

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

180-Day Exp. Date: March 16, 2013

March 8, 2013

**Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii**

REGARDING: Conservation District Use Application (CDUA) MA-3633
Stable Road Beach Restoration Project

APPLICANT: Stable Road Beach Restoration Foundation, Inc.

LANDOWNER: State of Hawaii

LOCATION: Spreckelsville Beach Lots, Wailuku, Mau`i
Submerged Land Makai of TMKs: (2) 3-8-002:71, 74, 77 & 78

SUBZONE: Resource

BACKGROUND:

According to the applicant, the Stable Road Beach Restoration Foundation, Inc. (SRBRFI), was formed by seven Stable Road neighborhood home owners in 2007 for the sole purpose of restoring a portion of beach along Stable Road that was experiencing chronic erosion.

On May 8, 2009, the Department approved Small Scale Beach Nourishment (SSBN) Application MA 08-01 for beach nourishment and the existing temporary groins. Upon review by a variety of government agencies, with State, County and the US Army Corps of Engineers approvals, SRBRFI implemented a Small Scale Beach Nourishment (SSBN) Evaluation Project in the spring of 2010 that integrated beach nourishment with offshore sand combined with the installation of four temporary sand retention devices (groins). The Applicant developed a Performance Monitoring Guidelines Criteria and Metrics for pre-, during and post-construction to monitor and provide data to address concerns.

SRBRFI is required to provide data on environmental monitoring and performance assessments of Water Quality, Benthic Habitat, Beach Erosion and Lateral Beach Access. The purpose of the SSBN was to restore and protect the project beach and to be a pilot project to provide data regarding potential impacts and groin field performance information to support a future request for a permanent shore protection project.

The temporary groin field project was completed on June 25, 2010 and is authorized until June 25, 2014. The SSBN permit allowed for up to 10,000-yd³ of sand to be pumped from offshore into the temporary groin field. The actual volume of sand was about 3,000-yd³.

2.5 years of performance monitoring indicates that the groin field has sufficiently retained beach sand during all seasons. It appears the temporary groins performed successfully during subsequent seasons retaining naturally accreted beach sand with the continuation of long shore sand transport to down drift beaches. **EXHIBIT 1**

The SSBN authorization is conditioned such that the proposed geo-tube groins are temporary and will need to be removed or approval sought for a permanent retention through the permitting process. The geo-tube material is not sufficient to withstand continual movement and abrasion from sand and gravel. The temporary geo-tube groins require constant maintenance and periodic replacement. Geo-tube groins are not sustainable and not a long-term solution for erosion control at the site.

DESCRIPTION OF AREA

The project area is submerged land in the Resource subzone of the Conservation District located offshore of the Spreckelsville Beach Lots on the north shore of Maui, makai of Kahului Airport. The project site is parallel to a portion of Stable Road and fronts four lots noted as TMKs: (2) 3-8-002:71, 74, 77 & 78.

The project site is approximately (\approx) 600 feet long and averages 84-feet wide containing \approx 50,000-ft² of beach sand to the mean sea level. The land behind the beach is developed with seven oceanfront residences. The residential lots consist of sandy soils with clay soil layers. When this land erodes due to beach processes, the land drops into the ocean. The beach site is flanked on each end with existing, hardened shoreline structures. **EXHIBIT 2**

Staff visited the project site, down drift beach and Kanaha Beach Park on October 24, 2012. The project beach was wide and full of sand. The temporary groins were partially buried and the seaward ends had patches of algae. The down drift beach was also wide and full of sand. An existing wall that is usually exposed was completely buried. Kanaha Beach Park was also wide and full of sand.

According to the applicant, protected species observed along the project beach include: Wedge Tail Shearwater birds, Hawksbill and Green Turtles and the Hawaiian Monk Seal. The area just offshore from the beach is mostly coralline rock and coral rubble. About a quarter mile off shore is a fringe reef. The beach and ocean waters are extensively used by the public. Traditional and customary uses include recreation, fishing, diving and reflection.

Shoreline Processes

The regional sediment supply of sand along this coastline has been historically impacted by sand and coral excavation from the beaches in Paia and Spreckelsville in the early 1900's. By the 1920' beach erosion along Stable Road was a concern and seawalls and rock groins were constructed prior to 1940 to mitigate and prevent beach loss.

The local sediment transport mechanism on this coastline causes large seasonal changes in beach volume. During the spring and summer seasons, the beach experiences erosion and land loss starting at the far east end due to seasonally strong trade winds combined with high tides and effects from a tennis court seawall to the east while the beach accretes at the west end. During the fall and winter seasons, the beach site has experienced beach erosion and land loss starting at

the far west end due to large surf from the north pacific combined with high tides plus the effects of the adjacent seawall to the west.

In 2006, the site started experiencing higher than previous historic rates of beach erosion and land loss exposing upland banks, felling trees and vegetation, releasing sediment in the near shore that increased turbidity and impaired water quality. Long term erosion rates as calculated by the UH Coastal Geology Group vary between 1.0 and 1.5 feet per year. Accordingly, the measured long-term erosion rates indicate that erosion experienced at the site is not temporary or localized. Seasonal high surf can threaten the properties even when the winter beach is at its widest. **EXHIBITS 3 & 4**

According to the application, a Regional Management Study by The US Army Corps of Engineers has identified the Kanaha littoral cell that includes the project area as the fastest eroding cell on Maui's north shore with an annual sediment loss of 10,500 cubic yards for approximately 15,000 feet of shoreline. The County of Maui's 1997 Beach Management Plan identified the overall Stable Beach area as an "Erosion Hotspot."

Data collection for the performance record included two tsunami events of March 11, 2011 and October 27, 2012. According to the applicant, the March tsunami decreased sand volume and flattened the previously mounded beach while waves pushed sand onto upland properties. The October event had little impact within and outside the site with wave run-up on beaches similar to large surf and high tides. Neither tsunami event significantly affect the site and the temporary groins, nor did they affect data used to formulate beach erosion performance assessments.

PROPOSED USE

Based upon the successful performance of the SSBN Evaluation Project, the Stable Road Restoration Foundation is proposing to replace the existing temporary geo-tube groins with four 100'-135' long by 20' wide rock groins perpendicular to the shoreline extending into the ocean. Two end or terminal groins and two middle groins spaced evenly apart will form three \approx 200-ft wide beach segments. The west end replacement groin is proposed to have an angled east tail and unlike the temporary groin, the proposed groin will be placed 10-ft to the east and will extend landward to near the shoreline like the other groins. This modification to the west end groin is to prevent water bypassing the landward end of this terminal groin. The other 3 groins are located about 10-feet seaward of the vegetated shore area. **EXHIBITS 5, 6 & 7**

The pyramid-shaped replacement groin's exposed length will be significantly less than their actual length as the landward ends are to be buried below the level of the land bank with excavated sand creating a sand ramp over the groin providing lateral beach access and to reduce the apparent groin size and visibility. The mid-section of each groin will be slightly above the beach sand level and slope down along the beach profile and extend into and below sea level. The groins will be low enough to allow waves and water at high tides to flow over and through gaps allowing sediment transport.

The applicant is proposing to use rock, a natural durable readily available material that is similar in appearance to other nearby nonconforming groins in place. According to the applicant, the construction design is consistent with US Army Corp Standards and will consists of 1.5 ton [\approx 2-ft \emptyset] rocks around a core of smaller rocks.

General Construction Activities

Proposed construction will most likely occur when the existing groin field is pre-filled or will be filled, during calm weather when high tides are the lowest and seasonal long shore transport subsides. Once all approvals are obtained, the Applicant will prepare a specific construction schedule and construction start date to notify approval agencies. Weather and surf permitting, the project is expected to take a month to complete. The following sequence of activities is proposed:

- Prior to construction, informational and safety informational signs will be posted in the neighborhood.
- The previous staging area and access point for the SSBN project outside of the Conservation District will be utilized.
- Groin rocks will be washed at the offsite location to remove sediment prior to delivery in stages by truck to the project beach.
- Water quality monitoring devices will be placed in sample locations.

- On a groin by groin basis, the two end groins will be replaced first and then the middle groins as follows:
 - Sediment barriers will be installed around temporary groin to be removed;
 - The existing temporary groin will be removed by razor cutting the existing geotextile groin tube by hand. The sand fill will be stockpiled near the beach shoreline using a track excavator. The geotextile tube and scour aprons' material will be removed and disposed of using the excavator and a forklift for transport to the waste container at the staging area;
 - The beach will be excavated and the sand stockpiled. A groin core mat will be installed and small quarry run rocks will be placed on the mat followed by placement of large surface rock around the core and backfilling around the installed groin with previously excavated sand using the track excavator;
 - The perimeter sediment barrier will be removed and the beach area will be restored.

SSBN Performance Assessment Monitoring

The monitoring data and performance assessment was collected from what was essentially a site-specific, full scale model that produced real, empirical information. Environmental monitoring data analysis and performance assessments for water quality, benthic habitat and lateral beach access within and outside the project area conducted for one year indicated no change of conditions compared to pre-construction; no adverse environmental effects during and after construction; and compliance with the project's performance criteria/metrics.

According to the applicant, the one year of beach erosion monitoring data indicated there was: 1) an overall gain of beach width and sand volume at the site and up drift beach compared to pre-construction; 2) a reduction of beach width and beach sand volume at the down drift beach; and 3) compliance with the projects performance criteria/metrics. With 2.5 years of beach erosion monitoring there was: 1) a continued overall trend of gain to beach width and sand volume at the site; 2) Continued overall trend of gain to beach width and sand volume at the up drift beach; 3) No net beach loss at the down drift beach; and 4) compliance with the projects performance criteria/metrics.

Assessing the overall change of the down drift beach during the monitoring period is complex by high seasonal variability of the shoreline position. Regarding the project beach, the data collected indicates that the project beach is self-sustaining in terms of annual beach sand volume and beach width. The groin field appears to be functioning properly reducing seasonal beach sand loss and by facilitating retention of beach sand volume due to natural accretion during the fall and winter seasons.

The SSBN evaluation project appears to be successful and the beach site has been restored, preserved and protected by the installation of the geo-tube groins as sediment retention devices. The data collected is site specific and collected in support of collaboratively established BMP's and monitoring programs.

The applicant identified a number of site specific Best Management Practices (BMPs) to be implemented during construction including sediment and pollution control, lateral beach access control, neighborhood comfort and safety control, protected species control and environmental monitoring. The BMP's are similar to those successfully employed for the SSBN project. It is expected that the proposed action impacts will be significantly less than that of the temporary groin construction.

Other Alternatives Considered

The Applicant considered a number of other alternatives: Do Nothing; extend the use of the temporary geo-tube groins; annually nourish the beach site with offshore sand or inland sand; replace existing geo-tube groins with rock groins and nourish with offshore or inland sand; remove temporary groins and relocate residential structures; and build a seawall or revetment.

The do nothing and relocation of structures were not viable options. Finding a good clean sand source inland on Maui or pumping from offshore for beach nourishment is a challenge. Each nourishment occurrence with offshore sand would be approximately \$1,000,000.00. To replace the geo-tubes is not a long term solution. Harden structures such as a seawall or revetment should be a last resort.

SUMMARY OF COMMENTS

The Office of Conservation and Coastal Lands referred this application to the following agencies for review and comment: the Federal Oceanic and Atmospheric Administration and the Department of the Army; the State-Department of Health; the Office of Hawaiian Affairs; the Office of Environmental Quality Control; the Department of Land and Natural Resources Divisions of: Conservation and Resource Enforcement and the Maui District Land Office; the County of Maui- Departments of Planning and the Sprecklesville Community Association. In addition, the CDUA was also sent to the nearest public library, the Kahului Public Library to make this information readily available to those who may wish to review it.

Comments were received by the following agencies and summarized by Staff as follows:

FEDERAL

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service-Habitat Conservation Division

Essential Fish Habitat (EFH) has a history of being compromised in this area due to decades of sand mining in the vicinity. The reef and lagoon water quality of the project area is described as being low in species richness, density, biomass and diversity. The offshore reef appears to be relatively healthy due to the dynamic flow of open ocean water.

The EFH may not be adversely affected by the project as long as corals and other benthic biota are avoided. We request that hard structures be minimized and a softer approach be utilized; work be conducted outside of known peak spawning times for corals and during periods of low tide and appropriate weather; observe BMPs; develop a maintenance and decommissioning plan for the life of the groin; and potential long term impacts to nearby beaches should also be addressed.

Applicant's response

Avoidance of corals and other benthic biota is proposed; based upon the data generated from the temporary groins, it was determined that four groins are required for the project due to the short length of the groins relative to the beach length; alternatives with soft approaches in lieu of groins were considered during the SSBN project. Without groins, the shoreline vegetation was lost when the land eroded. The temporary groins were able to protect the beach and land from eroding.

Work is not proposed during the summer when coral and several other biota spawn and BMPs will be observed during construction. Consequences and Mitigation Measures in the Environmental Assessment address potential long-term beach impact to nearby beaches. As standard provisions of the easement document with the Land Division, maintenance and decommissioning plans will be developed.

National Marine Fisheries Service-Protected Resource Division

These comments are provided in regards to how the endangered humpback whale, the threatened green sea turtle, the endangered hawksbill sea turtle and the endangered Hawaiian monk seal may be affected. Humpback whales arrive as early as October and may stay as late as June. Potential impacts could occur from the noise of construction to the whales.

Green sea turtles are frequently found in near shore waters and can reside within the project area. Siltation from construction operations may affect foraging on algae near the project site. Hawksbill turtles may also be found near the project site however they are not common. The DEA states that hawksbill turtles have recently nested on the beach at the project site however impacts to nesting turtles from the construction of the groins are not addressed in the document. Mitigation measures should be discussed with the US Fish & Wildlife Services.

Monk seal are frequenting the main Hawaiian Islands. They may forage for food and could be affected by the noise of construction. We recommend a number of mitigation measures and BMPs be incorporated into the project for protected marine species.

Applicant's response

Several sections were added and included to the final EA regarding the noted endangered species, protected marine species mitigation measures and best management practices.

THE STATE

DEPARTMENT OF HEALTH

Environmental Planning Office

No comments

Office of Environmental Quality Control

The lack of uniformity with coastal protection approaches along the shoreline is a major concern in this region.

The draft EA was thorough and very informational. Please follow all mitigation measures identified.

Applicant's response

Agreed and good suggestion. The proposed action is similar to and consistent with other rock groins located down drift of the project beach, and which have existed for more than 72 years. Some of the down drift groins have been modified into a revetment and have fallen in disrepair. The Applicant has encouraged down drift residents to consider their own groin repair/replacement project which could provide uniformity/same methodology and coordinated approach for a linked and contiguous stretch of coastline with similar need and conditions based on the knowledge gained from the pilot project.

Mitigation measures proposed are to be followed as they were for the construction of the existin temporary groins. Additional mitigation measures have been added to the final EA based on comments received by reviewing agencies. It is important to follow mitigation measures for project success and credibility.

DEPARTMENT OF LAND AND NATURAL RESOURCES

Division of Aquatic Resources

The 2 years of monitoring is insufficient to determine long term trends for this shoreline. The data does not appear to show equilibrium in their evaluation. The report does not have sufficient information to predict long term results or stability. The replenishment of sand for this project beaches was less than the originally proposed 6,000 yds³ from offshore sources.

Due to diver and fishermen concerns, the area where sand was removed was supposed to be monitored. Were the results of their surveys presented to the concerned fishermen? The information presented did not explain how surveys were conducted and what species were identified.

There was insufficient information to determine whether the proposed replacement rock groins would have no significant impact as claimed. There could be deflection of swells and other near

shore changes to currents and sand transport. Beach monitoring should be continued to determine any changes before, during and after the construction of the groins.

Applicant's response

Monitoring period- The intent of the evaluation project was to evaluate from pre- and post-construction environmental monitoring data to make a finding if the temporary groins created any adverse effects. One year after the project completion, it was concluded based on several data collections and monitoring assessments, there was no change of pre-construction conditions relating to water quality and benthic habitat. It was clear the temporary groins had no effect on water quality and benthic habitat, and the most probable time for an effect would be immediately after completion of the project due to construction disturbance. Post-construction monitoring data was collected and assessed immediately. Monitoring at 3, 6, 12 months later were also assessed.

Beach erosion monitoring data was collected and assessed for 2 years. Another half year was included in the Final EA. The data indicates a continuing trend of gain for beach sand volume within and outside the project area with beach sand volume amounts greater than pre-construction.

The existing temporary groins are a full scale model of the proposed project. The 2.5 year of monitoring data indicates the project groin field functions as intended to reduce the annual erosion rate, stop land loss and not adversely affect down drift beaches. Additional monitoring will not provide more information to support the findings the temporary groins did not create any adverse effects. The environmental monitoring methods and pre- and post-construction performance assessments criteria/metrics were reviewed, augmented and approved by federal and state agencies including DAR prior to monitoring. Data was collected and assessed by the project professionals using the approved methods with comparison to the project's performance criteria and metrics for an analytical, objective and balanced approach.

Offshore sand dredging/pumping volume-The offshore sand pumping fell short of its goal by 50%. Any short-coming of initial sand nourishment has been offset by a significant natural gain of beach sand volume. The offshore sand dredge site was monitored during and after construction per the approved monitoring plan with results forwarded to State and County. The final EA includes a summary of Benthic Habitat monitoring that includes the offshore area. No species were observed inhabiting the offshore sand sites.

Insufficient information- The monitoring data is sufficient as it indicates positive change to the project beach with a significant reduction of beach and land erosion with no significant change to natural beach processes affecting nearby beaches because of the temporary groins.

Division of Boating and Recreation

No comments

Division of Resource Enforcement

No comments

Maui District Land Office (HDLO)

Need to establish access corridor to facilitate lateral public access during period of high water and high rates of erosion.

Applicant's response

The intent of the proposed action is to reduce the rate of beach erosion and prevent land loss in order to preserve beach use and lateral beach access. The project accomplished these objectives, and it is predicted the replacement groin field will do the same.

Lateral beach access mitigation for the proposed action includes building sand ramps from excavated/dredged sand at the landward edge of the beach to facilitate and maintain lateral beach access along the shoreline where high water and high erosion access needs to be.

Additional lateral beach access provisions including maintaining safe and viable access during construction plus placing flat groin rock at the landward ends of the proposed permanent groins in a stair step manner in case there is unusual beach loss from seasonal erosion.

UNIVERSITY OF HAWAII

Sea Grant College Program

85% of Maui shorelines are experiencing long-term erosion with Maui's north shore beaches experiencing the highest rates of erosion. Long-term erosion had led to a proliferation of shoreline armoring to protect coastal properties, most often leading to narrowing or complete loss of beach. The County of Maui is experiencing an increase in requests for repairs to existing coastal armoring as well as requests for new coastal armoring. This worrisome trend has planners seeking alternative solutions that will minimize risks to coastal properties from erosion and coastal hazards while also preserving the public beach and associated ecosystem services. Groins may be a solution that could achieve a balance between protecting public and private resources.

UH Sea Grant has also been regularly observing the condition of the shoreline area at the site and more regionally before, during and after deployment of the groins and beach nourishment. We find the monitoring data to be consistent with our observations and it appears that the dual purposes of the project-to protect the beach and mauka lands from erosion have been met.

Following the March 2011 Japan tsunami, we have observed a general widening and inflation of several beaches in the north shore region. It may be possible the tsunami provided new sand from deeper deposits to the north shore by dredging up offshore sand and depositing the sand in the near shore thereby making it available to eventually be deposited on beaches following the event.

There are some technical aspects that should be further addressed:

Beach Nourishment: The trends of the past 2.5 years may not exactly predict future trends so it should not be concluded that the proposed action will result in zero adverse impacts. The biggest potential impact of the proposal is increased erosion at down drift properties. This can be mitigated by implementing beach nourishment on an as-needed basis. Beach nourishment would ensure that the groin field remains full of sand to avoid disruption of long shore transport that

feeds down drift beaches. A program of beach nourishment should be planned for. As the existing temporary groins are permitted until June of 2014, a decision on the proposed project could be delayed for another seasonal cycle to continue monitoring.

Final groin count and placement: It is appropriate for the applicant to continue to explore the most effective groin placement and spacing. Could the applicant submit two different groin field configurations to the USACE for comment prior to the final EA?

Water quality considerations: Soil erosion may occur if the beach is not successfully retained in the future. This could be mitigated with beach nourishment. The draft EA discusses water quality impacts from cesspools and septic systems when the beach is narrow and deflated. Cesspools should be eliminated and septic systems should be evaluated and replaced, upgraded or relocated.

Cost/Benefit Analysis: The draft EA does not provide an itemized cost estimate for the proposed alternatives. It would be useful to provide figures for all aspects of the project, such as construction cost and material cost. The cost of alternative actions should be provided in particular the cost of future beach nourishment.

Ownership and future maintenance: The permanent rock groins will be on State land. Will the applicant be required to obtain an easement and is there a one-time payment? If individual owner members of the SRBRFI no longer have a stake in the project in the future, where does the responsibility for easement payment and/or maintenance rest? If the groins are in disrepair or are not functioning adequately, who will be responsible?

Applicant's response

A Tsunami Effect Report has been included with the final EA. The conclusions reached were there was a short-term reduction of beach sand volume at the site and down drift beach, there were no significant long-term effects to the site or nearby beaches and there were no significant tsunami effects to the performance assessment of the SSBN project. The recent tsunamis did not affect or contribute to the success of the SSBN project.

Beach nourishment was thoroughly considered. It is a very costly endeavor. It was visually evident that long shore sand transport has occurred seasonally within and through the groin field. The project beach and the down drift beach had more beach sand volume than pre-groin field per the last survey data. UH Coastal Erosion Map notes the area down drift with rock groins has a significantly lower erosion rate than the project beach and has increased beach width over time.

Regarding delaying a decision and holding off the project and monitoring another season, the monitoring data and assessments indicate predictable seasonal weather effects and the groins have benefitted the site and up drift beaches with no significant impact to down drift beaches. The immediate down drift beaches have other factors affecting them. A delay of decision will not provide different information. **STAFF notes:** This application expires on March 16, 2013. Therefore a decision must be made prior to that date.

Final groin count and placement, plans have been submitted to the US ACE for review.

Water quality considerations. The SSBN project has retained sand that has stopped land erosion and water quality issues. Elimination of cesspools and upgrading septic systems is a good idea. Another solution would be for the County to provide sewerage to the neighborhood.

Cost/Benefit Analysis. The itemized cost estimate is \$150-\$175,000. Alternative actions cost estimates have been included in the final Environmental Assessment.

Ownership/Future Maintenance. An easement exists for the temporary groins. No fee was required for the current easement. The terms of the easement contain groin maintenance provisions. **Staff notes:** The temporary structure is under a Revocable Permit. A permanent structure will most likely require payment of a term easement appraised at fair market value and insurance.

COUNTY OF MAUI

Planning Department

In general, the Department finds groins to be preferable to sea walls and other shoreline hardening methods. The proposed groins, unlike vertical seawalls or revetments tend to trap sand. Wider beaches in turn, provide homeowners some degree of protection from coastal hazards. We recommend that the Applicant be required to supplement the proposed permanent groins with a regular beach nourishment program using offshore sand.

The Department feels very strongly about protecting Maui's beaches for the enjoyment of the public. The Department requests that vertical seawalls or revetments be prohibited in this location; there may come a time when potentially threatened structures have to be relocated out of harm's way because further shoreline hardening cannot be supported.

The Department is very interested in deploying groins at this location as an alternative to seawalls. Agencies can monitor the effectiveness of using groins in order to preserve the sandy shoreline and to protect structures. The Department recommends the propose alternative as an important erosion control option for threatened property to study, understand and potentially further replicate in the future along Maui's shoreline.

The project will be conducted in both the State and County's jurisdiction. The Applicant will be required to submit a SMA Assessment application for the proposed project and the County reserves the right to further condition the project with Best Management Practices and other protective measures as appropriate.

Applicant's response

We agree groins are preferred to seawalls. Regarding regular beach nourishment, as the County is aware; the SSBN project dredged and pumped sand from offshore sites. It was a difficult process in the north shore environment and a costly endeavor. Beach nourishment was eliminated from further consideration as it is not financially feasible or sustainable in the long-term.

Data collected from the SSBN project indicates that regular beach nourishment is not necessary. The project beach had demonstrated for a long time it gains sand volume during the fall and winter seasons by natural accretion and the sand left during spring and summer with the high trade winds and high tides. With the temporary groins, the rate of seasonal beach sand loss was significantly reduced to the extent that overall the beach has experienced an annual net gain of beach sand volume. This indicates the groin field has accomplished the project objectives, and

the project beach is self-sustaining with a groin field without the need for regular beach nourishment.

Seawalls and revetments as an alternative has been eliminated and we agree that the proposed action is an important erosion control option. We will submit an SMA Assessment application.

Maui Tomorrow

We are concerned over the detrimental impact of erosion control structures as it causes a sand deficit to down drift areas.

We have concerns regarding lateral access, maintenance and safety.

The project will benefit private landowners.

We believe that groins will always cause erosion and support the no action alternative, retreat and use of offshore sand for beach nourishment.

Applicant's response

Groin effect. Erosion control structures and groins have been used successfully and extensively. The purpose of the SSBN project was to study and evaluate the effect of a site specific, full scale groin field model before considering the proposed action. Based upon our evaluation, trends indicate no down drift beach erosion is caused by the project groins primarily because there is a 600-foot long intervening seawall that appears to have caused beach loss in front of and immediately down drift of it.

Access maintenance. The Land Division administers easements for structures on State land and the Division has developed document provisions to address maintenance and liability. Lateral access was studied as part of the SSBN project and has been applied to the proposal.

Private Landowner benefit. Considerable private money has been spent to restore, preserve and protect an important public resource that is extensively used by the public of which the majority are not residents. Prior to any action being taken, the project beach and lateral access were in peril of being lost.

Hardening Shoreline Precedent. Erosion control would be reviewed on a case to case basis. The Hawaii Erosion Management Program has stated that groins are more appropriate than other alternative erosion control approaches in certain instances that apply to the project beach. A no action alternative would most likely result in a lost beach as has occurred at other nearby shorelines.

General Public Comment

- 1) Where are the boundaries such as the certified shoreline? Will the project modify private property? How will we know what is public and what is private?
- 2) The SSBN did not use inland sand. The project should not be allowed to use inland sand.
- 3) Will this project open the flood gates to more groins?
- 4) What was the extent of monitoring down drift beaches?
- 5) Who will monitor and inspect the site for safety and maintenance?
- 6) There is no parking and access and many signs stating that. Public access and parking must be allowed.
- 7) The shoreline is encroaching inland. Where is the sand going? Study of where sand is going is requested.
- 8) What happens if there are negative effects to neighboring properties? Who would be liable?

- 9) Can the groin be modified after construction?
- 10) How is government addressing the issue? Does it include retreating?

Applicant's Response

- 1) **Certified Shoreline.** An application for a certified shoreline is being processed. Placing stakes in beach sand for demarcation is not practical. The certified map will be used for future reference.
- 2) **Use of Inland Sand.** While viable, the use of inland sand is not part of this application.
- 3) **Encourage More Armoring.** The SSBN project was a pilot project to evaluate the proposed use. The State's Coastal Erosion Management Program (COEMAP) has suggested that groins may be a more appropriate alternative erosion control approach in certain instances. It is our understanding erosion control is reviewed on a case by case basis.
- 4) **Down Drift Beach Monitoring.** The SSBN project has 5 beach erosion monitoring locations down drift extending approximately 600-feet beyond the project beach.
- 5) **Maintaining Safe Lateral Access.** Prior to the SSBN project, the beach and lateral access were in peril of being lost. With the project, public beach use and safer lateral access has been provided.
- 6) **Public access and parking.** There is inadequate space in the neighborhood for parking as the road is narrow and is not 2 lanes with secondary access for emergency vehicles. Further the roads are privately owned and the applicant has no control over these roads. Based upon past emergency events, it has been demonstrated that the road is inadequate to safely accommodate emergency access and resident egress.
There is ample parking at and lateral access beach access from public parking at the nearby Kahului Airport beach and Kanaha Beach Park.
- 7) **Inland Shoreline Movement.** This is a complex regional study. Applicant's studies indicate the SSBN project was able to increase beach width. A study of sand processes in this area is unfunded.
- 8) **Negative consequences to neighboring properties.** A purpose of the SSBN project was to identify and evaluate any negative consequences. No negative effects have been attributed to the project. According to US Army Corps. Study, "Groins initially interrupt the long shore transport of littoral drift...When a well-designed groin field fills to capacity with sand, long shore sand transport continues at about the same rate as before the groins were built and stable beach is maintained."
- 9) **Groin changes.** It is not anticipated further modifications will be necessary.
- 10) **How is government addressing the issue?** For other areas, regulators will need to review each possibly on a case by case basis according to current regulations and policy.

General Public Comment

- 1) We prefer seawalls to groins as groins may cause erosion to nearby beach locations.
- 2) The project study time is not complete.
- 3) Erosion is seasonal and the beach is not chronically eroding. We recommend vertical seawalls or revetment with a public easement fronting the structure.
- 4) We recommend that the applicant not be allowed to install permanent groins. Suggest buildings retreat.

Applicant's response

- 1) **Preference to seawalls.** Several studies have shown that seawalls tend to erode beaches in front and down drift due to their reflective energy.
- 2) **Project Study time.** The recent study trends indicate down drift beach has more sand volume then before the SSBN project. We have provided the most up to date information.
- 3) **Beach is not eroding.** The UH Erosion Rate Map indicated a high level of historic beach retreat and beach width reduction from 1960 to 2002. Historic reliable documentation indicates that the beach is eroding.
- 4) **Recommend Applicant not be allowed to install permanent groins.** We prefer groins for beach preservation. The beach is in danger as well as its use and lateral access. The permanent groins are proposed to preserve the beach.

General Public Comment

We live near the beach in question and have been closely monitored the area and are pleased with the results. We still see movement of the beach but the extent of movement has been drastically reduced. This is a huge improvement over the past decades we have seen several feet of beach disappear during full moon and high tides.

The groins in place disappear in the winter and are not too prominent during the summer. We support the project.

Applicant's response

Thank you for your support and comments

General Comment

Counsel for a down drift landowner would like the 4-year study to be completed prior to implementation. There are concerns over the unusual events that occurred such as the Japan tsunami and deflated groin in June 2012. The data is not accurate and insufficient to conclude success.

We request a summary and comparison of: the physical design specification of the temporary groins; the 'as constructed' physical dimensions of the temporary groins and size of the permanent groins.

Completing the SSBN study would allow for adequate data collection to possibly collaborate on a more global approach to the area's erosion concerns.

Applicant's response

It is visually obvious the project beach gains sand volume during fall and winter seasons by natural accretion when light trade winds and large north pacific swells with cross shore waves deposit offshore sand via cross shore transport as well as does the project beach lose sand during the subsequent spring and summer seasons when high trade winds and high tides cause transverse waves which remove beach sand volume and cause long shore sand transport to down drift beaches.

These seasonal occurrences generally affect both the project beach and down drift beaches similarly, although the seawall and revetments in between cause other effects to the down drift

beach. This pattern of seasonal occurrences has been consistent with varying seasonal weather causing different degrees of beach sand gain and loss.

A delay of decision will not provide additional information.

Regarding the unusual events, the Japan tsunami had no long-term effects. The geo-tube bursting in June and replacement became part of the study to examine the effects to the project beach with fewer groins. There was sand loss in the area of the groin until replacement at which time the newly installed groin section slowed sand transport for several weeks until sand re-accumulated against its up drift side resuming post-groin beach equilibrium. Both the project beach and down drift beach gained considerable beach sand volume most likely from long shore sand transport from up drift beaches at the airport.

Design Specifications

The SSBN temporary groins were proposed to be 100-ft long and placed 10-ft from the shoreline with the west end groin placed 45-ft from the shoreline. The groins were 16.6-ft. wide and 6-ft. tall. The 'As-Built' groins were as proposed, however over time, 3-ft.tall groins were placed over the 3 flattened eastern groins.

The proposed 110-ft long permanent eastern groins are to start at the shoreline with the west end groin at 155-ft starting at the shoreline and fishtail to the east. The groins are proposed to be 20-27-ft. wide and 4-6-ft. tall.

The applicant has been studying the area for over 6 years. Studies include existing groins in the region. The existing and proposed groins are similar to the existing rock groins fronting down drift properties that have been demonstrated to be successful in reducing the rate of annual beach erosion for at least 72 years based on UH Erosion Rate Map data.

While we agree with the concept of a global approach, it will take several more years of studies, design, meetings, application before a global approach may be finalized, approved and implemented. Regarding the proposed project, based upon the analysis, we believe the proposed project will result in beach preservation with long shore sand transport to down drift beaches due to our extensive studied and designed groin field project.

General Public comment

Some of the statements in the Environmental Assessment regarding erosion and the project findings appear to be unsubstantiated.

Structures being impacted by the shoreline should be relocated.

The project seeks to further harden the shoreline and will extend sand loss to Kanaha Beach Park.

The sand nourishment portion of the SSBN project was detrimental.

Recreational navigation is impeded by the existing and will be impeded for the proposed.

Applicant's response

Erosion. In 2006 to 2010, the rate of erosion was unusually higher. There are many contributors to diminished sand supply in the region with hardened shorelines and revetments being one factor. The effect of a seawall or revetment is land preservation with beach loss in front and immediately down drift. The proposed project is to preserve the project beach. UH

Erosion Map Rate studies indicate that erosion where groins are present is much lower than where they are not.

Based upon the evaluation of the project, it appears that the groin fields have performed and a stable beach has been maintained while still allowing natural transport of sand to continue. Monitoring reports indicate no significant long-term impact to water quality, benthic habitat and beach erosion.

Structure relocation. The lots are small with little room to relocate structures. If most structures were to be relocated, the distance structures could be set back would not be significant to justify the expense especially because recent rates of erosion (1-4 feet per year) threaten to eliminate these lots entirely within the next few decades.

Kanaha Beach Park. There is no documented adverse effect to erosion at down drift Kanaha Beach Park that has natural seasonal erosion of varying degrees and at different locations. No beach erosion surveys at Kanaha Beach Park were identified as necessary or beneficial during development of the monitoring program with public input as it was felt that Kanaha Beach Park was far beyond the projects area of influence. There are different factors affecting beach erosion at the Park including different wave directions, lagoon bottom configurations, water depths, shoreline orientations, rock groins, and intervening seawalls that make it impossible to link historic beach erosion causes to the SSBN project.

Sand nourishment project. No offshore sand dredging/pumping and reef area work are included as part of the proposed project.

Recreational navigation. Canoes regularly land at the project beach where there is approximately 200-feet of space between the groins. Safe navigation in the lagoon requires attention to weather conditions and tides plus an awareness of others and shallow areas. Traversing this area is usually outside of the reef sections in the larger lagoon area 300-400 feet offshore.

The groin ends extend into the ocean approximately 10-20 feet beyond the beach toe location or similar to the beach toe locations from 1998 to 2002. The average water depth at the groins' seaward ends is about 2.5 feet and waves usually break in the area of the groin ends. The immediate near shore area where the groins are located is not navigable or used by watercraft to bypass the beach due to its depth and wave restrictions.

ANALYSIS

After reviewing the application, by correspondence dated September 20, 1912, the Department has found that:

1. The proposed use is an identified land use in the Resource subzone of the Conservation District, pursuant to §13-5-22, Hawaii Administrative Rules (HAR), P-15 SHORELINE EROSION CONTROL Seawall, revetment, groin, or other coastal erosion control structure or device, including sand placement, to control erosion of land or inland area 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. Please be advised, however, that this finding does not constitute approval of the proposal;

2. Pursuant to §13-5-40(a) (4), HAR, a Public Hearing is required;
3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, a finding of no significant impact to the environment (FONSI) is anticipated for the proposed project; and
4. The Conservation District portion of this project does not lie within the Special Management Area.

Notice of draft Environmental Assessment (EA) was published in the October 8, 2012 issue of the Environmental Notice. Notice of the final EA was published in the January 23, 2013 issue of the Environmental Notice.

A public hearing was held on November 14, 2012 in Wailuku, Maui to receive public testimony. About 25 individuals were in attendance. Comments and similar concerns such as those included under Summary of Comments by the General Public were expressed. Area residents generally offered support of the project based upon their observation of beach preservation with the temporary groins in place versus the eroded shoreline with no groins.

CONSERVATION CRITERIA

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

- 1) *The proposed use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare.

The temporary groins of the SSBN project that basically served as a pilot project appear to have accomplished this objective by conserving, protecting and preserving the beach resource at the site with negligible affects upon marine resources and the down drift shoreline.

The proposed use should not conflict with the above objectives as the project creates permanent groins that will continue as a beach erosion control to preserve the public beach.

- 2) *The proposed land use is consistent with the objectives of the Subzone of the land on which the use will occur.*

The objective of the Resource Subzone is to ensure with proper management, the sustainable use of the natural resources of those areas. Staff believes that the proposed use sustains the public beach at the site. Without the proposed action, the beach may be

lost similar to other nearby locations and contribute to the decline of water quality, beach habitat, and public use.

- 3) *The proposed land use complies with the provisions and guidelines contained in Chapter 205A, HRS entitled "Coastal Zone Management", where applicable.*

Staff believes the proposed use is consistent with Chapter 205A, HRS. The proposed land use may: Contribute to providing coastal recreational opportunities; preserves, maintains and improves and restores shoreline open space; minimizes degradation of coastal water ecosystems; is an engineering solution to erosion at the site; promotes research, study, and understanding of ocean processes and other ocean resources to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and encourage research and development for protecting coastal resources.

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

Based upon the 2.5 years of monitoring date, it appears there has been no adverse impact to beach erosion, water quality, near shore benthic habitat and lateral beach access within and outside the project area that was attributed to the SSBN project. The project will be conditioned such that if the land use becomes a nuisance or causes harm, measures to rectify the harm or nuisance will be required.

- 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 proposed use has been designed by an experienced Coastal Engineer based upon studies of local wave magnitude and direction history; weather conditions including tides, current, wind and waves, tidal wave impacts, historical data, regional and nearby beach erosion control history and assessments of similar rock groins in the vicinity that have been in place for more than 72 years. The proposed land use is designed to be compatible to the physical conditions and capabilities of the area.

- 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.*

Staff believes that proposed land use attempts to preserve and improve the eroded beach and open space characteristic.

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

No subdivision of land is proposed.

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

The proposed land use is to preserve a beach for the general public and also to protect private property. Staff is of the opinion that the proposed improvements will not be materially detrimental to the public health, safety and welfare.

Traditional Uses

The site is a dynamic shoreline that has experienced coastal erosion in a developed neighborhood. No cultural artifacts or burial remains were uncovered or discovered nor have any been observed during periods of substantial beach sand loss. Traditional or culturally significant resources are not expected in the project site area. The proposed activities shall be carried out on the active beach face. The project will be conditioned that if cultural finds are discovered, all work will cease and SHPD will be notified.

Traditional cultural practices would include gathering, fishing, diving, and ocean recreational activities. During construction, use of the site may be prevented for public safety reasons. Upon completion, the project would not curtail these activities. During the processing of this application, no comments were received from native practitioners, the Office of Hawaiian Affairs or the Historic Preservation Division. To the extent to which traditional and customary native Hawaiian rights are exercised, the proposed action does not appear to affect traditional Hawaiian rights; it is believed that no action is necessary to protect these rights.

DISCUSSION

Generally, allowance for natural coastal processes to occur and retreating from the shoreline would be the preferred alternative. However given the residential structures and existing disturbed shoreline due to nonconforming shoreline hardening structures on both sides of the project site, mitigation appears to be appropriate. This is a privately funded attempt to mitigate beach erosion.

Based upon the successful performance of a Small Scale Beach Nourishment (SSBN) project, the Stable Road Restoration Foundation is proposing to replace the existing temporary geo-tube groins with four 100'-135' long by 20' wide rock groins perpendicular to the shoreline extending into the ocean. The SSBN project allowed the proposal to be studied as a full-scale model. The proposed permanent groins will be placed in generally the same location as the SSBN project. The design is intended to retain sand but based upon the SSBN project, it appears the permanent groins will not totally prevent sand transport around the structure and out of the project area, either along the shore or offshore.

The project appears to be consistent with COEMAP which identifies several management alternatives to control beach erosion including coastal erosion control techniques structures that are designed to reduce sediment losses and slow the rate of erosion. Groins, breakwaters and headlands are strategies that may be appropriate where the long shore transport is much more dominant than cross-shore transport in moving sediment out of the project area. Groins should slow the loss of placed sand, not trap sand from the littoral system.

The proposed certified shoreline is in process and the permit will be conditioned that certification is required prior to construction.

Agency and General Public comments were concerned with the potential negative effects that the permanent groins may have on down drift beaches. The SSBN model predicts that there will be negligible effects as localized effects of an adjacent seawall also located down drift may have more of an effect on the adjacent beach. Although real time data has been produced and the SSBN project has demonstrated no harm, a standard condition such that if the land use becomes a nuisance or causes harm, measures to rectify the harm or nuisance will be required.

Comments received from NOAA recommended additional Best Management Practices for biological resources such as avoidance of marine mammals, coral and marine biota and performing work outside of peak spawning periods. The applicant has incorporated these recommended BMPs into the project including endangered species, protected marine species mitigation measures.

Maintenance of safe lateral access across the public beach was also a concern. Lateral beach access mitigation for the proposed action includes building sand ramps from excavated/dredged sand at the landward edge of the beach to facilitate and maintain lateral beach access along the shoreline. Additional lateral beach access provisions include maintaining safe and viable access during construction plus placing flat groin rock at the landward ends of the proposed permanent groins in a stair step manner in case there is unusual beach loss from seasonal erosion. The applicant will be responsible to maintain safe lateral beach access at the landward edge of the groin.

Many general public comments requested increased access and parking in the area. According to the applicant, there is inadequate space in the neighborhood for parking as the road is narrow with no secondary access for emergency vehicles. Further the roads are privately owned and the applicant has no control over these roads. The applicant has stated that there is ample parking at and lateral beach access from public parking at the nearby Kahului Airport beach and Kanaha Beach Park.

Subsidizing the groin field with beach nourishment was also requested. Beach nourishment utilizing off shore sand appears to be too costly and infeasible to use as part of the maintenance of the beach resource. The applicant is not requesting to do any additional beach nourishment for the project.

Performance assessment monitoring was required for the SSBN temporary groins that included environmental monitoring data analysis for water quality, benthic habitat, beach erosion within and outside the project area and a lateral beach access plan. Monitoring should continue for the existing project and new monitoring protocol similar to the current performance assessment monitoring should be developed for the permanent groins to have a continuous data set of the same profiles for comparisons inside and outside of the groin fields.

Comments received believed there was insufficient information and wanted the SSBN evaluation to be completed for the full four year duration. The termination date for the SSBN project is less than 2 years away. The applicant has other authorizations to obtain and must comply with

certain Conservation District Use Permit conditions prior to implementation of the permanent groins. Staff believes that the applicant is on time with attempting to comply with the looming termination of the SSBN project.

The project is proposed to mitigate the effects of chronic and seasonal coastal erosion at the beach site, restore the beach and near shore area and to improve lateral access for the general public. The project will help to maintain the public beach for the benefit of all beachgoers.

RECOMMENDATION

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE this application for four 100'-135' long by 20' wide rock groins perpendicular to the shoreline extending into the ocean within an approximately 600-foot long area of beach located at Spreckelsville Beach Lots, Wailuku, Mau`i, makai of TMKs: (2) 3-8-002:71, 74, 77 & 78 upon submerged land subject to the following conditions:

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 a land disposition from the department for the occupancy of state lands;
4. The permittee shall comply with all applicable department of health administrative rules;
5. Monitoring for the existing project shall continue and new monitoring protocols shall be developed and approved by the Department prior to construction plan approval;
6. Before proceeding with any work authorized by the department or the board, the permittee shall submit four copies of the construction plans and specifications to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies;
7. Unless otherwise authorized, any work or construction to be done on the land shall be initiated within two years of the approval of such use, in accordance with construction plans that have been signed by the chairperson, and shall be completed within three 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. All representations relative to mitigation set forth in the accepted environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;
9. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
10. 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;
11. 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;
12. 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;
13. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
14. The permittee shall obtain a county building or grading permit or both for the use prior to final construction plan approval by the department;
15. 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;
16. 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;
17. The permittee shall obtain a certified shoreline prior to final construction plan approval by the department;
18. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The Historic Preservation Division shall be contacted (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
19. Monitoring of the nearshore water quality shall be conducted in accordance with best management practices;

20. Work shall be conducted during calm weather periods to the most practical extent possible and no work shall occur if there is high surf or ocean conditions that will create unsafe work or beach conditions;
21. The permittee shall submit a summary project completion report to the Department within 90 days of completion of the project describing the status of the groin fields, as-built plans if any changes were made to the proposed design, what maintenance actions took place and include photographic or other quantitative evidence (beach profiles or volume calculations) of the beach conditions;
22. The permittee shall implement the proposed Best Management Practices (BMPs) and monitoring and assessment plan to maintain BMPs to minimize dirt and silt from entering the ocean and the ability to contain and clean up fuel, fluid, or oil spills immediately under this authorization and immediately report any spills or other contamination(s) that occurs at the project site to the Department of Health and other appropriate agencies;
23. The permittee shall ensure that excessive siltation and turbidity is contained or otherwise minimized to the satisfaction of all appropriate agencies, through silt containment devices or barriers, or other requirements as necessary;
24. Appropriate safety and notification procedures shall be implemented. This shall include high visibility safety fencing, tape or barriers to keep people away from the active construction site and a notification to the public informing them of the project;
25. All placed material shall be free of contaminants of any kind including: excessive silt, sludge, anoxic or decaying organic matter, turbidity, temperature or abnormal water chemistry, clay, dirt, organic material, oil, floating debris, grease or foam or any other pollutant that would produce an undesirable condition to the beach or water quality;
26. The activity shall not adversely affect a federally listed threatened or endangered species or a species proposed for such designation, or destroy or adversely modify its designated critical habitat;
27. The activities shall not substantially disrupt the movement of those species of aquatic life indigenous to the area, including those species, which normally migrate through the area;
28. When the Department is notified that an individual activity deviates from the scope of work approved by this authorization or activities are adversely affecting fish or wildlife resources or their harvest, the Chairperson will direct the permittee to undertake corrective measures to address the condition affecting these resources. The permittee must suspend or modify the activity to the extent necessary to mitigate or eliminate the adverse effect;
29. No contamination of the marine or coastal environment (trash or debris) shall result from project-related activities authorized under this permit;

30. The Office of Conservation and Coastal Lands shall be notified (587-0377) in advance of the anticipated construction dates and shall be notified immediately if any changes to the scope or schedule are anticipated;
31. The permittee shall maintain safe lateral beach access for the life time of the term easement;
32. Other terms and conditions as may be prescribed by the Chairperson; and
33. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

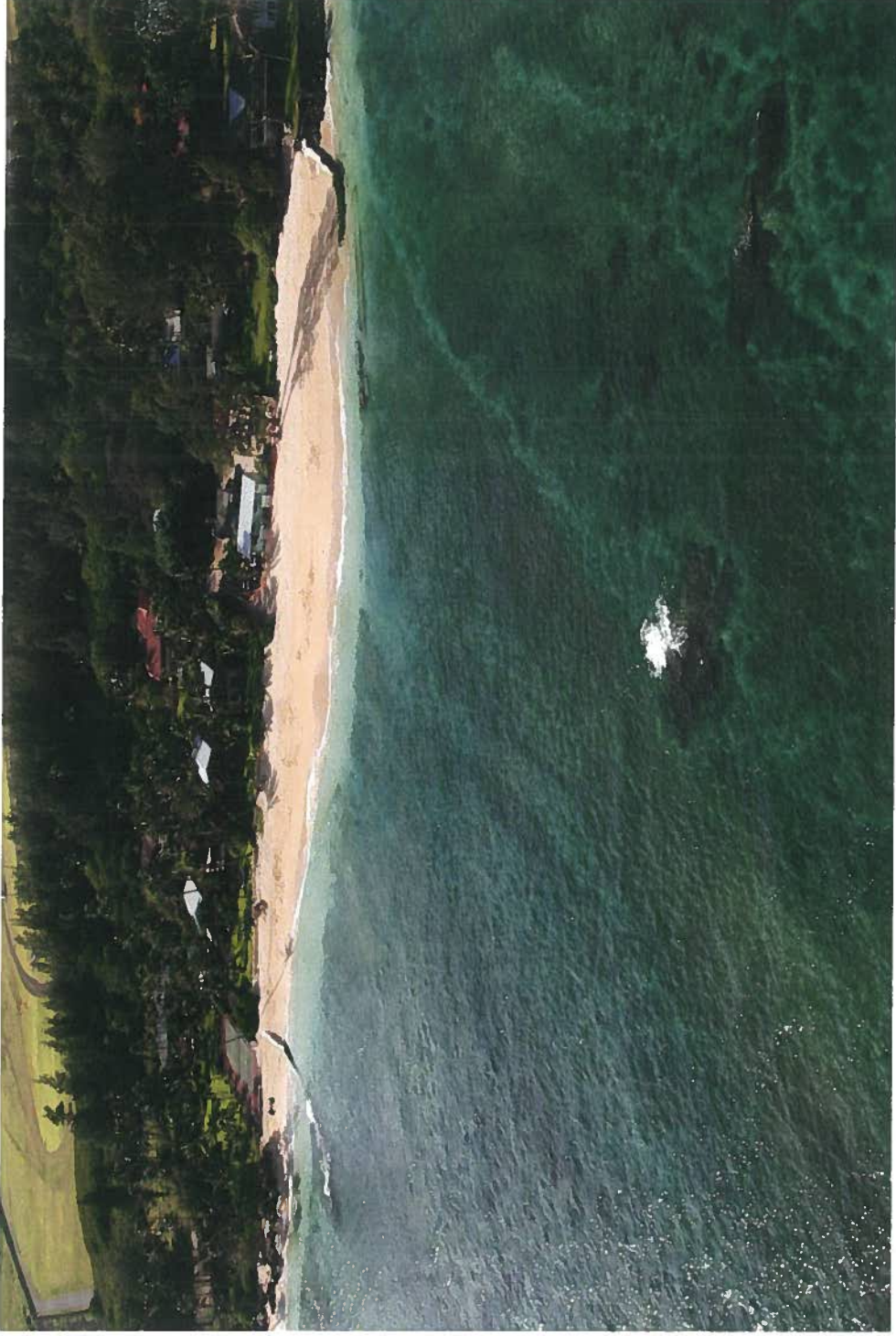
Respectfully submitted,



K. Tiger Mills, Staff Planner
Office of Conservation and Coastal Lands



William J. Aila, Jr., Chairperson
Board of Land and Natural Resources



Aerial View of Project Beach Post-Groins, 29 March 2012

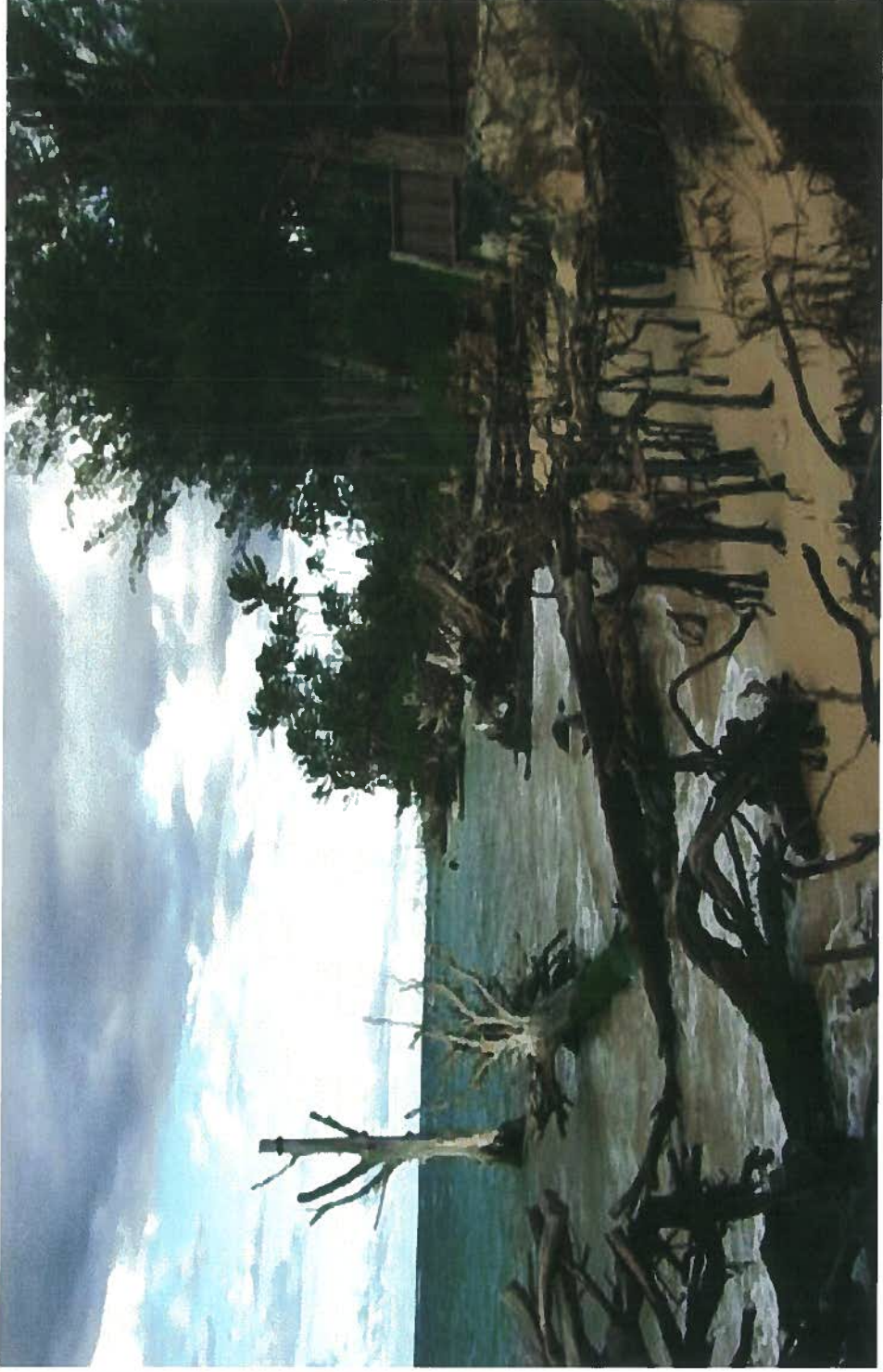
EXHIBIT I

The Project Beach is located on the north shore of Maui, in Spreckelsville, north of the Kahului Airport (see Figure 1).



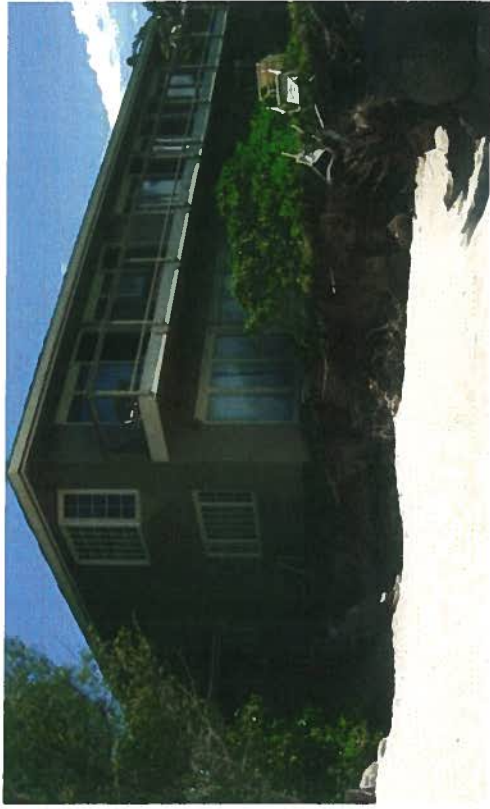
Figure 1- Project Location/Area Map

EXHIBIT 2



Beach and Land Erosion Pre - Groins at Project Beach Looking East, 22 August 2006

EXHIBIT 4

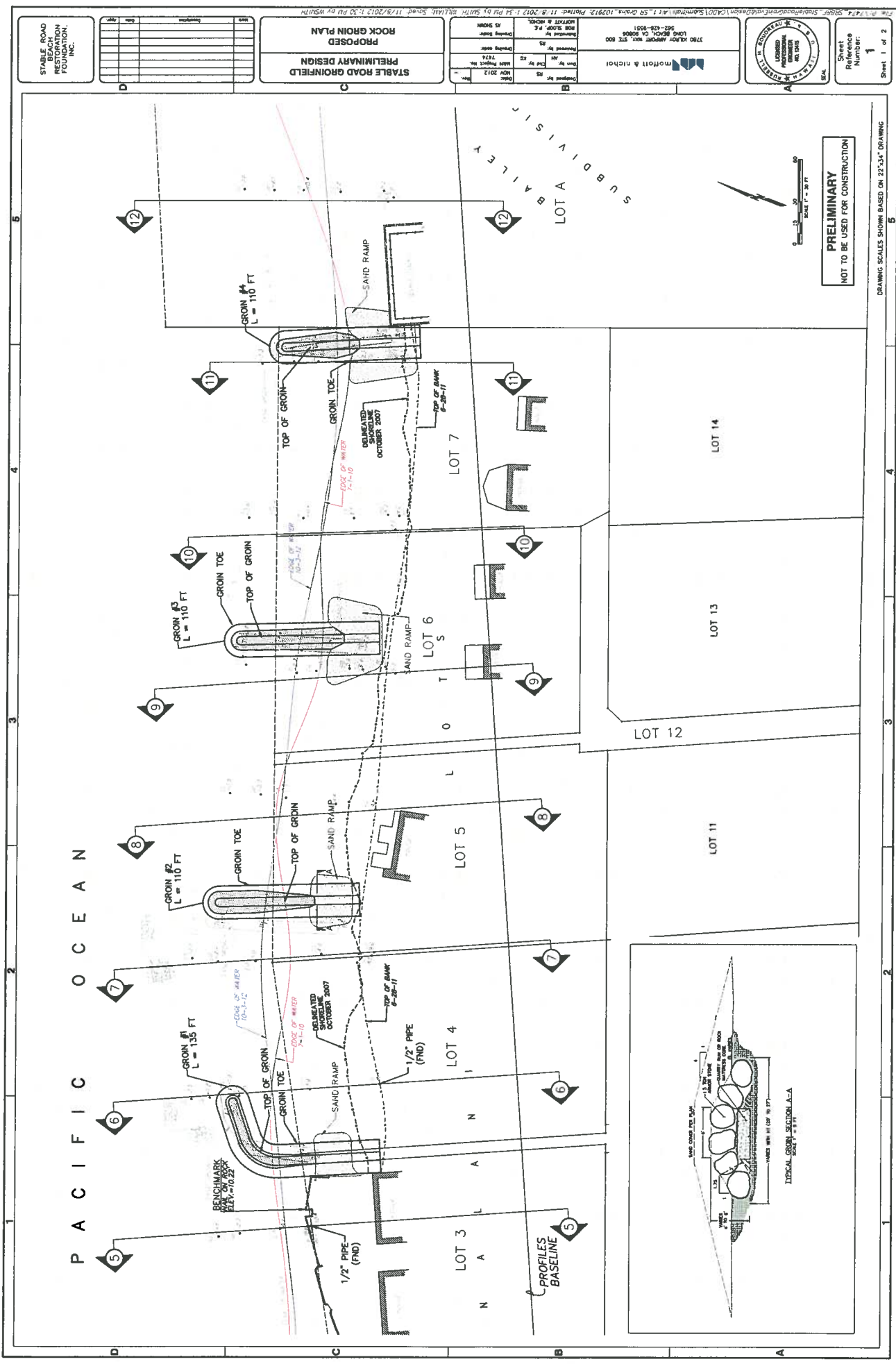


Pre- and Post-Groins Condition at West End of Project Beach, 23 August 2010 and 25 August 2012



Pre- and Post-Groins Condition at East End of Project Beach, 4 August 2009 and 6 August 2012





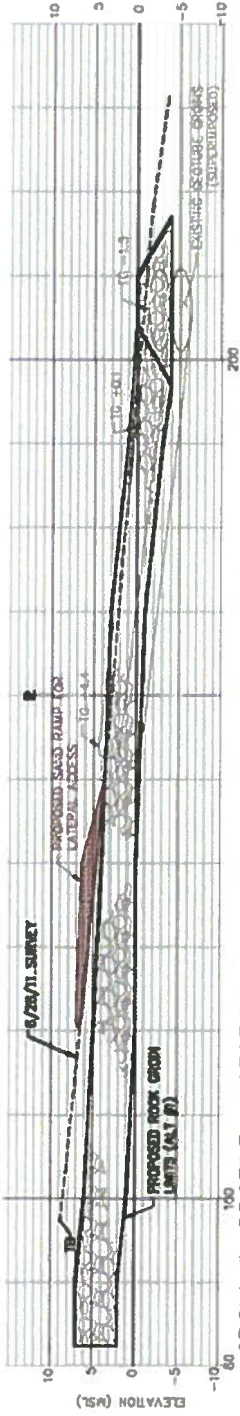
STABLE ROAD RESTORATION ASSOCIATION, INC.	PRELIMINARY DESIGN PROPOSED ROCK GROIN PLAN	Prepared by: [Name] Date: 11/2012	 Moffatt & Nichol 2780 HOLYOAK AVENUE, SUITE 800 LOS ANGELES, CA 90008 TEL: 310-431-8001	
		Checked by: [Name] Date: 11/2012		

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

DRAWING SCALES SHOWN BASED ON 25'x34" DRAWING

Not to Scale

EXHIBIT 6



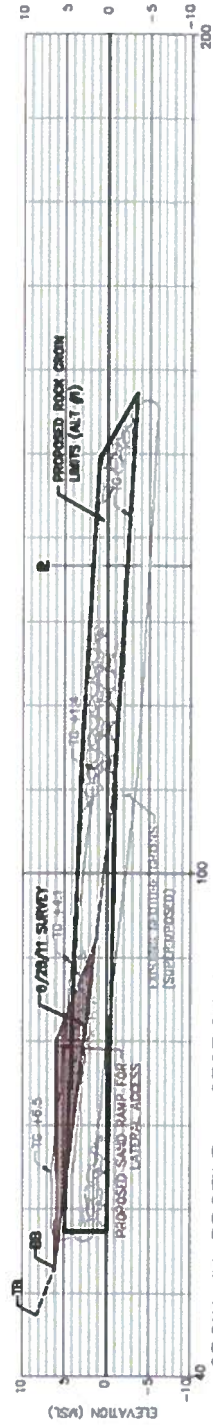
GROIN #1 PROFILE -- SECTION 6
SCALE 1 in. = 10 ft.



GROIN #2 PROFILE -- SECTION 7
SCALE 1 in. = 10 ft.



GROIN #3 PROFILE -- SECTION 9
SCALE 1 in. = 10 ft.



GROIN #4 PROFILE -- SECTION 11
SCALE 1 in. = 10 ft.

-- Replacement Groins and Beach Profiles/Topography -- 4 Groin Plan

Not to Scale