

Drilled Displacement Pile Harborview Grande Condominium Clearwater Beach, FL



Client: Sunwest Construction
Owner: Dalton Clearwater, LLC
Structural Engineer: EMA Engineers, Inc.
Geotechnical Engineer: A & E Geotechnical, Inc.
Construction Date: June 2004

Scope of Work: Coastal Caisson installed 455 – 16" \varnothing displacement piles, 40 feet deep to support Harborview Grande, an 8 story condominium project.



The original foundation system was designed on conventional auger cast piles and through a value engineering re-design, Coastal Caisson was able to reduce the foundation cost by 19% and the number of piles by almost 30% thus shortening the piling construction time considerably.

Typical pile foundation working loads are approximately 80 tons. Each shaft is reinforced with a single bar, full length and the tension piles have an additional small reinforcing cage extending 30 feet into the shaft. A conventional static compression load test was done to verify design assumptions.

With a small crew and minimal equipment, the project progressed on schedule and allowed the foundation cap contractor to begin work almost immediately behind the pile installation. The project was completed on schedule in the summer of 2004.

Coastal Caisson used a Bauer BG-22 Drill Rig for the installation. The use of this type of drill rig is advantageous in that it requires only minimal site preparation.



While production rates are typically as high as 20 piles per day, quality is maintained and assured by the use of an on-board computer and data recorder which measures and records installation records for every pile. The data can be down loaded and pile installation report is printed for each shaft showing the rate of penetration, crowd pressure, grout uptake and withdrawal rate.

Advantages of the drilled displacement pile include increased load capacity over the similar auger cast pile due to the densification of the in-situ soils that takes place during installation and a much cleaner site, that results from the elimination of spoils. This is a large benefit to both, cost and workability on site.

