The Point East Parking Area Stabilization

San Diego, California

CLIENT

Legacy Partners Commercial
4000 E. Third Avenue
Suite 600
Foster City, CA 94404

DATE OF COMPLETION

Professional Services: 2005

PROJECT COST

Professional Services: $3 million

The Point, a 14.7-acre commercial development located between West Bernardo Drive and Interstate 15, included a 1,000-foot-long, 25-foot-high, segmental block wall that began to experience movement and distress almost immediately after its construction in 1998. The adjacent downslope properties to the east are owned by another private developer, along with Caltrans and the Metropolitan Transit Development Board (MTDB-SANDAG). Caltrans was concurrently initiating design work for the I-15 Managed Lanes Project, and MTDB-SANDAG was also in the design phase for a regional bus rapid transit station to be integrated into the I-15 Managed Lanes Project. The success of these two public agency projects, as well as the safety and stability of the privately-owned properties, depended upon prompt and positive stabilization of the hillside above.

TerraCosta Consulting Group, selected as both the geotechnical and civil engineer of record for this project, conducted an extensive subsurface investigation over the next two years. It was determined that the east rim of The Point project and the hillside to the east were underlain by ancient landslides and other weak soils that were not stabilized during development.

The repair approach consisted of a tied-back structural concrete skin on the Keystone wall and tied-back grade beams for the slope reinforcement. The structural skin and grade beams were constructed of air-placed high strength concrete anchored into the hillside using over 1,000 tieback anchors. The exposed surface of the structural skin was finished with a free-form carved and colored architectural concrete. The underlying hillside stabilization consisted of a series of tied-back grade beams with 974 tiebacks. The grade-beam wall along the freeway right-of-way is a total of 1,527-feet long, 12- to 42-feet high, and 2$^{\pm}$-feet thick.

The geotechnical investigation and nine companion design documents (reports & calculation packages) provided the basis for City of San Diego, Caltrans, and SANDAG approvals, with all three reviewing agencies complimenting the thoroughness and quality of the reports and construction documents, which facilitated the review and ultimate approval of this project. Our work received the ***Outstanding Project Award*** from the California Geotechnical Engineers Association, as well as the ***Award of Excellence*** from the American Society of Civil Engineers, San Diego Section.