

Vanguard Self-Storage

Bath

Keller provided a low vibration cast in-situ solution within a sensitive built-up area by installing rigid inclusions for a storage building.



The project

The construction of a three-storey self-storage building on the site of the former Regency Laundry.

The challenge

The site was underlain by circa 3.0m of very low strength Alluvial soils within which mass fill foundations and vibro stone column treatment would not be viable, particularly for the proposed column loadings of up to 2200kN that required support.

The solution

566No 7.5m long 300mm diameter RIs were installed using displacement cast in-situ construction methods. The works were designed to achieve up to 175kN/m² for the foundations and 40kN/m² for the floor slab areas. The installation works were completed in less than three weeks and facilitated simply reinforced shallow footings. For the floor slab, Keller installed and cropped the columns to permit the installation of a ground bearing slab which could be cast directly onto the rolled and compacted surface of the load distribution layer. The thickness of the load distribution layer was just 400mm and this doubled up as the piling mat for the Keller rig.

Project facts

Owner(s)

Vanguard Holdings Ltd

Keller business unit(s)

Keller UK

Main contractor(s)

UC Build (North) Ltd

Solutions

Bearing capacity / settlement control

Markets

Commercial

Techniques

Rigid inclusions

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