



## The Marquee at Park Place

Irvine, California

**For Orange County's first luxury high-rise condominium, the Geopier GP3® system was selected as a Value Engineered alternative to driven piles, soil/cement columns or overexcavation/ replacement**

**Description:** Construction of twin 18 story, 24,000 square foot each, high-end condominium towers with a four story connector and two stories along the perimeter supported on two 10 foot thick, 115 foot by 200 foot reinforced concrete mats. Each tower has a distribution pressure varying from 7,200 psf in the center to 4,000 psf at the mat edge.

**Subsurface Conditions:** Surficial stratum of medium stiff, lean to medium alluvial clay approximately 40 feet thick, overlaying predominately very dense alluvial silty sand with clay layers. Groundwater was encountered at 15 feet below grade.

**Geopier Solution:** For Orange County's first luxury high-rise condominium, the Geopier GP3® system was selected as a value engineered alternative to driven piles, soil/cement columns or overexcavation and replacement. To meet settlement criteria and address the variance in distribution pressure, 30 inch diameter Geopier® elements were installed at 4 to 6 feet on center, with shaft lengths extending from 12 to 16 feet to fully penetrate the medium stiff clays and



terminate in the underlying dense alluvial sands. A total of 1,850 Rammed Aggregate Pier® (RAP) elements were installed in 27 days. Two vibrating wire extensometers were installed beneath the mat of each tower to verify the compression of the RAP elements. To date, total recorded deflection is a maximum of ¼ inch within the Geopier zone.

### PROJECT TEAM

**Owner:**

Bosa Development

**Geotechnical Engineer:**

Kleinfelder

**Structural Engineer:**

John Bryson & Partners

**General Contractor:**

Bosa Development

**Geopier Installer:**

GFC-West

**Geopier Designer:**

GFC-West