FYFE®

PROJECT PROFILE: STRUCTURAL STRENGTHENING TYFO® SYSTEM

500 AIRPORT

Structural and seismic office building upgrades

OVERVIEW

500 Airport is an office building owned and operated by one of the country's most high-tech manufacturers of government contracting software. The building consists of four stories and 45 individual offices along with a fully operational kitchen and a covered parking structure. The building was redesigned and renovated to meet current structural requirements on a voluntary seismic upgrade.

The fiber-reinforced polymer (FRP) materials have been approved by the City of Burlingame which is located in a high seismic zone, only 12 miles from San Francisco. Tyfo® SCH-41 FRP materials were designed and installed to provide structural reinforcement to the shear walls, slabs, columns and beams. A two-phase application, totaling 16,000 square feet of FRP was completed as part of the project. The original design to install new steel elements on the project was altered after discussions with the Fyfe design team. The engineer of record agreed that using FRP materials offered the following overwhelming advantages.

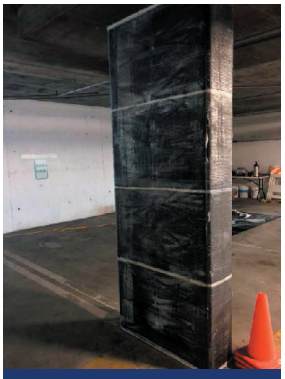
Access/Disruption: FRP materials' low profile simplified the application of the product on the underside of a slab. The use of steel elements on the underside of the slab would have required significantly more head space elevation, not allowing full use of the parking structure. Elevator closure was implemented on two weekends while all offices were closed. Applying the FRP was during that time ensured ADA compliance was not interrupted. Other elements would have required several weeks of interruption.

Low Architectural Impact: Adding shear walls for seismic enhancement would meet the structural requirements but it would also significantly modify building functionality and architectural features.

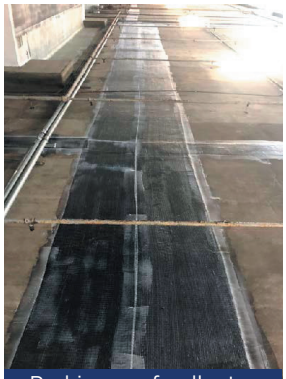
Cost and Schedule: Based on the engineer of record's cost and schedule analysis, a comparison between FRP installations and a direct design with reinforced concrete (i.e. demolition, rebar placement and shotcrete or form and pour) repair techniques shows that FRP is a fraction of both cost and schedule — approximate calculations show 50 percent cost savings.

500 Airport shear wall SCH-41

Project Overview	
Project	500 Airport Structural Strengthening
Location	Burlingame, California
Owner	Waterfront Plaza
Contractor	Salyers Construction



Column SCH-41



Parking roof collector strip

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