

Vibro Replacement Stone Columns

DEEP SOIL STABILIZATION

Cost Effective Ground Improvement

Helicon's vibro stone columns (or vibro-replacement) are a ground improvement technique particularly suitable to increase the density of granular soils and reinforce cohesive soils.

Installing vibro stone column often times dramatically strengthens weak soils at a lower cost than other deep foundation alternatives or replacing weak soils with engineered fill. We can provide the most cost-effective and technically appropriate solution for your project's needs.

Advantages

- Highly Cost Effective
- Increased Load Bearing Capacity
- Faster Than Other Options
- No Excavations Needed
- Higher Densification Levels
- Reduces Differential Settlements

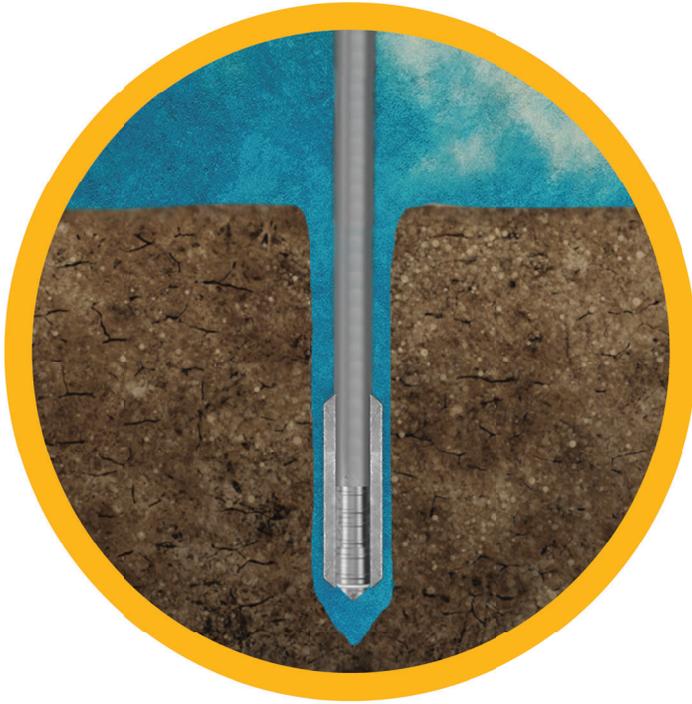


Installation Procedure

Helicon's mast-mounted hydraulic vibro probe is placed over each compaction location. Water or air is expelled through jet ports at the tip of the probe and into the compaction location. Air injection, also referred to as "dry bottom feed method", is preferred since it is a less intrusive installation procedure, compared to the water injection, also referred to as the "wet top feed method". The probe then penetrates the soils to the prescribed depths, by utilizing its own weight with the vibrations and jets.

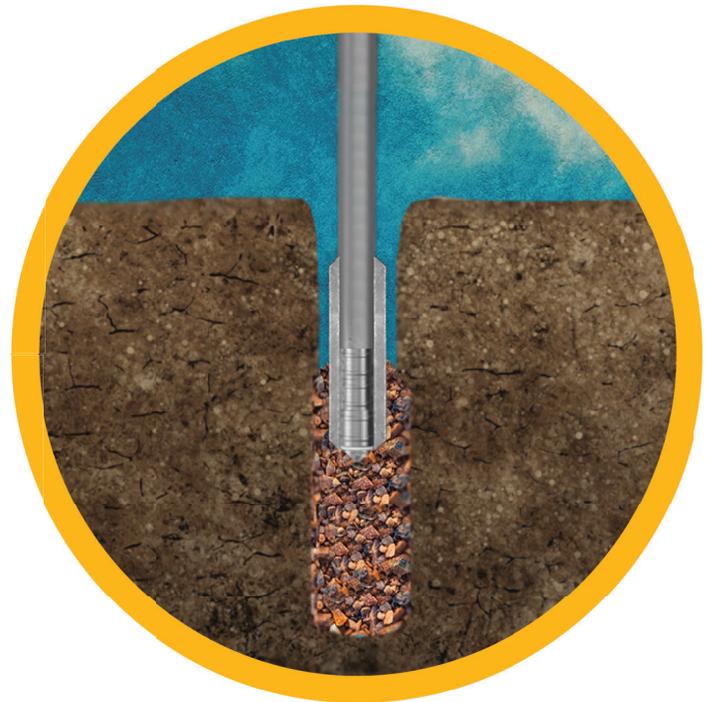
Upon reaching the prescribed depth, stone aggregate is introduced into the hopper at the top of the probe and travels down the stone tube to the tip of the vibro probe. The probe is then raised in 12" to 24" lifts and lowered back down to achieve the prescribed pressure. This will densify the surrounding soils and displace the stone, until the stone column has been achieved.

Vibro Replacement Overview



**Depth Vibrator Lowered
Into Ground Assisted
by Air or Water Injection**

**Air or Water Injections
Stopped and Stone
Aggregate Added**



**Depth Vibrator Raised
and Stone Column
Completed**

