

**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
HONOLULU, HAWAII**

*August 24, 2018*

**BOARD OF LAND AND  
NATURAL RESOURCES  
STATE OF HAWAII  
HONOLULU, HAWAII**

**REGARDING:** Proposed Conservation District Use Application (CDUA) **OA-3820** for the *Hawaii Kai Marina Entrance Groin Replacement Project*

**APPLICANT:** Hawaii Kai Marina Community Assoc.

**LANDOWNER(S):** State of Hawaii, Dept. of Land and Natural Resources

**LOCATION:** Hawaii Kai, Honolulu District, Island of O'ahu

**TMK:** *Submerged lands seaward (makai) of (1) 3-9-008:035 & 3-9-002:029*

**AREA OF PARCELS:** *Submerged lands of the State (N/A)*

**AREA OF USE:** 11,300 ft<sup>2</sup>

**SUBZONE:** *Resource*

**PREVIOUS REGULATORY ACTIVITY:**

The *Hawaii Kai Marina* (HKM) entrance channel, located on the south shore of Oahu (**Exhibit 1**), connects the Hawaii Kai Marina to the ocean and is a heavily used watercraft ingress/egress. The necessity to minimize longshore drift of sand towards the channel has been apparent for some time; the marina channel was dredged for the first time in 1959, with subsequent dredging occurring in 1981, 1985, 1988, 2004, and 2013. In 2004 the dredging project was combined with the construction of a temporary sandbag groin to reduce in-filling of the entrance channel. The condition of the temporary groin degraded, and it was repaired (i.e., reconstructed) in 2013.

**DESCRIPTION OF AREA AND CURRENT USE:**

Maunalua Bay is a pronounced embayment at the southeast end of Oahu and is fronted by a shallow fringing fossil limestone reef that extends offshore approximately 3,000 feet. The reef generally consists of low relief limestone, with a veneer of sand or silt in several locations. The bathymetry directly offshore of the project site is complex due to multiple natural and man-made channels that intersect the reef flat (**Exhibit 2, 2a**). The Kui Channel has depths of approximately 12-feet and splits into three (3) separate channels as it approaches the shoreline: 1) northeast trending channel

parallel to Kalanianaʻole Highway, 2) the Hawaii Kai Entrance Channel, and 3) eastern side channel @ Portlock Beach.

Large scale geomorphology of Maunalua Bay has been compiled by the National Oceanographic and Atmospheric Administration (NOAA) and is characterized as “pavement” (i.e., low-relief, solid carbonate rock); both the entrance channel and the eastern channel have sand filled bottoms.

***Access to, and Development of Site:***

Construction of the proposed groin will require the use of a construction barge due to the limited access and space available for staging of material and equipment. A primary staging area will be located in Maunalua Bay Beach Park, on the north side of the entrance channel with direct access to Kalanianaʻole Highway. Lateral access along Portlock Beach will be used to reach the beach restoration area.

The backshore of Portlock Beach is densely developed with private residential structures and typical appurtenances; it was stated none of these structures are within the project area. The existing HKM temporary sandbag entrance groin extends approximately 150 feet offshore off Portlock Beach; presently there is a 50-ft. gap between the landward end of the temporary groin and the concrete rubble masonry (CRM) foundations of the Kalanianaʻole Highway Bridge that crosses the entrance channel due to wave action and scouring (**Exhibit 3**).

***Floral and Faunal Resources:***

The reef remnants off Maunalua Bay Beach Park and Portlock Beach are highly eroded, low-relief limestone platforms that are covered with a veneer of sand and silt; some sections are exposed at low tide. The benthic communities close to shore are highly disturbed and dominated by sessile (i.e., permanently attached) filter and suspension feeding organisms. The reef flat off Maunalua Bay is dominated by non-native algae, with the densest growth found closest to shore.

Very few coral colonies are present on the reef flat, with the nearest colony to the entrance channel located approximately 300-feet away. Other reef macro-invertebrates (e.g., brittle stars, sea urchins, and sea anemones) are relatively uncommon, as well as fish biomass and diversity.

The bottom of the entrance channel and project area consists largely of shifting sands and silt and does not provide suitable habitat for most reef organisms. Hard surfaces, such as areas where the channel bisect the reef flat, are colonized primarily by introduced fouling organisms (i.e., animal or plant species that exist in water and attach to the surface of a material immersed in the water).

The benthic community structure of the HKM entrance channel groin, and on the reef-bottom surrounding the groin, are dominated by macroalgae, turf algae, and sand (**Exhibit 4**). No corals were observed within the project area, although a large bed of seagrass was observed near the west side of the groin – the seagrass bed extends west into the entrance channel and in the seaward direction.

***Cultural and Historical Resources:***

The applicant states that there are no historic or cultural resources found within the project area based on an archeological investigation conducted in 2010 for this proposed project. It should be noted that the entire Hawaii Kai marina was once known as the Kuapā Fishpond, which was dredged and cleared to make way for development in the 1950's (**Exhibit 5**).

A rock-walled fish trap does appear on a 1921 map of the area near what is now the HKM entrance channel. The trap has not appeared on any more recent maps of the area, and no indication of its existence was discovered during the 2013 entrance channel dredging project. No record of the trap exists beyond the 1921 map.

According to the applicant, cultural practices such as subsistence fishing are found near the project area but should not be affected long-term by the proposed project other than typical short-term closures associated with construction to minimize risks to public health and safety.

**PROPOSED USE/ NEED AND PURPOSE:**

The applicant, *Hawaii Kai Marina Community Association* (HKMCA), is proposing to replace the existing temporary sandbag entrance channel groin with a permanent, engineered rock rubble mound revetment and groin (**Exhibit 6, 6a**). The primary objective of the proposed project is to reduce the rate of sediment accumulation in the entrance channel which will increase the time between maintenance dredging operations needed to keep the channel entrance open.

The proposed revetment and groin will be a sloping uncemented structure using 'boulder' sized rock. The proposed layout of the structure has a "L" head configuration, with a "stem" length of 180-feet and a head length of 50-feet (**Exhibit 7**). To minimize flanking of the structure, the groin 'stem' will tie into an existing CRM abutment of the Kalanianaʻole Bridge via the stone revetment. The total structure length will be 290-feet with a revetment portion crest elevation of +6-feet MLLW, the crest of the groin head at +5-feet MLLW, and the top of the toe will be at -2-feet MLLW at the entrance channel side. The structure will be built using 1,000-lb. armor stones with a median diameter of 1.8-feet; the applicant notes that the structure has been designed for a closely-approaching hurricane wave event that can produce waves up to 27-feet in height (**Exhibit 8**).

The applicant has presented a secondary component to this project which involves the transport of impounded sand from the new groin to the eastern end of Portlock Beach. Sand that accumulates on the up-drift side of the proposed rock groin will be transported via "sand back-passing" to the eastern end of Portlock Beach for beach restoration purposes. It was stated by the applicant that the sand back-passing will occur approximately every four (4) years, however, sand back-passing will be initiated during the construction of the new rock groin by the removal of approximately 400 cubic yards of sand that has currently accumulated at the western end of Portlock Beach.

Large construction equipment and materials will be offloaded at the site via barge in the Hawaii Kai Marina entrance channel, with the primary staging area for materials located across the entrance channel in Maunalua Bay Beach Park. Staging in the park will require construction of a temporary pier on the western shore of the entrance channel on County Property; it was stated by the applicant

that the temporary pier will not interfere with or obstruct boat ingress/egress of the HKM (**Exhibit 9**).

**SUMMARY OF COMMENTS:**

The application was referred to the following agencies for review and comment; The Department of Land and Natural Resources (DLNR): Oahu District Land Office (ODLO), the State Historic Preservation Division (SHPD), Engineering Division, Division of Aquatic Resources (DAR), the Division of Forestry and Wildlife (DOFAW), the Commission on Water Resource Management (CWRM), and the Division of Boating and Ocean Recreation (DOBOR). Additionally, the application was sent to the State Department of Health (DOH) – Clean Water Branch, the Office of Hawaiian Affairs (OHA), the Hawaii Department of Transportation (HDOT), the City and County of Honolulu - Department of Planning and Permitting (CCH-DPP), the National Oceanic and Atmospheric Administration (NOAA), the US Fish and Wildlife Service (USFWS), and the US Army Corps of Engineers – Honolulu District (USACOE) along with the Hawaii Kai Public Library and Hawaii Kai Neighborhood Board in order to make this information readily available to those who may wish to review it.

*OCCL staff notes that on June 14, 2018 a Public Hearing was held for the proposed project at Kaiser High School, near the project area. No significant comments were received, and to (2) attendees offered statements of support for the project.*

**A summary of the comments received by OCCL is listed below:**

**DLNR - Division of Aquatic Resources (DAR):**

The Division of Aquatic Resources is in general support of improving the Hawaii Kai Marina Entrance Channel. The current sand bag groin should be upgraded to something with more durability. DAR appreciates your attention to detail described to prevent interactions with protected species via establishing a safety zone around the project site and conducting pre-construction visual surveys.

***Applicant Response: No response provided.***

**DLNR - Oahu District Land Office (ODLO)**

Agency had no comments on the proposed project

**DLNR – Division of Forestry and Wildlife (DOFAW)**

The State and Federally listed Hawaiian stilt has the potential to occur in the vicinity of the proposed project sites. To minimize the potential for take, surveys for the Hawaiian stilts by a qualified biologist are recommended before any land clearing or excavation activities occur and should be repeated if these activities are delayed more than three (3) days. If an endangered Hawaiian stilt is present or flies into the area during ongoing activities, then all activities within 100 feet (30 m) of the bird should cease, and the bird shall also not be approached. Work may continue after the bird leaves the area of its own accord. If a nest is discovered at any point, please contact the DOFAW staff.



DOFAW notes that artificial lighting can adversely impact seabirds that may pass through the area at night causing disorientation which could result in collision with manmade artifacts or grounding of birds. If nighttime lighting is required during construction or operation, DOFAW recommends that any lights used be fully shielded to minimize impacts.

***Applicant Response:** A qualified biologist will survey the project site before any land clearing or excavation activities occur. Construction activity will cease within 100 feet should an endangered Hawaiian stilt be discovered or fly into the area during construction. DOFAW staff will be contacted if a nest is discovered.*

*Artificial lighting will not be used on any portion of the proposed project or operation of the new groin. Construction is to take place during the daylight hours only.*

**DLNR – State Historic Preservation Division (SHPD)**

A review of our records indicates numerous archeological studies have been conducted along Kalanianaʻole Highway and within the greater Hawaii Kai area. Several subsurface cultural deposits have been documented including human burials along the highway and sections of the mauka portion of the Highway. Documented historic properties include road remnant, stone alignments, stacked stone terraces, modern and traditional Hawaiian petroglyphs, enclosures, Keahupua ‘o Maunalua Fishpond, and Hawea Heiau complex.

Based on the above information and limited ground disturbances, SHPD’s determination is **no historic properties affected** for this project.

***Applicant Response:** The [following] note will be incorporated into construction drawings as a general note and the contractor will be briefed on protocol in the unlikely event that subsurface historic resources are encountered during construction.*

- In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division.*

**State of Hawaii Department of Health – Clean Water Branch**

Significant comments provided are summarized below:

1. [The applicant] may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including stormwater runoff, into state surface waters. For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge.
2. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch regarding their permit process.

3. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards.

***Applicant Response:***

1. *NPDES general permit coverage will be requested for this project as the area of land disturbance is greater than one (1) acre. An NOI form will be submitted at least 30 calendar days before the commencement of the discharge.*
2. *The project involves work in the waters of the United States. A Department of the Army permit application has been filed with the United States Army Corps of Engineers (reference POH-2016-00095). A Water Quality Certification (WQC) application was sent to the State of Hawaii Department of Health, Clean Water Branch in March 2018.*
3. *Best Management Practices (BMPs) will be in place during construction to minimize the effect to water quality in the project area. A Best Management Practices Plan (BMPP) and Applicable Monitoring and Assessment Plan (AMAP) have been submitted to DOH-CWB as part of the WQC application.*

**State Department of Transportation – Highways Division (DOT)**

Our concern is that the work may affect the Hawaii Kai Marina Bridge. As previously discussed with the applicant, construction plans should be submitted for review and approval when available. A permit from the Department of Transportation, Highways Division, will be required prior to working in the State highway right-of-way.

***Applicant Response:*** *[The applicant] anticipates that the project will have no effect on the structural integrity of the Hawaii Kai Marina Bridge. Construction drawings will be submitted to the State DOT Highways Division when they are available. A permit from the DOT highways Division will be obtained prior to working in the State highway right-of-way.*

**State of Hawaii – Office of Hawaiian Affairs (OHA)**

OHA staff state that:

“The DEA made the determination that no adverse effects on cultural practices in the project area are anticipated, yet their methodology did not follow the OEQC’s guidelines. No ethnography was carried out and little to no details were provided on oral histories, community consultation and meetings.

In response to our original letter, the final environmental assessment (FEA) for the project states that an archeological assessment and Section 106 review has been completed and suffices to satisfy relevant statutory requirements. We disagree that this document satisfies HAR 11-200-10 [sic] since no consultation with individuals or organizations familiar with cultural practices and features within the project area was carried out as part of the study. Without the adherence to OEQC’s guidelines, we have reason to doubt the determination of no significant effect to cultural practices.

The CDUA reasserts this finding of no significant effect on cultural practices. The CDUA does also mention an Ocean Recreation Assessment (ORA) as a source of information for assessing cultural

impacts. As implied in the title, the ORA's scope focuses on documenting ocean recreation activities and ocean conditions, not cultural practices. We find that this document also does not meet the requirements OEQC's guidelines for assessing cultural impacts as it does not include an ethnography or consultation with cultural practitioners. As mentioned in our original letter, we maintain that groups like Malama Maunalua, Livable Hawaii Kai Hui, the Rosa Family, and other interested cultural practitioners should be sought during the consultation process for this project.

In order to resolve this issue, we recommend that HKMCA conduct and document additional consultation in a manner that follows OEQC's guidelines so that cultural impacts can be properly assessed, and recommendations can be made to mitigate any impacts if necessary."

***Applicant Response:** We understand your request for additional consultation with respect to potential cultural impacts. SEI has contracted with an agent to perform additional cultural survey work according to OEQC guidelines. We will forward the study to OHA when it has been completed.*

***No other comments were received by any agency or the public.***

**ANALYSIS:**

Following review and acceptance for processing, the Applicant's Agent was notified, by letter dated March 14, 2018 that:

- A. Your proposal to conduct the *Hawaii Kai Marina Entrance Channel Groin project* located in the Honolulu District, on the Island of Oahu is considered an identified land use within the Conservation District Resource Subzone pursuant to Hawaii Administrative Rules (HAR), §13-5-22, P-15, **SHORELINE EROSION CONTROL (D-1)**, *Seawall, revetment, groin, or other coastal erosion control structure or device, including sand placement, to control erosion of land or inland areas by coastal waters, provided that the applicant shows that (1) the applicant would be deprived of all reasonable use of the land or building without the permit; (2) the use would not adversely affect beach processes or lateral public access along the shoreline, without adequately compensating the State for its loss; or (3) public facilities (e.g., public roads) critical to public health, safety, and welfare would be severely damaged or destroyed without a shoreline erosion control structure, and there are no reasonable alternatives (e.g., relocation). Requires a shoreline certification;*
- B. Pursuant to HAR §13-5-40, Hearings, a public hearing *will be* required;
- C. A Final Environmental Assessment with a Finding of No Significant Impact (FEA-FONSI) was published in the Office of Environmental Quality Control (OEQC) publication, *The Environmental Notice (EN)* on August 8, 2017;  
<https://dlnr.hawaii.gov/occl/files/2018/03/FEA-Hawaii-Kai-Marina-Entrance-Channel-Groin.pdf>
- D. Please be informed that, the applicant's responsibility includes complying with the provisions of Hawaii's Coastal Zone Management law (Chapter 205A, Hawaii Revised Statutes) that pertain to the Special Management Area (SMA) requirements administered by the various counties. Negative action by the Chair of the BLNR on this application can

be expected should you fail to obtain and provide us, at least thirty (30) days prior to Chairpersons action, one of the following from the appropriate county:

1. An official determination that the proposal is exempt from the provisions of the county rules relating to the SMA;
2. An official determination that the proposed development is outside the SMA; or
3. An SMA Use Permit for the proposed development.

*OCCL staff notes a public hearing was held for the proposed project on June 14, 2018 at the Kaiser High School Cafeteria. No significant comments were provided at the Public Hearing. Additionally, as the project is not located within the Special Management Area (SMA), no SMA review was required or necessary.*

**§13-5-30 CRITERIA:**

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

- 1) ***How is the proposed use consistent with the purpose of the Conservation District? The objective of the Conservation District is to conserve, protect and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare.***

The applicant states that the proposed project is expected to reduce the rate of sediment loss from Portlock Beach into the Hawaii Kai Marina entrance channel, thereby maintaining adequate and safe ingress/egress from the marina and reducing dredging activities which can stress the environment. The proposed project has been designed to minimize adverse impacts on beach processes, public access, and views to and from the marina entrance. The proposed project is not anticipated to have any negative effects on cultural resources in the project area. The applicant states this project is consistent with the *Coastal Erosion Management Plan (COEMAP)*, which was adopted by the Board of Land and Natural Resources (BLNR) and identifies beach maintenance and restoration as a long-term strategy where applicable for maintaining the shoreline.

*OCCL Staff notes that an overall reduction in the number and frequency of dredging projects could help to minimize impacts associated with dredging such as local turbidity, erosion, and impacts to benthic species. Additionally, as the new groin is being constructed of rock and designed to be more robust than the existing sand bag groin staff believes the project will benefit the navigational use of the channel and HKM.*

- 2) ***The proposed land use is consistent with the objectives of the Subzone of the land on which the use will occur. The existing and proposed groin are located in the Resource Subzone of the Conservation District, pursuant to HAR §13-5-13, the objective of the Resource Subzone is to ensure, with proper management, the sustainable use of the natural resources of the area.***



The applicant states the most prevalent natural resource in the project area is the beach sand. The proposed replacement groin structure will reduce the transport of sediment from Portlock Beach into the Hawaii Kai Marina entrance channel. The applicant states that there is no 'natural' mechanism under the current normal conditions that would transport the sand impounded by the groin back on to the beach. Sand that settles in the entrance channel mixes with silt and other fine -grained sediments making the 'sand' unsuitable for placement back on the beach (after being recovered via dredging).

*OCCL staff believes that the proper management of the proposed project will ensure the sustainable use of the actual resource, which is the HKM entrance channel. The project will improve the resource by reducing dredging events and providing consistent and clear ingress/egress to HKM. Consequently, the construction of the groin will allow the beach to build up naturally on the up-drift side of the groin thus improving the public beach in that area.*

- 3) *The proposed land use complies with the provisions and guidelines contained in Chapter 205A, HRS entitled "Coastal Zone Management", where applicable. The Coastal Zone Management Program recognizes a number of objectives and policies to monitor when determining potential impacts to the coastal zone area. While not all of the objectives and policies are relevant to each project, some objectives have the potential to be influenced by the proposed project.*

**Recreational resources:** The applicant states that the navigability of the Hawaii Kai Marina entrance channel will be maintained by the proposed project. Boats from the marina use the entrance channel to reach deeper water for ocean recreation such as: fishing, parasailing, jet skiing, surfing and scuba diving.

*OCCL staff notes that recreational fishermen also currently utilize the temporary groin as a fishing area. It was stated by the applicant's agent that the new groin would be similarly available to fishermen to continue the current use. No restriction of access will occur outside the typical restrictions associated with construction activities – these will be short lived and not permanent.*

**Historic Resources:** The applicant states that there are no historic or cultural resources found within the project area based on an archeological investigation conducted in 2010 for this proposed project. *OCCL staff reviewed the materials submitted, as well as previously approved projects in the vicinity of this proposed use and determined that there appears to be no cultural or historic resources currently existing at this site.*

**Scenic and open space resources:** The applicant believes that while the proposed structure is larger than the existing temporary sandbag groin, the proposed replacement groin will have a minimal impact on the public viewplanes from Kalaniana'ole Highway, Portlock Beach, Maunalua Bay Beach Park, or from offshore vessels looking towards shore. A site visit to the existing temporary sandbag groin reveals that deteriorating sandbags are unsightly, and that a rock revetment structure would have a more natural and aesthetically pleasing appearance. OCCL staff notes that the structure will extend further into the water

and therefore will increase the viewplane impacts in this area (especially from the beach or nearby properties). However, OCCL staff notes that these types of structures are a common sight at marinas throughout the state.

**Coastal Ecosystems:** The applicant states that the proposed rock groin will provide a bare, stable surface for recruitment of corals, algae, and other invertebrates. The groin will be a 'porous', permeable structure, with approximately 37% interstitial void space between stones. Obligate reef dwellers (i.e., restricted to one particularly characteristic mode of life) are often limited by the availability of suitable shelter, especially juveniles. Reef fishes prefer ref holes and crevices commensurate with the size of the fish. The interstitial spaces between stones will also provide habitat for benthic and sessile organisms which will provide additional foraging resources for fishes. The boulders could also provide a hard, stable surface for coral colonization, and elevates them above the shifting sand and rubble bottom that currently exists.

*OCCL staff notes that there is precedent for the establishment of new habitats and ecosystems with the placement of large stones in the nearshore area.*

**Economic uses:** The applicant states that the HKM is used by a number of commercial businesses serving the needs of tourists for a range of water-related activities. Currently ten (10) commercial watersport companies operate in and out of the marina, therefore the proposed project will benefit the local economy by maintaining the navigable capacity of the marina and entrance channel used by these commercial activities.

**Coastal hazards:** The applicant states that the proposed structure has been specifically designed for the oceanographic and physical processes and potential hazards along Portlock Beach; these same constraints are not viable with a temporary sand bag groin. The applicant states that failure of the existing structure is possible and could fill in the channel and exacerbate erosion of Portlock Beach if it failed completely. The proposed groin will attempt to alleviate those fears by creating a solid structure that will keep the channel open in the long term.

*OCCL staff believes the coastal hazards associated with the existing temporary (and failing) sand bag groin would be reduced with the construction of a stable, long-term, rock revetment and groin. The primary "coastal hazard" associated with this location and existing development is channel in-filling and blockage of the HKM to the ocean; this project aims to alleviate that while providing a mechanism for sand accumulation along an existing public beach area.*

**Managing Development and Public Participation:** *OCCL staff notes that this section was not completed by the applicant, however, topics under this heading have been discussed previously. The maintenance dredging of the channel (which will be reduced by the proposed project) is the most obvious way development will be managed over time. OCCL staff notes a public hearing was scheduled and only two (2) people attended from the community; no significant comments were received from the public on this proposed project.*

**Beach Protection:** The applicant states that sand backpassing is an efficient and sustainable strategy to manage the limited sand resources along Portlock Beach. The proposed action prevents sand from being deposited into the HKM channel and essentially lost from the Portlock Beach littoral cell. As the groin reaches its maximum sediment carrying capacity, the applicant proposes that a sand backpassing plan be initiated and sand material be moved from the channel to the eastern end of Portlock Beach.

*'Sustainable' in regard to the environment or natural resources means that the activity supports long-term ecological balance – OCCL staff believes this proposed project will 'sustain' the entrance channel for HKM and will add to the beach width at the channel end of Portlock Beach which could be considered a beach protection strategy. OCCL staff notes that without the groin the channel and entrance would in-fill with sediment and become unusable.*

- 4) *The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.*

The applicant states that the proposed project impacts to existing natural resources will be minimal and limited to the construction period. BMPs will be followed to reduce adverse effects to the environment during construction, these include: turbidity containment barriers, monitoring of water quality, equipment inspection, and limiting the Area of Potential Effect (APE) for the proposed project (**Exhibit 9**). Marine biota surveys have shown much of the affected area has a sandy or otherwise 'mobile' strata that is unlikely to be adversely affected by the proposed action.

*OCCL staff notes that any shoreline development has the potential to influence shoreline processes and beach formation. Groins can alter sediment accumulation and littoral transport thus changing the nearshore dynamics and natural character of the shoreline. Additionally, there are always impacts due to coastal development, however, in this case they may be relatively minor when compared to similar coastal development projects, and the need for the project.*

- 5) *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The applicant states that the proposed structure has been specifically designed for the oceanographic and physical processes along Portlock Beach. Groin design methodology is described in the Final Environmental Assessment (FEA) which demonstrates that longshore sediment movement along Portlock Beach is from east to west, towards the entrance channel, and the location of the structure was chosen to trap sediment that would otherwise migrate unimpeded into the channel. Armor stone size was calculated based on the design wave height at the structure during a closely-approaching hurricane event (RI = 50 years). The crest elevation and shape were designed to provide scour protection on the channel and Portlock side of the groin. It was stated that all design considerations included the effects of sea level rise on the project components.

*OCCL Staff notes that the project appears to be consistent with the urban and marina development located in this area; the groin structure has also been existing for 10+ years and is essential to keeping the marina entrance channel open and reduces the need for annual dredging activities.*

- 6) *The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.*

The applicant states that the existing sandbags are temporary and unsightly, and that a rock rubble mound structure will appear more natural. Additionally, these structures are common features at the entrance channels to marinas, ports, and harbors throughout Hawaii. The groin will also aim to improve the beach profile on the up-drift side of the groin, thus improving a public beach resource.

*OCCL staff notes that the existing environmental aspects of the land, as well as the natural beauty of the site will not be significantly altered by the construction of a permanent rock groin, however, the structure is larger than the existing temporary groin and therefore could create additional viewplane impacts.*

- 7) *Subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.*

The proposed use will not require the subdivision of land in the Conservation District.

- 8) *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

The applicant stated that the proposed project will have some impact on air, noise, and water quality during the construction activities; however, these are not anticipated to be materially detrimental to the public health, safety, and welfare. Water quality impacts will be limited to an increase in suspended sediment and turbidity – typical for these types of sand moving projects. Once the proposed structure has been completed, there will be no regular sources of emissions or waste that could prove detrimental to public health.

The applicant states that coastal structure tend to be highly visible and are frequently placed in public venues with easy access. They are not designed for public access, may have hard slippery surfaces, voids, sharp edges, and may be subject to significant wave exposure. Despite all reasonable precautions, accidents may occur on or around these structures. However, the wave exposure at the project site is typically low, and the risk to public safety is considered minimal.

*OCCL staff agrees that besides the typical concerns with rock structures at the shoreline, the proposed project, as designed, will not be materially detrimental to the public health, safety, and welfare as it aims to improve an existing navigational structure and reduce dredging activities.*



**CULTURAL AND HISTORICAL IMPACT REVIEW:**

Please provide the identify and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area:

Under this section the applicant has reported on numerous historical references for the entire Hawaii Kai and Portlock region, not necessarily related to the project site. Discussions on the development history indicates this area was built into a residential community and marina starting in the 1950's – this included the dredging of the fishpond and wetland area to create the open-water marina.

Studies indicate a rock-walled fish trap appears on the 1921 maps of the area near what is now the Hawaii Kai Marina entrance channel. The trap has not appeared on any more recent maps of the area and was not encountered during the 2013 entrance channel project (or any subsequent dredging projects).

The applicant states that the Portlock area is known to have been a popular site for fishing by Hawaiians, and local residents report that fishermen occasionally come to fish at this site and other public beach access ways along Portlock Road. Fishermen use both the existing temporary sandbag groin and the beach for whipping and casting. There are no known traditional and customary native Hawaiian rights that are exercised directly at this site or in the general vicinity, and the applicant stated no gathering activities of other marine species were observed during the field trips or reported by informants.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action:

The applicant states that two (2) aspects of the proposed project make it unlikely that it will have a significant adverse effect on historic or archeological sites:

1. Implementation of the project does not involve construction on or excavation of upland areas that might contain physical remains. Work on land will take place only on the beach in areas that have been previously dredged. Care will be taken when working on the beach to avoid disturbing previously undisturbed sandy sediments that might hide subsurface deposits; and
2. Construction of the new groin will take place completely in the water, seaward of the shoreline, and does not involve modification of soft deposits which could reasonably be expected to have the potential to hide archeological materials and/or burials.

The applicant stated further that there does not appear to be any known traditional Hawaiian cultural practices that will be adversely affected by the proposed project, not does it seem like the activities associated with the project will conflict with traditional cultural practices as expressed in legend. The proposed project is entirely seaward of the shoreline where the existence of any cultural artifacts or remains are very unlikely. Based on the above, the proposed project is unlikely to have an adverse effect on rights customarily and traditionally exercised for subsistence, cultural, and religious purposes.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regard to your application to reasonably protect Native Hawaiian rights?

The applicant states that no action is necessary by the Board of Land and Natural Resources (BLNR), as the proposed project is not anticipated to affect any known traditional or customary Native Hawaiian rights or practices. Neither does it seem that the activities associated with the proposed project would conflict with traditional cultural practices as expressed in legend. If cultural practices are taking place within the project site, but have not been observed, then all effort will be made to minimize and mitigate any project impacts.

*The applicant indicates that they considered the potential impacts of the project on archeological and cultural resources, and traditional cultural practices, and concluded that the project is unlikely to have an adverse effect on rights customarily and traditionally exercised for subsistence, cultural, and religious purposes. OCCL staff accepted the applicant's findings by recommending to the DLNR Chairperson that the Environmental Assessment (EA) be accepted.*

*At this time the Office of Hawaiian Affairs (OHA) questions the applicant's methods and determination, and respectfully requests that the applicant conduct and document additional consultation in a manner that follows the Office of Environmental Quality Control (OEQC) guidelines. In response to OHA concerns, the agent of the applicant indicates that they have contracted with an agent to perform additional cultural survey work according to OEQC guidelines.*

**DISCUSSION:**

The Department and BLNR has jurisdiction over land *makai* of the shoreline as evidenced by the upper reaches of the wash of the waves other than storm and seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limits of debris left by the wash of the waves, pursuant to Hawaii Revised Statutes (HRS) §205A-1.

This Conservation District Use Permit (CDUP) is being pursued in order to replace an existing temporary sandbag groin that has become an ineffective sand containment structure with a larger rock-rubble groin structure. The primary objectives of the proposed project are to maintain the entrance channel to the Hawaii Kai Marina in a functional capacity and to minimize the amount of in-filling of the channel thus reducing the frequency of dredging activities.

OCCL staff believes coastal development can be a serious impediment to protecting and preserving coastal ecosystems, recreation, and processes. In this case, the residential and urban development was created at a time (c. 1950's) when mean sea level was at a lower elevation, and coastal erosion, sea level rise, and climate change were not necessary attributes for regulatory discussions. OCCL staff notes that the applicant did incorporate future Sea Level Rise (SLR) measurements into the design of the replacement groin structure, however, significant changes to the project design were constrained by the location of the entrance and approach channels which were sited long ago, and development in the project area that is considered static (e.g., bridge, residences).

OCCL staff notes that this project is a necessary upgrade to an erosion control and sand containment structure to preserve safe and consistent access to/from the Hawaii Kai Marina while minimizing maintenance dredging of the channel.

If the sediment accumulation proceeds as described by the applicant, the OCCL would prefer to address the "sand back-passing" through a **separate** beach nourishment permit process rather than an open-ended plan for sand placement that has no directed management or clear activity schedule. Therefore, the groin replacement project should be approved as designed, but the "sand back-passing" portion of the proposed project should be deleted from the proposed activity until a comprehensive beach nourishment plan can be created for Portlock Beach.

*Staff, therefore, recommends as follows:*

**RECOMMENDATION:**

Staff recommends that the Board of Land and Natural Resources **APPROVE** this Conservation District Use Application (CDUA) for the proposed Hawaii Kai Marina Entrance Groin Replacement Project located on submerged lands of the state in Portlock, Honolulu District, Island of Oahu, seaward of *Tax Map Keys: (1) 3-9-005:035 & (1) 3-9-002:029* and subject to the following conditions pursuant to HAR §13-5-42:

1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of this chapter;
2. The permittee, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The permittee shall obtain appropriate authorization from the department for the occupancy of state lands, if applicable;
4. The permittee shall comply with all applicable department of health administrative rules;
5. **The permittee shall continue to work with the Office of Hawaiian Affairs (OHA) to provide an additional cultural assessment for the proposed project in accordance with the guidelines provided by the Office of Environmental Quality Control (OEQC). No work on the proposed project may begin until the DLNR and OHA have reviewed the additional information, and mitigation efforts (if necessary) are in place prior to beginning construction;**
6. **The applicant shall not conduct "sand back-passing" outside the initial construction activity without prior approval from the Department or Board for beach nourishment;**
7. Unless otherwise authorized, any work or construction to be done on the land shall be initiated within one (1) year of the approval of such use, in accordance with construction

plans that have been signed by the chairperson and shall be completed within three (3) years of the approval of such use. The permittee shall notify the department in writing when construction activity is initiated and when it is completed;

8. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
9. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
10. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;
11. Provisions for access, parking, drainage, fire protection, safety, signs, lighting, and changes on the landscape shall be provided;
12. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
13. Obstruction of public roads, trails, lateral shoreline access, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, **lateral beach access**, or pathways acceptable to the department;
14. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
15. Use of the area shall conform with the program of appropriate soil and water conservation district or plan approved by and on file with the department, where applicable;
16. For all landscaped areas, landscaping and irrigation shall be contained and maintained within the property, and shall under no circumstances extend seaward of the shoreline as defined in section 205A-1, HRS;
17. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;
18. Where applicable, provisions for protection of beaches and the primary coastal dune shall be established by the permittee, to the satisfaction of the department, including but not limited to avoidance, relocation, or other best management practices;



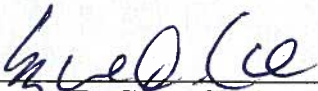
19. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law; and
20. Other terms and conditions as prescribed by the chairperson; and
21. Failure to comply with any of these conditions shall render a permit void under the chapter, as determined by the chairperson or board.

Respectfully submitted,

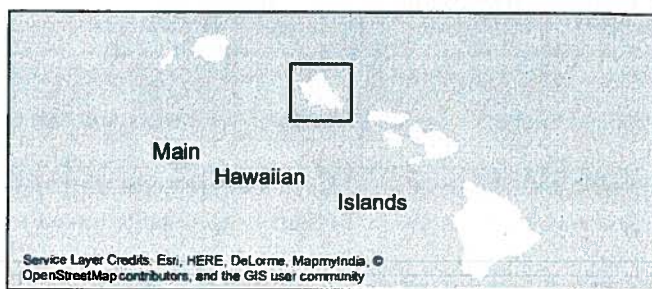
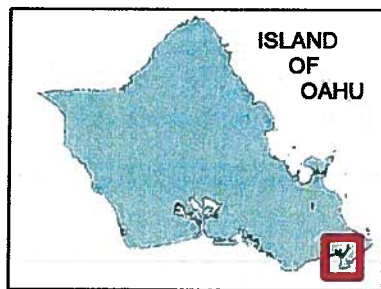
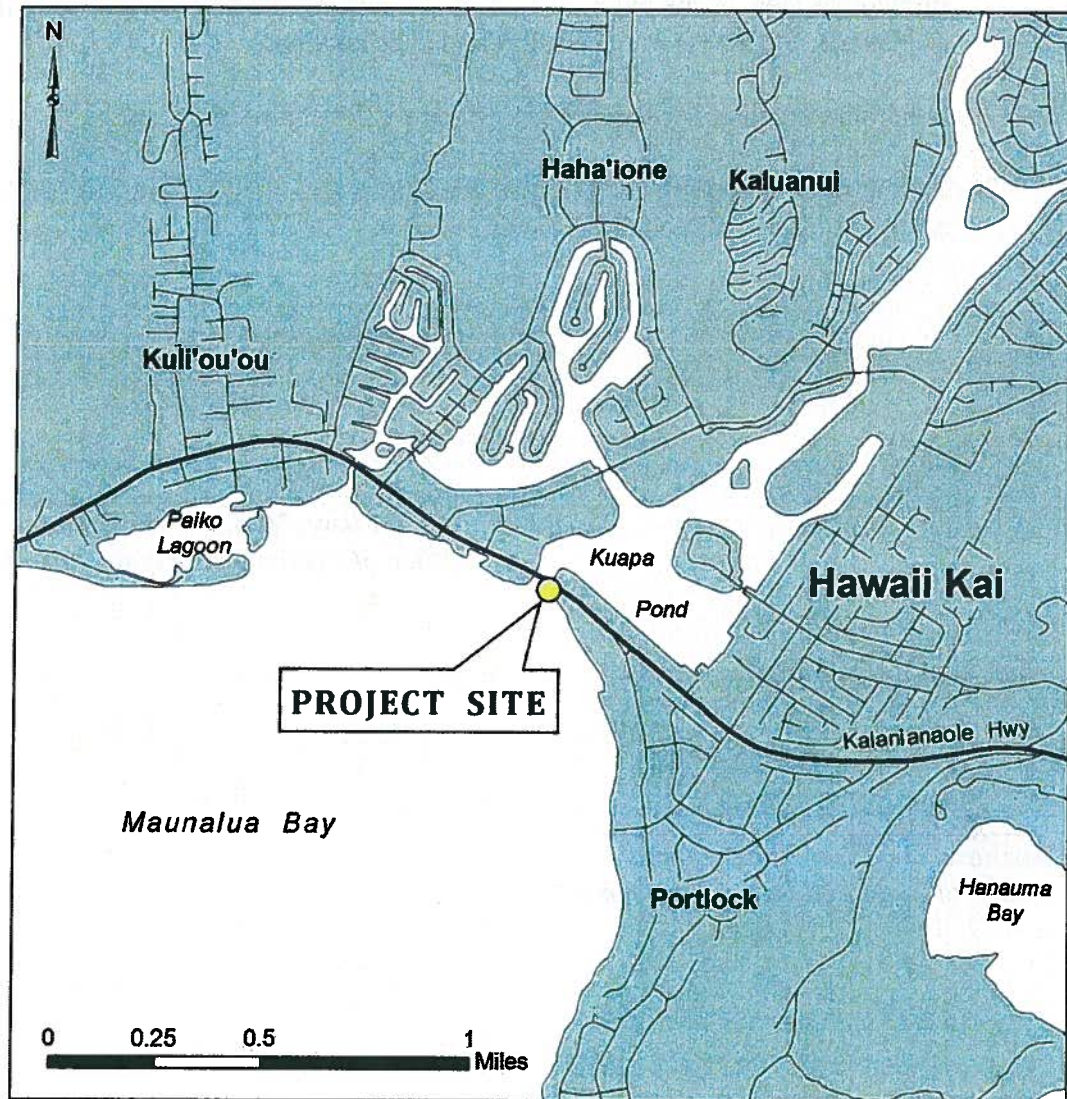


**Alex J. Roy, M.Sc., Staff Planner**  
*Office of Conservation and Coastal Lands*

Approved for submittal:



**Suzanne D. Case, Chairperson**  
*Board of Land and Natural Resources*

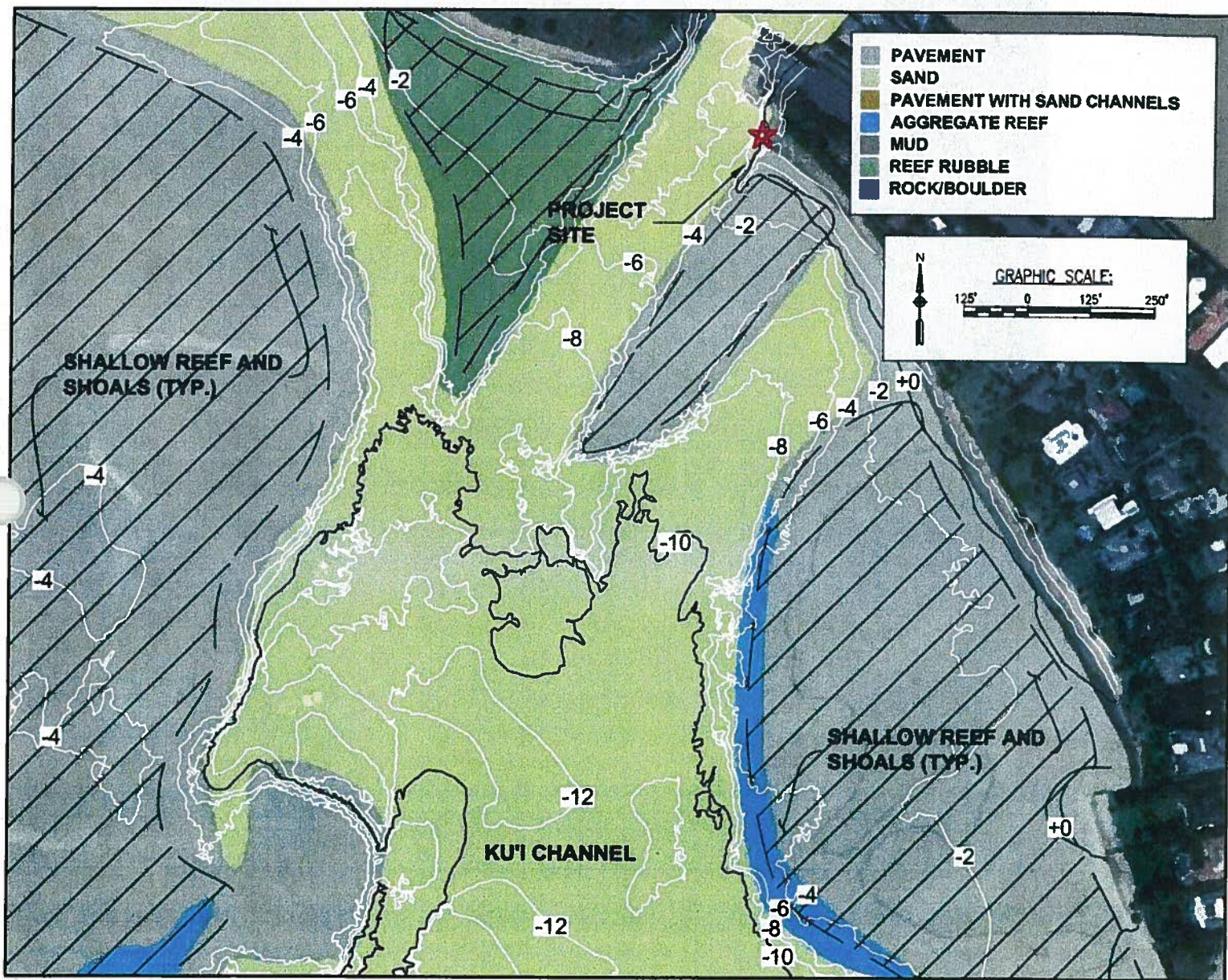


General location of Project area on the Island of O'ahu.

**EXHIBIT 1**

CPWA: OA-3820





Nearshore bathymetry (contours in feet) and geomorphology (from NOAA)

EXHIBIT 2

CDUA: OA-3820



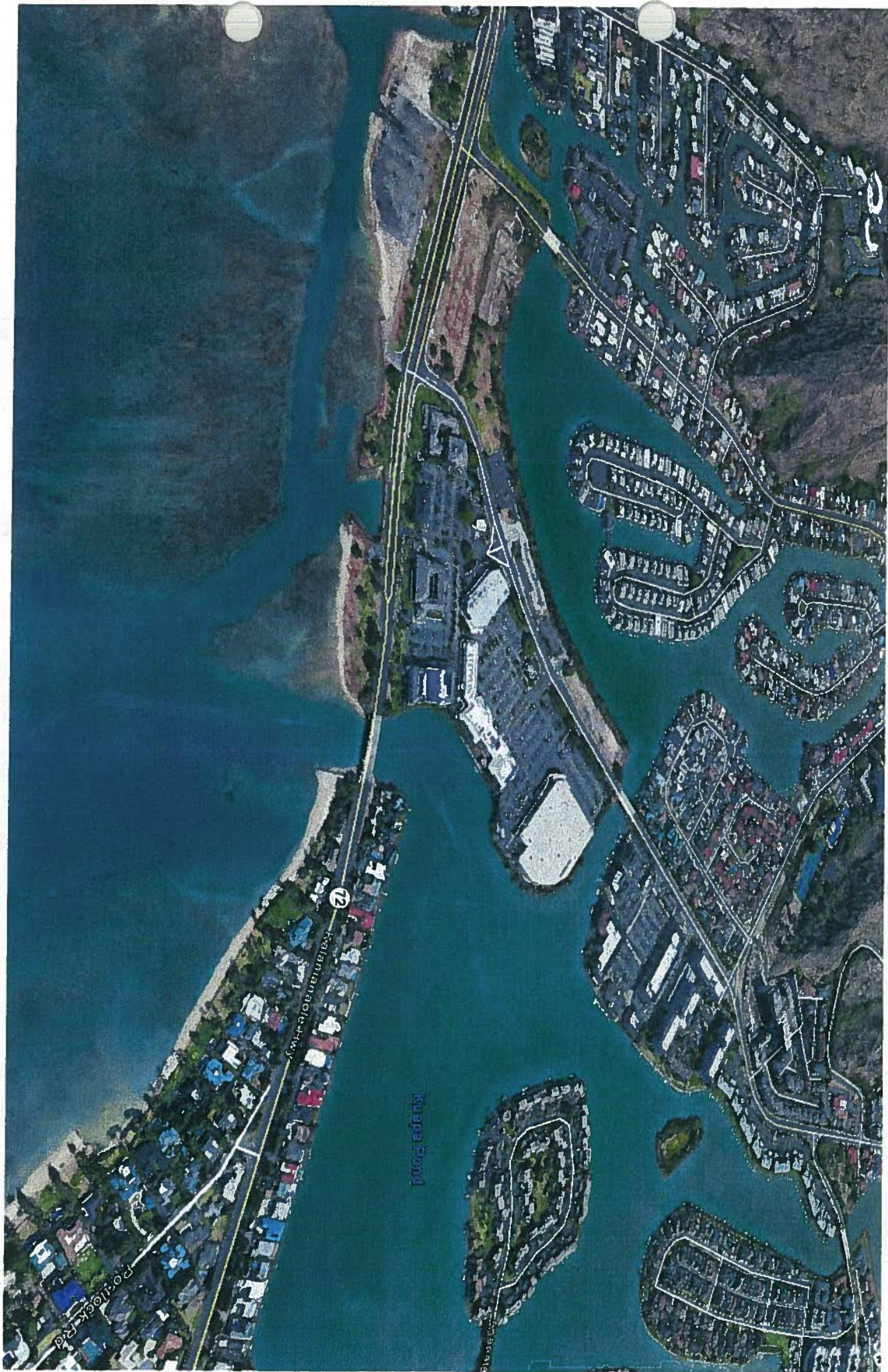


EXHIBIT 2A

C.DUA: 0A-3820



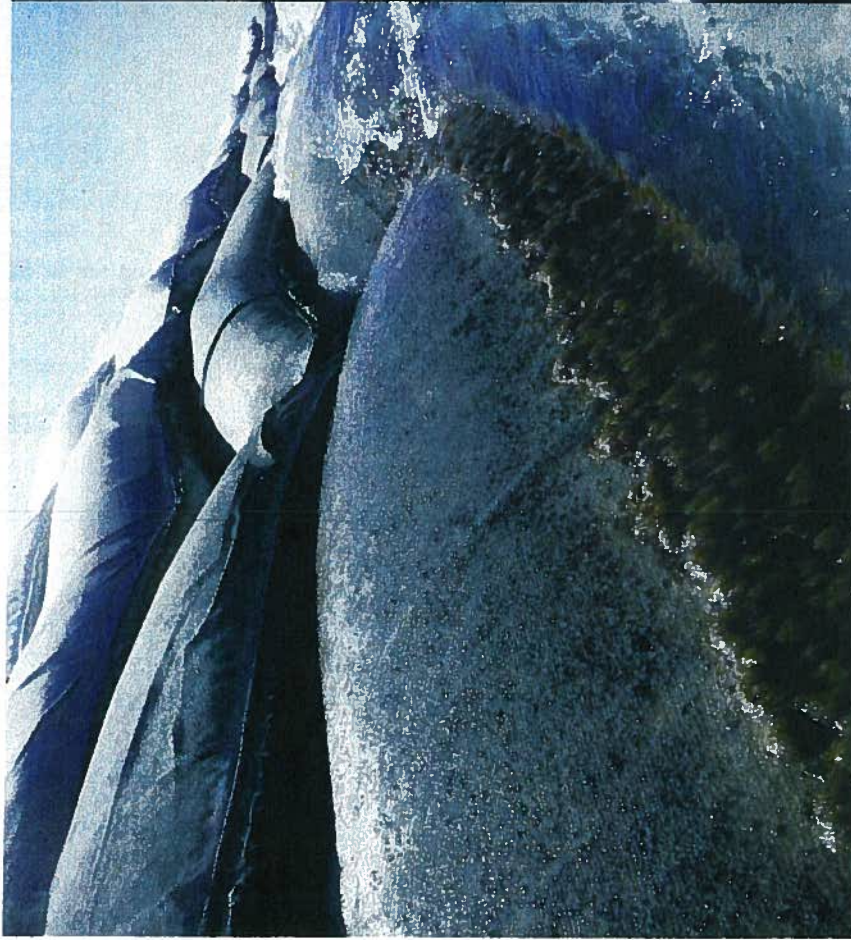


Erosion and flanking as viewed from the Kalanianaʻole Highway Bridge (May 2015)

EXHIBIT 3

CDUA: OA-3920



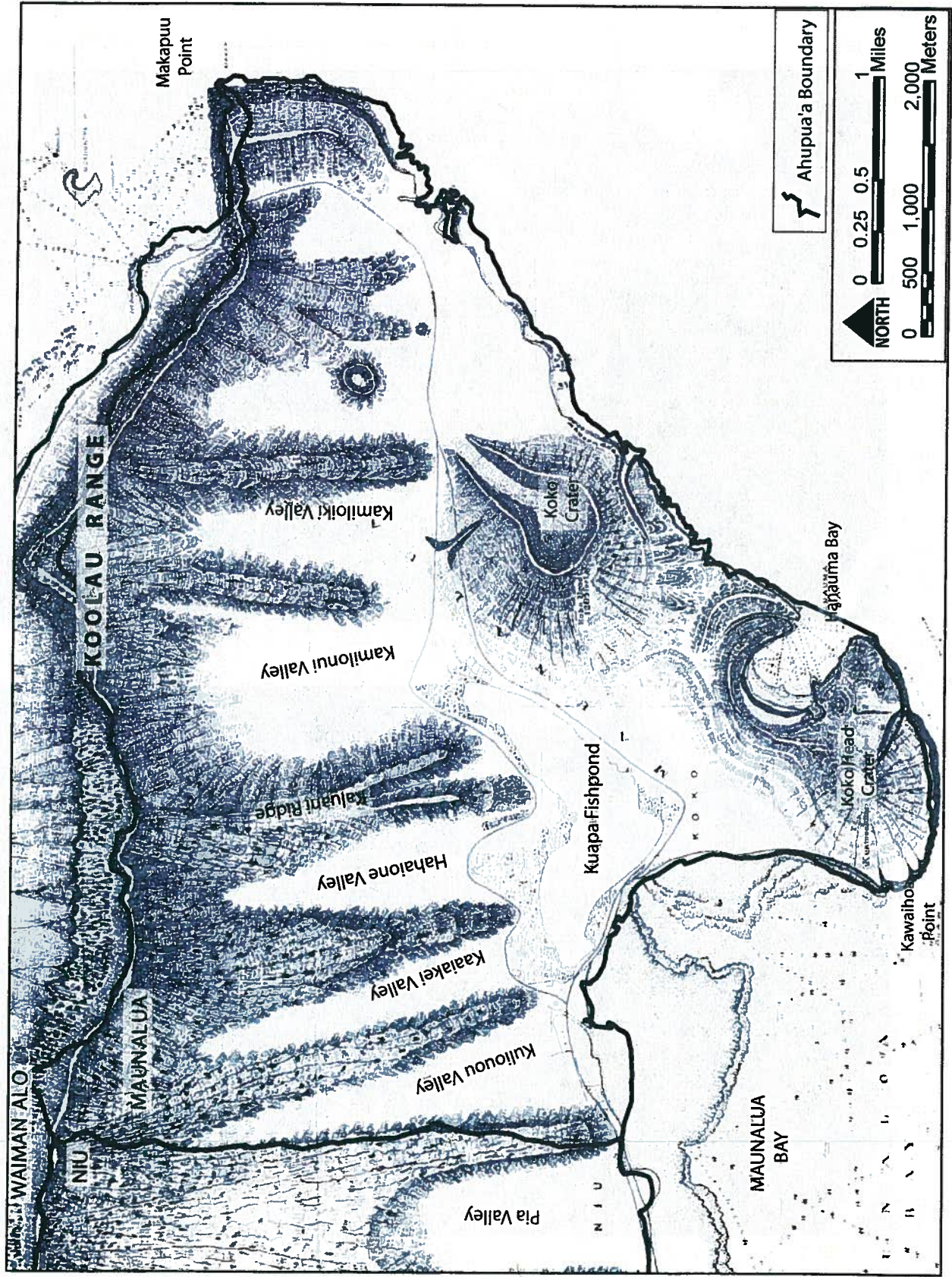


The intertidal zone on the sand bag groin is coated in macroalgae (left photo) that extends as macroalgal and cyanobacterial growth along the base of the west side of the groin (right photo).

EXHIBIT 4

CDUA: OA-3820





Geographic reference; base map (Jackson 1884).

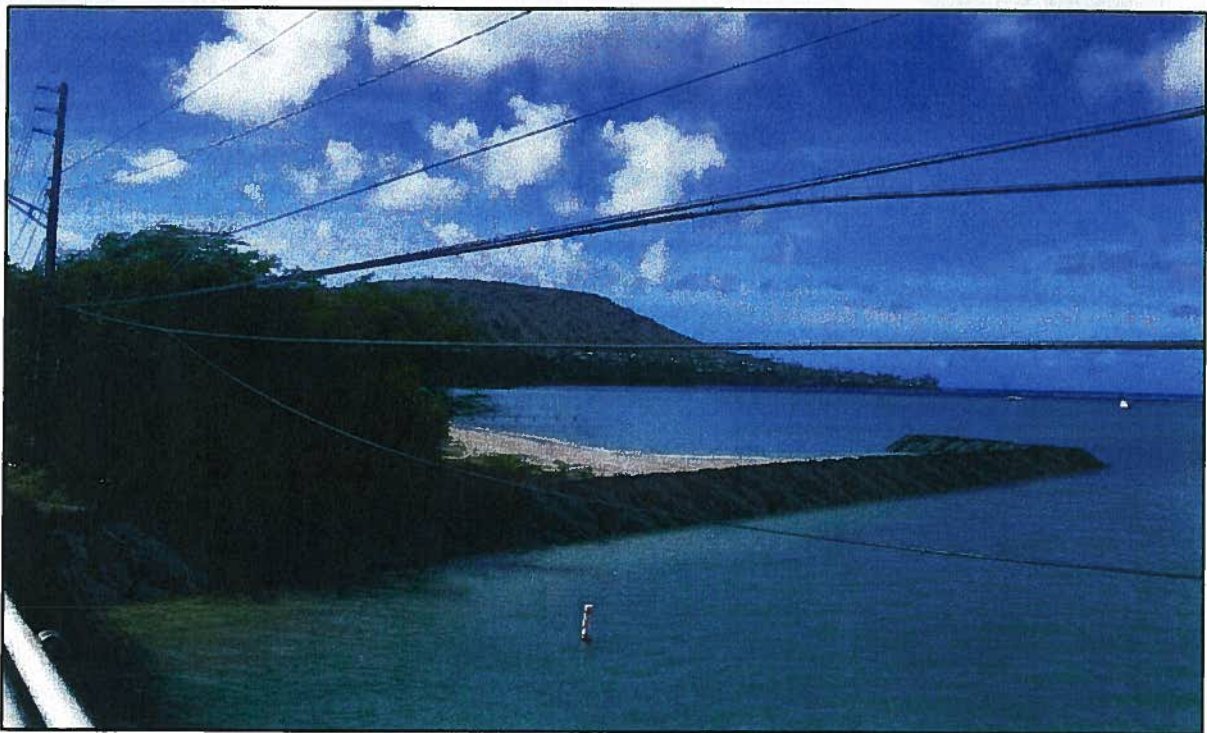
EXHIBIT 5

CDM: OA-3920





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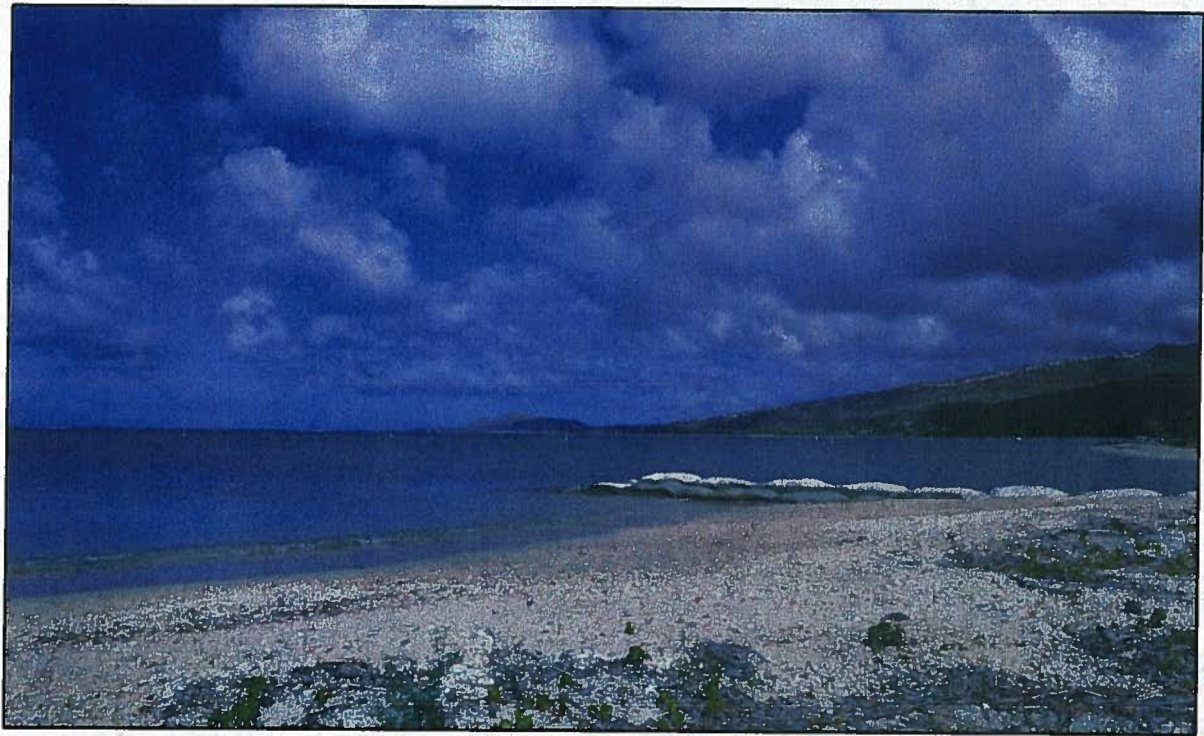


(b)

**Project site looking from the Kalanianaʻole Highway Bridge:**  
**(a) existing condition, (b) with proposed 290-foot long L-head groin**

CDUA: OA-3820  
**EXHIBIT 6**





(a)

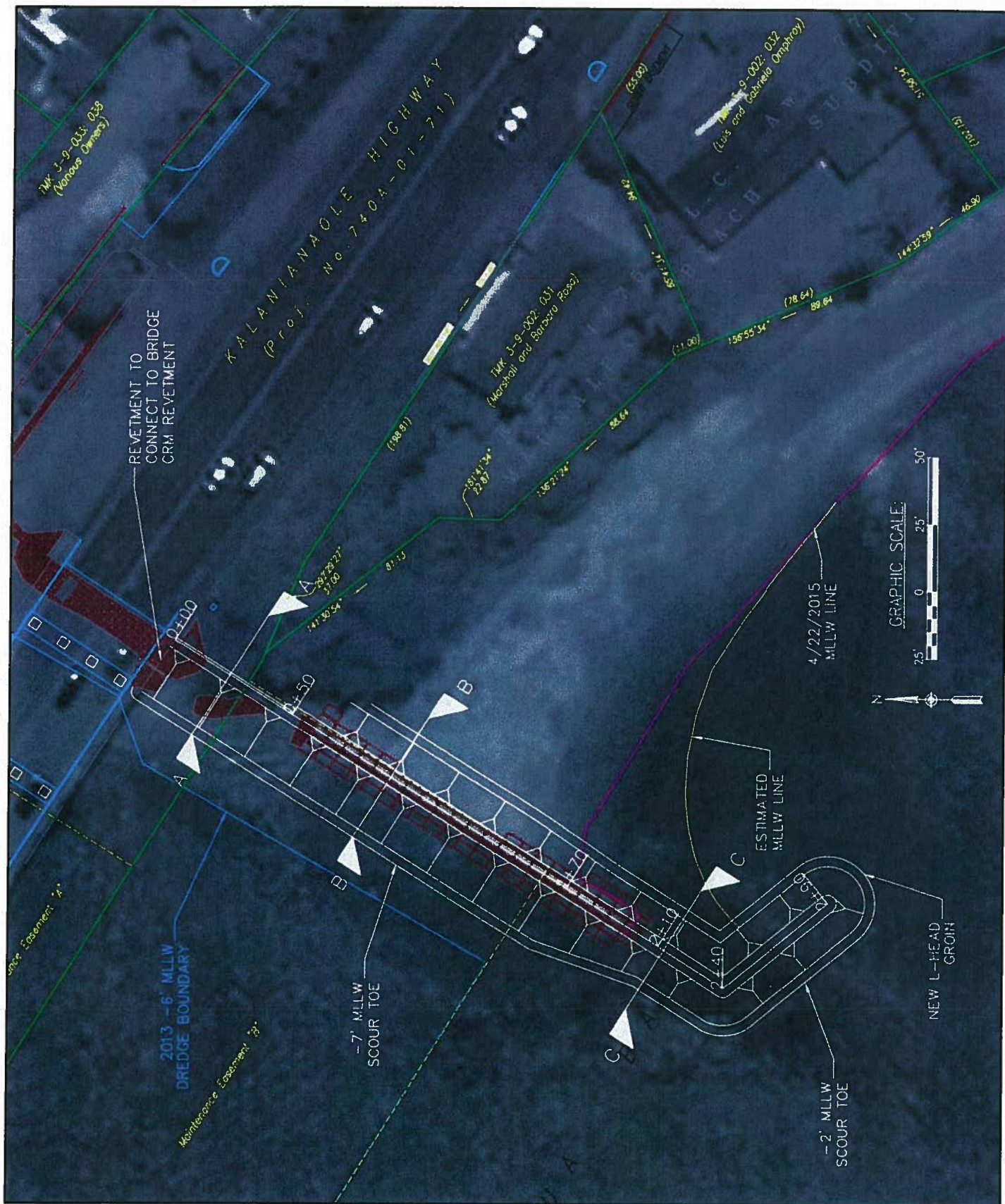


(b)

Project site looking west from Portlock Beach:  
(a) existing condition, (b) with proposed 290-foot long L-head groin

EXHIBIT 6A CDWA: OA-3820



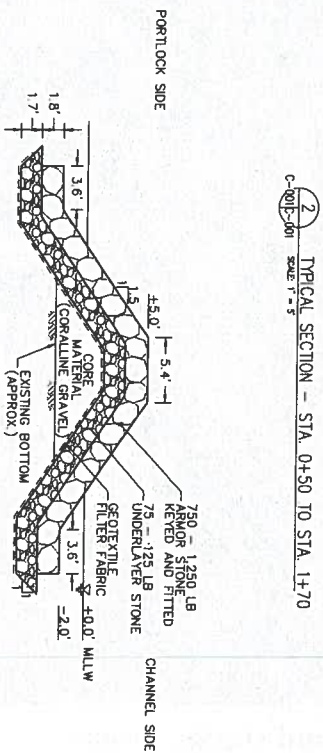
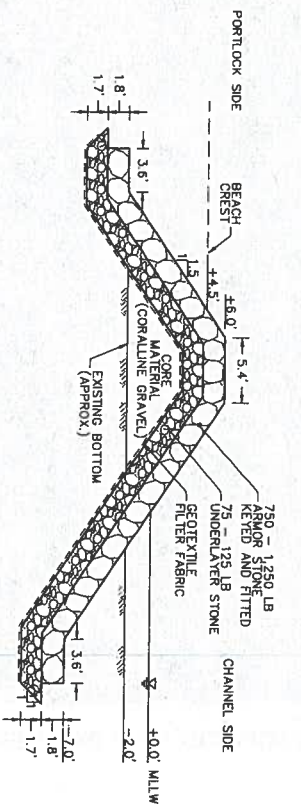
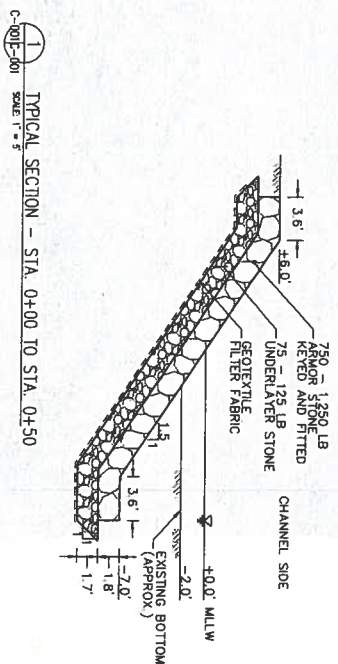
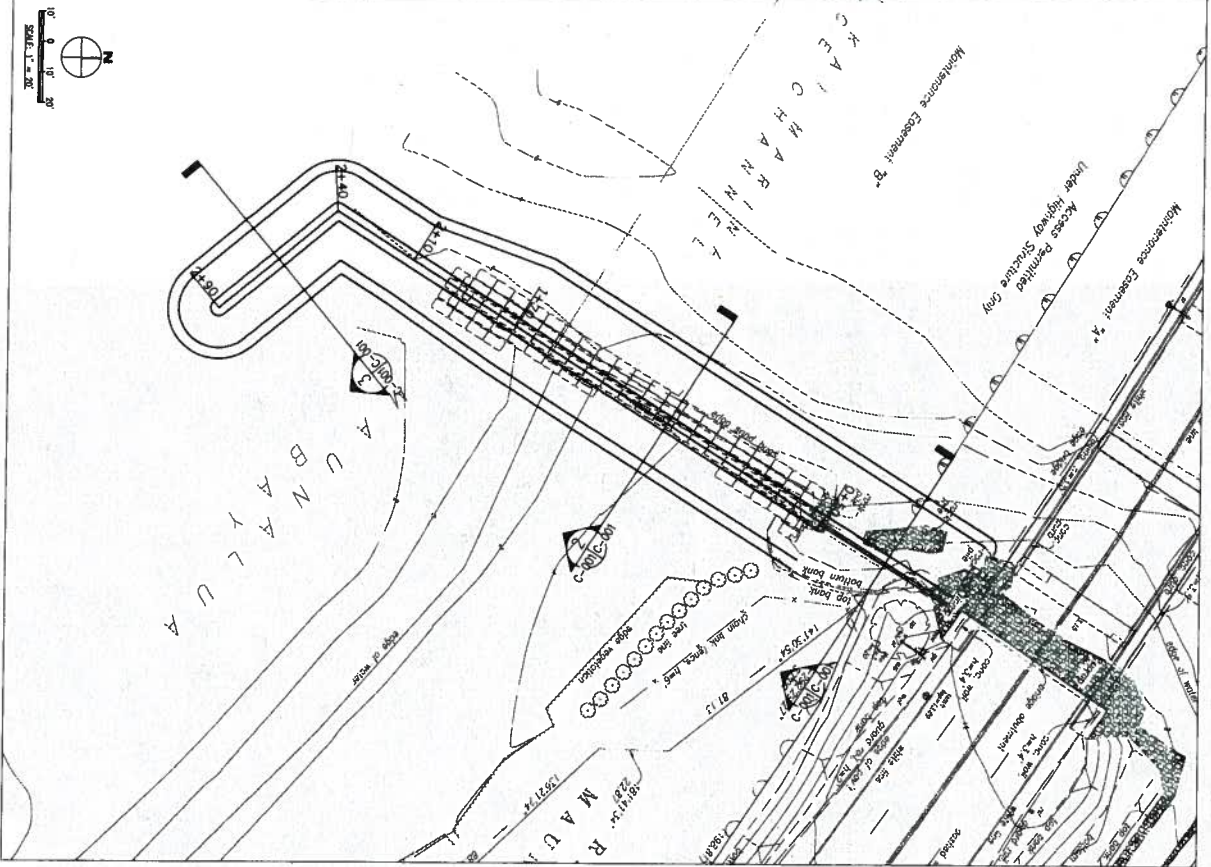


**Extended Length with L-head option layout (existing sandbags shown in red)**

**EXHIBIT 7**

**CDUA: OA-3920**





3  
TYPICAL SECTION - STA. 2+10 TO STA. 2+20  
SCALE 1" = 5'

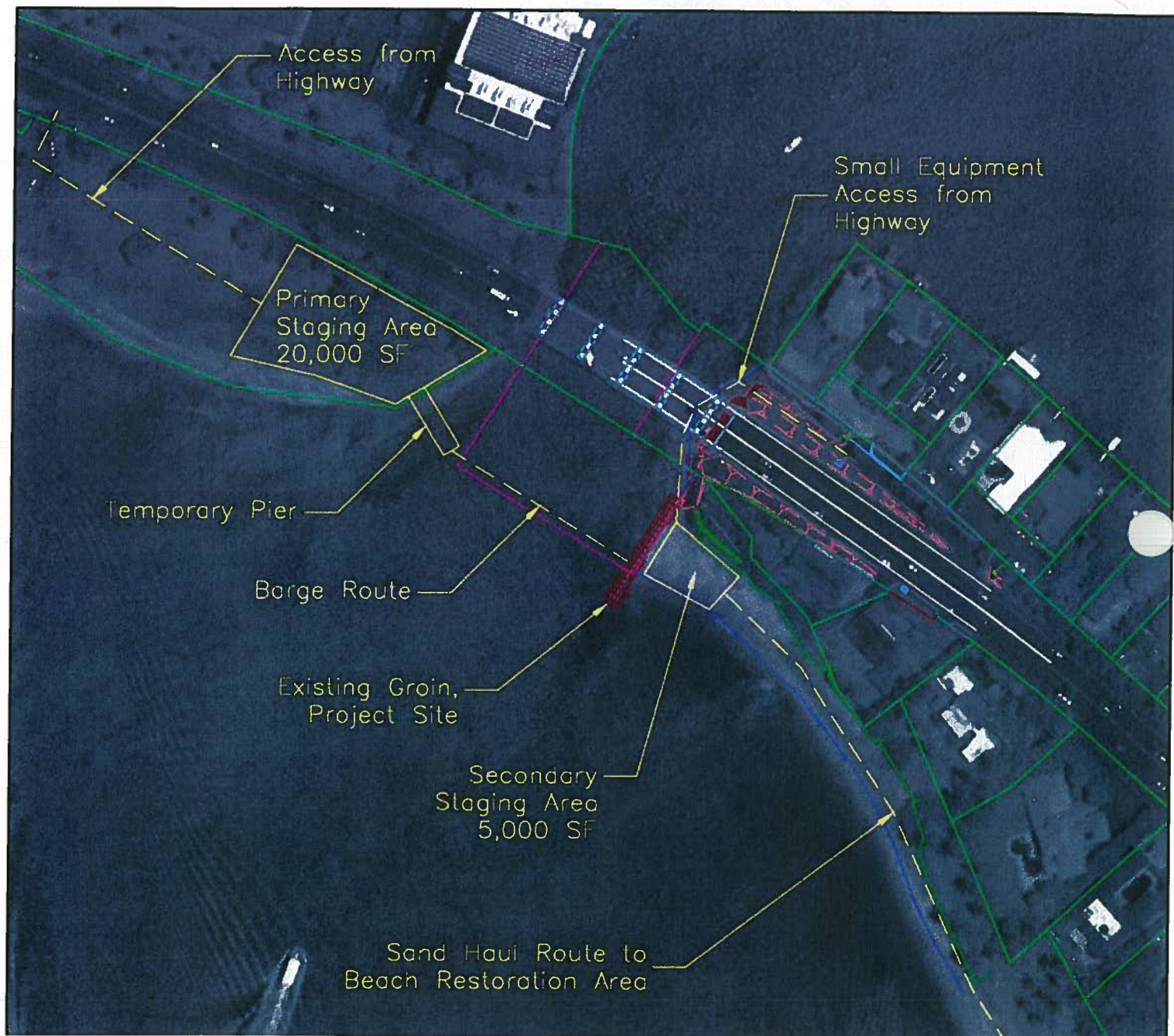
**30% DESIGN DRAWINGS  
NOT FOR CONSTRUCTION**

## GROIN LAYOUT AND TYPICAL SECTIONS

**HAWAII KAI MARINA  
ENTRANCE CHANNEL  
GROIN REPLACEMENT  
HONOLULU, OAHU, HAWAII**

<b>Sea Engineering, Inc.</b> MARK RESEARCH PIER WARMAN, IL 60475 808.259.7966 FAX 808.259.8143	
REVISION	DATE



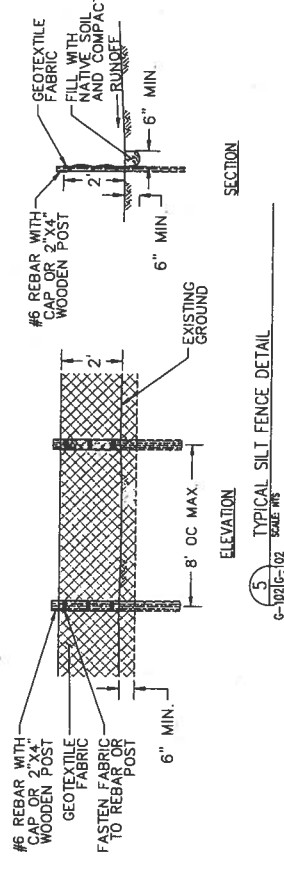
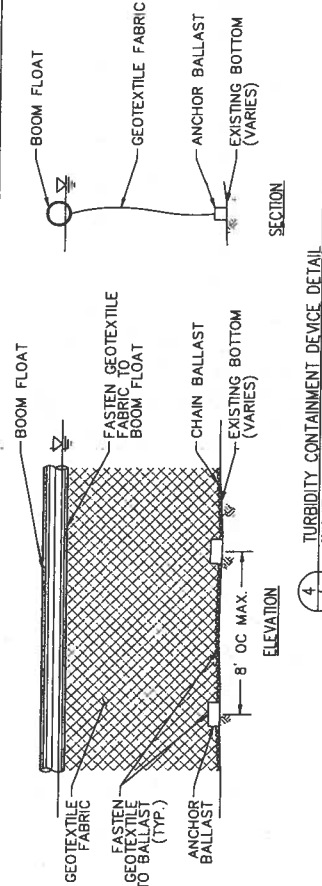
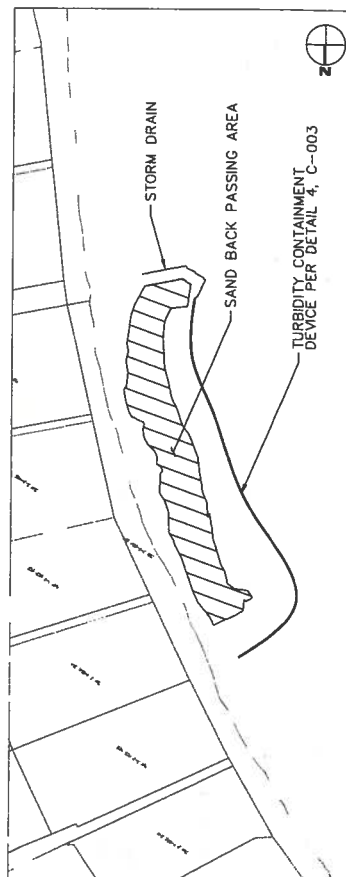
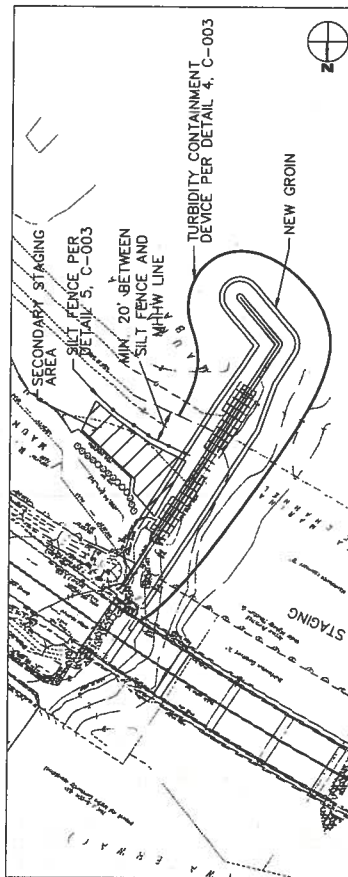
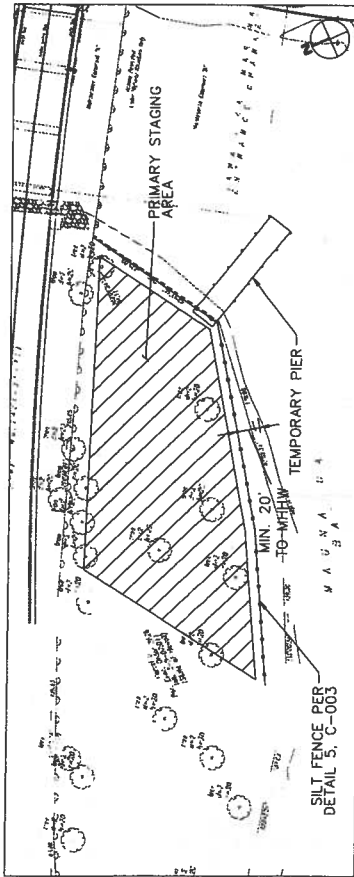


**Construction access and staging areas**

**EXHIBIT 9**

**CDWA: OA-3820**





## NOTES

## GENERAL

1. TURBIDITY CONTAINMENT DEVICES AND ON-LAND SILT FENCES SHALL BE OF SUFFICIENT DESIGN, STRENGTH, AND SUITABILITY FOR THEIR INTENDED APPLICATION IN THE OCEAN ENVIRONMENT.
2. SILT FENCE FILTER FABRIC SHALL BE MIRAFI SILT FENCE, AMOCO SILT STOP, OR APPROVED EQUAL.

3. FLOATING TURBIDITY CONTAINMENT DEVICES SHALL GENERALLY BE COMPOSED OF A WATER SURFACE FLOATATION BOOM WITH A MINIMUM FREEBOARD OF 4 INCHES, A SKIRT HANGING VERTICALLY TO THE REQUIRED DEPTH, BALLAST WEIGHT AT THE SKIRT BOTTOM, AND SUFFICIENT ANCHORS TO MAINTAIN THE CURTAIN IN PLACE.

4. THE FLOATING TURBIDITY CONTAINMENT DEVICE SKIRT MATERIAL SHALL BE MONOFILAMENT WOVEN POLYPROPYLENE WITH THE FOLLOWING MINIMUM PHYSICAL REQUIREMENTS:

PROPERTY	VALUE	TEST METHOD
GRAB STRENGTH	200 LBS	ASTM D 4632
PUNCTURE	90 LBS	ASTM D 4833
TRAPEZOID TEAR	90 LBS	ASTM D 4533

PERVIOUS GEOTEXTILE SKIRT MATERIAL SHALL HAVE A MAXIMUM APPARENT OPENING SIZE (AOS) AND PERCENT OPEN AREA (POA) CAPABLE OF RETAINING FINE SUSPENDED SEDIMENTS 0.004 MM OR LARGER IN DIAMETER.

5. A DESCRIPTION OF THE TURBIDITY CONTAINMENT DEVICE(S), THEIR MATERIALS AND DESIGN, AND THE

- PROPOSED DEPLOYMENT METHODOLOGY SHALL BE INCLUDED IN THE ENVIRONMENTAL PROTECTION PLAN AND APPROVED BY THE STATE PRIOR TO THEIR USE.

6. TURBIDITY CONTAINMENT DEVICES AND FENCES SHALL BE INSPECTED DAILY, AND IMMEDIATELY REPAIRED OR REPLACED AS NECESSARY TO ENSURE THEIR EFFECTIVENESS.

GROIN CONSTRUCTION AREA (IN-WATER)

1. A TURBIDITY CONTAINMENT DEVICE SHALL BE DEPLOYED TO COMPLETELY SURROUND THE AREA OF ACTIVE IN-WATER CONSTRUCTION

2. SHOULD WEATHER OR SEA CONDITIONS PROHIBIT PROPER PLACEMENT AND FUNCTION OF THE TURBIDITY CONTAINMENT DEVICE, CONSTRUCTION SHALL CEASE UNTIL CONDITIONS PERMIT PROPER DEPLOYMENT

WORKSITE AND EQUIPMENT/MATERIALS STAGING AREAS (ON LAND)

1. A SILT FENCE SHALL BE INSTALLED AND MAINTAINED ALONG THE OCEAN SIDE OF THE WORKSITE AND EQUIPMENT/MATERIALS STAGING AREAS.
2. THE SILT FENCE SHALL BE LOCATED A MINIMUM OF 20 FEET LANDWARD OF THE MEAN HIGHER HIGH WATER (MHHW) LINE

**HAWAII KAI MARINA**  
**ENTRANCE CHANNEL**  
**GROIN REPLACEMENT**  
**HONOLULU, OAHU, HAWAII**

WATER QUALITY  
PROTECTION PLAN

PROJECT NUMBER: 25455  
PROJECT ENGINEER: DL  
DRAWN BY: DL  
CHECKED BY: JB  
SCALE: NTS  
DATE: MARCH 15, 2017

**Sea Engineering, Inc.**  
MAKAI RESEARCH PIER  
WAIMANALO, HI 96795  
808.259.7966  
FAX 808.259.8143

3 SAND BACK PASSING AREA  
SCALE: 1" = 50'

**30% DESIGN DRAWINGS  
NOT FOR CONSTRUCTION**

