SEAWALL REPAIR NETWORK

Case Study

Chesapeake Bay Bridge Seawall Repair

The Chesapeake Bay Bridge repair project focused on fixing a damaged seawall. Large cavities had formed beneath the splash wall, which protects the structure from waves. When the first contractor tried filling these voids by pouring concrete at the seawall's base, the attempt failed, forcing engineers to develop an innovative solution. The project was initiated due to concerns about the structural integrity of the roadway and the potential for further damage.



Initial Assessment

Upon inspection, it was discovered that the base material used to seal the bottom of the panels had deteriorated, creating substantial voids underneath the splash wall. The riprap, consisting of boulder-sized rocks, extended 15-20 feet above the waterline, with the splash wall situated on top. The voids were significantly larger than initially anticipated, requiring a more extensive repair approach.

Proposed Solution

A two-part approach was recommended:

- Apply two-component polyurethane AP Fill 430 to structurally fill voids.
- Apply one-component repair material SW-RP1 to stabilize the wall and seal leaks.

This solution was reviewed and approved by the project engineers, ensuring compliance with all necessary standards and regulations.

Procedures

Void Filling:

1. Applied AP Fill 430 to seal and fill the massive voids.
2. Free-shot the product without using injection rods due to the size of the voids.
3. Utilized full drum sets and additional material to ensure complete filling.

Seawall Repair:

1. Drove ½” steel rods 1 ft behind each panel down to 1 foot below the mudline.
2. Applied SW-RP1 following standard seawall repair protocols.
3. Injected material approximately one foot back from the wall and one foot below the mudline.
4. Administered half a gallon per vertical foot.
5. Monitored for bubbles and mud displacement to confirm proper filling.

Results

The project was successful, effectively sealing the voids and repairing the seawall. The client was satisfied with the outcome, leading to additional work opportunities. Approximately 200 gallons of SW-RP1 were used for the Chesapeake Bay Bridge project. The repair has shown no signs of deterioration since its completion, and the client has requested further testing and application of the product for other sections of the bridge.