CASE STUDY

Newtown, Newbury

RESIDENTIAL

CLIENT

Marbus Developments Ltd

TECHNIQUES

Driven Precast Concrete Piles
RBeam

ACHIEVEMENTS

Restricted access on site

Delivered on time & within budget

Managing a high water table

Project Brief

Roger Bullivant Limited (RBL) was approached by Marbus Developments Ltd to provide a specialised foundation solution for a residential project situated within a historic apple orchard in rural Berkshire. This bespoke undertaking required careful consideration of the site's heritage significance and its surrounding community.

RBL approached the project with a commitment to both structural integrity and environmental sensitivity. Understanding the importance of minimising disruptions in the local rural community, the team devised a comprehensive proposal centred around RBL's Precast Foundation System, comprising Driven Precast Concrete Piles and RBeam.

The proposal aimed to mitigate the environmental impact of construction activities by reducing lorry movements and excess muck away from the site.

Marbus Developments Ltd said:

"We have been very pleased with the work RBL has undertaken for us on this project. Their communication throughout the project was excellent. They were quick to respond to queries and questions. Work was completed within the estimated time frame and the site left clean and tidy."

ROGER BULLIVANT

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RESIDENTIAL

Key Issues/Requirements

- Tight Access and Speed of Pile Installation: The site's tight access posed a challenge, necessitating careful planning to ensure minimal disruption to neighbouring residents. Speed of pile installation became paramount to mitigate potential inconveniences caused by prolonged construction activities.
- Management of Ground Conditions: Effective management of ground conditions was essential to the success of the project. RBL had to navigate varying soil compositions within the site, creating a tailored approach to foundation engineering. Additionally, the order of work played a crucial role in minimising muck away lorry movements. RBL implemented strategies to reduce the need for extensive excavation and disposal of excess material, thereby mitigating environmental impact and preserving the natural landscape. Utilising the working platform stone for future use further underscored RBL's commitment to sustainable construction practices and resource efficiency.

Solutions

- Prior to commencement, RBL conducted multiple site visits to assess the feasibility of utilising their 5000 series state-of-the-art quiet hammer driven rig. This approach aimed to minimise costs and maximise output by using equipment tailored to the project's requirements.
- RBL proposed the use of their Precast Foundation System, offering Marbus Development Ltd significant savings on pile numbers and providing a complete foundation package.
- Despite the client's initial expectation of a 600mm thick working platform, RBL's in-house manufactured piling rigs are designed to target low bearing pressures, significantly reducing the need for imported stone.
- RBL collaborated closely with both the architect and Marbus Developments Ltd to provide fully coordinated setting out details using a combination of auto CAD and RBL's quality checking software system for locating and checking piles, and beams and ensuring the correct levels.
- Recognising the importance of addressing concerns from neighbouring properties, RBL installed a vibration monitor on-site to demonstrate the low vibration levels generated by their works.
- RBL implemented a cost-effective solution by utilising 200mm square Driven Precast Concrete Segmental Piles. This approach minimised waste and enabled rapid pile installation, with the entire process completed within 24 hours.
- RBL effectively managed excavations and sequencing of work in response to the high-water table identified in the ground report. By coordinating activities, they were able to hand over segments of the plot fully backfilled and civilized, minimising potential delays.
- To mitigate challenges posed by inclement weather, RBL proposed the use of our Precast Foundation System, RBeam, to prevent trenches from filling with water.
- Despite access restrictions, RBL effectively coordinated rigid lorry deliveries while managing limited storage space on-site.