



# AEGION®

## Stronger. Safer. Infrastructure.®



### Fort Mason Pier Structural Strengthening

For the Fort Mason Municipal Pier strengthening project, approximately 250 4-foot diameter cassions needed additional confinement and shear strength to resist anticipated seismic loads. Additionally, the underside of the Pier deck was in need of repair due to corrosion of the rebar and deterioration of the concrete caused by the marine environment.

A prefabricated fiber reinforced polymer (FRP) jacket was placed with a 2-inch angular gap around the 4-foot diameter cassions. Additional layers of wet lay-up FRP saturated in a water-curing epoxy were applied over the prefabricated jackets and then submerged in four foot tall sections until the entire 30-foot height of the cassions was encapsulated by the FRP jacket. The jackets were sealed at the bottom and the 2-inch angular gap was pumped with non-shrink grout to provide contact between the FRP jacket and the new cassion cross section.

Fibrwrap Construction performed the repairs to the Pier deck as well as strengthening the cassions while keeping the Pier open for business and creating minimal impact to the surrounding marine environment.