

Residential Home Zephyrhills

COMPACTION GROUT, INJECTION PINS, CHEMICAL GROUT PROJECT

Project

The project is a residential home located in a golf community in Zephyrhills, FL. The home had structural damage due to sinkhole activity on the property.

Challenge

- Very loose soils present underneath foundation.

Solution



Remedial measures to restore and lift the structure and to stabilize the subsurface conditions that are affecting the structure. Fill the voids and cavities while stabilizing the granular material and improving the physical properties of the soil.

The engineer of record recommended a ground improvement plan that consisted of up to 75 foundation underpins to be installed to competent load bearing strata. A limited mobility displacement grouting (LMD) would be utilized to stabilize deep subsurface conditions, and chemical grouting would be performed to stabilize the very loose shallow soils.

69 exterior underpins and 6 interior underpins were installed to depths between approximately 25 and 45 ft bgs. Subsurface compaction grouting program purpose is to seal off the limestone surface, fill voids, and densify any loose or soft soils. This was accomplished by injecting low-mobility grout through 2-3 inch diameter steel pipes spaced at intervals of 8-10 ft around the perimeter of the structure. Shallow chemical grout injections were completed on approximated 5 ft centers around the perimeter of the structure utilizing approximately 10,000 + pounds of shallow grout material.

All operations were performed under the observation of the engineer of record. Efficient planning & coordination was key to overcoming the challenges & limitations.

Engineer: GWE Engineering

Market: Residential

Solution: Foundation Repair

Services: Compaction Grout, Underpinning,
Chemical Grout

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