

Nuclear Advanced Manufacturing Research Centre

Derby

Keller came up with a foundations solution on a site which could not be treated by vibro. The use of using rigid inclusions avoided the need for piling, thereby reducing the project's carbon impact.



The project

The construction of a 46,700 sq ft Nuclear Advanced Manufacturing Research Centre (NAMRC) facility within the Infinity Park Enterprise Area.

The challenge

The main challenge was to provide a solution through the very low strength and highly compressible Lacustrine Deposits which could not be vibro treated and would otherwise have required piling with fully suspended construction.

The solution

RI's were installed for the foundations to achieve a bearing capacity of 200kN/m² for the foundations and 55kN/m² for the floor slabs. The columns were tested via short duration plate tests and mini zone tests which were undertaken during the course of the works. Almost 1000 columns were successfully installed in three weeks with a total carbon impact of 125tCO₂e. As the RI columns were unreinforced this allowed the follow on works to overlap to optimise timescales and accelerate the main contractor's programme

Project facts

Owner(s)

Wilson Bowden Developments

Keller business unit(s)

Keller UK

Main contractor(s)

Stepnell Ltd

Solutions

Bearing capacity / settlement control

Markets

Industrial

Techniques

Rigid inclusions

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