A SUSTAINABLE PLAN FOR DEALING WITH THE PROBLEM OF EROSION FOR THE SUNSET PORTION OF THE NORTH SHORE

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ABSTRACT

Coastal erosion is an issue that needs to be addressed by the State of Hawai'i and the individual counties due to the increasing number of people and developers building along the Hawaiian coastlines. The area in focus for this particular project is the Sunset Beach portion on the North Shore of the island of Oahu. Options for mitigation measures were abandonment, restoration, erosion control, adaptation, hardening, land acquisition. The Shoreline Assessment Model (SAM), a beach assessment model, and the cause of erosion found in this area, beach restoration, erosion control, and hardening were eliminated from the possibilities. Abandonment was not considered because it is not encouraged in Hawai'i. Therefore the practical solutions for this area were a mixture of adaptation and land acquisition. From this, it was determined that two areas of the road needed to be moved back at least 76 feet, based on the model developed by Dennis Hwang. Development would be allowed to continue in the Sunset and Velzey Land areas and the rest of the project area would be turned into a legacy beach. This would require the acquisition of the first two to three rows of housing fronting the beach, leaving the most landward row of houses to exist. For long term planning, changing set back laws was suggested along with changing building codes to allow post and pier only. Also the encouragement of lining the beach side of the houses with native Hawaiian ground cover plants to encourage dune formation. By taking into the consideration of the natural process of erosion, developers and homeowners can prepare to deal with this natural hazard before it occurs rather than after.