

KingsOak Homes, Windsor

Driving of precast piles for new mixed housing type development.



AARSLEFF

Residential house builder and developer, KingsOak Homes, secured planning to build a mixed housing type development on the site of the former Trevelyan school, Windsor, Berkshire. This stunning development, set in the shadow of Windsor Castle, includes a number of low-cost shared equity local authority houses, as well as a number of private 2 and 3-bedroom apartments and 3 and 4-bedroom town houses.

Aarsleff was sub-contracted to KingsOak Homes to pepper the site with precast reinforced concrete piles to act as foundation support for the 3 and 4-storey homes and apartments. The geology comprised 2m of made ground and 2m of loose, to increasingly dense sand before finally London clay, which typically becomes stiffer at depth.

Using one of its own Banut self-erecting fixed leader hydraulic piling rigs, Aarsleff installed nearly 740 piles of 250mm square section and in lengths of between 9m and 14m. The piles, which were manufactured and supplied by Centrum, Aarsleff's wholly owned subsidiary, located in Newark Nottinghamshire, were driven level directly along the baseline of the building's foundation walls to provide a maximum working load of 500kN. Some 100 of the piles had to be pre-augered to a depth of 3m to 5m to eliminate any risk of vibration or disturbance to the surrounding area, which was close to a public subway. In fact, with the housing development so close to existing residential housing, consideration had to be given to noise and vibration, independent noise and vibration monitoring tests confirmed that levels were well within acceptable limits.

Once the piles had been driven, KingsOak followed on behind crushing the concrete from the short upstanding pile tops to expose the integral reinforcement, which was then subsequently bent over to form a connection into the buildings' cast in-situ foundation beams.

Speaking about the foundation work Aarsleff undertook for KingsOak, Bojan Dezman, project manager at KingsOak Homes said, "Aarsleff has been very professional and has done a superb job for us here. They have a very good accommodating crew on site and, driving up to 45 piles per day, they finished the first phase two-weeks ahead of programme. They were so quick and pitched and installed about 300 piles in eight days, which enabled us to make an early start on the ground works.

Although KingsOak has used Aarsleff on several other projects this is my first experience with the company. They were superb and did an excellent job for us and we would have no hesitation using them again on future projects."



Scope of Works

740 No. 250mm square, precast concrete reinforced piles; L 9-14m

Client

KingsOak Homes

Equipment

Banut self-erecting fixed leader piling rig

Construction period

2004

Aarsleff Ground Engineering Ltd, is the UK trading arm of Danish contracting giant Per Aarsleff A/S, and is one of the UK's leading piling and geotechnical design and installation specialist contractors; actively promoting early consultation to ensure each scheme can be Value Engineered to give clients the best service, quality design, safety and value. Aarsleff's strategy and philosophy of investment into the future has resulted in its wholly owned subsidiary Centrum Pile Ltd having the most advanced precast pile production facilities in the UK, producing segmentally jointed precast concrete piles to BS En12794 to Class 1A.

Contact

Aarsleff Ground Engineering
 info@arsleff.co.uk
 Tel 01636 611140