

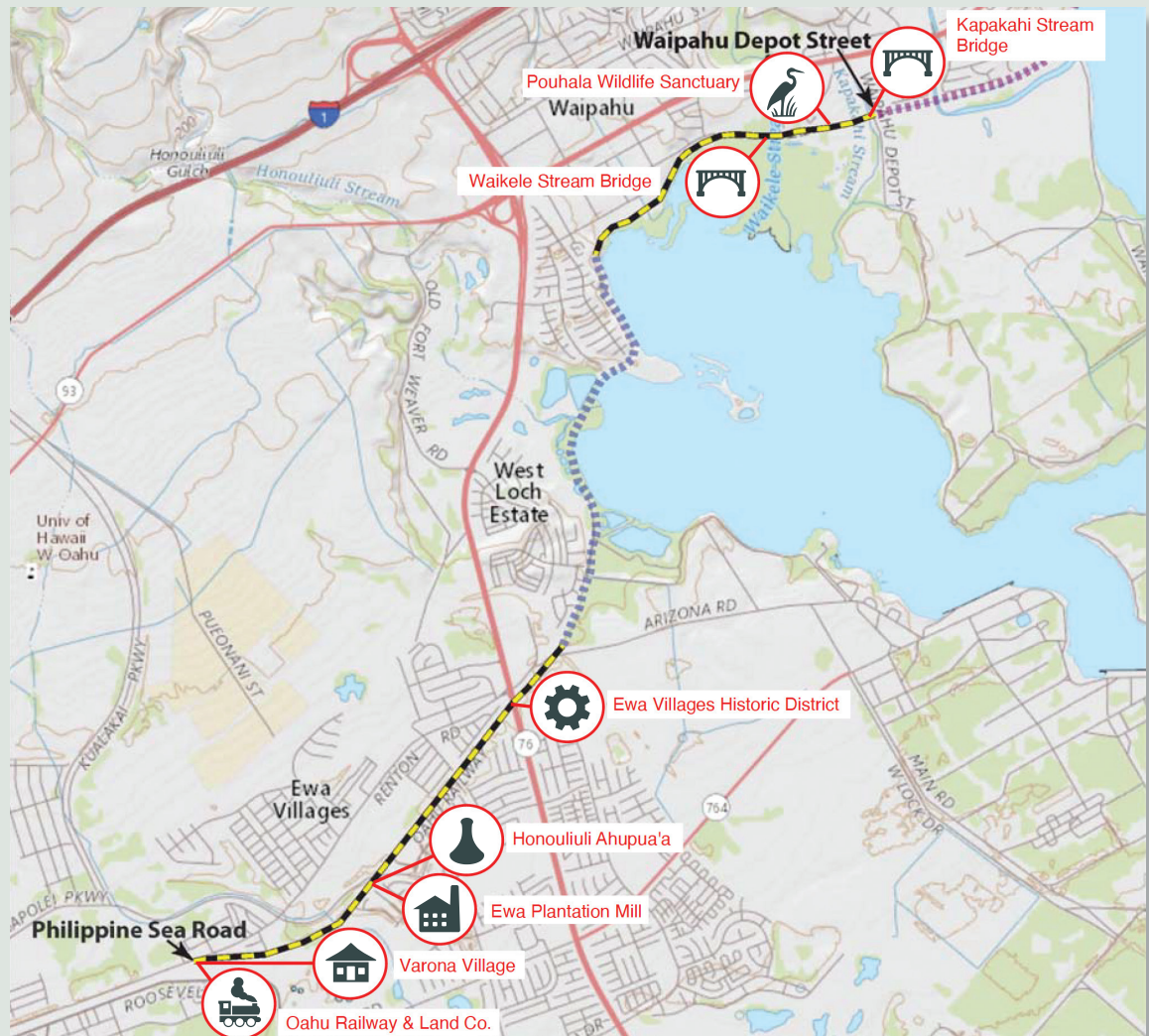


Leeward Bikeway's Historical Interpretive Signs



EWA PLANTATION BY MELBOURNE BRINDLE, CA. 1951, HUNTINGTON LIBRARY, JOHN HASKELL KEMBLE COLLECTION, PRIJHK 00871.
PUBLISHED: MARCH, 2024

Leeward Bikeway



Eight interpretive signs dot the nearly 11 miles of the trail and share some of the area's unique history.

On the map above, the yellow and black lines denote the two sections of the bikeway and the signs located along the way. Each sign is reproduced in this booklet.



Leeward Bikeway
Hawaii Department
of Transportation

Explore History Along The Leeward Bikeway

The State of Hawai'i, Department of Transportation (HDOT) invites you to explore local history along the Leeward Bikeway, a paved path that opened in 2024 and extends from Waipahu Depot Street to the Hawaiian Railway Society (HRS) at Philippine Sea Road on the Leeward side of O'ahu.

The Leeward Bikeway's two segments link together existing bike paths, the Pearl Harbor Historic Trail and the West Loch Bikeway, and extend the route to HRS. With the completion of the Leeward Bikeway, an extensive, nearly 11-mile-long continuous shared-use path is now available, a first for O'ahu's cycling and walking enthusiasts.

Leeward O'ahu is rich with history and the bikeway is unique for being built within the 40'-wide former Oahu Railway & Land Company (OR&L) right-of-way. A series of historical interpretive signage panels have been installed along the bikeway to enrich the user experience. Along the route, users will learn about the origins of OR&L, Varona Village, Ewa Mill, Honouliuli ahupua'a, Ewa Villages, Waikele Stream Bridge, Pouhala Wildlife Sanctuary, Kapakahi Stream Bridge, and other facets of the region's history.

This brochure conveys the same content as the eight historical sign panels on the bikeway and is provided for those who may not be able to access it.

A Very Big Mahalo

Many agencies, engineers, contractors, professional consultants, designers, historians, archives, community groups and individuals contributed to the successful development of the Leeward Bikeway, its historical interpretive signage panels, and this brochure. Thank you to all of you!

Project Credits:

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Department of Transportation,
Federal Highway Administration

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A special mahalo to:

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Oahu Railway & Land Co.

BUILDING THE RAILROAD

King Kalākaua's negotiation of the 1875 Treaty of Commercial Reciprocity with the United States Congress allowed Hawai'i's sugar and other goods to be exported duty free to the U.S. In 1878, he signed "An Act to Promote the Construction of Railways."

These two acts set the stage for the explosive growth of Hawai'i's agricultural economy and Oahu Railway & Land Co. (OR&L).

Entrepreneur Benjamin Dillingham and his partners leased land from James Campbell in 'Ewa and Kahuku, and in 1888 the Legislature awarded Dillingham the franchise to build the railroad to connect the port of Honolulu to rural O'ahu. In fulfillment of a promise made, Dillingham completed the first 12 miles of track within a year, opening it to the public on King Kalākaua's birthday, November 16, 1889. Ewa Plantation was founded in 1890 in this region, and harvested its first crop in December of 1892. It shipped 4,413 bags of sugar by rail to Honolulu by the end of that month.



The passenger train from Honolulu heading to Ka'ena Point and North Shore stops, including the Haleiwa Hotel.

BISHOP MUSEUM

'EWA'S FIRST ARTESIAN WELL

OR&L would not have been possible without James Campbell's vision. Flush with cash from the success of his Pioneer Plantation on Maui, in 1877 he purchased 41,000 acres of dry, barren 'Ewa land and established a ranch. In 1879 Campbell





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Hawaii Department
of Transportation

OR&L'S TRACKS WENT FROM IWILEI TO WAHIAWĀ AND KAHUKU, WHERE IT CONNECTED TO THE KOOLAU RAILWAY COMPANY FOR TEN MILES TO KAHANA.



**Benjamin F.
Dillingham**

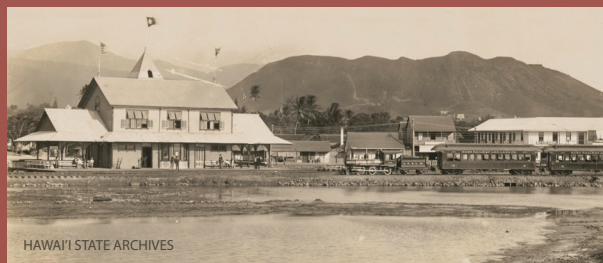
HAWAII STATE ARCHIVES
MAP: INFO GRAFIK COLLECTION



EXPANSION AND EXCURSIONS

In its early days, OR&L needed a source of revenue while the sugar plantations were still being established. The company promoted rail excursions and picnics and rented out passenger cars for private functions.

Dillingham also planned several destination points, opening the grand Haleiwa Hotel on the North Shore in 1899. The hotel was popular with high society and accessed primarily by rail. By the time the main route of OR&L was completed in 1906, 175 miles of track had been laid.



HAWAII STATE ARCHIVES

In 1899, the first Honolulu Depot Station was built on stilts in the former Kūwili Fishpond in Iwilei.

Advertisement in the *Pacific Commercial Advertiser*, 1917. Below, a postcard featuring the Haleiwa Hotel.



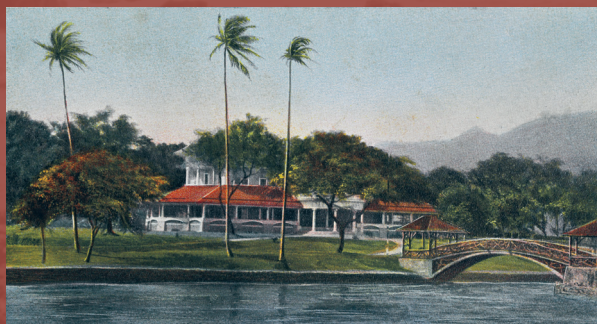
PACIFIC COMMERCIAL ADVERTISER

THE HAWAIIAN RAILWAY SOCIETY, ACROSS PHILIPPINE SEA ROAD, ON YOUR LEFT, IS DEDICATED TO PROTECTING OR&L'S HISTORY AND IS THE ONLY OPERATING RAILROAD MUSEUM IN THE STATE.

commissioned California well-driller James Ashley to drill an artesian well, the first on the 'Ewa Plain. Its success made it possible to grow sugar cane in the arid region, which led to the establishment of a sugar plantation in 'Ewa and the OR&L railroad.



BISHOP MUSEUM



INFO GRAFIK COLLECTION

Varona Village

FILIPINO CAMP

Directly across Renton Road is Varona Village. Originally called “B Village,” “Filipino Camp,” and later “Banana Camp,” it was established in the 1930s by Ewa Plantation Co. for its Filipino workers. Housing camps in that era were divided by ethnicity and class. In the 1950s the camp was expanded and renamed Varona Village after Francisco Varona, a Philippine national who came to Hawai‘i in the 1920s as a newspaper investigator with interest in improving worker conditions. However, Varona also worked closely with the Hawaiian Sugar Planters Association to acquire and retain laborers in Hawai‘i.

VARONA AGREEMENT

Between 1906-1946, over 100,000 Filipino contract workers – Sakadas – immigrated to Hawai‘i to work in sugar plantations. By 1932 they made up approximately 70% of the workforce. Sakadas fought for better working and living conditions, and labor equality. As a result of their labor movement, a pact called the “Varona Agreement” (1937-1938) was negotiated between sugar companies and the Philippine government special labor commissioner, Francisco Varona. It provided free return passage from Honolulu to Manila for workers who completed 5-year labor contracts.

Contract laborers arrive in Hawai‘i from the Philippines.

HAWAII STATE ARCHIVES,
GEORGE BACON COLLECTION



WORKER HOUSING

The earliest plantation workers were bachelors. They lived together in barracks, sharing a single room and a communal bath house. Housing reforms in the 1920s improved conditions, and as families were replacing single male workers on plantations, single-family homes were soon built. These houses were larger, with two bedrooms, more windows for ventilation, and a covered





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lānai. This improved plantation worker housing served as models for the ubiquitous tongue-and-groove, single-wall residences built after World War II for Hawai'i's expanding middle class. These modest homes, adopted as the cornerstone of many residential subdivisions, were phased out in the early 1990s due to building code changes.

Left: Typical Ewa Plantation housing in 1924, above, and 1937, below.

PHOTOS: BISHOP MUSEUM



Bango tags were issued to plantation workers to identify them in place of names. Workers presented bangos to receive their pay and buy items from plantation stores.

HAWAII'S PLANTATION VILLAGE

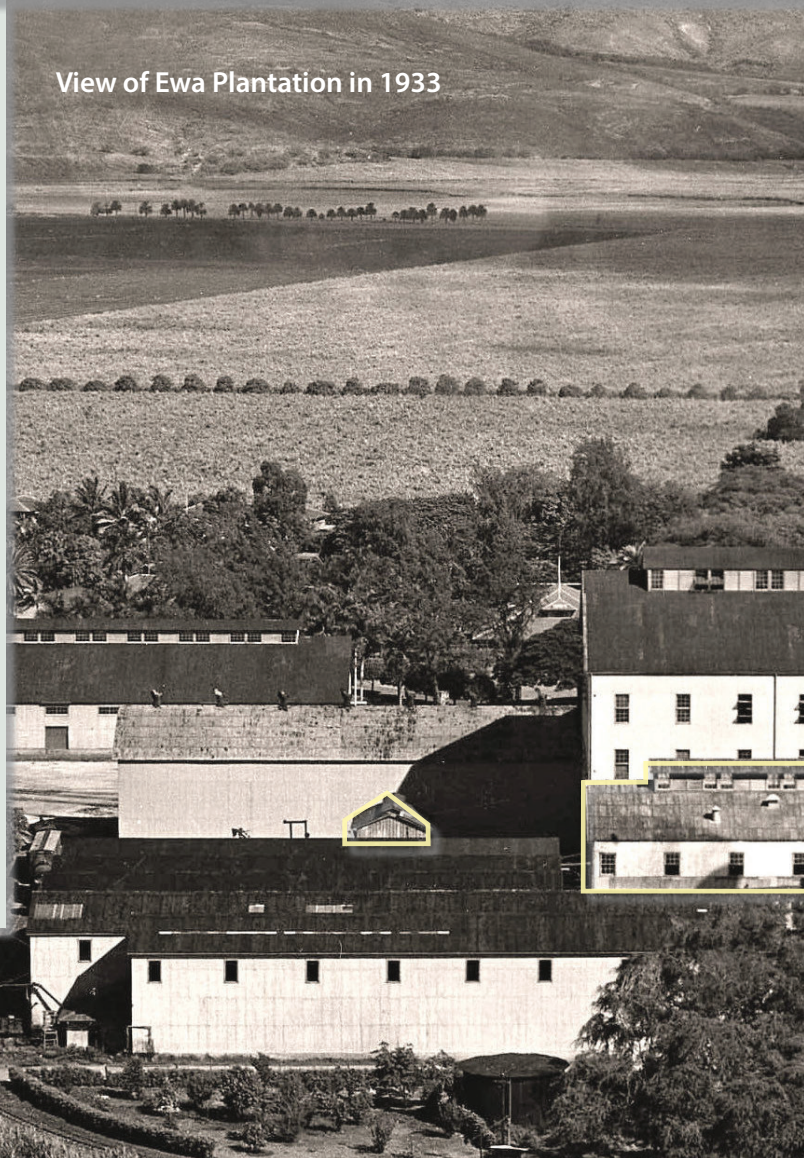
Ewa Plantation Mill

FOUNDING EWA PLANTATION

In 1890, the Ewa Plantation Company was founded on 11,000 acres of the arid Honouliuli plain sublet from Oahu Railway & Land Co. (OR&L) President Benjamin Dillingham. Its development was pursued with the knowledge that underground water could be pumped for irrigation, and the raw sugar could easily be transported to Honolulu Harbor via the OR&L rail system, then under construction.

Across Kapolei Parkway to your right is the site of the former Ewa Plantation's sugar mill. The two buildings outlined in the photograph remain today, along with a few buildings constructed later.

View of Ewa Plantation in 1933



EWA STATION

Ewa Mill was built close to OR&L's Ewa Station. While the main purpose of the rail was to transport agricultural loads, trains also transported passengers and cargo from Honolulu to Kahana.



FROM PLANTING TO SHIPPING

Sugar cane took 9-16 months from planting to harvesting. Before the harvest the fields were burned to remove dead material. The remaining stalks were cut by the workers with cane knives and pushed into large heaps. The stalks were taken to the mill to be washed and crushed.

Cane juice was evaporated in several steps to separate sugar crystals from the molasses. After drying, the raw sugar was bagged and transported to Honolulu by OR&L rail, then shipped to the mainland by boat for refinement into pure sugar.



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Irrigation System



Fertilizing & Planting



Cutting



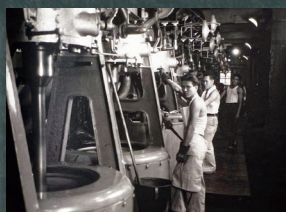
Burning



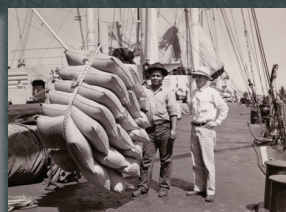
Portable Rail Tracks



Transporting



Processing



Shipping

NATIONAL ARCHIVES AND
RECORDS ADMINISTRATION

IRRIGATION SYSTEM, PORTABLE TRACKS AND SHIPPING: BISHOP MUSEUM. TRANSPORTING: HAWAII STATE ARCHIVES. ALL OTHERS: R.J. BAKER, ROMANCE OF RAW SUGAR, 1937

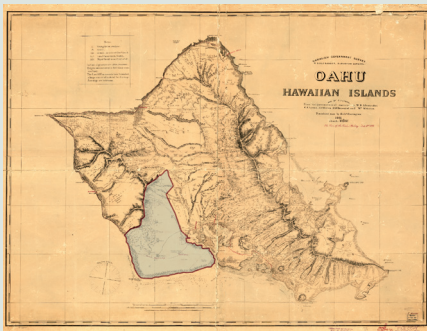
37883A.C

Honouliuli Ahupua'a

A VAST LAND CALLED "DARK BAY"

You are standing within Honouliuli, O'ahu's largest ahupua'a, located in the Moku (district) of 'Ewa, a traditional planning concept and land division that was conceived centuries ago for efficient and sustainable resource management.

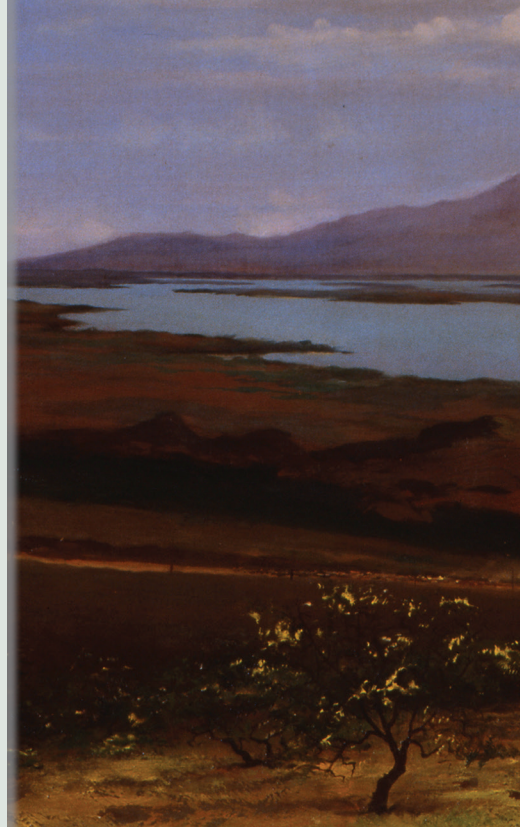
Honouliuli means "dark bay" in reference to the nearby waters of Wai Momi or Pu'uloa (today's Pearl Harbor). Honouliuli has a wide range of climates and varied terrain. At 43,000 acres, its vast size balanced a scattered availability of natural resources, such as freshwater, relied on by early Hawaiians.



Honouliuli, shaded in green, is one of 'Ewa's thirteen ahupua'a which typically run from the uplands to the coast and to the offshore fishing grounds. All of 'Ewa's ahupua'a extend into the waters of Pearl Harbor.

1881 HAWAIIAN GOVERNMENT SURVEY MAP
LIBRARY OF CONGRESS

The view from Moanalua over Pearl Harbor, across Honouliuli, with the Wai'anae Mountains in the distance.



A FERTILE VALLEY, ARID PLAIN, AND ABUNDANT SHORELINE

Honouliuli Valley offered rich soil and plentiful water for irrigation from its streams and springs. The forests in the uplands supported a variety of food and medicinal plants, including kukui, hau, 'ōhi'a, 'iliahi, tī and banana.

The broad limestone plain, covered with a thin layer of soil, is pocked with pit caves that offered nesting places



for a large population of birds. These may have attracted the earliest of settlers. The extensive coastline offered rich marine and estuarine resources. Irrigated lowlands were suitable for wetland kalo (taro), which was cultivated at the mouth of the Honouliuli Stream.



The 12-mile Honouliuli coastline extends from Keahi Point in the east to Pili o Kahe Point in the west. Along the estuaries and beaches and out in the

FRANK EDWARD CLARKE, 1875, MUSEUM OF NEW ZEALAND

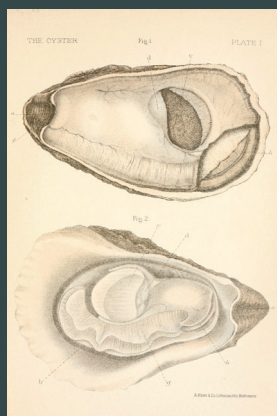
SALT: UNITED STATES GEOLOGICAL SURVEY



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DETAIL FROM PEARL HARBOR FROM KAPUKAHI HILL, JOSEPH D. STRONG, 1889. BISHOP MUSEUM



ocean, Hawaiians gathered, farmed, and fished for a variety of marine resources including pa'akai (salt), 'anae (mullet), and pipi (pearl oyster).

OYSTER: SMITHSONIAN BIODIVERSITY HERITAGE LIBRARY



'Ewa Beach was a favored place to gather limu (seaweed). Rain in the mountains flowed through the limestone karst into thousands of freshwater springs, creating a bountiful marine ecosystem.



Edible limu is often found where freshwater enters the sea. Taro was grown in lo'i (irrigated terraces) wherever there was adequate freshwater.

LIMU, CIRCA. 1897: BISHOP MUSEUM.
TARO: SEIKEI ZUSEUSU CATALOG, LEIDEN UNIVERSITY

Ewa Villages Historic District

VILLAGE LIFE AND ACTIVITIES

Plantation labor was backbreaking work, with long hours and low pay. To retain workers, Ewa Plantation Co. created a self-contained community, with a school, grocery store, medical care, and amenities such as a gymnasium, social halls, and outlets for sports. The camps were divided by ethnicity and several had their own health clinics.

Within this multicultural society, laborers raised families and would come together for festivals, parades, and sports. The annual harvest festival included fencing and pillow fights. Foods and music from many cultures were also enjoyed.



Portugese family at home, 'Ewa's Pipeline Village, 1907.



Eating hot dogs, 1928 Festival.



Suited up for Kendo, 1928 Festival.



Japanese school, left, Buddhist Temple, right, in 1910.



The 1922 baseball team had players from many backgrounds.



Located on both sides of Renton Road, roughly two blocks west of here, the villages were designated as a Hawai'i Register of Historic Places Historic District in 1995.



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BISHOP MUSEUM

PIONEERING HEALTHCARE

Ewa Plantation is recognized as a pioneer in providing health care to workers and their families. It was one of few to address the high infant mortality rate. Working with Queen's Hospital in 1929, they provided quality food, education and support for mothers. By 1931, the mortality rate had dropped significantly from 160.7 deaths-per-thousand to 68.9.

Vol. 26

HEALTH WORK IN HAWAII

869



*From Ewa Health Center Report. Kindness of Castle & Cooke, Ltd.
A corner of the nursery at a plantation health center. Mothers who work for the plantation have the privilege of leaving their babies under a trained attendant during the day. A nominal charge is made for food only.*

"A new hospital was built in 1935, part of an exemplary health care system which included kindergartens, child health clinics, and nutrition studies."

QUOTE: THE REGISTER OF THE EWA PLANTATION COMPANY, 1891-1960, HSPA ARCHIVES

PHOTO: CHILDCARE NURSERY FOR EWA PLANTATION'S WORKING MOTHERS, AMERICAN JOURNAL OF HEALTHCARE, SEPTEMBER, 1936.

Waikele Stream Bridge

OR&L AND THE MILITARY

In anticipation of strategic needs, the U.S. Army and Navy planned rail systems on O'ahu to easily integrate with the established tracks of Oahu Railway & Land Co. (OR&L) through this area. During World War II, Waipahu served as an important junction between Schofield Barracks/Wheeler Army Airfield and Pearl Harbor. The rail system was critical for the transport of military supplies, weapons, and personnel during the war.



FRANZEN PHOTOGRAPHY/NATIONAL PARK SERVICE

WAIKELE CANAL AND BRIDGE

In 1939, the Waikele drainage canal was dredged from Waipahu Town to Pearl Harbor to mitigate persistent flooding near Waipahu Depot Road businesses. A steel girder bridge was built here for the OR&L rail line to cross the canal.

OR&L ran until 1947 when the Navy took over a section of rail to transport ammunition from West Loch to Lualualei. In 1980 the right-of-way was transferred to the State of Hawai'i Department of Transportation. In 2023 the bridge, shown above and at right, was replaced with the current bikeway bridge.



FRANZEN PHOTOGRAPHY/NATIONAL PARK SERVICE



HARVEST AND SOLDIERS: R.H. LODGE PHOTO, HAWAII'S PLANTATION VILLAGE



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TEMPORARY TRACK WAS INSTALLED
AT SCHOFIELD BARRACKS' PARADE
GROUNDS FOR A CEREMONIAL
INSPECTION, 1935.

PAN PACIFIC PRESS BUREAU,
HAWAII STATE ARCHIVES

WAIPAHU STEPS UP

The Waipahu community contributed to the World War II effort through volunteering, growing and raising food, signing up for military service, and purchasing approximately \$1 million of War Bonds.

Due to a severe shortage of workers, students from Waipahu's schools (left), helped harvest over 10 million pounds of potatoes. They also worked in the sugar cane fields.



Volunteers from Waipahu joined the Army's 100th Battalion and 442nd Regiment. Both units proudly used the now famous motto, "Go For Broke."

The all Nisei 442nd, fighting in Europe, was the most decorated unit for its size and length of service in the history of the U.S. military.

Pouhala Wildlife Sanctuary

FROM MULIWAI TO SANCTUARY

This area was once a muliwai (estuary) where Kapakahi Stream irrigated the lowlands of Pouhala, and converged with the waters of Kaihuopala'ai (today's West Loch). Centuries ago, Native Hawaiians cultivated kalo (taro) inland, and built several loko i'a (fishponds) here. Loko Pouhala was the largest. As a kuapā-style fishpond, it had stone- or coral-walled sides facing the loch, and one or more mākāhā (sluice gates). 'Ama'ama (striped mullet) was likely raised here; legend tells of its migration from Kaihuopala'ai to Lā'ie and back.



Kalo was grown here before the wetlands were planted in rice. Oahu Sugar Company was just mauka of the rice fields.

INFO GRAFIK COLLECTION

FROM FISH AND TARO TO RICE

In 1890, the Crown Lands of Loko Pouhala were sold at auction, leased, and subdivided. King Kalākaua's Reciprocity Treaty allowed rice and sugar to be exported duty free to the U.S, and a common practice in

Hawai'i was for former Chinese plantation laborers to establish family farms. In this way, rice was cultivated here by local farmers for several decades before California's larger rice producers won out.

MARY KAWENA PUKUI VISITS POUHALA IN 1939

"What a wonderful place it must have been with a fishpond and the sea in front and taro patches at the back door." M. K. Pukui

In 1939, Hawaiian scholar Mary Kawena Pukui visited Loko Pouhala and described it as an important

fishpond of olden days. She noted its many changes; railroad tracks crossed the mauka end and its waters were no longer as clean as they once were. The surrounding land, Kapalaha, once had a series of small taro patches, but very few remained.



1873 map with the general boundaries of the Sanctuary shaded in.

LIBRARY OF CONGRESS





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of Transportation

View of the former neighboring Loko 'Eo in 1930,
a loko i'a similar in design to Loko Pouhala.



BISHOP MUSEUM

SANCTUARY AND WETLAND RESTORATION

By the 1950s, the loko fell out of agricultural and aquaculture use. It was then partially infilled and used for illegal dumping. The site was designated Pouhala Marsh Wildlife Sanctuary in the early 2000s. The restoration work is

ongoing and has included the removal of invasive vegetation, trash and fill. It also led to the creation of pond habitats. Today this 70-acre tidal wetland is home to a number of native endangered waterbirds and shore birds.

Can you spot any of these birds?

Ā'eō, *Himantopus mexicanus knudsnei*

JOHN JAMES AUDUBON



'Akekeke, *Arenarai interpres*

VON WRIGHT BROTHERS



'Alae ke'oke'o, *Fulica alai*

VON WRIGHT BROTHERS



'Auku'u, *Nycticorax nycticorax hoactli*

EDUARD DANIEL VAN OORT



'Alae 'ula, *Gallinula galeata*

JOHN JAMES AUDUBON



Koloa Maoli, *Anas wyvilliana*

VON WRIGHT BROTHERS



Kapakahi Stream Bridge

THE 1932 STEEL BRIDGE

In 1932, Oahu Railway & Land Co. (OR&L) built a single-span, steel-parapet bridge over Kapakahi Stream (photo at right) to replace an earlier rail bridge. The steel bridge was demolished and replaced with a new bridge for the bikeway in 2023.



The first rail bridge and Oahu Sugar Company's smokestack and mill are visible in the distance. The canoe provided access to coastal resources and settlements.



SMALL KID DAYS AT WAIPAHU DEPOT

In the once rural area of Waipahu, Waipahu Depot was an important junction of the OR&L system, connecting rural plantations and the Wahiawā branch line to Honolulu. The depot, adjacent to Kapakahi Stream, served as living quarters for the station agent and his family.

The rustic and carefree life at Waipahu Depot in the early 1900s was described by Helen Yonge Lind, daughter of Duke Yonge, a Waipahu Depot Station Agent:

"We ran down the raised pathways through the rice paddies chasing flocks of rice birds and playing with the ducks. When the workers came in from the fields for lunch, we joined them in the rustic dining area."



WAIPAHU DEPOT WITH
A RICE FIELD IN THE
LEFT FOREGROUND.



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Hawai'i Department
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**View of the Kapakahi steel-parapet
rail bridge, just after World War II.**

VICTOR NORTON, HAWAIIAN RAILWAY SOCIETY



CALIFORNIA STATE RAILROAD MUSEUM

"The floor was hard-packed dirt with chickens flitting around chasing bones and bits of food from the diners. Hanging from the ceiling over the table was a large pot of rice.

"The food was simple and savory and has left a lasting influence on my life-long preference for what some call Chinese 'peasant food': salt fish, salt duck egg, fatty steamed pork (kau yuk), and green vegetables with pungent hum har sauce."

Helen Yonge Lind



On the left, Helen Yonge Lind, age 5, with her sister Marguerite, 7, 1919. Photograph and story courtesy of the Lind Family.



An approximation of a section of the Bikeway's route has been annotated with a dark red line on this 1873 map of Pearl Lochs by C. J. Lyons, from the Library of Congress.

The Leeward Bikeway was developed by the State of Hawaii, Department of Transportation under Federal Aid Project No. STP-BW-0300(8). The interpretive signage panels and brochure were prepared in keeping with the Memorandum of Agreement among the Federal Highway Administration, the Hawai'i State Historic Preservation Officer and the Advisory Council on Historic Preservation Regarding the Leeward Bikeway Philippine Sea Road to Waipahu Depot Street. This agreement was made to mitigate the removal and replacement of two historic OR&L rail bridges (Waikele Stream Bridge and Kapakahi Stream Bridge) that were previously within the rail right-of-way. Their removal was necessary to accommodate two modern replacement bridges for the bikeway. Published: March, 2024.