

**GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.**  
**SIMILAR PROJECT EXPERIENCE:**  
**TROPICANA MEGA RESORT**  
**LAS VEGAS, NEVADA**



At the time of the geotechnical evaluation the new Tropicana Mega Resort towers and low-rise convention area was expected to consist of the construction of 5 new hotel and condominium towers between 30 and 40 stories high to be built around the 2 existing Tropicana Hotel towers. Two 10-level parking garages will be built between the hotel and northeast condo towers with up to 5 pools on the top levels of the garages.



GES prepared a geotechnical investigation report which included a research of available literature related to geologic conditions, field exploration, laboratory testing, engineering analyses and preparation of a preliminary and final geotechnical investigation report. The field investigation included drilling 19 borings to depths between 25 and 150 feet below the existing ground surface. GES also performed a detailed settlement analysis for each of the towers in order to evaluate settlements and compared them to the tolerable settlements per the project structural engineer. When the settlement analysis indicated that settlements for mat foundations exceed the tolerable limits per the structural engineer, our report also provided recommendations for the towers to be supported on drilled shaft foundations. The foundation design was optimized based on a full-scale pile load

test.

The purpose of the full scale pile load test was to evaluate the ultimate capacity of the drilled shaft foundations and optimize drilled shaft foundation design to the degree practicable. GES, through our sister company Eagle Drilling, also performed a caliche probe to a depth of about 40 feet below the existing ground surface at the pile load test location. The soils encountered at the probe location will be identified by an experienced engineering intern or geologist in accordance with ASTM D 2488 and continuously recorded. GES provided a Special Inspector, approved by the Clark County Department of Development Services in Category R - Drilled Deep Foundations, during test shaft excavation to observe and record the following on a Drilled Shaft Installation Record shaft: diameter, shaft length, drilling method, soil profile including soil type, depth and thickness (with particular detail for caliche layers). This record may be used as a reference guide during production shaft installation to help evaluate whether production shafts are founded within materials compatible with the final design capacities provided based on the pile load test results.

While the project was never completed, the Tropicana Mega Resort plan was to include: a 100,000-square-foot casino, five hotel towers totaling 10,000 rooms and a sprawling 200,000-square-foot retail promenade. Other amenities included spas and fitness centers; more than 20 restaurants and lounges; a 1,500-seat entertainment venue for big-name headliners; and a water-ride attraction.

**PROJECT OWNER:**  
*Columbia Sussex Corporation*

**GES CLIENT:**  
*Columbia Sussex Corporation*

**POINT OF CONTACT:**  
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**TOTAL PROJECT COST:**  
*Est. \$2,000,000,000*

**FIRM RESPONSIBILITY**  
*\$250,000*

