

PROJECT DESCRIPTION

PROJECT:	Staybridge Suites Hotel	
LOCATION:	Anaheim, California	
DESIGN TEAM:	<i>Architect:</i>	Lee & Sakahara Architects
	<i>Structural Engineer:</i>	Edmond Babayan & Associates, Inc.
	<i>Geotechnical Engineer:</i>	Southern California Geotechnical, Inc.
CONTRACTOR:	R. D. Olson Construction	



DESCRIPTION:

- 7-story, reinforced concrete
- Shear wall loads up to 1000 kips
- Uplift loads up to 455 kips
- Interior column loads up to 400 kips

The project geotechnical report initially recommended minimum 50' long drilled concrete caissons for foundation support. The Geopier® System was selected as a Value Engineering alternative.

Subsurface conditions at the site consist of alluvial deposits of sandy silt, silty sand and fine to medium sand occurring in random layers. The borings reveal these deposits to extend to at least 75' below site grade. Groundwater was not encountered within the 75' exploration depth.

Rammed Aggregate Pier® (RAP) elements were 30" diameter. Piers subjected only to compression loading extended to a depth of 8' below bottom of footing. Piers installed to resist uplift loading extended to a depth of 10'. Due to hydrocollapse potential in the upper soils, 5' RAP elements, 15' on-centers were used to support the floor slab on-grade.

By reinforcing the subgrade soils with RAP elements, a design bearing pressure of 8000 psf was allowed for proportioning the footings. A maximum edge pressure of 11,000 psf was allowed on the interior shear wall footings. Individual design loads for the RAP elements were 95 kips in compression and 47 kips in tension. Full-scale field load tests confirmed these design capacities.

A total of 460 RAP elements were constructed in only 15 working days on-site.

REFERENCES:	Frank Bohls R. D. Olson Construction (949) 474-2001	Edmond Babayan Edmond Babayan & Assoc., Inc. (818) 243-1400
	David R. Kendall Lee & Sakahara Architects (949) 261-1100	John A. Seminara, G.E. Southern California Geotechnical (714) 777-0333