SEAWALL REPAIR NETWORK

Case Study

200-Foot Vinyl Seawall and Sidewalk Repair

In Tiki Island, Texas, a 200-foot vinyl seawall began to show signs of severe erosion issues. The soil beneath the adjacent 10-foot-wide sidewalk was washing away, creating large voids. As a result, the seawall began to bow, and the sidewalk was cracking and settling. Torcsill, a Seawall Repair Network® contractor, was called in to address these critical problems.



Repair Materials

The repair team turned to SW-RP1, a cutting-edge solution for seawall repairs. This high-density polymer foam offers both strength and flexibility, making it ideal for coastal defense structures. SW-RP1 expands and hardens upon injection, effectively filling voids and stabilizing soil behind the seawall. Moreover, this material is NSF-certified, meeting strict environmental standards. Its durability ensures long-lasting repairs, reducing future maintenance costs.

Procedures

First, the team injected SW-RP1 behind the wall and beneath the sidewalk. This process filled existing voids and stabilized the soil. Next, they installed a hydrostatic pressure control system. This system allows excess water on the landward side to flow into the ocean while keeping the supporting soil in place. Furthermore, six tieback anchors were installed to provide extra stabilization. This seawall anchoring system locks the structure into solid load-bearing soil on the landward side. The preferred installation method involves using an excavator and hydraulic drive-head on a marine barge. This approach minimizes property damage and safety risks associated with operating heavy equipment behind the seawall.

Results

The entire repair process took just three days to complete, with most of the time dedicated to installing the tieback anchors. In the end, the customer was pleased with the results. The seawall and sidewalk were successfully stabilized, preventing further erosion and structural damage. This case study demonstrates the effectiveness of innovative materials and techniques in addressing complex coastal infrastructure challenges.