

OAHU, HAWAII

Kaneohe Stream bank restoration



Industry: Water
Sub-industry: Rivers, streams and estuaries
Location: Oahu, Hawaii
Product: PROPEX® Pyrawall®

stabilization. Historically, a concrete solution has been used, but the City and County wanted a more natural system that encouraged the growth of native vegetation.

Overview

As part of Hawaii's National Pollutant Discharge Elimination System (NPDES) and Erosion Prone Area Improvements Program, a streambank stabilization project was completed along Kaneohe Stream in Kaneohe, Oahu.

Over the past 30 years, high-flow events eroded higher portions of the channel, causing encroachment of several private properties. To prevent additional property loss and mitigate future flooding, the City and County of Honolulu wanted to find a solution that would provide long-term channel

Due to limited site accessibility, the geotechnical investigation and sampling relied on the use of hand tools. A system was needed that was lightweight and could easily be carried on site and installed without heavy equipment.

CASE STUDY

Kaneohe Stream bank restoration

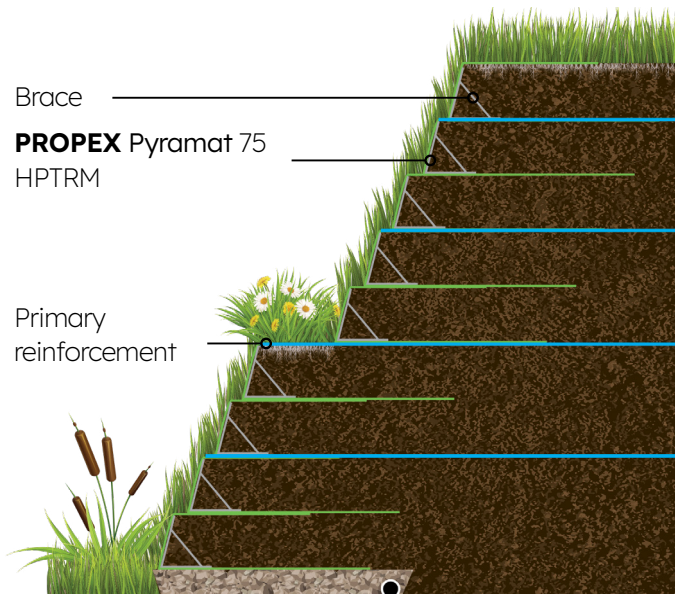
Solution

PROPEX Pyrawall engineered wrap-faced vegetated solution, was selected to reinforce 330 feet of Kaneohe Stream.

The installation ranged from six to eight feet high and was designed based on geotechnical information available at the site. This included steep 1H:4V slope segments with a mid-slope planting bench.

PROPEX Pyrawall combines High Performance Turf Reinforcement Mat (HPTRM) with internal braces to reinforce soil mass and resist lateral earth pressures. It is also designed to encourage vegetation and is a vegetated Best Management Practice Solution for NPDES Storm Water Compliance. This wall system is comprised entirely of three engineered geosynthetic components with no metal, concrete or short-lived biodegradable materials.

The vegetated wrap-face wall system provided a resilient bank reconstruction and stabilization along a residential section of the Kaneohe Stream that will provide a flood mitigation for up to 75 years.



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