Non-disruptive pile foundations avoid problems

Client: Private homeowner

Location: Gloucester

Approved installers: Profix Property Preservation

When a modern, two storey, detached property near Gloucester had a single storey rear extension built it was necessary to avoid any damage to the roots of nearby protected oak trees. Furthermore, the excavation machinery able to access the rear of the building would have been unable to dig to the required depth of 2.5m to match the mass concrete foundations of the main house.

Built on clay soil, the house needed deep foundations but, as a similar depth for the extension would enter the root zone of the protected trees, an alternative, less obtrusive system had to be found.

The Helifix solution

Helifix Dixie micro-piles provided the ideal solution. The pile and ground beam foundation design required much reduced excavation compared to traditional foundations and removed the need for large plant. Piles were installed using a hand-operated drive head which meant access issues and disturbance to the neighbouring property were avoided.

● Shallow excavations were dug and eight double helices micro piles, each 3.5m long, were simply 'screwed' into the ground until they reached a mudstone strata beneath the overlying clay. Each pile easily achieved it load capacity requirements and was fitted with a new construction flat plate bracket.

● A steel reinforcing cage, designed to span between the pile positions, was then assembled around the pile top brackets and the concrete cast to form the ground beams on which the extension could be constructed.

● Due to the clay soil and long term potential for heave, should any of the mature trees die or be removed, the pile and reinforced ground beam foundation was designed to include heave-guard measures.

By using Dixie micro-piles to form the foundations the whole operation was quicker, easier and far less disruptive. The tree roots were avoided and excavation spoil was greatly reduced, cutting disposal costs.

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