PROJECT	TITLE	NO.
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True North
Scale: 1"=40'

ZONE X
IS

FLOOD WITH AREAS
-YEAR FLOOD



REVISIONS
 △ DPP, BWS, DCAG COMMENTS, REVISED PROFILE, 8/22/02

CRIS T. TAKUSHI
 LICENSED PROFESSIONAL ENGINEER
 No. 9243-C
 HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PAUL H. HARRIS
 CIVIL ENGINEERING

DERRICK C. ELFAIN
 LICENSED PROFESSIONAL ENGINEER
 No. 3448-C
 HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

[Signature]
 PAUL H. HARRIS
 CIVIL ENGINEERING

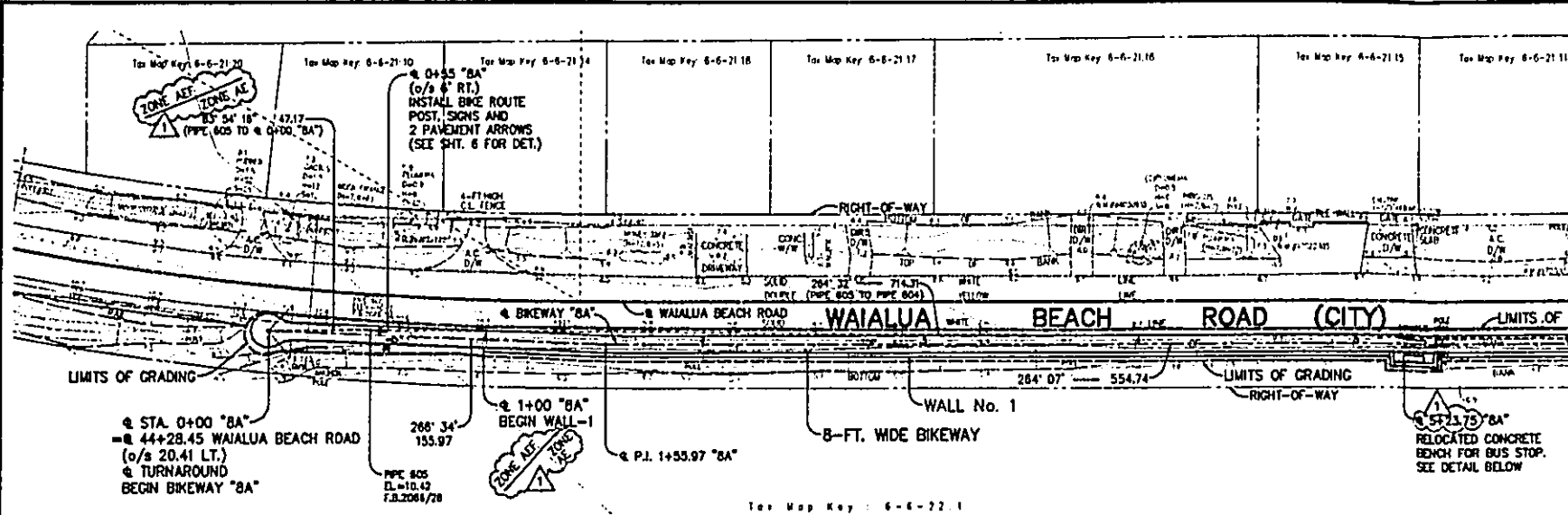
DEPARTMENT OF TRANSPORTATION SERVICES
 CITY AND COUNTY OF HONOLULU

WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-08:017 & 010, PORTION OF 6-7-01:006 & 026
 KAMAHANUI, WAIALUA, OAHU, HAWAII

PLAN & PROFILE - BIKEWAY "10B"
 (STA. 10+00 TO STA. 13+37.02)

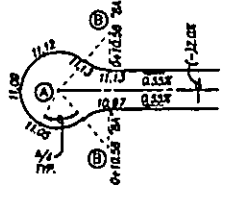
ENGINEER: GIL GIT ISS DATE: _____
 DRAFTSMAN: GIL AMM VSC SCALE: _____
 CHECK BY: DCE REF: _____
 APPROVED: _____ APPROVED: _____

FILE	PROJECT	TITLE	NO.

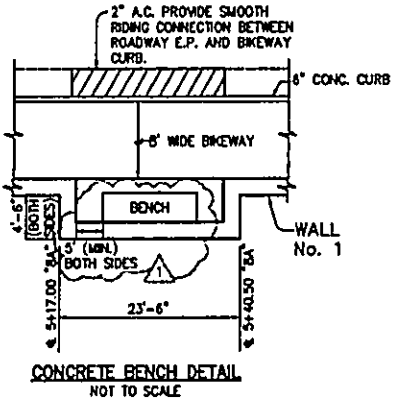


CURVE DATA

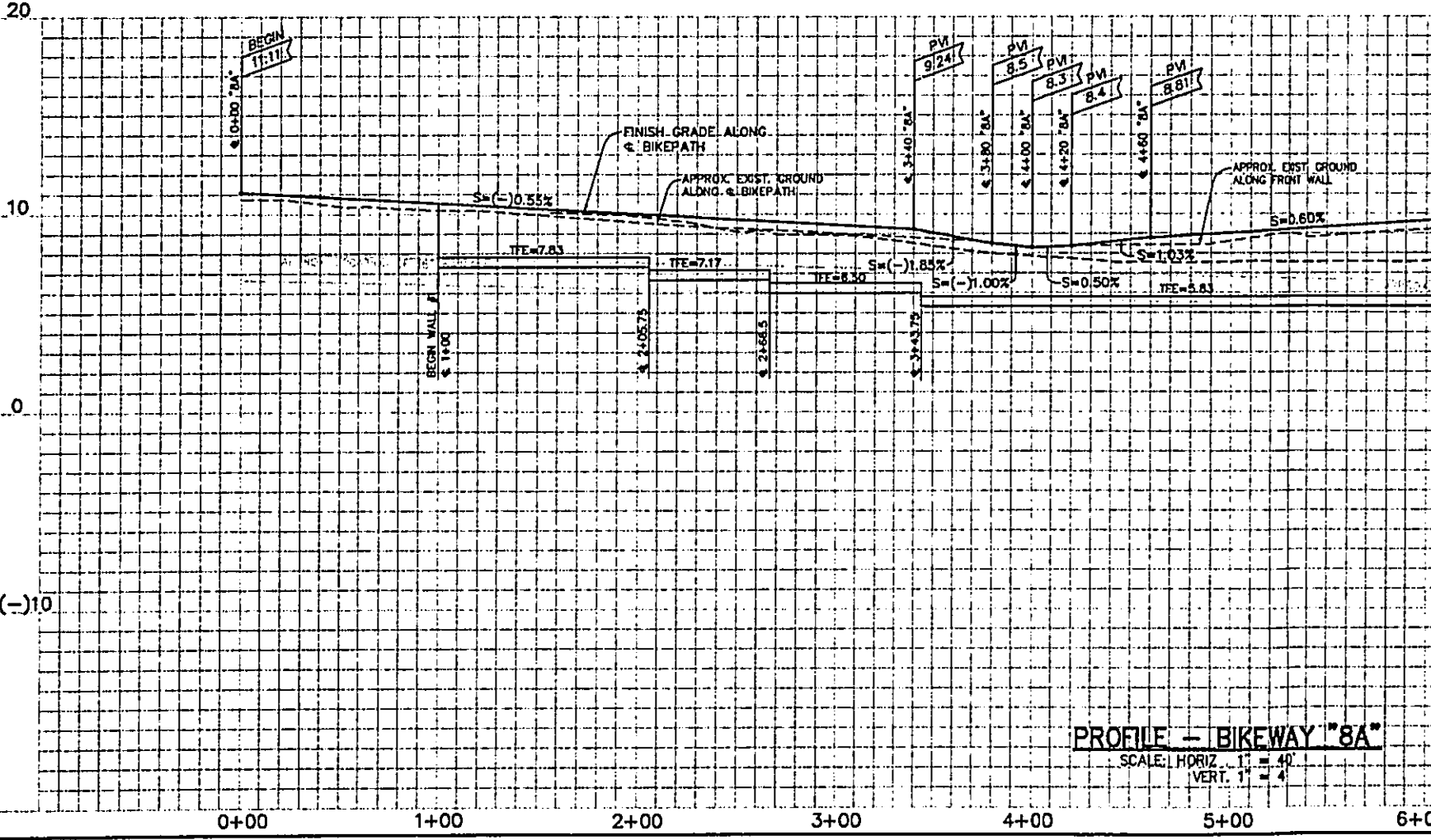
- Ⓐ Δ = 262° 48' 10"
 R = 131' 24" 33"
 T = 8.00
 L = 38.70
- Ⓑ Δ = 47° 24' 35"
 R = 20' 42' 17"
 T = 3.02
 L = 5.66



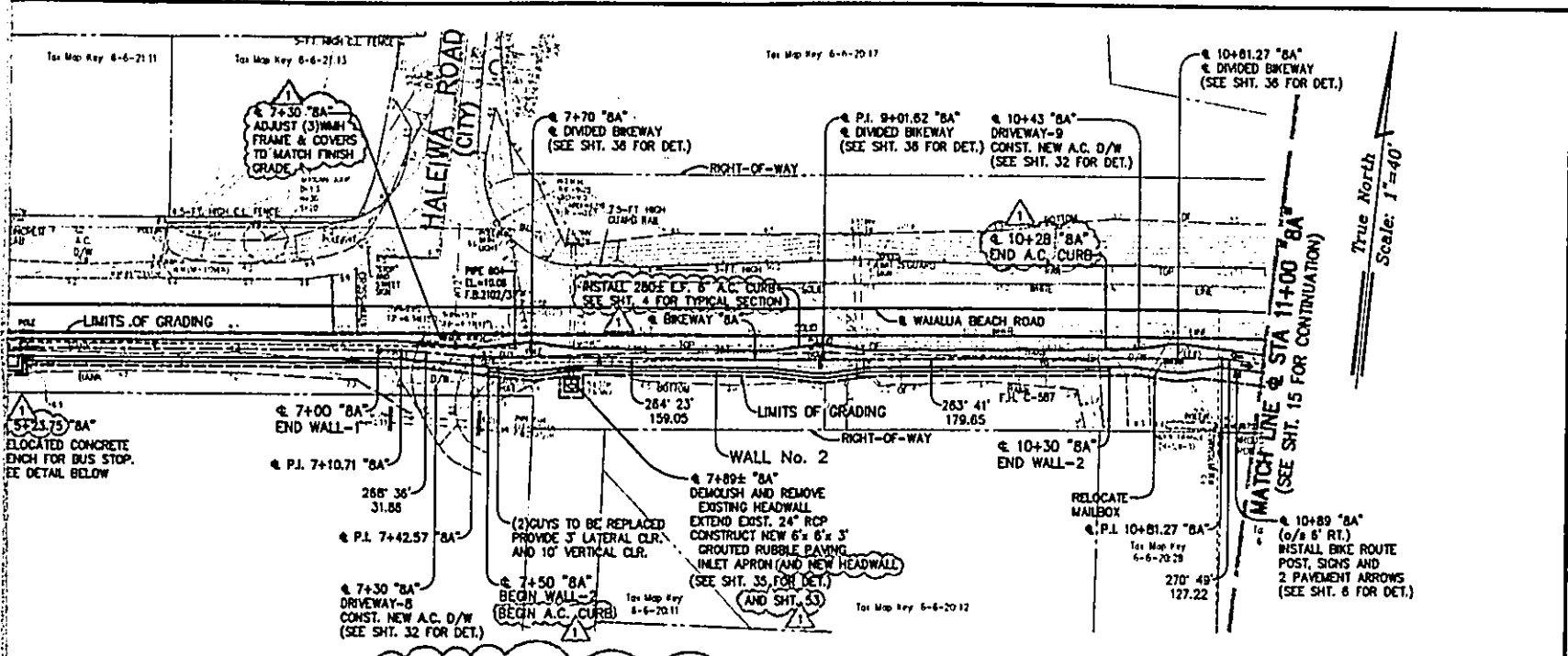
TURNAROUND E.P. GRADES
 SCALE: 1" = 20'



PLAN - BIKEWAY "8A"
 SCALE: 1" = 40'

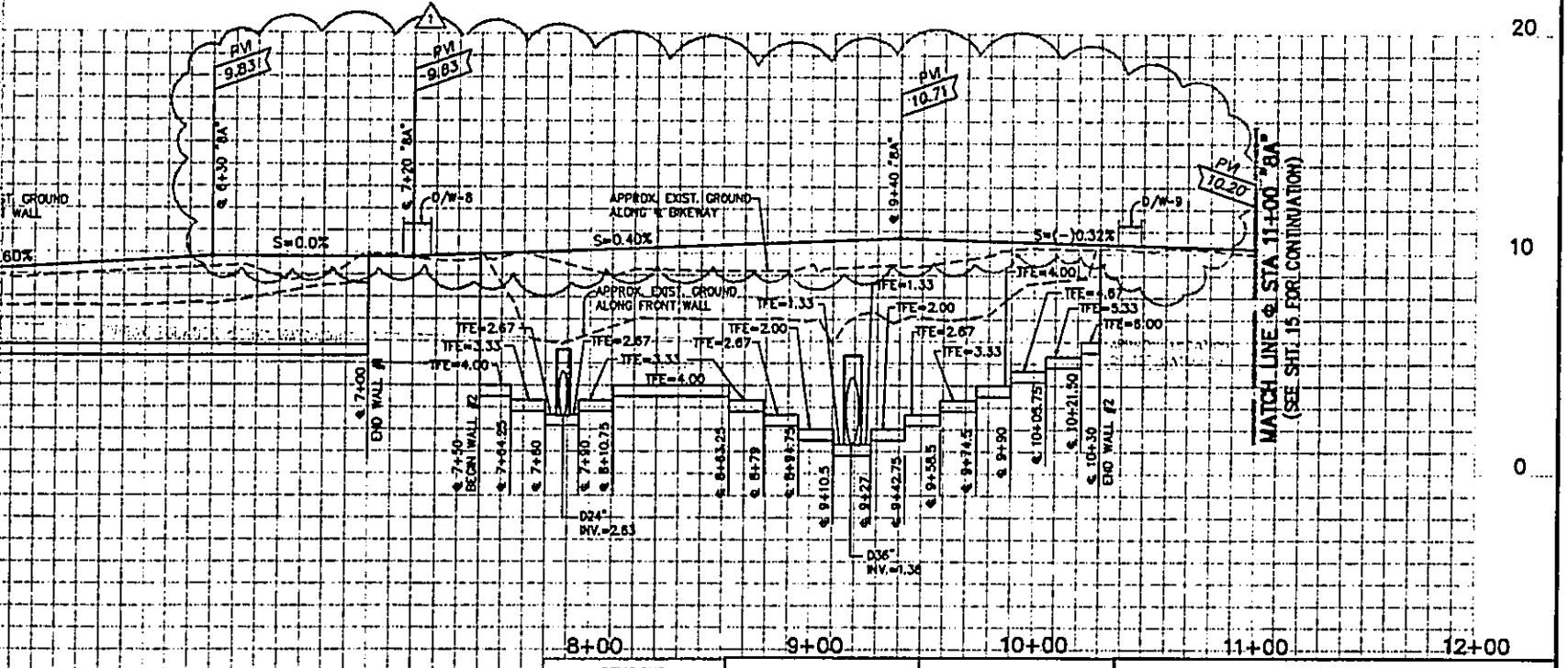


PROFILE - BIKEWAY "8A"
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'



FLOOD ZONE LEGEND
 SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 ZONE AE
 BASE FLOOD ELEVATIONS DETERMINED
 ZONE AEF
 FLOODWAY AREAS IN ZONE AE

EWAY "8A"
 = 40'



REVISIONS
 1. DPP, BWS & DTS COMMENTS, REVISED PROFILE, ADDED A.C. CURB. 6/22/02

CRIS T. TAUSCH
 LICENSED PROFESSIONAL ENGINEER
 No. 9243-C
 HAWAII, USA.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 P. O. BOX 100
 THE PARK ENGINEERING

DERRICK C. ELEFANT
 LICENSED PROFESSIONAL ENGINEER
 No. 5448-C
 HAWAII, USA.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 P. O. BOX 100
 THE PARK ENGINEERING

DEPARTMENT OF TRANSPORTATION SERVICES
 CITY AND COUNTY OF HONOLULU
WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-08-017 & 010, PORTION OF 6-7-01-008 & 026
 KAMANAHUI, WAIALUA, OAHU, HAWAII
PLAN & PROFILE - BIKEWAY "8A"
 (STA. 0+00 TO STA. 11+00)
 ENGINEER: GRI, GUY, JSS
 DRAFTSMAN: GHT, AMM, MSC
 CHK. BY: DCZ
 APPROVED:
 DATE: _____
 SCALE: _____
 REF: _____
 APPROVED: _____

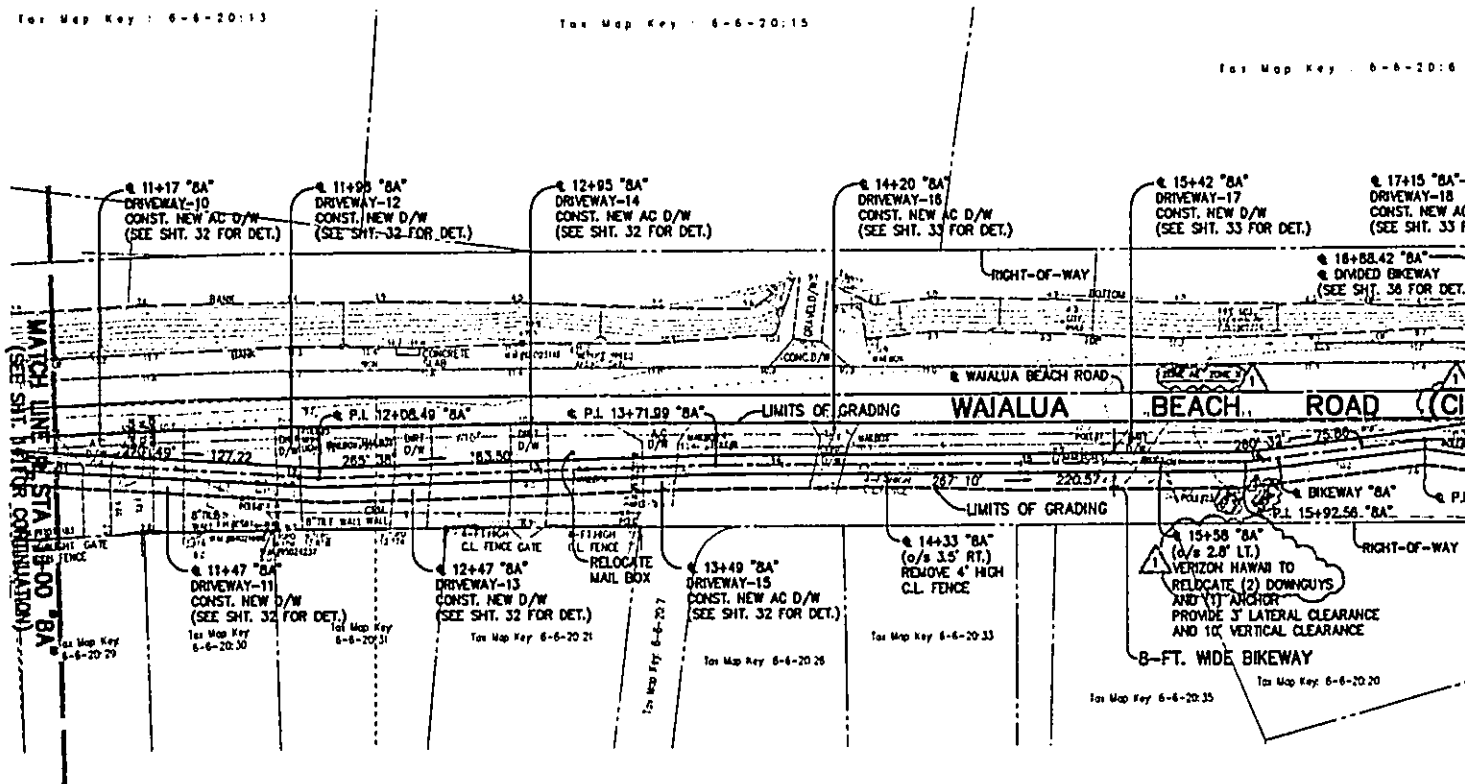
Y "8A"

FILE	PROJECT	TITLE	NO.

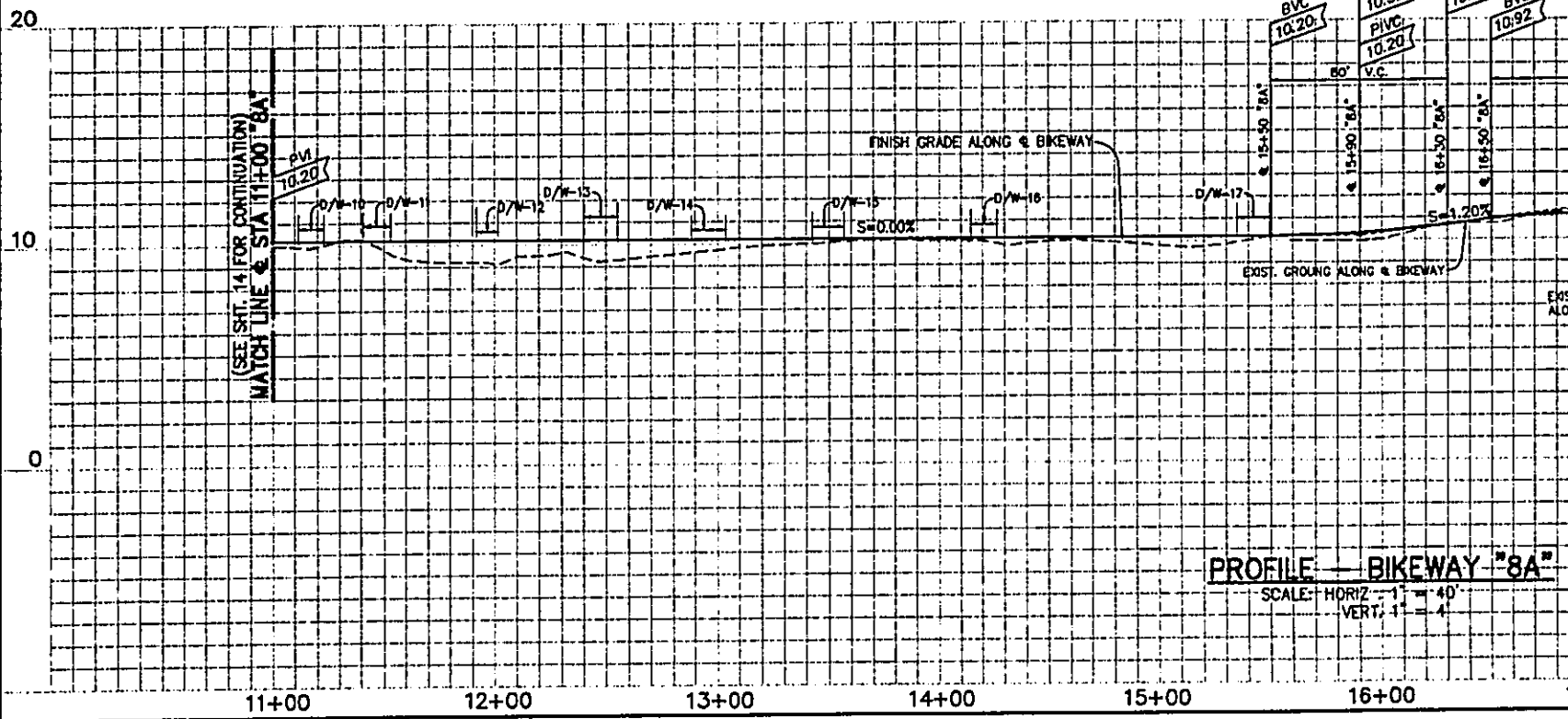
For Map Key : 6-6-20:13

For Map Key : 6-6-20:15

For Map Key : 6-6-20:16



PLAN - BIKEWAY "8A"
SCALE: 1" = 40'



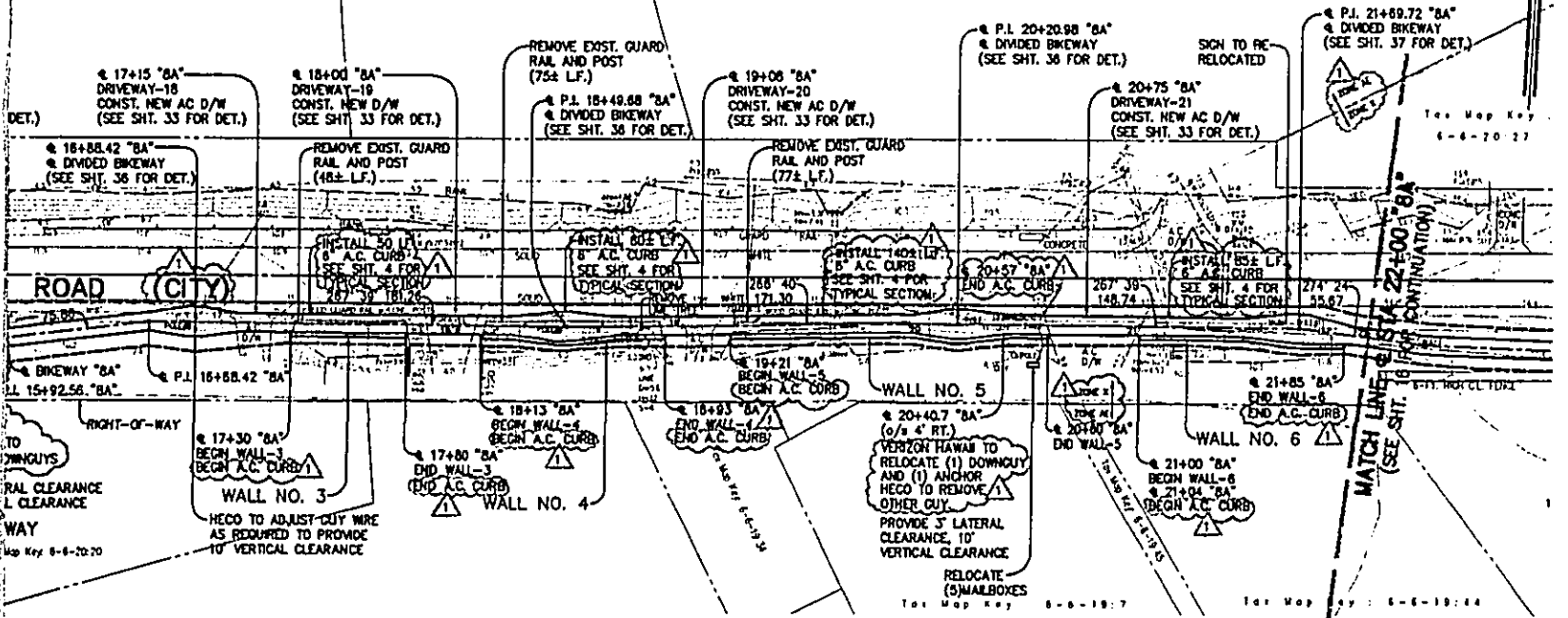
PROFILE - BIKEWAY "8A"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

D Key : 6-6-20:6

Top Map Key : 6-6-20:5

Top Map Key : 6-6-20:4

True North
Scale: 1"=40'



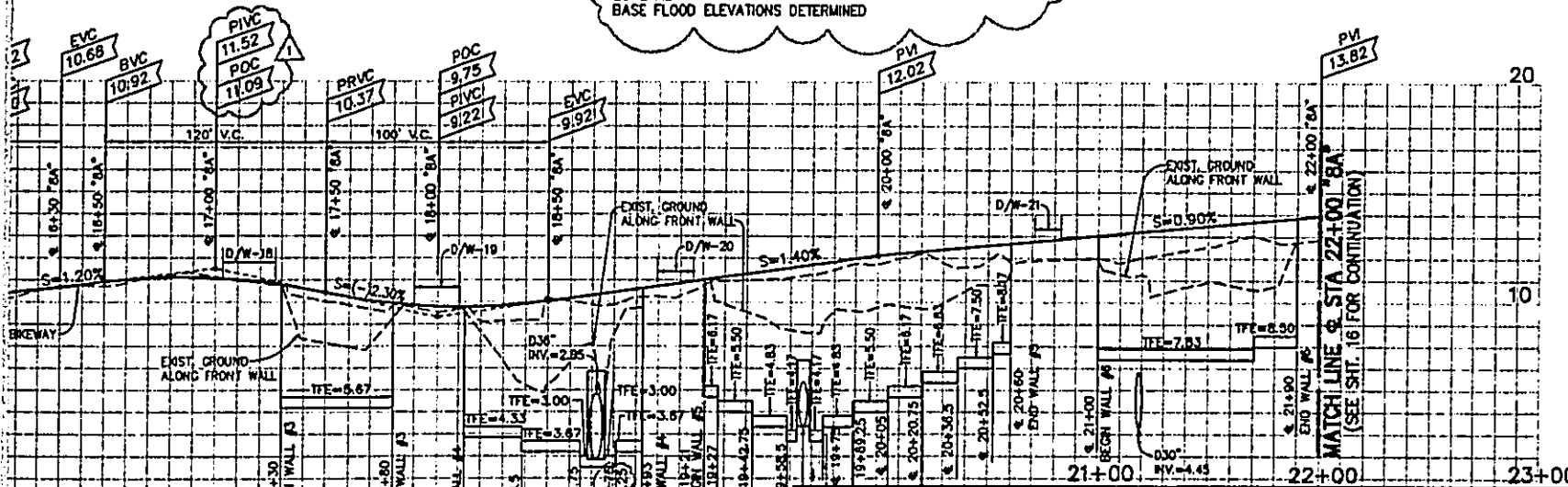
FLOOD ZONE LEGEND

ZONE X
AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD ZONE AE

BASE FLOOD ELEVATIONS DETERMINED

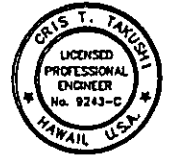
BIKEYWAY "BA"
= 40'



BIKEYWAY "BA"
= 40'

REVISIONS

DPP, HECO COMMENTS, REVISED PROFILE, TFE, ADDED A.C. CURB



DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

WAIALUA BEACH ROAD BIKEYWAY
TMK: 6-8-06:017 & 010, PORTION OF 6-7-01:006 & 010
KAMANANUI, WAIALUA, OAHU, HAWAII
PLAN & PROFILE - BIKEYWAY "BA"
(STA. 11+00 TO STA. 22+00)

ENGINEER: DR. CTT, TSS
DRAFTSMAN: GRIT, ANN, NSP
CHK. BY: DCE
APPROVED:

DATE:
SCALE:
REF:
APPROVED:

FILE	PROJECT	TITLE	NO.
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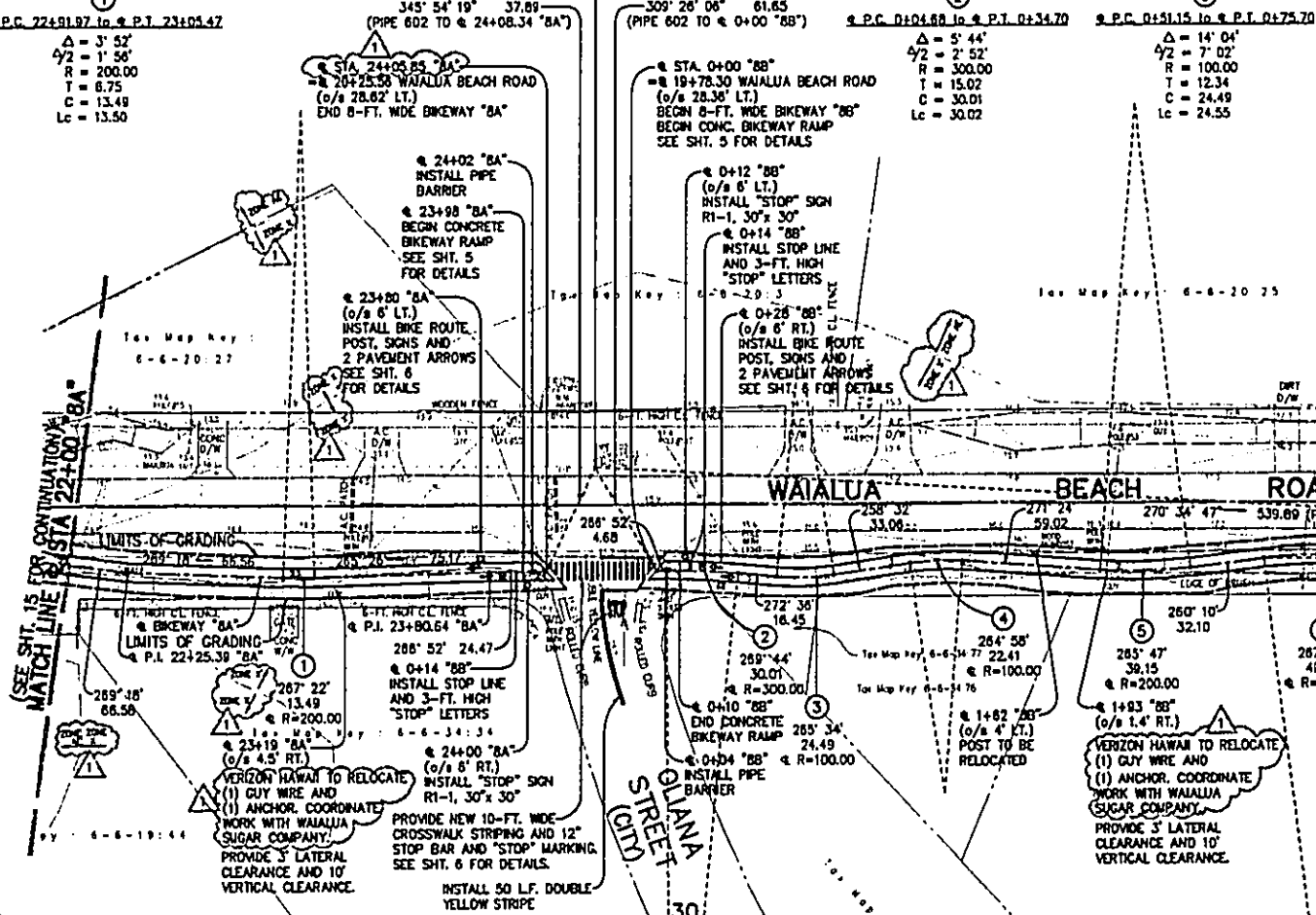
BIKEPATH "BA" CURVE DATA

①
 P.C. 22491.97 to P.T. 23105.47
 $\Delta = 3' 52"$
 $\Delta/2 = 1' 56"$
 $R = 200.00$
 $T = 6.75$
 $C = 13.49$
 $Lc = 13.50$

PIPE 602
 EL.=15.03
 F.B.2102/16

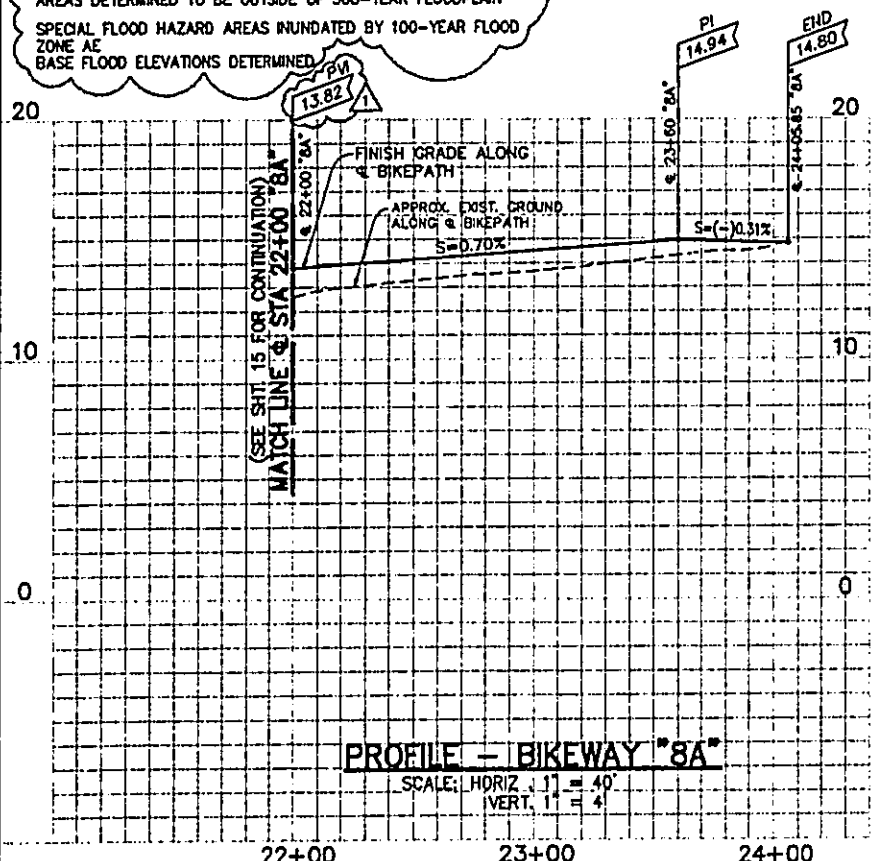
②
 P.C. 0104.88 to P.T. 0134.70
 $\Delta = 5' 44"$
 $\Delta/2 = 2' 52"$
 $R = 300.00$
 $T = 15.02$
 $C = 30.01$
 $Lc = 30.02$

③
 P.C. 0131.15 to P.T. 0175.70
 $\Delta = 14' 04"$
 $\Delta/2 = 7' 02"$
 $R = 100.00$
 $T = 12.34$
 $C = 24.49$
 $Lc = 24.55$



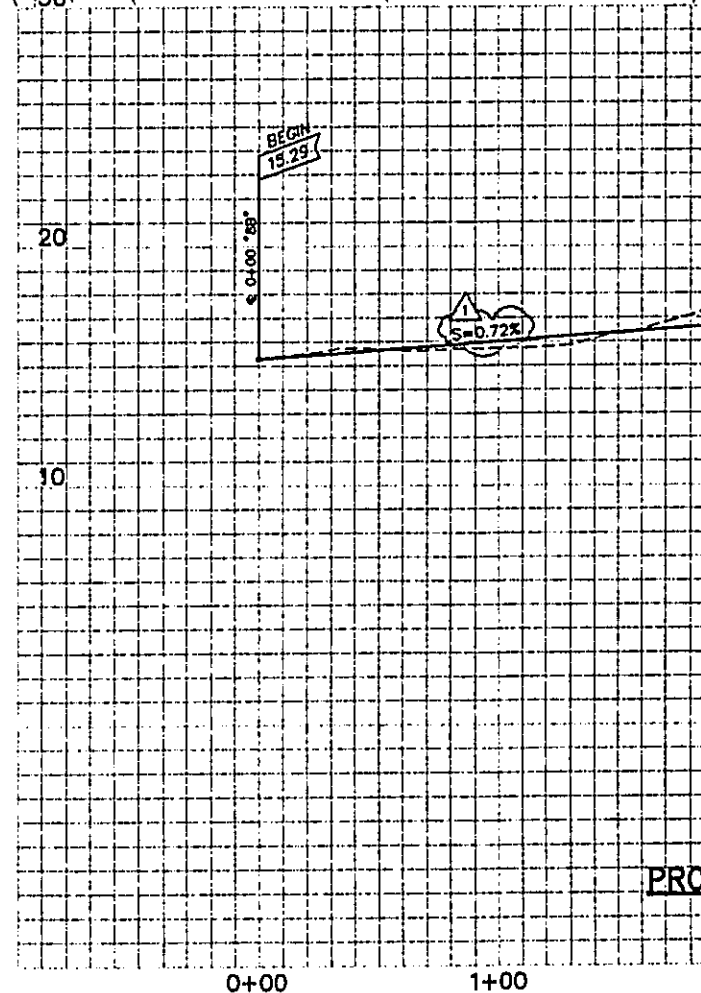
PLAN - BIKEWAY "BA"
 SCALE: 1" = 40'

FLOOD ZONE LEGEND
 ZONE X
 AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVES FROM 100-YEAR FLOOD
 ZONE X'
 AREAS DETERMINED TO BE OUTSIDE OF 500-YEAR FLOODPLAIN
 SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 ZONE AE
 BASE FLOOD ELEVATIONS DETERMINED



PROFILE - BIKEWAY "BA"

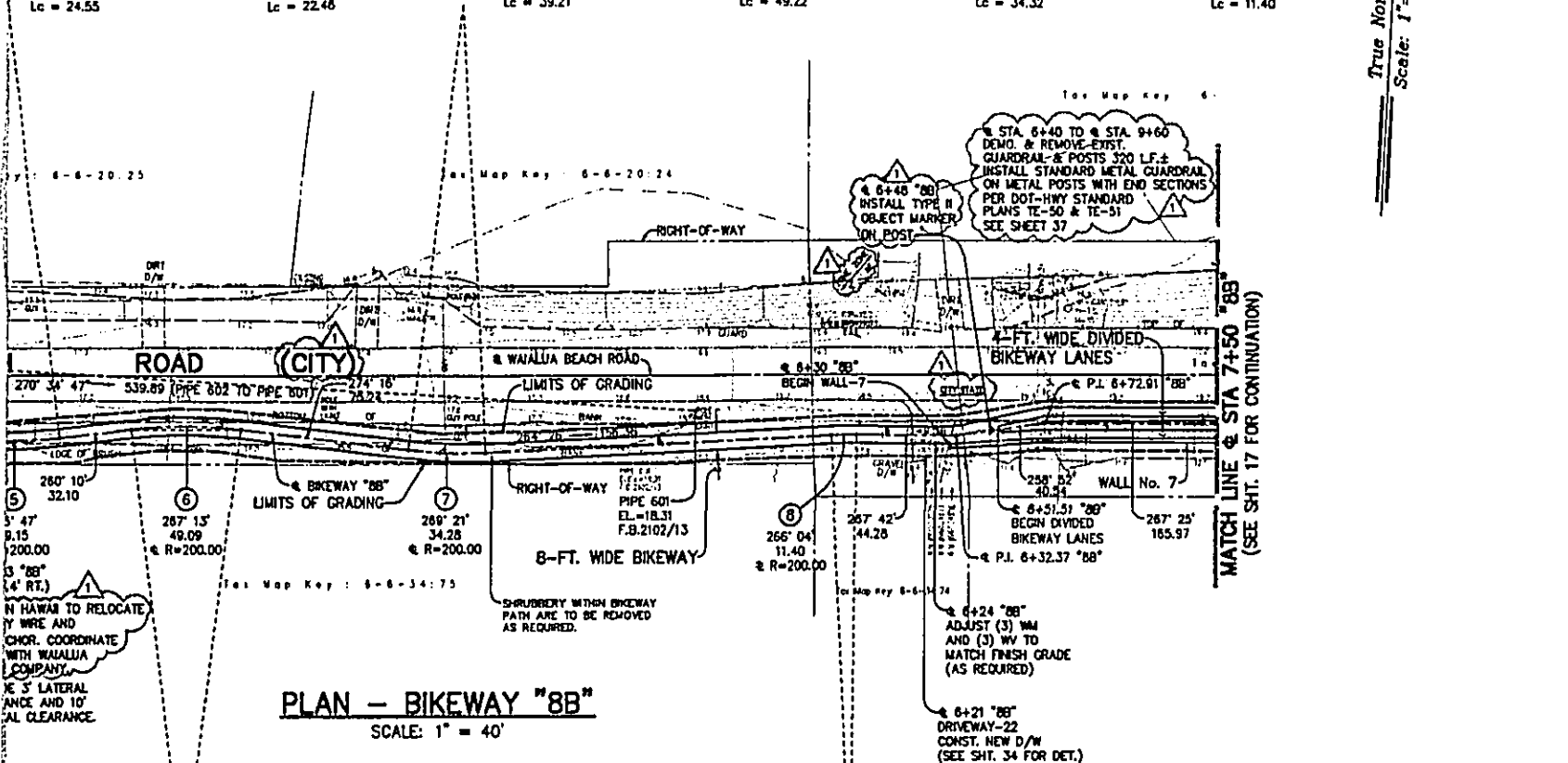
SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'



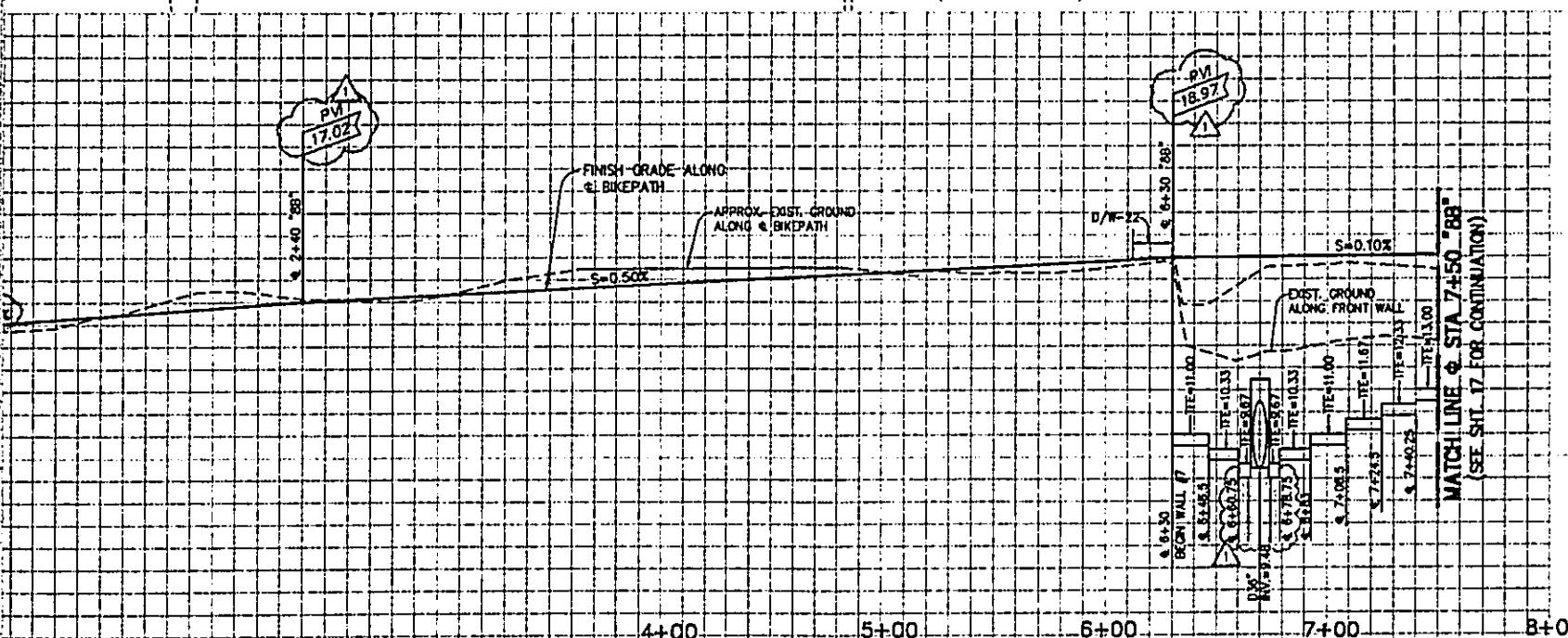
BIKEPATH "8B" CURVE DATA

Stationing	Curve Data	Stationing	Curve Data	Stationing	Curve Data	Stationing	Curve Data				
0+51.15 to P.T. 0+75.70	$\Delta = 14' 04"$ $\Delta/2 = 7' 02"$ $R = 100.00$ $T = 12.34$ $C = 24.49$ $Lc = 24.55$	P.C. 1+08.78 to P.T. 1+31.22	$\Delta = 12' 52"$ $\Delta/2 = 6' 26"$ $R = 100.00$ $T = 11.28$ $C = 22.41$ $Lc = 22.46$	P.C. 1+80.24 to P.T. 2+29.45	$\Delta = 11' 14"$ $\Delta/2 = 5' 37"$ $R = 200.00$ $T = 19.67$ $C = 39.15$ $Lc = 39.21$	P.C. 2+81.55 to P.T. 3+10.77	$\Delta = 14' 06"$ $\Delta/2 = 7' 03"$ $R = 200.00$ $T = 24.73$ $C = 49.09$ $Lc = 49.22$	P.C. 3+85.01 to P.T. 4+20.33	$\Delta = 9' 50"$ $\Delta/2 = 4' 55"$ $R = 200.00$ $T = 17.20$ $C = 34.26$ $Lc = 34.32$	P.C. 5+78.02 to P.T. 5+88.09	$\Delta = 3' 16"$ $\Delta/2 = 1' 38"$ $R = 200.00$ $T = 5.70$ $C = 11.40$ $Lc = 11.40$

True North
Scale: 1" = 40'



PLAN - BIKEWAY "8B"
SCALE: 1" = 40'



PROFILE - BIKEWAY "8B"

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

REVISIONS
 ⚠ DPP, HECO COMMENTS, REVISED PROFILE & TTE STA. DEMO. & REMOVE GUARDRAIL, INSTALL NEW OBJECT MARKER 8/22/02

CRIS T. TAKUSHI
 LICENSED PROFESSIONAL ENGINEER
 No. 9243-C
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 PAPA, INC. CIVIL ENGINEERING

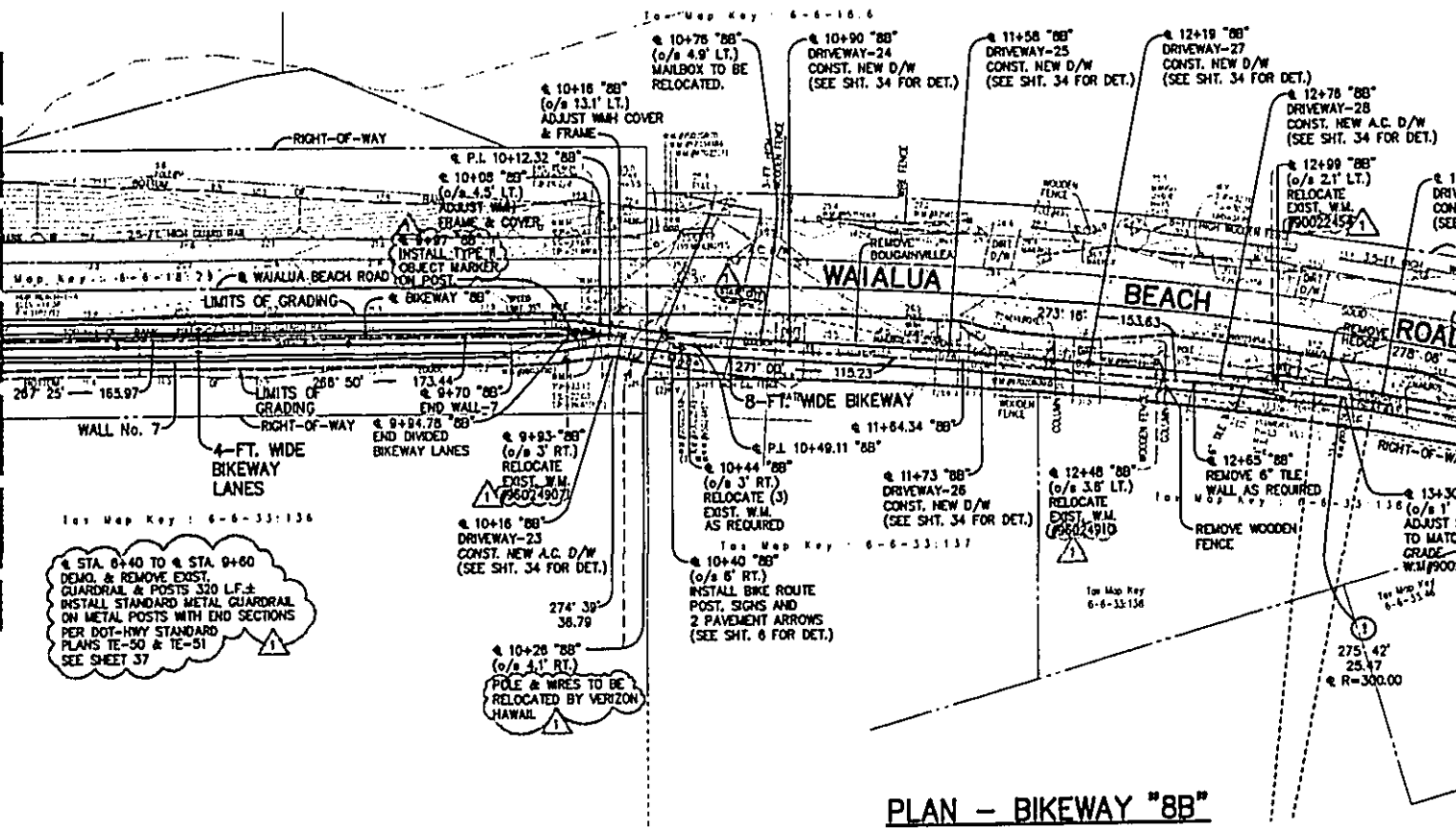
DERECK C. ELFAHM
 LICENSED PROFESSIONAL ENGINEER
 No. 5448-C
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 PAPA, INC. CIVIL ENGINEERING

DEPARTMENT OF TRANSPORTATION SERVICE
 CITY AND COUNTY OF HONOLULU
 WAIALUA BEACH ROAD BIKEWAY
 TMK: 6-8-08-017 & 010, PORTION OF 6-7-01-006 & C
 KAMAHANUI, WAIALUA, OAHU, HAWAII
 PLAN & PROFILE - BIKEWAY "8A" & "8B"
 (STA. 22+00 TO STA. 24+05.85) STA. 0+00 TO STA. 7+00
 ENGINEER: GUY C. T. TAKUSHI
 DRAFTSMAN: RYT. AMM. MISC.
 CHK BY: DCF
 APPROVED:
 DATE:
 SCALE:
 REF:
 APPROVED:

(SEE SHT. 16 FOR CONTINUATION)
MATCH LINE @ STA 7+50 "8B"

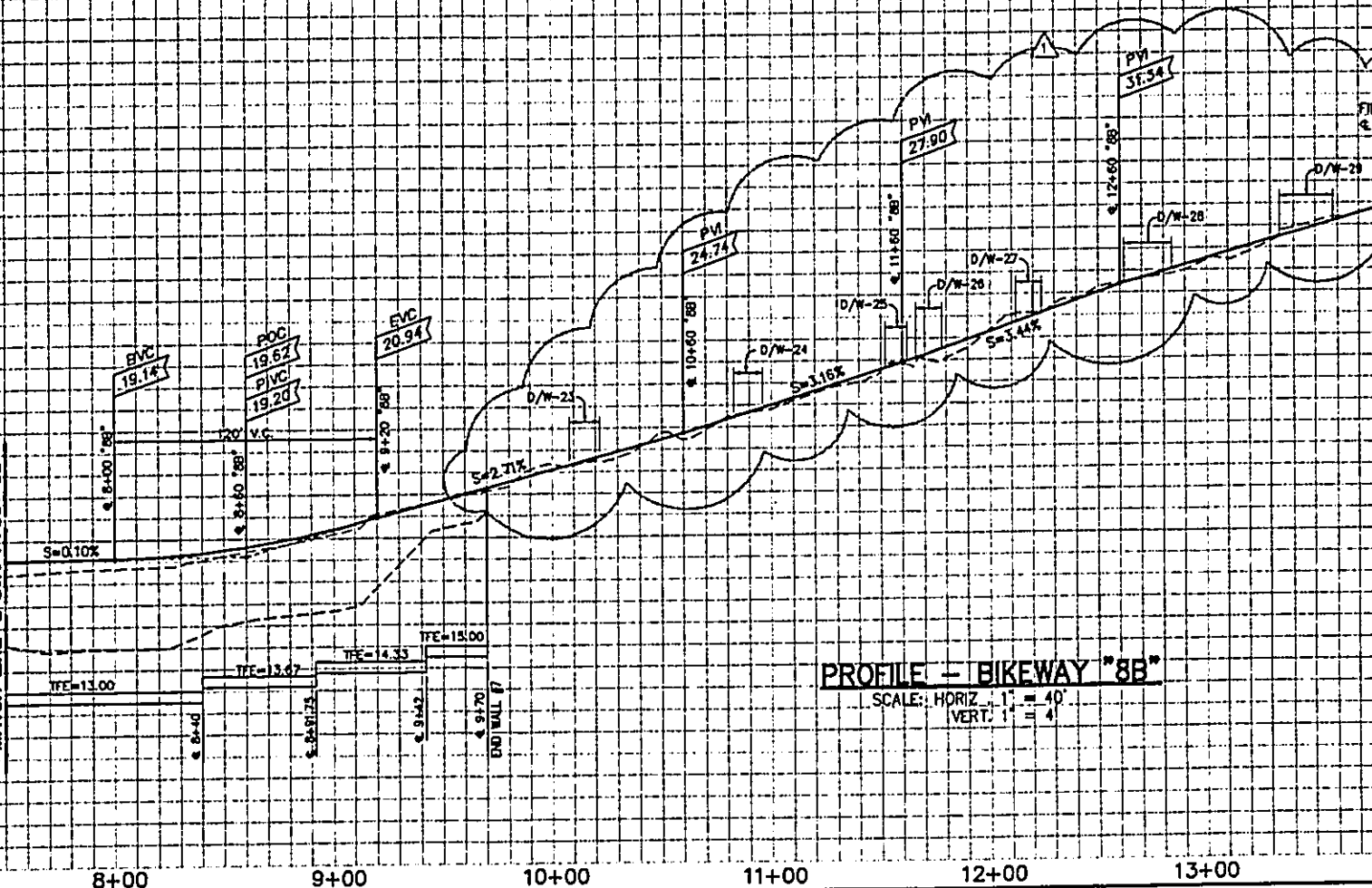
1st Map Key : 6-6-33:136

At STA. 8+40 TO @ STA. 8+60
DEMOL. & REMOVE EXIST.
GUARDRAIL & POSTS 320 LF ±
INSTALL STANDARD METAL GUARDRAIL
ON METAL POSTS WITH END SECTIONS
PER DOT-HWY STANDARD
PLANS TE-50 & TE-51
SEE SHEET 37



PLAN - BIKEWAY "8B"
SCALE: 1" = 40'

(SEE SHT. 16 FOR CONTINUATION)
MATCH LINE @ STA 7+50 "8B"



PROFILE - BIKEWAY "8B"
SCALE: HORIZ : 1" = 40'
VERT: 1" = 4''

BIKEPATH "88" CURVE DATA

①	②	③
S.P.C. 13+17.97 to S.P.T. 13+43.45	S.P.C. 14+14.39 to S.P.T. 14+30.97	S.P.C. 15+97.78 to S.P.T. 16+07.82
Δ = 4° 52'	Δ = 3° 10'	Δ = 11° 30'
Δ/2 = 2° 26'	Δ/2 = 1° 35'	Δ/2 = 5° 45'
R = 300.00	R = 300.00	R = 50.00
T = 12.75	T = 8.29	T = 5.03
C = 25.47	C = 16.58	C = 10.02
Lc = 25.48	Lc = 16.58	Lc = 10.04

ET.)
 @ 12+76 "88"
 DRIVEWAY-28
 CONST. NEW A.C. D/W
 (SEE SHIT. 34 FOR DET.)

@ 12+99 "88"
 (o/s 2.1' LT.)
 RELOCATE
 EXIST. W.M.
 #0022457

@ 13+50 "88"
 DRIVEWAY-29
 CONST. NEW A.C. D/W
 (SEE SHIT. 34 FOR DET.)

@ 13+30 "88"
 (o/s 1' RT.)
 ADJUST EXIST. W.M.
 TO MATCH FINISH
 GRADE
 W.M.#0022247

@ 15+18 "88"
 (o/s 1' RT.)
 CUY WIRE TO BE RELOCATED.
 COORDINATE WORK WITH
 WAIALUA SUGAR COMPANY
 AND VERIZON HAWAII
 PROVIDE 5' LATERAL
 CLEARANCE AND 10'
 VERTICAL CLEARANCE.

@ 15+30 "88"
 (o/s 1' RT.)
 ADJUST EXIST. W.M.
 TO MATCH FINISH
 GRADE
 W.M.#0022247

@ 15+42' 25.47
 R=300.00

@ 15+45' 16.58
 R=300.00

@ 15+48' 10.55
 R=50.00

@ 15+51' 10.02
 R=50.00

@ 15+54' 10.02
 R=50.00

@ 15+57' 10.02
 R=50.00

@ 15+60' 10.02
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@ 15+63' 10.02
 R=50.00

@ 15+66' 10.02
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@ 15+69' 10.02
 R=50.00

@ 15+72' 10.02
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@ 15+75' 10.02
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@ 15+78' 10.02
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@ 15+81' 10.02
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@ 15+84' 10.02
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@ 15+87' 10.02
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@ 15+90' 10.02
 R=50.00

@ 15+93' 10.02
 R=50.00

@ 15+96' 10.02
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@ 15+99' 10.02
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@ 23+59' 10.02
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@ 24+05' 10.02
 R=50.00

APPENDIX B

FLOOD CERTIFICATION DOCUMENTS

Flood Hazard Districts Certification

Federal Emergency Management Agency Certification of a "No-Rise"
Determination for a Proposed Floodway Development

FLOOD HAZARD DISTRICTS CERTIFICATION
(Section 21-9.10 of the Land Use Ordinance)

Exempted Projects and Improvements (except Accessory Structures) including repairs, maintenance, reconstruction, additions, and alterations pursuant to Sections 21-9.10-10-12 and 21-9.10-10-13 of the Land Use Ordinance.

EXEMPTED PROJECTS IN FLOODWAY OR COASTAL HIGH HAZARD DISTRICTS

Project Description: Waialua Beach Road Bikeway

Address: Waialua Beach Road, Waialua, Oahu, Hawaii

City: Waialua State Hawaii Zip 96791

Tax Map Key: 6-8-06:010 & 017, Portion of 6-7-001:006 & 026

Section 1 – Flood Insurance Rate Map Information

COMMUNITY NO.	PANEL NO.	SUFFIX	DATE OF FIRM	FIRM ZONE	REGULATORY FLOOD ELEV (In AO Zone use depth)	COMMUNITY FLOOD ESTIMATED REG. FLOOD ELEVATION ESTABLISHED FOR ZONE A IF AVAILABLE
150001	105	E	11/20/00	VE	12'	

Section II – Certification Statement

I certify that based upon development and/or review of design, specifications, and plans for construction, the design and methods of construction are in accordance with accepted standards of practice and:

1. Within the Coastal High Hazard District, the structures and improvements would not affect the regulatory flood nor aggravate existing flood related erosion hazards.
2. Within the Floodway District, the structures and improvements would not result in increase of the regulatory flood levels.

Section III – Certification

This certification is conditioned upon the actual construction of the project being in strict accordance with the plans and specifications as stamped and signed by me.

Certifier's Name Cris T. Takushi
(print or type)

Title Project Engineer

Company Name ParEn Inc., dba Park Engineering

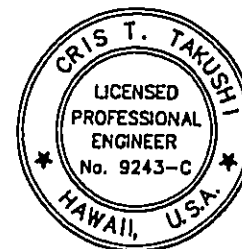
Street Address 567 South King Street, Suite 300

City Honolulu State Hawaii Zip 96813

Signature Engineer or Architect

Date

Affix Seal Below



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION



Federal Emergency Management Agency

Washington, D.C. 20472

CERTIFICATION OF A "NO-RISE" DETERMINATION

FOR A PROPOSED FLOODWAY DEVELOPMENT

Honolulu (No. 150001)

Community Name

Waiialua Beach Road Bikeway for
City and County of Honolulu

Development Name

T.M.K. 6-8-06: 010 & 017,
Portion of 6-7-001:006 & 026

Loc/Property Designation

City and County of Honolulu

Property Owner

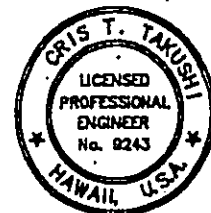
I hereby certify that the proposed remedial measures, in combination with the property development designated above, will result in no loss of flow conveyance during the occurrence of the 1 percent annual chance of exceedence (100-year flood) discharge.

I further certify that the data submitted herewith in support of this request are accurate to the best of my knowledge, that the analyses have been performed correctly and in accordance with sound engineering practice, and that the proposed structural works are designed in accordance with sound engineering practice.

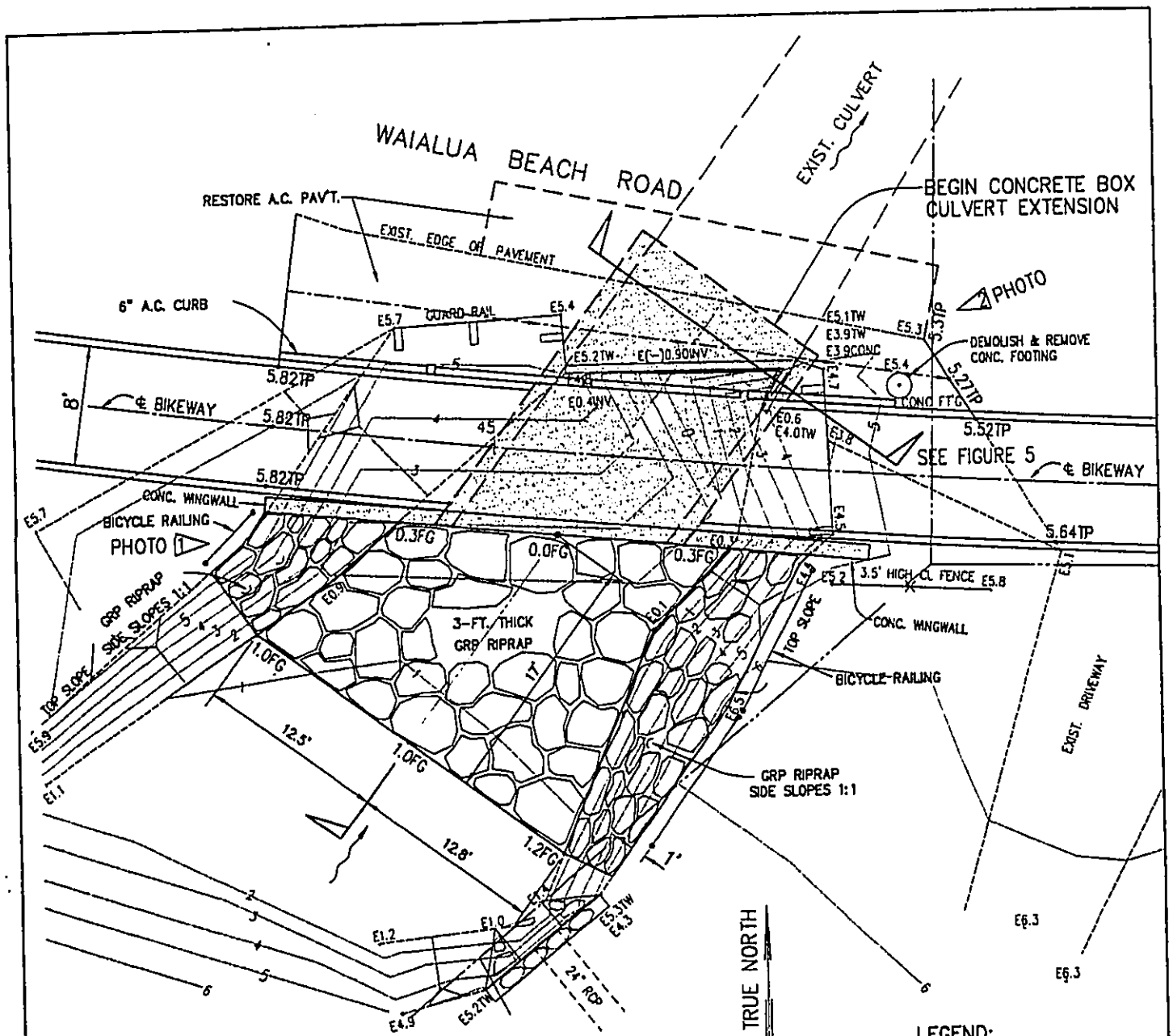
6/13/02
Date

Cris T. Takushi
Registered Professional Engineer

Seal



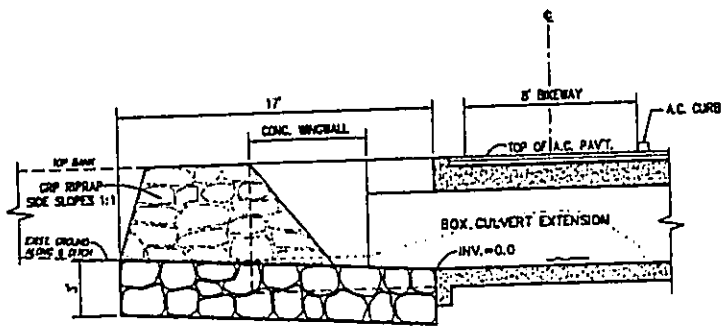
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION



PLAN - BOX CULVERT EXTENSION
SCALE: 1" = 5'

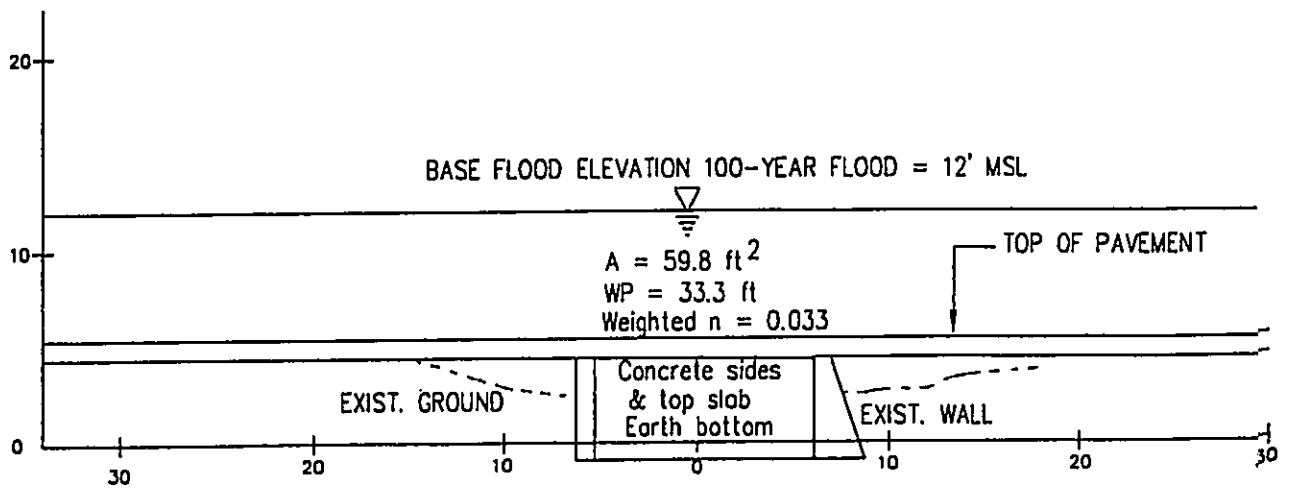
LEGEND:

- E6.3 EXIST. GROUND
- E4.0TW EXIST. TOP WALL
- 1.0FG FINISH GRADE
- 5.64TP TOP OF PAVT.



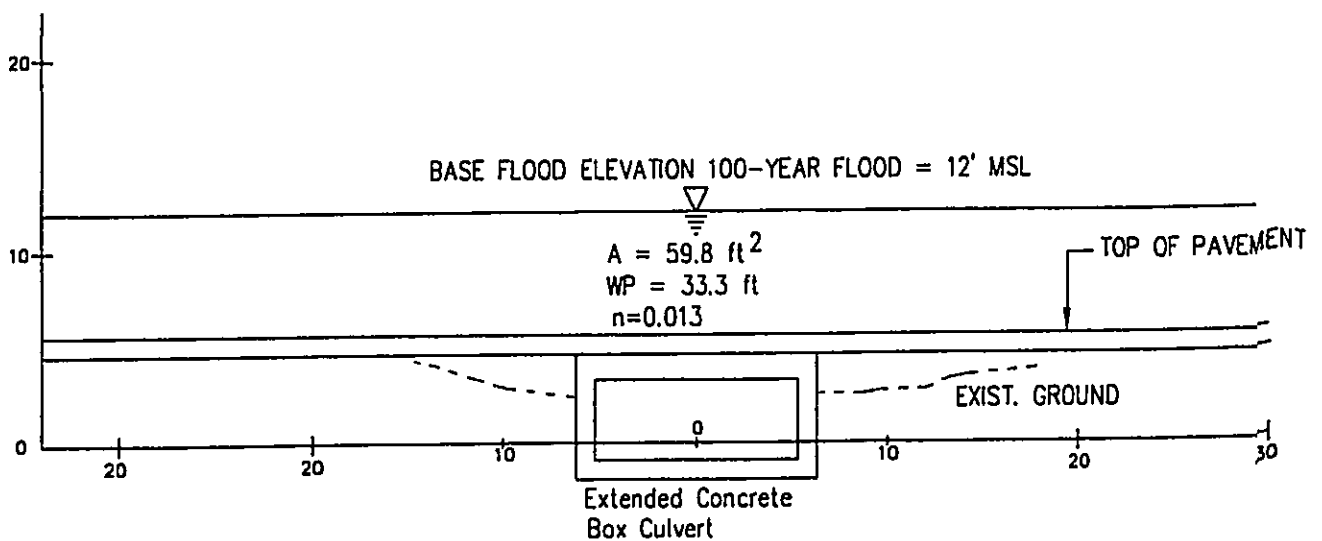
SECTION - BOX CULVERT EXTENSION
SCALE: 1" = 5'

BOX CULVERT EXTENSION
FIGURE A



EXISTING CONDITION

HORIZONTAL SCALE: 1" = 10'
 VERTICAL SCALE: 1" = 10'



IMPROVED CONDITION

HORIZONTAL SCALE: 1" = 10'
 VERTICAL SCALE: 1" = 10'

EXISTING & IMPROVED
 CONDITION CROSS SECTIONS
 FIGURE B

CONVEYANCE CALCULATIONS - WAIALUA BEACH ROAD BIKEWAY

EXISTING CONDITION

$$\text{CONVEYANCE} = K = (1.486/n) \times A R_h^{2/3}$$

Existing channel not maintained; earth bottom w/ weeds & uncut brush
Concrete side walls & top slab

$$\text{Weighted } n = (11.4/33.3) \times 0.07 + (21.9/33.3) \times 0.013 = 0.033$$

$$A = \text{AREA} = 59.8 \text{ ft}^2$$

$$\text{WP} = \text{WETTED PERIMETER} = 33.3 \text{ ft.}$$

$$R_h = \text{HYDRAULIC RADIUS} = 1.8 \text{ ft.}$$

$$K = (1.486/0.033) \times (59.8) \times (1.8)^{2/3} = 3,984 \text{ cfs}$$

IMPROVED CONDITION (w/EXTENDED BOX CULVERT)

$$n = 0.013 \text{ (concrete)}$$

$$A = \text{AREA} = 59.8 \text{ ft}^2$$

$$\text{WP} = \text{WETTED PERIMETER} = 33.3 \text{ ft.}$$

$$R_h = \text{HYDRAULIC RADIUS} = 1.8 \text{ ft.}$$

$$K = (1.486/0.013) \times (59.8) \times (1.8)^{2/3} = 10,114 \text{ cfs}$$

There is no conveyance loss resulting from proposed improvements.
Within the Coastal High Hazard District, the proposed structures and improvements will not affect the regulatory flood elevation during a 100-year flood nor aggravate existing flood-related erosion hazards.

- 1) Base flood elevation of 12' used based on FEMA Flood Insurance Rate Map no. 15003C105 E dated 11/20/00.

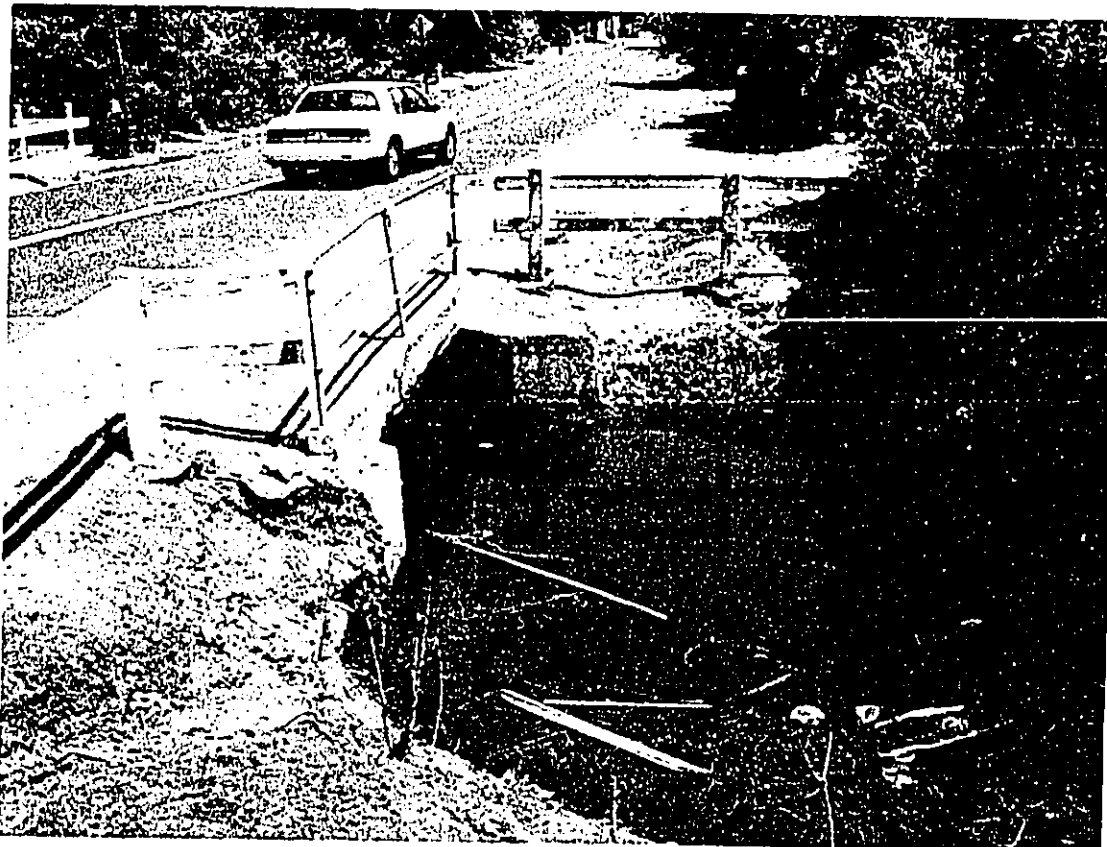


Photo 1 - Looking east toward site of box culvert extension from south side of Waialua Beach Road.

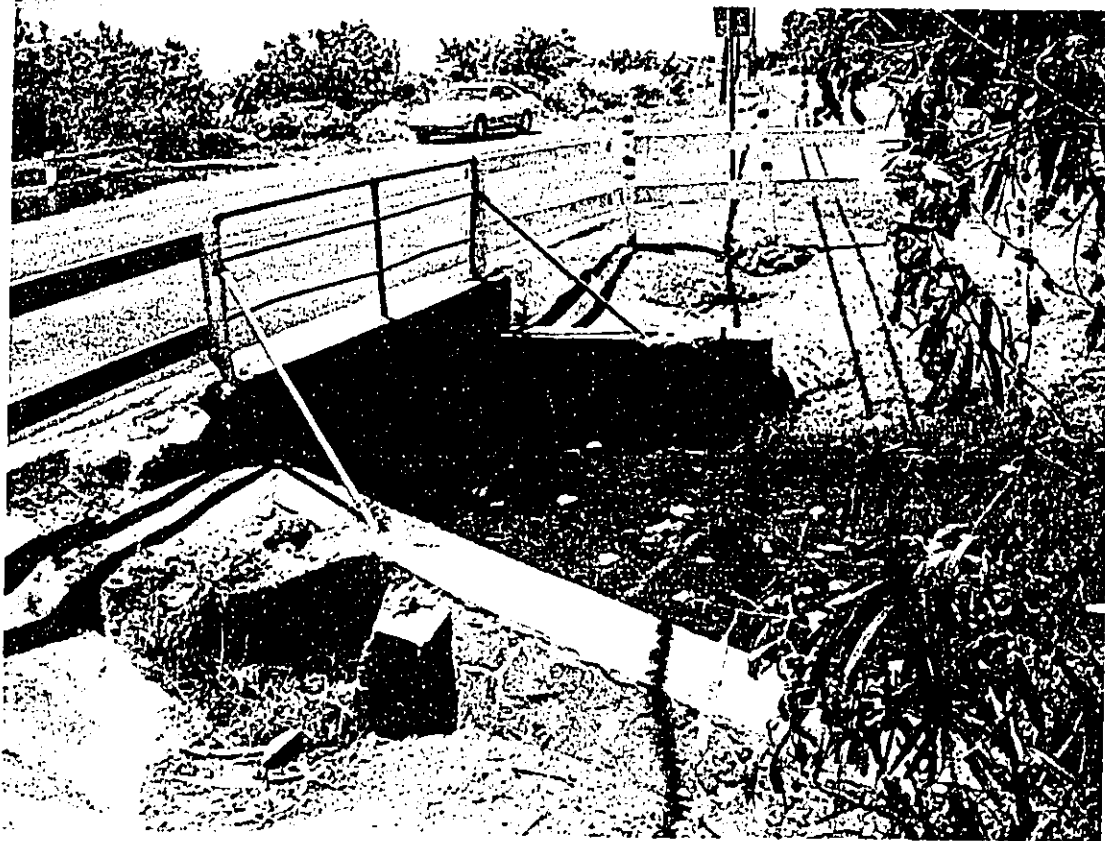


Photo 2 - Downstream side of existing box culvert from north side of Waialua Beach Road.

APPENDIX C

SUMMARY OF COMMENTS FOR PLANS AND ENVIRONMENTAL ASSESSMENT

Summary of Comments for Plans and Environmental Assessment	
Waiialua Beach Road Bikeway	
Description of Comment	Description of Action
DPP - Subdivision Branch "2001/CP-346" 10/11/01	Complied
Show complete TMK #s, jurisdiction of roadways	Information for DTS
This review is for work proposed within the City road right-of-way. Applicant is responsible for obtaining owner authorization for work proposed in private properties.	Complied
Submit application to designate proposed bikeway easement for DPP review and approval. Label to whom bikeway easement is in favor of. It appears that the amount of grading work outside the roadway right-of-way is small and Civil Engineering Branch (CEB) is not requiring approval of grading plans.	Information for DTS
Show and call out flood zone boundaries & designations on all applicable plans.	Complied
Submit certification for work in Coastal High Hazard District (Zone VE) and Floodway (Zone AE) stating that proposed construction will not increase regulatory flood elevations	Complied
DPP - Civil Engineering Branch "2001/CP-346" 10/12/01	
Provide latest general note regarding requirements in the event of uncovering of artifacts or human remains during construction.	Complied
Deleted approval block for Chief, Civil Engineering Branch	Complied
Provide Soil Report and Soil Engineer conformance letter to DTS.	Complied. Added to Grading Note #1
Revise Erosion Control Computations	Complied
DCAB review required	Complied, see DCAB section below
General Note #3 & Grading Note #15: Question posed "Who responsible for inspection services?"	Per DPP- Civil Engineering Branch DTS is responsible for inspection services.
DPP - Drainage "2001/CP-346" 10/12/01 2/5	
Provide drainage report including existing drainage patterns along route, proposed drainage patterns, flow quantity increase, hydraulics at modified culverts based on new flows.	Drainage report was not produced. Existing drainage patterns along the bikeway do not follow a set pattern and there are no drainage structures immediately next to the proposed bikeway.
DPP - Structural "2001/CP-346" 10/12/01 2/4	
Provide Structural calculations for wall, railing and drainage structure	Complied
Is bikeway easement discontinuous at various locations?	Yes
Show Right-of-way and easement in cross section sheets	Complied

Summary of Comments for Plans and Environmental Assessment	
Waialua Beach Road Bikeway	
Description of Comment	Description of Action
Provide notes for Segmental Retaining Wall/Keystone product, geogrid notes, geogrid type	Complied
For concrete leveling pad City specs do not have a class "D". Why using State DOT specs? Is project federally funded?	Per DTS use State specs, Project not federally funded
Loads- What is AASHTO HL-93 Truck loading?	Load and Resistance Factor Design (LFRD) Truck loading
Concrete or riprap apron not required for erosion protection at box culvert outlet?	Complied callout of riprap at outlet provided.
Provide fencing on top of walls for safety	Complied
Show finish grades in sections	Complied
Leveling Pad-Keystone recommends 1" min. 3" max. thickness for non-reinforced concrete leveling pad. Why are we calling out 6"? Have we consulted with local Keystone representative?	Keystone representative (Tileco) said 6" is no problem
DPP - Stormwater Quality "2001/CP-346" 10/12/01	
Provide shoulder swales outside of travelway	Complied. Provided swale where practical to prevent runoff from bikeway from flowing onto road. In most cases the existing drainage patterns along the road will not be disrupted by the bikeway.
Typical 8' wide bikeway section-Recommend gravel bed to mitigate splashing effects & erosion	Complied. Added 3B fine gravel to typical section 1/S-4.
Typical driveway section in an unimproved sidewalk area the driveway should be flushed w/the surrounding grades so the runoff can drain in the direction of the roadway slope. See standard Sidewalk w/o curb & gutter detail R-28.	Complied. Revised details to show driveway flush w/surrounding grades
What is the purpose of the berm?	Per Dole Food Property management the purpose of the berm is to prevent people from dumping rubbish into their property. A fence will be installed in its place.
What are the drainage impacts of removing the berm?	The berm is not a drainage structure. Because the bikeway is largely within a flood zone most of the bikeway will be submerged during a 100-yr flood, but this will occur with or without the berm. Doesn't make sense to provide preventive measures for the bikeway if the whole area will be under water.
Check if the flow will overtop the bikeway and provide preventive measures.	
DPP - (RM) "2001/CP-346" 10/12/01	
Indicate all roadway pavement markings shall be thermoplastic	Complied

Summary of Comments for Plans and Environmental Assessment Waialua Beach Road Bikeway	
Description of Comment	Description of Action
DPP - Wastewater Branch "2001/CP-346" Not required. No City sewers in the area Obtain easement for culvert wingwall	Information for DTS Easement request submitted to DPP and DDC.
DPP - Land Use Approvals branch 11/8/02 Expand project description to include all proposed improvements Explain how project relates to City's Honolulu Bicycle Master Plan Clarify what portions of the project will actually require approval of an SMA Use permit. Include an exhibit that shows portions of the project outside the existing rights-of-way and property ownership. Disclose if retaining walls will be built within these segments.	Complied Complied Complied
Board of Water Supply "2001/CP-346" 10/15/01 Revise water notes as indicated Added 12" waterline as shown on GIS sheet, fire hydrant, meter nos. Call out adjustment of valve box to new finish grade @sta.13+25 Verify provide 3' clearance between existing waterline & pipe barrier Call out adjustment of WMH to new finish grade @ D/W 8 Show all existing waterlines & appurtenances Called out relocation of 2 water meters @ sta. 12+48 & 12+99	Complied Complied Complied Deleted pipe barrier Complied Complied Complied
Call out adjust & reset of water meter box to match finish grade driveway 2 Called out relocation of water meters near driveways 23 & 28 Called out adjust of water meter near d/w 29 to match finish grade	Complied Complied Complied
HECO 11/9/01 Indicate the extent of excavation whenever it is expected to be within 10' of HECO pole/anchor system. Various relocation requests Use latest HECO notes (12/27/01) Raised Box & Seat Adjustment Detail Need for substitute easement for HECO if any portion of relocated HECO Pole/anchor system falls outside of current easement. Any HECO relocation work will require a lead time of 4 months for design & construction	Complied Complied. See HECO memo dated 11/9/01 Complied Complied. Added to detail sheet 6 Informed DTS of requirement Informed DTS of requirement

Summary of Comments for Plans and Environmental Assessment	
Waialua Beach Road Bikeway	
Description of Comment	Description of Action
DCAB 10/19/01 #2001-532 Detectable warnings required where bikeway crosses vehicular routes @ Komo, Kuoha Ojiana Streets For new bus pads provide firm, stable surface, a min. clear len. of 96", and a min. clear width of 60" & shall be connected to streets, sidewalks or pedestrian paths by an accessible route	Complied Complied
VERIZON HAWAII 10/17/01 Various relocation requests Update telephone notes (February 2001)	Complied. See Verizon Hawaii Transmittal dated 10/17/01 Complied
DTS Fixed Route Operations Branch - 5/10/02 Provide clear distance between Bus stop bench & adjacent wall of 5 ft. & concrete should be paved to allow wheelchair passenger to wait off bikeway. Path to bus should be smooth paved w/no obstructions to wheelchair. Include relocating existing bus shelter with a path to it paved & smooth.	Complied Complied
Dole Food, Land and Facilities Manager telephone conversation of 2/27/2002 Question was posed to Mr. Yoshiaki Tanabe, Manager Land and Facilities, Dole Food: "What is purpose of earth berm, does it have any flood control purpose?"	Per Dole Food letter dated 2/27/02 purpose of berm is to prevent illegal dumping onto their property. The berm is not a flood control measure. Dole has requested that a boundary fence be installed along the bikepath and also requested City to grant access across the bikepath for the farm lots zoned (AG-2) on Waialua Beach Rd between Crozier Loop and Kuuiki Road. Per DTS letter to Dole Food of 6/25/02 proposed project calls for chain link fencing and access would be granted in easement document as long as lots retain current zoning. Awaiting written confirmation from Dole that City would be granted easement.

Summary of Comments for Plans and Environmental Assessment Waialua Beach Road Bikeway	
Description of Comment	Description of Action
<p>State of Hawaii Office of Environmental Quality Control - 8/7/02 Purpose and Need for Project - because project makes use of County lands and funds and is subject to Chapter 343 HRS requirements. Significance Criteria - Chapter 200 of Title 11, Administrative Rules of the State of Hawaii - will project have significant effects on environment Sustainable Building Design in Hawaii - minimize impacts on environment & makes wise use of our natural resources.</p>	<p>Complied. see section II.A.(1) in FEA</p> <p>Complied. see section VII in FEA</p> <p>Complied. see section IV.C in FEA</p> <p>Pending, Will be reflected in contract documents if allowed by DTS.</p> <p>Coconut trees identified in the plans to be relocated will be relocated by the City, with input from residents. See section IV.D in FEA.</p>
<p>Glassphalt or Recycled base course for bikeway. Will DTS allow option?</p> <p>Indigneous and Polynesian Introduced Plants for Public Landscaping</p>	

November 9, 2001



Mr. Cris Takushi
Park Engineering
567 South King Street
Kawailahao Plaza Suite 300
Honolulu, Hawaii 96813

Dear Mr. Takushi:

Re: CDTS: Waiialua Beach Road Bikeway
Between Kaukonahua Rd near Weed Junction & Au St
HECO Work Order No: CE040525

This is in response to your transmittal of October 11, 2001 regarding the subject project. Attached as requested are copies of our "as built" Drawings #15438, #37230, #42214, #100208 showing our underground electrical facilities in the area of your project.

We have reviewed your proposed construction plans in an attempt to identify any potential conflicts with HECO's existing or proposed facilities and are returning a marked up copy of your plans along with our comments.

This information is provided as a free service to you and is subject to the following:

1. Any review, information, documents, maps or drawings provided by HECO are provided solely for your convenience. HECO makes no representation or warranty regarding the accuracy, completeness or adequacy of such review. Review by HECO is not a professional design service, and shall in no way impose upon HECO any responsibility for any engineering, design, construction or other such work being performed.
2. All HECO facilities are shown in their approximate locations according to our records. Our review shall not relieve you or the contractor of your obligation to make independent field investigations. You acknowledge and agree that you are responsible for independently verifying the actual location of HECO's surface lines, facilities and equipment (including but not limited to poles, overhead lines, anchors, guy wires, manholes, handholes, transformers, etc.).

Based on our review, there are several areas of concern on your proposed plans. We have indicated these in red on the attached drawings and listed below.

- Based on HECO's records, HECO's underground facilities on Sheets C-8 and C-9 are not shown on the construction plans. Please refer to the marked up plans and attached "as built" Drawings #37230 and #42214 for reference.



WINNER OF THE EDISON AWARD
FOR DISTINGUISHED INDUSTRY LEADERSHIP

Waiialua Beach Road Bikeway
HECO Work Order No: CE040525
Page 2

- Based on the proposed construction plans, it appears that excavation will occur within 10 feet of HECO's pole and/or its anchor system on Sheets C-8 through C-9 and C-14. Please indicate the extent of the excavation as well as the difference between the existing and finish grades at each of the pole and/or anchor locations.
- Please replace the HECO notes currently in the plans with the attached revised HECO notes.

Additionally, we have provided below the following responses to your specific relocation requests indicated in your proposed construction plans:

- **Sheet C-8**
Request: "Relocate guy wire (pole #72)."
Response: HECO able to relocate its anchor and guy wires.
Request: "Remove HECO box & install new box. Match finish grade"
Response: HECO recommends that existing handhole remain, but be adjusted to match the finish grade. Please revise the note pointing to the adjustment of HECO handhole on Sheet C-8 to read: "ADJUST EXISTING ELECTRICAL BOX TO MATCH FINISH GRADE PER HECO STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL NOTIFY HECO ENGINEER AT 543-7943 AT LEAST FOUR (4) WEEKS PRIOR TO CONSTRUCTION FOR COORDINATION AND TO ARRANGE FOR HECO PERSONNEL TO INSTALL TEMPORARY GUARDS OR OTHER PROTECTIVE MEASURES OVER EXISTING ENERGIZED ELECTRICAL CABLES PRIOR TO ADJUSTMENT. SEE BOX & SEAT ADJUSTMENT DETAILS ON SHEET C-XX." Also, please include a detail for the handhole adjustment. Refer to the attached drawing for a sample of typical handhole adjustments.
- **Sheet C-9**
Request: "Relocate guy wire (no pole # indicated)."
Response: This existing pole is property of Waiialua Sugar Company (WSC). Pole scheduled to be removed in 2-3 months.
Request: "Relocate guy wire (pole #93)."
Response: HECO able to relocate its anchor and guy wires.
- **Sheet C-14**
Request: "(2) guys to be relocated (pole #23)."
Response: This existing pole has telephone facilities only. Coordinate as necessary with Verizon.
Request: "Guy to be relocated (no pole # indicated)."
Response: Existing anchor has 2 guy wires, 1 for HECO, 1 for Verizon. HECO guy not necessary and may be removed. Coordinate as necessary with Verizon for other guy wire.

• Sheet C-15

Request:

Response:

Request:

Response:

"Guy wire to be relocated (pole #12 with light)."

This existing pole is property of WSC, guy wire for telephone facilities only. Coordinate as necessary with both WSC and Verizon.

"Guy wire to be relocated (pole with light)."

This existing pole is property of WSC, guy wire for telephone facilities only. Coordinate as necessary with both WSC and Verizon.

• Sheet C-16

Request:

Response:

Request:

Response:

"Relocate pole and wires (no pole # indicated)."

This existing pole has telephone facilities only. Coordinate as necessary with Verizon.

"Guy wire to be relocated (no pole # indicated)."

This existing pole is property of WSC, guy wires are for both primary and telephone facilities. Coordinate as necessary with both WSC and Verizon.

Please inform us of your plans to resolve the concerns stated above. Keep in mind that the City will be required to obtain a substitute easement for HECO prior to construction for any portion of HECO's existing pole/anchor system that will fall outside of its current easement due to relocation associated with this project. The rough estimated cost to relocate HECO's facilities is \$19,250. Please note that this preliminary cost estimate is very rough and is for HECO's electrical facilities only. Additionally, we have identified in our responses listed above, other locations that do not involve HECO's facilities. The costs to relocate such facilities are not included in the above costs. Please contact the appropriate companies and agencies responsible for their respective facilities for their cost estimates. HECO's relocation work will require an estimated lead-time of 4 months in order to complete design and construction. We request that you factor in this time when you develop the project's schedule. HECO shall not be responsible for any delay or damage that may arise as a result of not being given sufficient notice to relocate its facilities.

If you wish to proceed with the HECO relocation work described above, we ask that you send us a written request. At that time, an updated cost estimate and schedule will be provided in the form of a written proposal letter requesting the customer's commitment to the project. Advance payments will be requested prior to HECO incurring any expenses on the project.

In responding to this letter, please refer to the HECO request number shown above. Gary Fukumoto is the engineer assigned to this project. Please correspond with him directly on all matters relating to this project. If you have any questions, please call him at 543-7843.

Sincerely,

Michael S. Ho

Michael S. Ho
Lead Engineer
Engineering Department

GF

Attachment(s)



Suite 202, Kaimalihi Place □ 867 South King Street, Honolulu, Hawaii 96813-3028 □ Telephone (808) 531-1878 □ FAX (808) 531-0880

park engineering
Inc. dba

March 27, 2002

Mr. Michael S. Ho, Lead Engineer
Engineering Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

Attention: Mr. Gary Fukumoto

Gentlemen:

Subject: Waialua Beach Road Bikeway
HECO Work Order No.: CED040525

Thank you for providing comments for the subject project. In response to your comments, we are providing the following.

The "as-built" information you provided for HECO underground facilities was added to sheets C-8 and C-9.

The enclosed sheets (P1 through P5) show the poles along the proposed bikeway alignment and the amount of excavation anticipated adjacent to those poles. Also enclosed are cross sections of those areas. The areas near poles where we anticipate excavation are listed below.

- Bikeway "10A"
- Sht. P1: Pole #60, Sta. 37+48; Excavation depth: 1.0 foot
- Sht. P2: Pole JP#83, Sta. 42+45; Excavation depth: 0.1 feet
- Bikeway "8A" Sht. P4
- Pole w/sign, Sta. 5+42, Excavation depth: 3.0 feet (for Wall no. 1)
- Pole, Sta. 7+69, Excavation depth: 6.5 feet (for Wall no. 2)
- Pole #2, Sta. 9+02, Excavation depth: 8.0 feet (for Wall no. 2)
- Pole #9, Sta. 18+50, Excavation depth: 3.5 feet (for Wall no. 4)
- Pole, Sta. 20+21, Excavation depth: 6.5 feet (for Wall no. 5)
- Pole #11, Sta. 21+70, Excavation depth: 4.0 feet (for Wall no. 6)

- Bikeway "8B" (Sht. P5)
- Pole w/light, Sta. 6+73, Excavation depth: 5.0 feet (for Wall no. 7)
- Pole, Sta. 8+29, Excavation depth: 4.0 feet (for Wall no. 7)

The HECO notes (dated 10/27/00) were inserted into our construction note sheet C-1.

The specific call-outs for relocation of HECO facilities on sheets C-8, C-9, C-14 through C-16 including required details and coordination of work with Waialua Sugar Company and Verizon Hawaii was revised as requested.

We have informed the City Department of Transportation Services (DTS) of the requirement to obtain a substitute assessment for HECO prior to any work requiring relocation of HECO pole/anchor system outside of the current easement. We have also informed them of the need to allow 4 months lead time for design and construction of relocated HECO facilities.

ENGINEERS, SURVEYORS, PLANNERS

Mr. Michael Ho
Waialua Beach Road Bikeway
March 27, 2002
Page 2 of 2

DTS has also been informed of the need to send a written request for relocation of any HECO facilities required by this project.

If you have any further comments or concerns regarding this project, please call me at 531-1878.

Sincerely yours,

ParEn, Inc.
dba PARK ENGINEERING

Cris Takushi

Cris Takushi
Project Engineer

Enclosures

cc: Dept. of Transportation Services (Mark Kouchi)

22

AMIA J. CARTELAND
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL

200 SOUTH HERRING ROAD, SUITE 100
HONOLULU, HAWAII 96813
TELEPHONE: (808) 944-4700
FACSIMILE: (808) 944-1100

GENEVIEVE SALMONSON
DIRECTOR

August 7, 2002

Mr. Mark Kibuchi
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Mr. Chris Takushi
ParkEn Inc., dba Park Engineering
567 South King Street, Suite 300
Honolulu, Hawaii 96813

Dear Messrs. Kibuchi and Takushi:

We have reviewed the draft environmental assessment entitled: "Waialua Beach Road Bikeway" and dated June 2002, for various site improvements in the judicial district of Waialua at Tax Map Keys 6:8-6, parcels 10 and 17, and Tax Map Key 6-7-1, portions of parcels 6 and 26. We offer the following comments for your response and consideration.

1. **PURPOSE AND NEED FOR THE PROJECT:** While we understand that the project is applying for a special management area permit under Chapter 25, Revised Ordinances of Honolulu, we also understand that the project makes use of County lands and county lands, and as such is subject to the requirements of Chapter 343, Hawaii's Revised Statutes. Please include a discussion on the genesis and history of the project by preparing a section discussing the purpose and need of the action.
2. **SIGNIFICANCE CRITERIA:** As a Chapter 343, Hawaii's Revised Statutes document, please discuss how the project's impacts and environmental setting were analyzed using the significance criteria set forth in Section 11-200-12, Hawaii's Administrative Rules.
3. **GUIDELINES FOR SUSTAINABLE BUILDING DESIGN IN HAWAII:** We ask that you consider implementing some of the techniques discussed in the enclosed guidelines for sustainable building design.
4. **USE OF GLASPHALT IN ROADWAY:** Please discuss the extent to which you will consider using glassphalt in paving the roadway.
5. **INDIGENOUS AND POLYNESIAN INTRODUCED PLANTS FOR USE IN PUBLIC LANDSCAPING:** As provided for by State law, we ask that you consider the use of native, indigenous and polynesian introduced plants in your landscaping.

The above guidance documents are available at our website, <http://www.doe.hawaii.gov/health/ceqa/index.html>. If there are any questions, please call Leslie Segurado at 586-4183. Thank you for the opportunity to comment.

Sincerely,

Genevieve Salmonson
GENEVIEVE SALMONSON
Director

TE

August 9, 2002

Mr. Yoshiaki Tamabe, Manager
Land and Facilities
Dole Food Company, Hawaii
1116 Whitmore Avenue
Wahiawa, Hawaii 96786

Dear Mr. Tamabe:

Subject: Waialua Road Bikeway Easement over Dole Food, Hawaii, Properties

This confirms your telephone discussion with Messrs. Michael Oshiro and Tony Taiat on June 20, 2002, requesting an acknowledgement of the conditions in the November 2, 2001 letter from Mr. Jerry Vriesenga.

Dole Food requested that a boundary fence be installed along the bike path. The City awarded a contract (F-00682) to Delta Construction Corporation which would fulfill this requirement by installing 4,400 linear feet of chain link fencing at a cost of \$79,200. In consideration of this requirement, the City requests a written confirmation that Dole Food grants a no-cost easement. Upon receipt of this confirmation, we will request the Department of Design and Construction to prepare the easement documents for execution by Dole Food.

Thank you for your assistance in implementing this community-requested bikeway project. If there are any questions, please contact Mr. Oshiro at 527-5031.

Sincerely,

Cheryl D. Soon
CHERYL D. SOON
Director

fp(T. Taiat)

cc: Department of Design and Construction,
Land Survey and Acquisition Division
bcc: Park Engineering, Chris Takushi

dole-doc



2005 200, Kamehameha Place # 207 South King Street, Honolulu, Hawaii 96813-2008 ☎ Telephone: (808) 951-1878 ☐ FAX: (808) 536-2088
Park Engineering, Inc. dba park engineering.

August 30, 2002

Ms. Genevieve Salmonson, Director
 Office of Environmental Quality Control
 State of Hawaii
 235 South Beretania Street, Suite 702
 Honolulu, Hawaii 96813

Attention: Mr. Leslie Segundo
 Dear Ms. Salmonson:

Subject: Draft Environmental Assessment (DEA)
 Wai'alea Beach Road Bikeway
 T.M.K. 6-8-6 parcels 10 & 17, 6-7-1 portions of parcels 6 & 26

Thank you for your comments in your letter of August 7, 2002 regarding the subject DEA. The following has been prepared in response to your comments:

1. **Purpose and Need for Project**
 Section II, A (1) was added to discuss the purpose and need of the proposed actions including a brief history and genesis of the project.
2. **Significance Criteria:**
 Section VII was added to discuss the relationship of the proposed actions with Chapter 200 of Title 11, Administrative Rules of the State of Hawaii's criteria used to determine whether an action will have significant effects on the environment.
3. **Guidelines for Sustainable Building Design in Hawaii:**
 Section IV.C was added discussing guidelines applicable to the project that would minimize impacts on the environment and makes wise use of our natural resources.
4. **Use of Glassphalt in Roadway:**
 The Department of Transportation Services (DTS) is considering allowing the Contractor to have the option of using Glassphalt or recycled base course. If warranted, the Contract documents will be revised to include this option.

ENGINEERS, SURVEYORS, PLANNERS

Ms. Genevieve Salmonson, Director
 Page 2
 August 30, 2002

5. **Indigenous and Polynesian Introduced Plants for Public Landscaping:**
 While the project does not involve new landscaping, the Contractor is required to restore any existing landscaping disturbed as a result of his construction activities to their original condition. With input from residents/landowners, the coconut trees identified for relocation in the plans shall be moved to areas designated by the City. Section IV.D was added discussing this action.

We hope these responses adequately address your concerns for this project. Your letter and this response will be included in the forthcoming Final Environmental Assessment.

Sincerely yours,
 ParEn, Inc.
 dba PARK ENGINEERING

Cris Takushi
 Cris Takushi
 Project Engineer

c: Mark Kikuchi (Dept. of Transportation Services)



1116 Wilshire Avenue Wahiawa, Hawaii 96786

February 27, 2002

Mr. Chris T. Takushi
Project Engineer
Park Engineering
Suite 300 Kawaihau Plaza
567 South King Street
Honolulu, Hawaii 98113-3036

SUBJECT: Earth Berm Along Proposed Waiialua Beach Road Bikeway

Dear Mr. Takushi,

This is to confirm our phone conversation of February 26, 2002 regarding subject matter.

An earth berm along a portion of the proposed bikeway fronting Dole property as indicated on the "Location Map" Waiialua Beach Road Bikeway Figure 1 is not a flood control measure. This berm is a physical barrier to keep the public out and prevent illegal dumping on our property. Your proposal to install 6' high chain link fence in place of the earth berm is satisfactory to Dole.

If you require any other information regarding this matter, please contact me at the above address of by phone 621-3220.

Yours Truly,

Yoshi Tanabe, P.E.
Manager, Land & Facilities

cc: GSMun
MFO'Brien

TS-2347
TS02155

June 25, 2002

Mr. Yoshiaki Tanabe, Manager
Land and Facilities
Dole Food Company, Hawaii
1116 Wilshire Avenue
Wahiawa, Hawaii 96786

Dear Mr. Tanabe:

Subject: Waiialua Road Bikeway Easement Over Dole Food, Hawaii Properties

This confirms your telephone discussion on June 20, 2002 with Michael Oshiro and Tony Takat of my staff requesting acknowledgment of the conditions requested by Mr. Jerry Vriesenga in the November 2, 2001 letter.

Dole Food requested that a boundary fence be installed along the bike path. The City contract award (F-00682) to Delta Construction Corporation fulfills this requirement by installing 4400 linear feet of chain link fencing at a cost of \$79,200. Dole Food also requested that the City grant access across the bikepath for the farm lots (zoned AG-2) on Waiialua Beach Road between Crozier Loop and Puumaki Road. The City would include such a grant in the easement document for as long as these lots retain their current zoning.

In consideration for these requirements, the City requests that Dole Food grant the City the easement for a nominal fee. We ask your cooperation in confirming in writing that this will be granted. Upon receipt of this confirmation, the Department of Design and Construction will prepare the easement documents for execution by Dole Food.

Thank you for your assistance in implementing this community requested bikeway project.

If there are any questions, please contact Mr. Oshiro at 527-5031.

Sincerely,

CHERYL D. SOON
Director

cc: Department of Design and Construction, Land Survey and Acquisition Division
Department of Planning and Permitting, Traffic Review Branch

bcc: Park Engineering, Chris Takushi, Project Manager

ijf(T. Talai)
TS01155.doc

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

420 SOUTH KING STREET • HONOLULU, HAWAII 96813
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DRT:MARCE
MAYOR


LORETTA K.C. CHES
Acting Director of Planning
and Permitting
2002/HLOG-2853 (ST)

November 8, 2002

Mr. Chris Takushi
ParRo, Inc.
Kawaihao Plaza, Suite 300
567 South King Street
Honolulu, Hawaii 96813-3036

Dear Mr. Takushi:

Draft Environmental Assessment (DEA):
Waialua Beach Road Bikeway Project by the
Department of Transportation Services - Waialua
Tax Map Keys 6-8-6; DORS. 10. 17; 6-7-1; DOR. 6 & 25

We have reviewed the DEA for the above-referenced project received on October 8, 2002, and have the following comments:

SECTION II DESCRIPTION OF THE PROPOSED ACTION

A. (2) Brief Narrative Description of Proposed Project - The project description should be expanded to include all improvements that are proposed (i.e., new landscaping, lighting, railings or additional signage, etc.). This section should also explain how this project relates to the City's Honolulu Bicycle Master Plan (April 1999).

A. (4) Land Use Approvals Granted and/or Approvals Required - This section should clarify what portions of the project will actually require the approval of an SMA Use Permit. Based on early consultation with our staff, this was determined to be construction which is located outside existing highway rights-of-way. The Final EA should include a separate exhibit that shows what portions of the project are located outside the existing rights-of-way, the ownership of those segments (i.e., TMK boundaries), and disclose if retaining wall construction is proposed within these segments.

Chris Takushi
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November 8, 2002

Should you have any questions, please contact Steve Tagawa of our Land Use Approvals Branch at 523-4817.

Sincerely yours,



LORETTA K.C. CHES
Acting Director of Planning
and Permitting

LKCC:BT

cc: Office of Environmental Quality Control
FOIA(b), 7(C)(1)



Suite 300, Kawaehao Plaza □ 307 South King Street, Honolulu, Hawaii 96813-3036 □ Telephone (808) 531-1678 □ FAX (808) 536-5995

ParEn, Inc. dba park engineering

November 29, 2002

Loretta K.C. Chee, Acting Director
Department of Planning and Permitting (DPP)
City and County of Honolulu
650 South Beretania Street
Honolulu, Hawaii 96813

Attention: Mr. Steve Tagawa:

Dear Ms. Chee:

Subject: Environmental Assessment for a Special Management Area (SMA) Use Permit
Waiulua Beach Road Bikeway
T.M.K. 6-8-6 parcels 10 & 17, 6-7-1 portions of parcels 6 & 26

Thank you for your comments in your letter of November 8, 2002. The following has been prepared in response to those comments.

Section II.A (2) Brief Narrative Description of Proposed Project of the Final Environmental Assessment (FEA) has been revised to include a more complete description of the proposed improvements. This includes retaining walls with railings, fencing, bikeway signage, a box culvert extension, reconstruction of driveways, removal and replacement of guardrails and relocation of underground and surface improvements. No lighting or new landscaping will be provided. The Contractor will be required to restore any existing landscaping disturbed as a result of his construction activities to their original condition. This section also explains how the project is consistent with the vision and goals of the Honolulu Bicycle Master Plan.

Section II.A (5) Land Use Approvals Granted and/or Approvals Required
Based on review of City maps only one portion of the proposed project falls within the SMA. This portion is the 8-foot and 13-foot wide section designated in the plans as Section 8-A. However, because this section will be built entirely within the City's existing road right-of-way a SMA Use Permit will not be required. During early consultation discussions we previously incorrectly believed the portion of the bikeway between the proposed box culvert extension and Komo Street was also within the SMA and outside the City's right-of-way.

Sincerely yours,

ParEn, Inc.
dba PARK ENGINEERING

Cris Takushi

Cris Takushi
Project Engineer

Enclosures

cc: Mike Kato (Dept. of Transportation Services)
ENGINEERS SURVEYORS PLANNERS