

Soil Improvement at the International School of Choueifat, Sharjah, UAE.

The well-known International School of Choueifat (ISC), with 4200 students enrolled, is building a new Teacher accommodation building. Contractor Darwish Engeneering Emirates chose to treat the area with stone columns to homogenize the area under the isolated footings, which had mainly fill material.

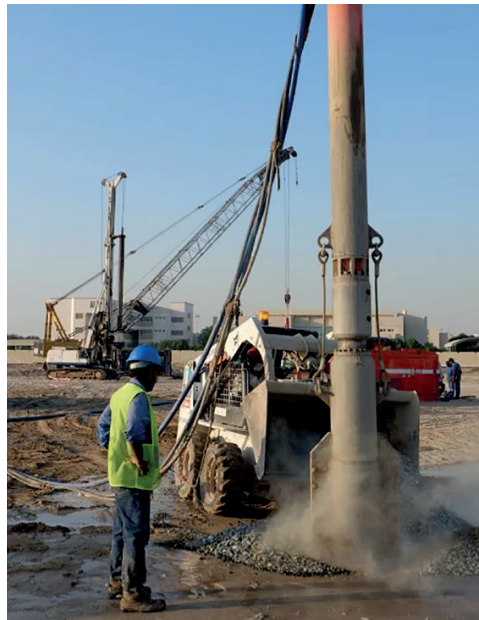


120 stone columns per day

An area of approximately 65000 m² was treated with 2800 stone columns following triangular grid patterns of 1.5m to 2.5m and some areas with square grids of 1m x 1m.

For this job, the contractor used 2 sets of PTC Vibrolance VL40S working free hanging from cranes of 100t and 80t. The Vibrolances were powered by PTC power packs 600D (360kW) and 900C0 (571 kW). This equipment realized Top-Feed stone columns of an average depth of 5 to 6.5m and a diameter of 800mm.

Stone columns production: 120 SC/day. This performance was obtained with the 2 Vibrolances working simultaneously during a shift of 10 hours.



KEY FACTS

- Aggregate size: 20-40mm.
- Treatment depth: 5m-8m.
- Stone column diameter: 800mm.
- Bearing Capacity: 200 KN/m.
- Settlement: 25mm.



Load Test Results

The contractor performed a Plate Load Test for 200kPa on the stone columns and obtained the target of 25mm settlement.

A Zone Load Test was also performed during 8 hours at 1.5 times the target of bearing capacity, with successful results.