

Fully Vegetated "GREENWALL"

Utilizing the GEOWEB® Cellular Confinement System

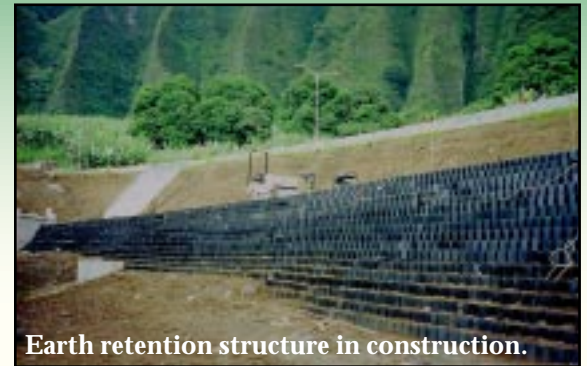
INTERSTATE HIGHWAY H3 Hawaii DOT Access Road Retaining Wall

The State of Hawaii encompasses eight islands. The largest island is Hawaii, but the island of Oahu boasts both the capitol city, Honolulu, and Pearl Harbor. All three of the federal interstate highways of Hawaii are on Oahu as well. Roughly triangular in shape, Oahu's southern base edge is spanned by Interstate H1. The two other interstates cross the interior to connect H1 with the northern and east coasts. H2 heads north to connect with the state highway system which spans the northern coasts; and H3 crosses the mountainous interior of the southeast connecting H1 with the eastern edge of the island.

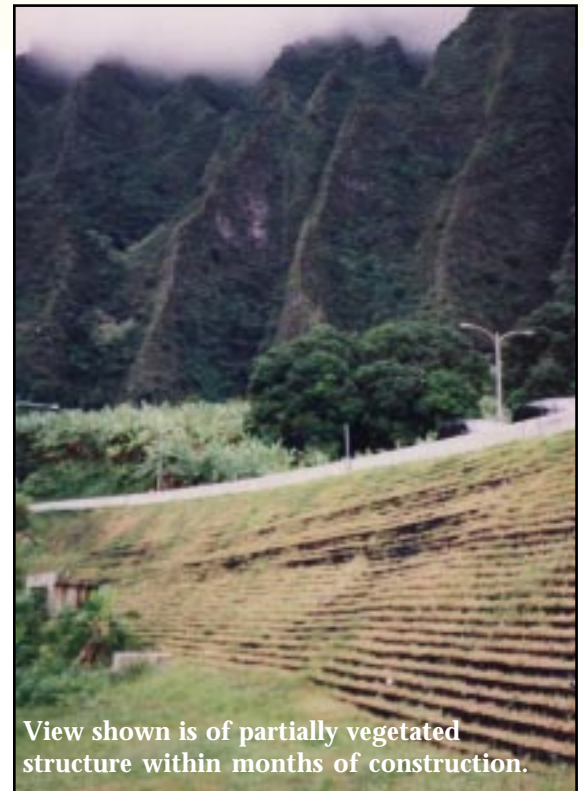
When engineering consultants, Geolabs, Inc. of Honolulu, were tasked with designing the repair of a slope erosion problem below the connecting ramp from the Likelike Highway to Interstate H3, which was threatening four power line poles as well as the access road itself, it became clear that a vegetated solution was needed. The context of lush fern, tropical forest and vaulting cloud-tipped mountains could only be done justice by a solution which would return the eroded slope to its previous natural beauty, equipped with an unobtrusive engineered backbone which would resist further erosive forces. They selected the **GEOWEB** System, manufactured by Presto Products Company.

The design of the repair, incorporating the **GEOWEB** Cellular Confinement System from **Soil Stabilization Products Company, Inc.**, was developed by Geolabs Inc with preliminary design assistance by Presto Products Company. The 45 foot high gravity retaining wall, featured a two inch offset between the stacked layers of **GEOWEB** reinforcement to enable vegetation on the face of the wall. The outer cells of each layer were infilled with topsoil to support vegetation while the interior cells were infilled with aggregate to maximize stability.

The tropical rainforest is an optimum environment for growth of vegetation, and the **GEOWEB** retaining wall takes advantage of this benefit. As the pictures above illustrate, the earth filled retention structure vegetated rapidly, disappearing completely behind natural vegetation only months after construction.



Earth retention structure in construction.



View shown is of partially vegetated structure within months of construction.



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January 2001
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