



Project Overview

FRP RETROFIT OF CONCRETE FRAMES IN PARKING STRUCTURE

Name: Phoenician Resort
Type: Parking Structure
Location: Scottsdale, Arizona

PROBLEM

ITT Sheraton's Phoenician is a 4-diamond, 5-star luxury resort in Scottsdale, Arizona. The 28,000 ft² parking garage has a 422 vehicle capacity.

Columns in the parking garage were splitting vertically due to movement of beams. The ends of the beams were also deficient in shear.



SOLUTION

QuakeWrap® FRP Retrofit System was selected since it could strengthen the concrete frame without closing the parking structure. QuakeWrap® composite carbon fabrics were used to provide confining action to the columns in order to prevent future cracking and to provide shear retrofit to the ends of the beams.



Technical Highlights

- 5-star luxury resort opened in 1988
- 28,000 ft² parking garage
- Repair could not close down the structure
- 45 columns wrapped with carbon FRP
- 60 beams strengthened for shear

Credits

Consultant: KPFF Consulting Engineers, Phoenix, AZ
General Contractor: Bunney's Inc., Phoenix, AZ



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