

# CASE STUDY

## Docks and Decking



### Project Specs

**Location:** Kapa'a, Hawaii

**Application:** Kawaihau Elevated Boardwalk

**Product:** Fibergrate® Dynaplank Boardwalk Plank, Dynaform® FRP Structural Shapes, and a Custom Dynarail® Guardrail/Handrail System

### Overview

Kapa'a is a tourist destination located on the island of Kauai, Hawaii. This town offers its residents and tourists water sports such as kayaking, surfing, and water skiing. In this beautiful city, there is a path that is key for the commute of pedestrians and cyclists traveling between the Hundley Heights area of Kawaihau Road and the coastal stretch of Ke Ala Hele Makalae.

### Problem

The previously mentioned path was hazardous. This deteriorated path was very steep and challenging for pedestrians and cyclists and was unsuitable for people in wheelchairs. The alternative to this path was the excessively congested Kawaihau Road which has dangerous curves and no sidewalks. The county decided to create the Kawaihau Boardwalk: a safe and convenient boardwalk for the people who had been using the substandard path near Kawaihau Road. The county received help from a local engineering firm and the Red Horse Squadron of the US Air Force to design the boardwalk. They used this project as a training exercise on the application of composites as building materials. When considering the boardwalk material, they needed a product that was similar to wood but with a slip resistance surface to increase the safety of anyone who would use this path. This product had to be easy to handle and install due to the location of the boardwalk and needed to be able to withstand the highly corrosive saltwater air.

### Solution

Fibergrate Composite Structures developed an entirely new product: Dynaplank Boardwalk Plank. Dynaplank is a pultruded product designed to look like wood that gave this boardwalk an unmatched slip resistance surface for improved safety. It will resist the highly corrosive environment of the saltwater air, and due to its lightweight properties, it made the installation easy for the military personnel. Also, it offers comfort and safety for people walking barefoot, an ideal feature for boardwalks and other recreational areas. In addition to Dynaplank, this application used Dynaform FRP pultruded shapes to support the whole structure and a custom guardrail/handrail Dynarail system.

After three months of work, the boardwalk opened. The mayor, local authorities, and over 100 people showed up to celebrate the much-anticipated opening of the Kawaihau boardwalk. Fibergrate's Dynaplank Boardwalk Plank met the customer's requirements, and it gave the community of Kawaihau a safe boardwalk that will look great for years to come.



Phone: 800-527-4043 | Fax: 972-250-1530 | [www.fibergrate.com](http://www.fibergrate.com)

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