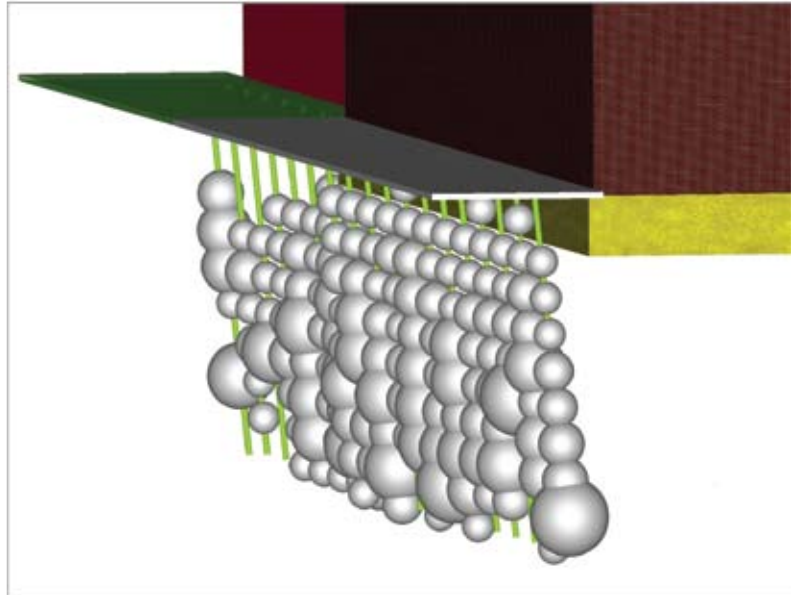


Compaction Grout Underpinning of Shallow Foundations – Kensington, Sydney



Remediation of settlement damage to a two storey hotel in Sydney's eastern suburbs was carried out using Compaction Grouting

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Project

Construction of a basement resulted in settlement of an adjacent building founded on strip footings. Investigations revealed that loosened soil existed up to 3m below the foundation and underpinning would be required to this depth. A stipulation of the working method was minimal impact on the operation of the hotel.

Soil Conditions

The ground conditions consisted of loose to very loose silty Sand to 3m becoming dense. Ground water was approximately 2m below ground level.

Solution

Keller proposed Compaction Grouting as an alternative to Jet Grouting to underpin the building. In consultation with the owner's and client's engineers a grouting design and working procedure was developed to address the geotechnical issues together with the owners concerns over noise, dust, dirt etc. The works were completed within a week with minimal disruption and to the satisfaction of all concerned.

Monitoring & Verification

The grout injections were controlled by monitoring pressure, volume and surface movement. Verification of the works was carried out using a combination of grouting records and pre and post grouting dynamic probes.

Main Contractor:

Southern Cross Construction

Geotechnical Contractor:

Keller Ground Engineering

Diagram:
3D model showing grout volumes below strip footing