
Subject: RE: [EXTERNAL] Laie Erosion at 55-271 Kam Hwy

From: Joshua Greig <joshuadgreig@gmail.com>
Sent: Tuesday, October 21, 2025 10:30 PM
To: Cain, Michael <michael.cain@hawaii.gov>
Cc: James Greig <jamesdgreig@gmail.com>; Fitzpatrick, Trevor J <trevor.j.fitzpatrick@hawaii.gov>
Subject: Re: [EXTERNAL] Laie Erosion at 55-271 Kam Hwy

Dear Mr. Michael Cain & Mr. Trevor Fitzpatrick,

Attached is our plan as discussed at our May 5th, 2025 meeting.

We request that the Board Hearing scheduled for our case on October 24, 2025 be postponed by one month to allow time to meet with you and go over the plan. We would like to meet with you at your earliest convenience to discuss this plan. A paper copy is also being sent; we wanted to get this to you as soon as possible.

Thank you for your attention to this matter,

James D. Greig & Joshua D. Greig

On Sep 11, 2025, at 3:08 PM, Cain, Michael <michael.cain@hawaii.gov> wrote:

Good afternoon,

OCCL issued the original notice of alleged violation on April 14, 2025, and met with you on May 5 to discuss resolving it. After seeing little progress we issued you a second notice on August 11, 2025 giving you thirty additional days to resolve it.

Staff conducted a site inspection this morning, September 11. The pictures from this site visit are attached.

We intend to proceed with our enforcement action, and will schedule a date to present the case to the Board of Land and Natural Resources.

Sincerely,
Michael Cain

Michael Cain, Administrator
Office of Conservation and Coastal Lands
1151 Punchbowl St. #131
Honolulu HI 96813
808.587.0377

<image001.jpg>

Please refer to our website at <https://dlnr.hawaii.gov/occl/> for instructions on submitting applications.

From: Joshua Greig <joshuadgreig@gmail.com>
Sent: Wednesday, September 10, 2025 9:34 PM
To: Cain, Michael <michael.cain@hawaii.gov>
Cc: James Greig <jamesdgreig@gmail.com>
Subject: [EXTERNAL] Laie Erosion at 55-271 Kam Hwy

Dear Mr. Michael Cain,

We are writing to acknowledge receipt of your letter dated 8/11/25. Currently we are still in the process of removing the failed sandbags and other alleged encroachments from the beach as they become visible (see attached image of one of our "hauls").

We are also actively working on our plan and we think we will be able to submit it to you within the next two to three weeks for your review.

James D. Greig MD & Joshua D. Greig

<image002.jpg>

<IMG_1606.jpg><IMG_1607.jpg>

DUNE REPLENISHMENT AND HABITAT RESTORATION PLAN

October 21, 2025

Mr. Michael Cain, Administrator
Office of Conservation and Coastal Lands
State of Hawaii, Department of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

Dear Mr. Cain

SUBJECT: Request for Authorization for an Annual Dune Replenishment Plan
55-271 & 55-273 Kamehameha Highway, Laie, Oahu, Hawaii
Tax Map Keys (1) 5-5-002:088 & (1) 5-5-002:019

We are submitting this request for authorization for a Dune Replenishment and Habitat Restoration Plan for the beach fronting the residential home of the Greig family, located at 55-271 Kamehameha Hwy, Laie, Oahu, Hawaii; Tax Map Keys: (1) 5-5-002:088 & (1) 5-5-001:057 (Figure 3-2 & 3-3). The adjoining properties are located at Kehuku'uana Point, north of Pahumoa Beach Park (Pounders Beach) (Figures 1-1).

The properties have experienced recent annual events of severe beach erosion, with periodic episodes of severe dune erosion occurring historically (according to remembered accounts) to the properties throughout the decades prior; approximate years: 1946, 1950, 1971, 1990, and 2010. Some of these prior erosion events can most likely be attributed to the hurricanes and

tsunamis in their respective years. Our property had full sand bag protection in place from 2017 to around 2020, with great success. The beach width increased and decreased throughout the years as it had prior to 2017 without any negative impact to the beach or the threat of further land erosion from seasonal storms and other bad weather. After the permit's expiration the sand bags have been slowly removed as they lost their utility. With the bags removal, our dune erosion has returned. When the remaining sandbags are removed we anticipate further property erosion. Without the sandbag protections we will need ongoing intervention to protect against coastal erosion and permanent beach loss. Attached below is our Dune Replenishment and Habitat Restoration Plan.

We have an opportunity to build and maintain a healthy dune and beach fronting our property that will allow for erosion and the ebb and flow of the beach without further mauka land regression. Without a meaningful way of stopping the erosion plaguing our home of nearly 30 years we will soon lose all reasonable use of our land and buildings and suffer irreparable harm as a direct result of the uncontrolled erosion. This dune replenishment plan will benefit all stakeholders; a healthy dune will give plenty of space for public access, create an nurturing environment for Oahu's coastal wildlife, protect our home and the vital Kamehameha Highway that runs directly mauka of our property and most importantly ensure the beach for generations to come.

We propose the first of these semiannual sand movement projects to run concurrently with the removal of all existing sandbag structures as soon and all necessary permissions allow, ideally by December of 2025. We have been actively removing the failed sandbags and loose fabric from the beach since our permit expiration by hand, and have accelerated their removal since the OCCL's notice of violation dated April 7, 2025. We removed fabric that was buried below the sand as it became exposed. As discussed in our May 5, 2025 meeting it was physically impossible to remove all sand bag structures without mechanical means, the bags were buried below 5 feet of sand stretching nearly 150 feet along the coast. Even with the bags being currently exposed, and our best efforts to remove them by hand, we need machinery to effectively remove the sand bags. Once we lose protection of the bags we will be relying on our Dune Replenishment and Habitat Restoration success to ensure our home and frontal beach is no longer threatened by the current chronic erosion.

Dune Replenishment and Habitat Restoration Plan



Prepared for: Department of Land and Natural Resources,
& Office of Conservation and Coastal Lands

Prepared by: Greig Family

October 21, 2025

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1. INTRODUCTION

1.1 Background

Our home is located on the Island of Oahu (Figure 3-1) at 55-271 Kamehameha Hwy. Laie, Oahu, Hawaii; Tax Map Key(s): (1) 5-5-002:088 & (1) 5-5-001:057 (Figure 3-2). The property has a history of annual beach erosion and accretion with periods of dune erosion during severe storms. Without full sandbag protections, the erosion has returned and caused an escarpment to form along the shoreline fronting the property. The escarpment is 5 to 12 feet high from Mean Sea Level (MSL), along approximately 200 feet of shoreline frontage. The erosion currently threatens the south-eastern wing of our home, which is currently within ten feet of the erosion scarp. Erosion control measures (sand bags) have proven to be a successful, yet temporary, solution to erosion control.



Figure 1-1 Location Map

2. SITE ASSESSMENT

2.1 Shoreline Conditions

The property has experienced long term annualized historic erosion rates of 0.5 to 1 feet per year according to the Laniloa to Kokololio Beach, Oahu Shoreline Study Erosion Maps developed by the Coastal Geology Group at the University of Hawaii at Manoa. These most recent years, starting in 2017 but especially since 2021 to present have been marked by considerably more erosion than in years past, largely caused by a few near hurricanes and similar storms. The littoral beach fluctuates in width both in the short term (week to week) and in annual semi-predictable cycles. The littoral beach fronting our properties at its widest period of the year (early spring) can have a width ranging from 80 to 150 feet (measured from the vegetation line to the wash of the ocean waves). The beach at its narrowest time of year (end of summer) can be from 3 to 5 feet and at times becomes fully submerged with the dune's erosion scarp ending beneath the wash of the waves.

The overall movement of sand along the coast is accomplished in short bursts of usually a week or less at a time. Both erosion and accretion events are short lived with long periods of relatively stationary beach topography (minimal sand movement) being the normal. During these long periods of little to no lateral sand movement along the coast, the dune builds height; both with the high tide "stacking" the sand on the beach (adding height to the existing beach) and from wind driven sands being captured by suitable plantings. Though this ebb and flow of the sand historically has been largely balanced, with a small general trend of erosion to the dune fronting our homes. Recent years have been marked by more frequent and more extreme erosion events than accretion events generally during storms. This dune replenishment and habitat restoration plan aims to aid nature in what was an existing natural process with materials that have been a part of this beach system but currently are sequestered by the muliwai directly adjacent to our home TMK: (1) 5-5-001:018 (identified in Figure 3-3).

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The cause of our erosion problems are from a continual current that runs along the coast that moves from Kehuku'uana Point to Pahumoa Beach Park (Pounders Beach). The littoral cell that our home is apart of (spanning from Lā'ie Point to Pahumoa Beach Park (Pounders Point) and the greater area of Kakela Beach and Kolololio beach park) (Figure 3-4A) has been heavily altered from its natural state over the years, both from natural events such as large storms and tsunamis as well as man-made structures. There are a few predominate features that affect this current. The first is a large concrete storm water discharge pipe that runs perpendicular to the coast and extends nearly one hundred feet into the ocean (Figure 3-4B), this pipe acts to stop the natural movement of sand along the coast that would, if uninhibited, continue south to the beach fronting our home. The second is that we are at the end of nearly half a mile of "hardened" coast line (Figure 3-4C) which starts at the above mentioned drainage pipe.

It is likely, however, that the reason for this hardening is due to the mentioned drainage pipe as well as the third reason for our sand loss, which is a large natural stone shelf, that runs parallel to the coast (Figure 3-5) with a height that is slightly above mean sea level (MSL). This rock shelf acts as a breakwater that creates a "bathtub" (as in Bathtub Beach) (Figure 3-4C). This rock outcropping is effectively a lip that allows the ocean waves to wash over it, but due to its height, does not allow the ocean to wash out along the coast like other sandy beaches. These trapped waters, instead, flush through the only low point along the entire rock outcropping directly in front of our neighbors home on Kehuku'uana Point (Figure 3-5).

According to local accounts, this rock outcropping was exposed during the 1946 tsunami. We have one photo to add credibility to this claim (Figure 3-6) that is attributed to sometime around the mid 1940's- early 1950's, which is taken from a vantage point that would show the rock outcropping if it was not covered by dune at the time of the photo. This photo also shows how much erosion has taken place in the subsequent decades.

Further proof of our theory is that Bathtub Beach only fills with sand in very specific conditions. The ocean swells must be small to nonexistent with an accreting ocean current fronting our property (moving from Pahumoa Beach to Kehuku'uana Point) with a full beach already fronting

DUNE REPLENISHMENT AND HABITAT RESTORATION PLAN

our property. Only this specific set of conditions allows the sand to pass Kehuku'uana Point and form Bathtub Beach (Figure 3-7). Even when other ocean conditions are present (such as Northwestern swells in the winter, that cause the lateral near shore currents fronting our home to bring sand to our side of the beach) the sand can not pass Kehuku'uana Point due to the strong above mentioned currents. This creates a maximum width to the beach fronting our properties (Figure 3-8).

Without the sand moving to bathtub beach we reach a maximum of accreted sand prematurely in the season with no mechanism to form and replenish the dune fronting our home. Any "extra" sand that has traveled down to the beach fronting our home is captured by this strong current exiting the "bathtub" and is pushed off shore. The sand pushed out to sea may eventually reenter the beach system further down shore (nearer Pahumoa Beach Park) or the sand maybe lost out to sea, outside of this littoral beach system. Our least erosive years in which we experience no loss of land is when Bathtub beach fills with sand. Though this was a regular occurrence prior to 2017, with occasional years of Bathtub beach being present year round, it has become more rare and no longer annual. This problem will only become more dire as sea level rise takes place and causes greater amounts of storms and wave driven water into and out of the "bathtub".

DUNE REPLENISHMENT AND HABITAT RESTORATION PLAN

2.2 Objectives

The goal of this project is to create a sufficient dune barrier to allow for natural annual beach erosion without further mauka erosion of our property and loss of the beach. Much of the sand that erodes, both from the beach and our dune becomes sequestered in the muliwai (Figure 3-12). Once it washes into the basin, past the peak of the beach (Figure 3-9A) it effectively is lost to the beach system and ocean currents. Most of our severe erosion events occur during storms, high tides, and large swells; this is also when the ocean waves are able to push over the peak of the beach and into the muliwai's basin washing sand that was fronting our home into the muliwai and sequestering the sand for years at a time.

During Hurricane Kiko's passing of Oahu on September 9, 2025 we experienced an erosion event (Figure 3-9B). This storm's effects perfectly demonstrates what has been described above; Large ocean waves washed over the 1/3 mile long rock outcropping north of our property. The water existed at the only low point of the rock outcropping which directs the water out past our property and creates a strong current Labeled "Rip Current" in Figure 3-9B that quickly washed away the beach (approximately 50 feet wide) and a portion of our dune (approximately 5 feet wide). Figure 3-9C shows the beach from our most recent picture before the storm and how wide the beach was. The current carried that sand down the beach and because of the large swell the ocean pushed the eroded sand over the crest of the beach and into the Muliwai's sand reserve, labeled as "Deposition of Sand From our Dune" in Figure 3-9B where it will stay possibly for months, if not years. The only natural condition that allows for the sand to reenter the littoral beach system again is a heavy flow of stream water from Waialele and Koloa Streams that drain into the ocean through the muliwai.

DUNE REPLENISHMENT AND HABITAT RESTORATION PLAN

This discharged sand reenters the littoral beach and is deposited either on the Kehuku'uana Point (beach fronting our homes) or the Pahumoa Beach Park (Pounders Beach) side of the beach depending on the direction the near shore ocean current is traveling at the given time of the release. The up current side of the muliwai release will experience a reduction of sand as the stream opening "closes". The amount of sand reduction to the beach is proportional to the width of the stream opening. With the general trend of near shore ocean currents moving from Kehuku'uana Point to Pahumoa Beach Park and away from our properties, much of the sand used to close the stream mouth comes from our side of the beach, with our eroded beach and dune ending up in the muliwai's sand reserves. Only the Kehuku'uana Point side of the beach is experiencing chronic erosion, the Pahumoa Beach (Pounders Beach) side of the beach has not suffered from any chronic erosion and by our measurements has increased sand deposits year over year. Our dune replenishment project will not effect the Pahumoa Beach Park side of the beach in a negative way; we will be returning sand that has been eroded and been deposited in the muliwai back to the dune and beach it came from over the previous season.

2.3 Proposed Dune Replenishment Plan

We propose mechanical relocation of some of the muliwai's sequestered sands to rebuild the dune fronting our home seasonally and as conditions require. All of the sand for this project will come from the muliwai and fronting beach (Figure 3-10). We currently lease the land of the muliwai Tax Map Keys: (1) 55001018 (Figure 3-3) from Hawaii Reserves Incorporated. The sand will be moved along the beach by machine fronting our property and then deposited in front of our home (Figure 3-10). Machinery to be used will be a backhoe or similar, depending on availability and needs. The sand will be placed to follow historic topographies of the dune. Cross sections of the placed sand are identified in Figures 3-11. A total of up to 1500 cubic yards of sand will be moved to rebuild the dune fronting our property. Less may be moved depending on the actual erosion that preceded the sand relocation and the amount of existing sand that can be relocated. Plantings will help anchor the dune and will be placed at the threshold between the existing and new dune to aid in sand retention and the capture of wind driven sands to further the creation of a healthy dune and beach environment.

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All plantings will follow the 2022 Hawai'i Dune Restoration Manual provided by University of Hawai'i Sea Grant College Program. The area to be planted will emulate a natural foredune and will consist mainly of pl'aki'aki grass, Huna kai, Pā'ūohi'iaka, and pohuehue vines as ground cover, with woody shrubs and small trees such as Naupaka, Beach Heliotrope, and Hala further mauka to give shade and privacy. We had great initial success establishing pl'aki'aki grass and Pā'ūohi'iaka in particular, as part of the installation of our sandbag erosion control measures in 2017. Regular upkeep will be done to insure plant success. Weeding of invasive species will be carried out continuously with the goal of the native plants establishing a strong defense against waves and slowing the erosion of the newly formed dune.

The sand relocations will occur at a planned rate of twice annually. The first sand movement will take place when the beach is at its widest point of the year in early spring generally between February and May, with a second movement of sand planned for the end of summer between July and September, before the annual erosion begins. This second sand movement will be to replace any lost dune from the previous spring relocation and to prepare for the annual extreme erosion periods at the end of Sumer through fall.

We request up to two additional emergent sand relocation periods over the year as needed. These will guard against any premature erosion events such as a hurricanes or other occurrences and in cases that all moved sand from the previous year is eroded and our property becomes exposed to erosion. The dune between the beach and our yard will be planted with suitable plants again as needed.

There will be no negative impact to the environment or public use of the beach caused by our dune restoration project. We are aiding in what is already a natural process, and ensuring that a healthy sustainable beach exists indefinitely. We will follow all best practices when working on and off the beach. No sand will be relocated from the muliwai and fronting beach than what can be moved without fundamentally changing the natural topography of the muliwai. No construction equipment or materials will be stored or kept on the beach except during active

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work. All machinery will be thoroughly washed before entering the beach each day, with machinery gaining access to the beach through our property. Each sand relocation project will last up to two weeks at a time to mitigate any impact to the public. All work on the beach will be done during appropriate tide. We will notify the OCCL and DLNR of our project work dates in writing, at least two weeks prior to the start of work. We will update and keep the DLNR informed during all work, including any delays because of inclement weather or other unforeseen events, and will submit notice to the DLNR of the end of the projects completion.

2.4 Long Term Considerations

This dune project will not only protect our home from ongoing erosion but will also protect Kamehameha Highway from the oceans effects. Without any means of controlling the current erosion of our property, the land will eventually erode to the roadway and will mimic the portions of the highway along the coastlines of Kualoa, Ka'a'awa, Punalu'u, and Hau'ula that are continually being armored with rock revetments by the State of Hawaii, impairing costal access, and leaving Kamehameha highway exposed to the ocean's full forces, and making the road more susceptible to the effects of climate change. The proximity of the road to the coast, without a buffer, will also increase pollutants entering the ocean. This Dune Replenishment and Habitat Restoration Plan is the first and best step to ensure the beach fronting our home does not suffer a similar fate and that the beach and land is protected for all stake holders for decades to come.

We propose that this dune replenishment and habitat restoration plan be allowed for 10 years with an option for us to extend this stated plan every decade. If it is successful in achieving our goals of building a natural defense to climate change, ceasing any and all erosion to our property and protecting our home, creating a natural dune environment that can replenish the beach, protecting the ocean, and ensure the beach's existence for generations.

3. ATTACHMENTS: FIGURES & DRAWINGS



Figure 3-1: Location Map

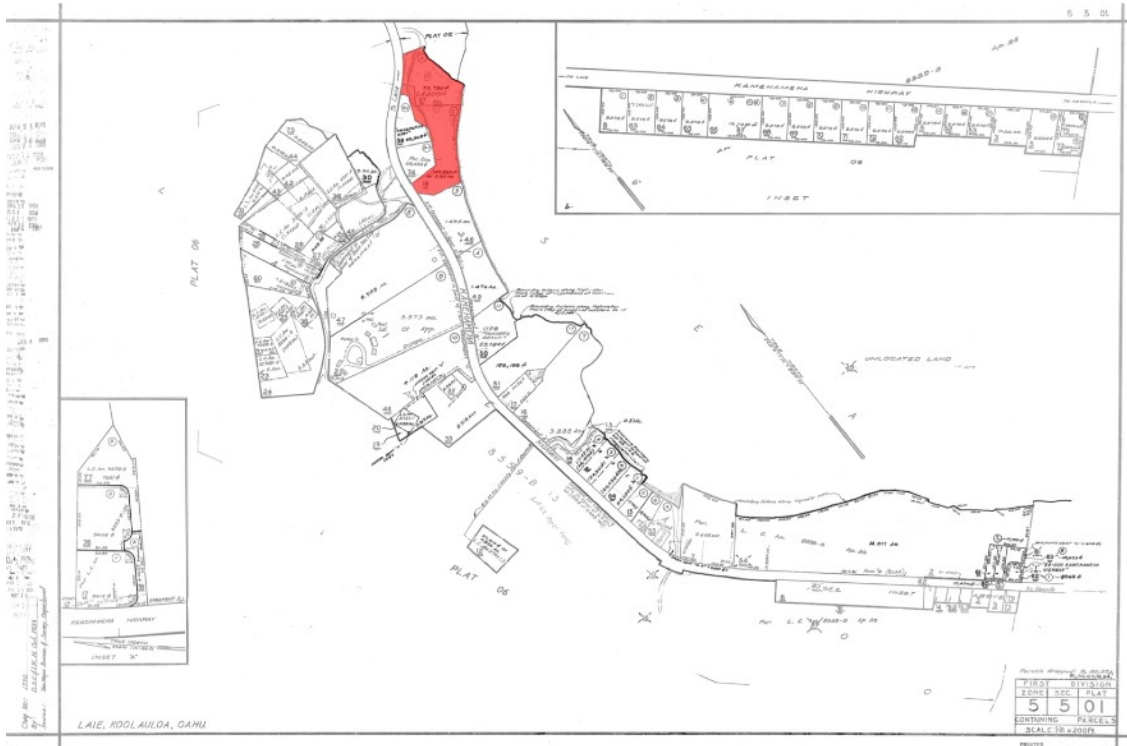


Figure 3-2: Tax Map (Subject properties highlighted in red)

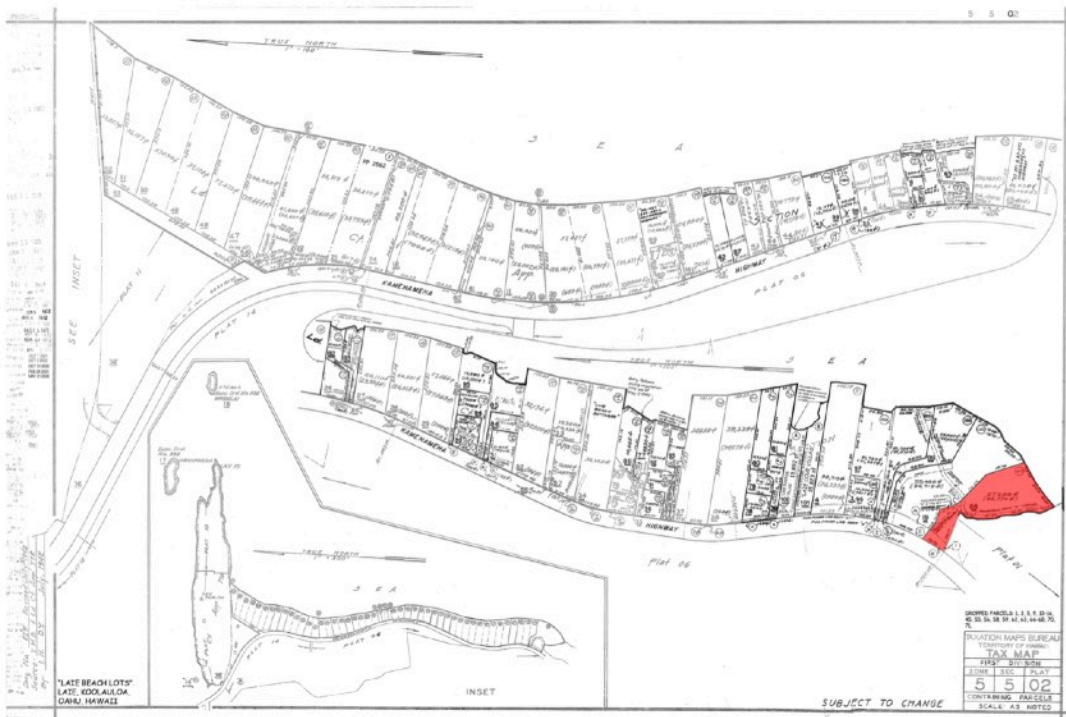


Figure 3-3: Tax map (Subject Properties highlighted in red)

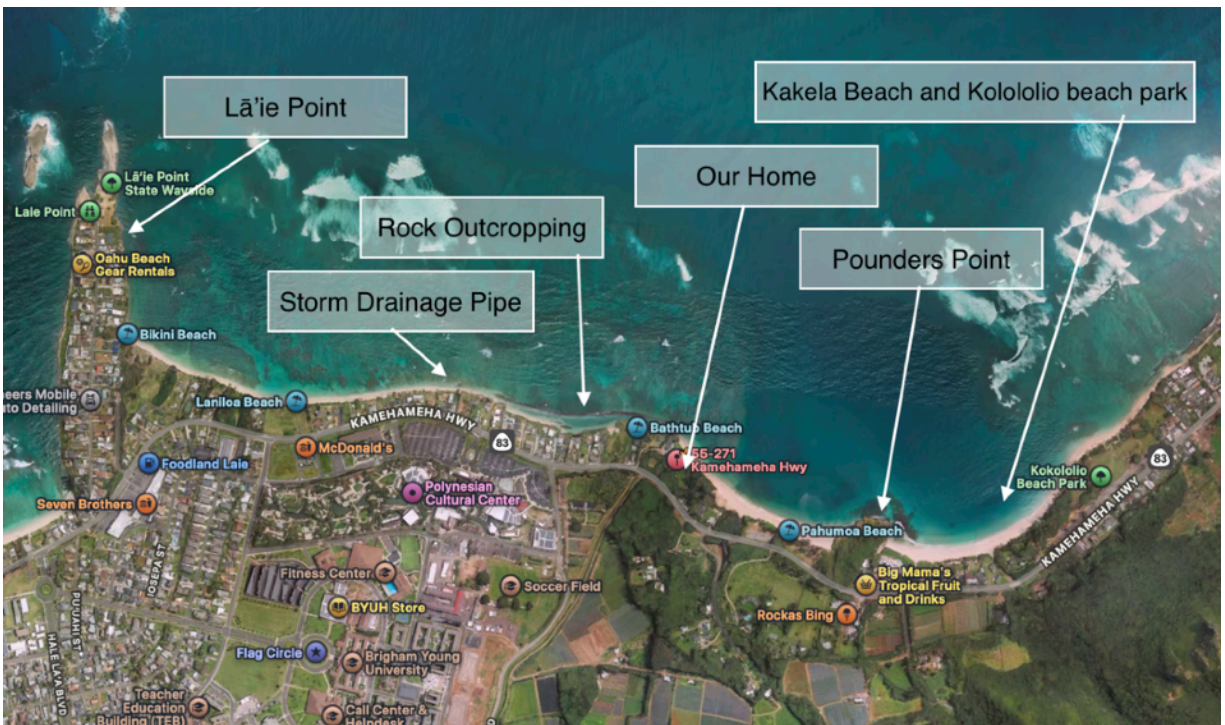


Figure 3-4A Littoral Cell



Figure 3-4B: Storm Drainage Pipe

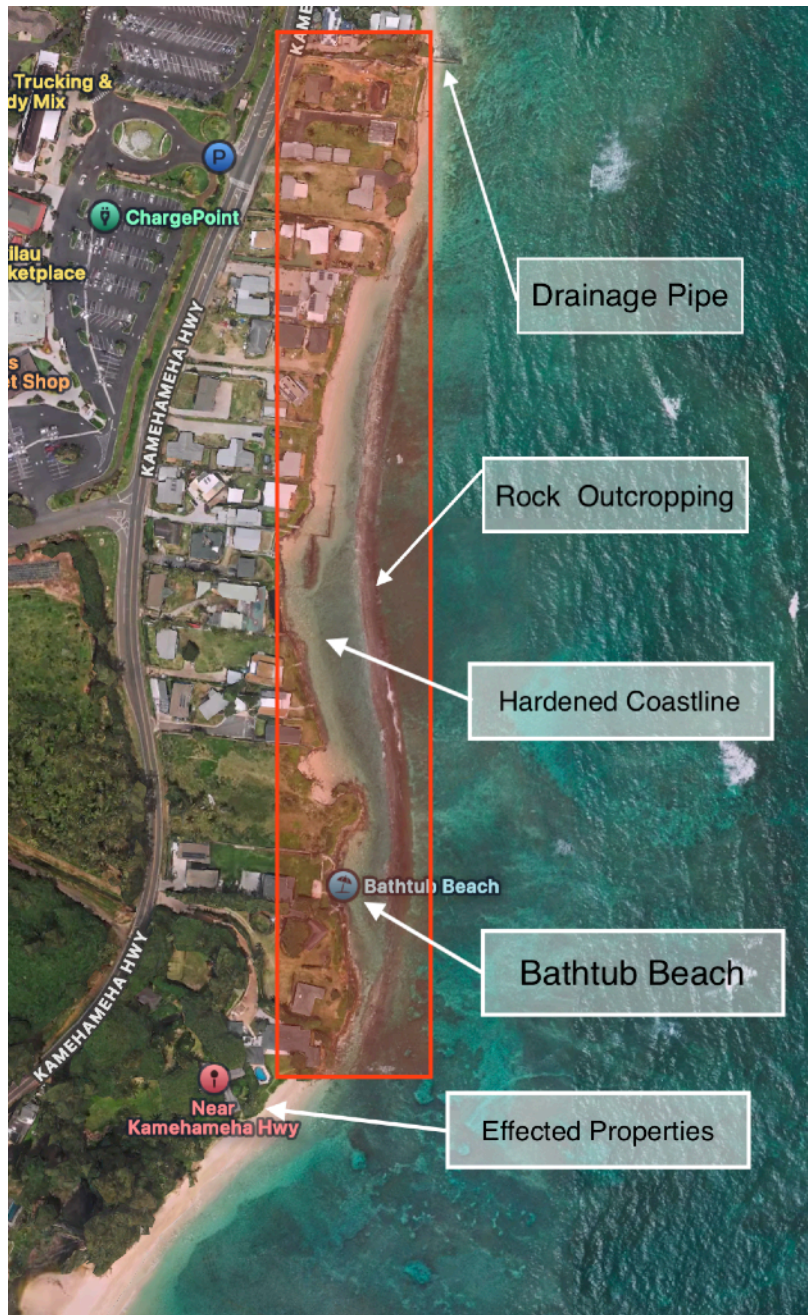


Figure 3-4C: Coastline (Highlighted in red)

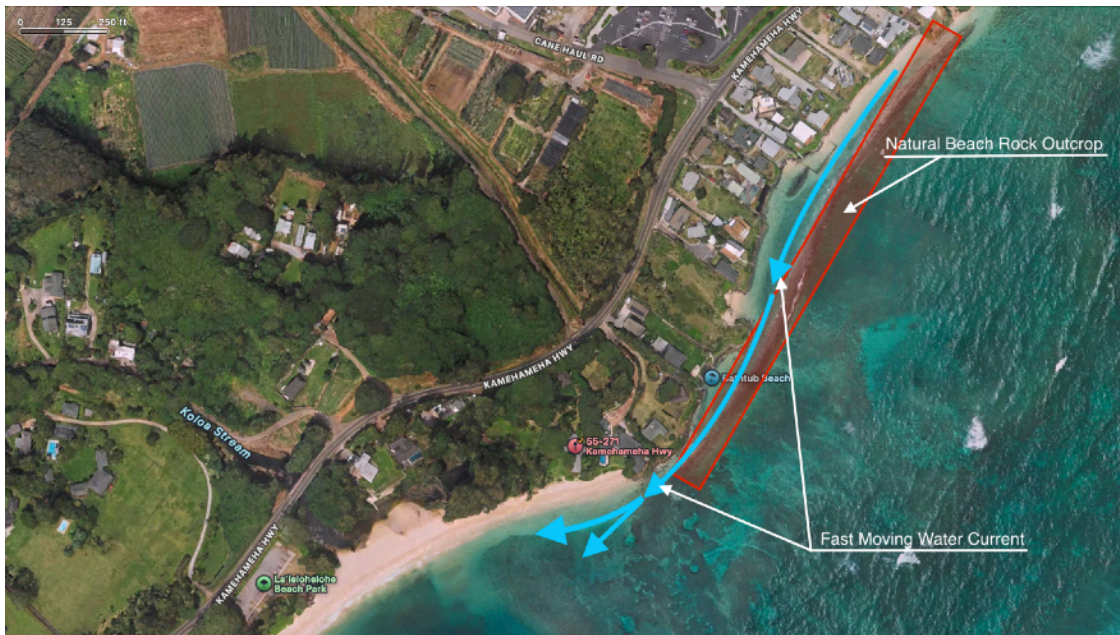


Figure 3-5: Rock Outcropping (in red) and Direction of Currents

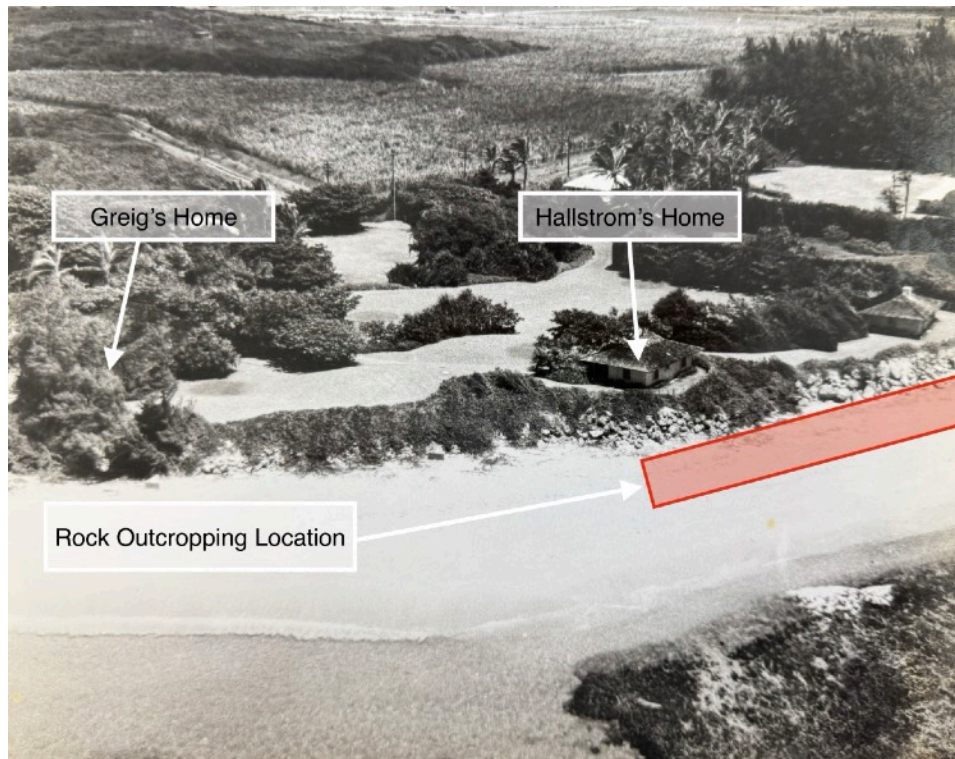


Figure 3-6: Historic Photo of Home & Rock Outcropping Locations



Figure 3-7: Currents Allowing Sand Accumulation at "Bathtub Beach"



Figure 3-8: Competing Currents not Allow Sand Pass Point



Figure 3-9A: Peak of Beach at Muliwai

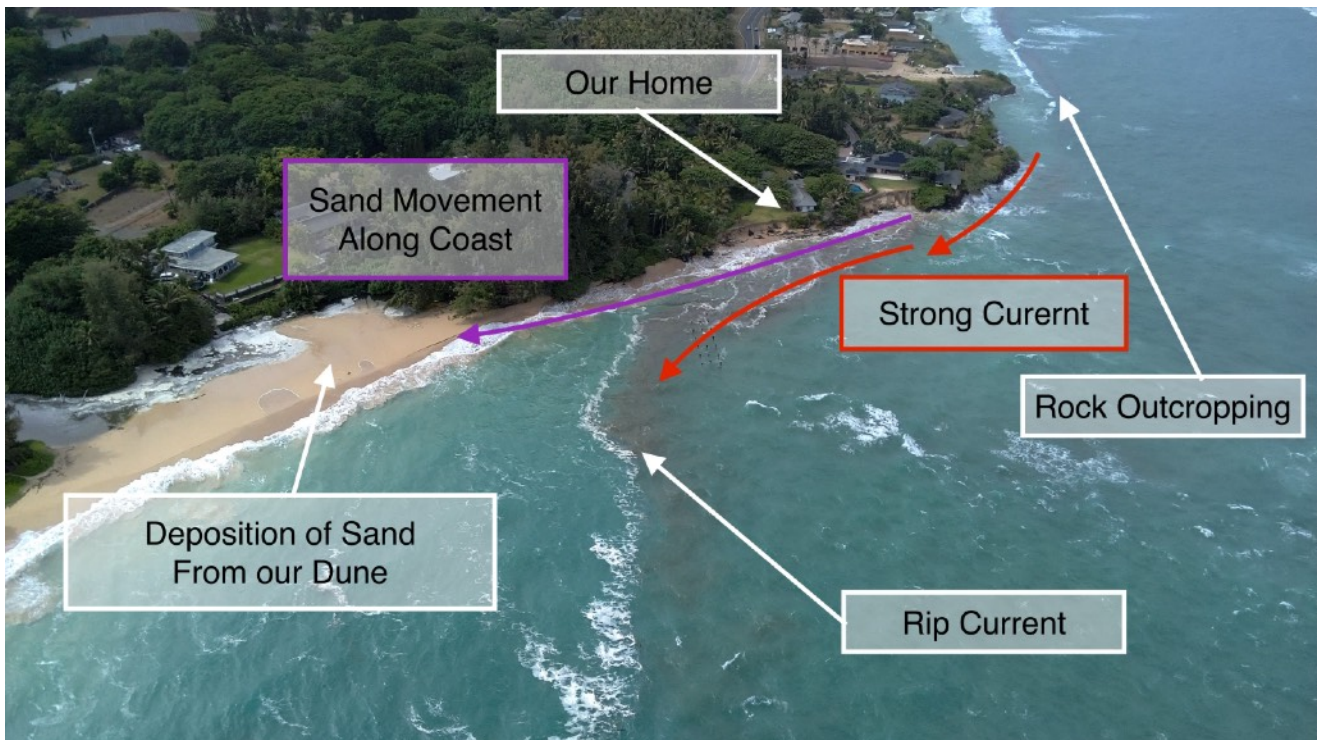


Figure 3-9B: Ocean Current and Transfer of Sand During Hurricane Kiko September 9, 2025



Figure 3-9C: Beach as of August 23, 2025 before storm



Figure 3-10: Project Areas

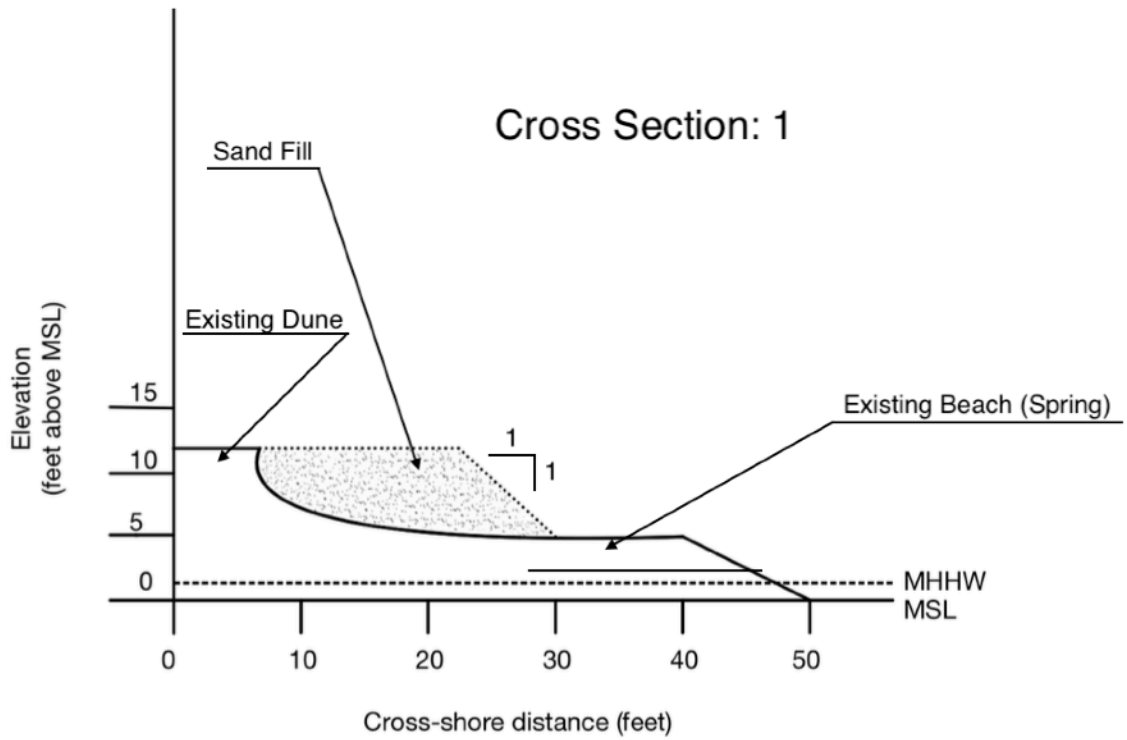
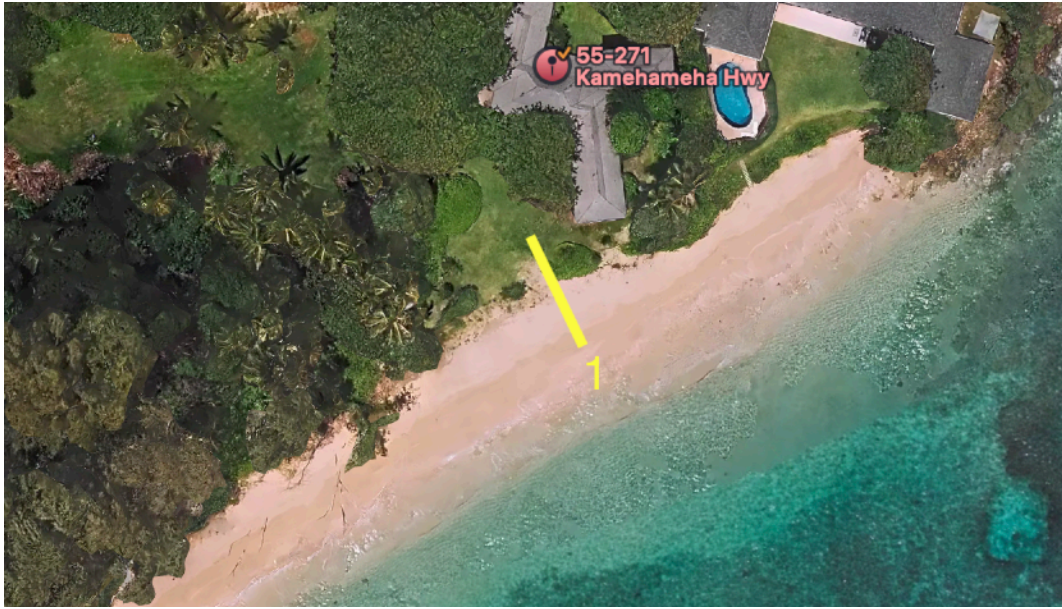


Figure 3-11: Cross Sectional Drawing of Beach, Dune, and Restoration



Figure 3-12: Muliwai's sand reserve as of September 22, 2025