

## PROJECT DESCRIPTION

**PROJECT:** The Marquee at Park Place  
**LOCATION:** Irvine, California  
**DESIGN TEAM:** *Architect:* Dikeakos & Cotter Architects  
*Structural Engineer:* John Bryson & Partners  
*Geotechnical Engineer:* Kleinfelder, Inc.  
**CONTRACTOR:** Bosa Development California, Inc.



### DESCRIPTION:

- 2 High Rise Condominium Towers
- 16 stories above grade and 2 levels below grade
- 10' thick mat foundation at 7000 psf

The geotechnical investigation revealed a 15' thick, compressible clay stratum occurring immediately beneath the planned foundation level. Potential consolidation settlement that would occur within this layer was estimated by the project geotechnical engineer to be substantial. This upper stratum settlement added to some 6" of additional settlement that might occur in the lower, dense soils resulted in a preliminary design based on long, driven piles.

As a value engineering alternate to driven piles, the Geopier® system was selected. Geopier reinforcement of the upper, compressible clay stratum was designed to reduce settlement within that stratum to only about 3/4", which resulted in estimated total and differential settlement magnitudes for the tower foundations that were acceptable for the project. The Geopier reinforcement resulted in a cost savings to the project of about \$1M.

Almost 1800 Rammed Aggregate Pier® elements, 30" in diameter and extending some 15' below the bottom of the mat foundations were installed for the project. Two Geopier installation crews were mobilized for the work and completed pier installation on-schedule, in only 28 working days on-site.

To monitor settlement within the Geopier-reinforced layer and in accordance with its ongoing commitment to field research, Geopier Foundation Company - West installed 4 extensometers prior to concrete placement for the mat.

### REFERENCES:

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