



Chicago, IL

CAPABILITIES

- Evaluation & Restoration

Developer/Owner:

BPG Properties, Ltd.

Architect

Seymour S. Goldstein

Project completion:

2010

Industry:

Residential

Project type:

**REPAIR/
STRENGTHENING**
Parking Garage

Project Description

East 8th Street apartments, designed by AIA Seymour S. Goldstein, is a 27-story skyscraper, constructed in 1984. Its vertical shear walls and horizontal flat plates form a “H”. In 2004-2005, the structure underwent \$6 million in renovations, producing new exteriors, new interiors, and new retail along State Street. Building amenities include an indoor heated pool, fitness center, clubhouse, and panoramic views.

Kline was assigned to develop a repair/strengthening solution for the numerous and significant cracks found on the fourth-floor slab of the parking garage. Our team developed a unique “hybrid” external post-tensioning system to strengthen and lift the sagging slab. In the banded tendon direction, new 8-inch continuous concrete drops were added to encase the additional post-tensioned cables. In the uniform tendon direction, external tendons were encased within 3-inch-wide plastic ducts, which were subsequently grouted.

The “hybrid” external post-tensioning system saved the owner millions of dollars compared to the alternative solution, which was to demo and rebuild the garage.