



Project Overview

FRP REPAIR OF REINFORCED CONCRETE TUNNEL IN HEALTH CARE FACILITY

Name: Arizona State Hospital
Type: Health Care Facility
Location: Phoenix, Arizona
Completed: May 1999

PROBLEM

Utility Tunnels and pull boxes are often exposed to dry/wet cycles that result in corrosion of reinforcing bars. Access to these structures is usually limited through a small manhole.

The reinforcing steel in the pull box within the compounds of the Arizona State Hospital was severely corroded, compromising the structural strength of the tunnel. Due to access limitation, repair options were limited.



SOLUTION

QuakeWrap® FRP Repair System was selected due to its corrosion prevention properties and the fact that all installation materials could be fitted through small manhole.

QuakeWrap® composite carbon fabric was used to strengthen the walls and the ceiling of the structure. The flexibility of the fabric allowed it to be wrapped around the limited space between the many cables and pipes extruding through the walls of the tunnel.



Technical Highlights

- Corrosion of reinforcing steel had reduced the strength of the walls in the pull box.
- Work space and access was very limited
- QuakeWrap™ biaxial carbon fabric used
- Saturated fabric was passed through the small manhole

Credits

Consultant: KPFF Consulting Engineers
General Contractor: Robert E. Porter Construction Co., Inc.



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