

# CASE STUDY

## DRACAN VILLAGE AT DRAKELOW PARK



## RESIDENTIAL

### CLIENT

Countryside Partnerships

### SCOPE OF WORKS

Driven Precast Concrete Piles  
Driven Steel Tubular Piles  
RBeam

### ACHIEVEMENTS

Completed on time  
Completed on budget

## Project Brief

In 2021, Countryside Partnerships, now part of the Vistry Group, awarded Roger Bullivant Limited (RBL) the piling and foundations package subcontract works at the Dracan Village project in Drakelow, Burton-on-Trent.

It was great for the team to return to Drakelow, which was once the 250-acre head office and principal manufacturing facility of RBL. How nostalgic!

Countryside Partnerships, a prominent mixed-tenure developer in the UK, acquired the 80-hectare land parcel. They embarked on constructing homes and investing in community amenities, education, and infrastructure. Following a thorough historical review, site investigation, and probe piling, RBL was chosen to provide a foundation package, comprising Driven Precast Concrete Piles, Driven Steel Tubular Piles and Precast Concrete Ground Beams (RBeam), to support an initial total of 836 properties.



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# RESIDENTIAL



## Key Issues/Requirements

- Selected piles required designing for heave forces induced by removed trees. RBL accommodated this within the pile reinforcement design and beams.
- Due to the large scale of the site and variable ground conditions associated with natural processes and former land use, the pile design needed to be specific to the local conditions across different areas of the site.
- Ground conditions included made ground overlying stiff clay, made ground overlying gravel/sand and weathered Mercia Mudstone. Piles were designed to a static length terminating in the stiff natural strata, as appropriate for this type of material.
- Historically, areas of the site had been used as testing areas for RBL's Research and Development department. As a result, concrete obstructions were present on site as identified in the site investigation. RBL proposed Driven Steel Tubular Piles to deal with some areas of difficult ground required and these were installed as an alternative to the Driven Precast Concrete Piles to assist with penetrating obstructed ground.

## Solutions

- The piling works commenced in January 2022. RBL utilised multiple 5000 & 5500 series RBL Quiet Hammer Piling Rigs throughout the project to ensure the client's schedule was adhered to.
- The team successfully installed a total of 52,700 no. piles across the entire site with maximum pile loads of 325kN., along with 24,018 linear meters of RBeam.
- In response to the concrete obstructions discovered on the site, Driven Steel Tubular Piles were chosen as a robust and versatile displacement foundation solution, offering enhanced driving capabilities, which proved invaluable in challenging or uncertain ground conditions.
- For specific plots, the SD2 Sonic Series Drill Rig was employed to pre-bore the deep reinforced foundations that once supported the cooling towers of the old Drakelow Power Station to allow subsequent pile installation.
- Remarkably, the team has completed 11 phases, providing foundation solutions for 756 out of the 836 plots in just under two years. RBL anticipates wrapping up the remaining 80 plots by the end of 2023.
- The RBL Midlands team takes great pride in being part of the largest foundation project the company has undertaken in 2022. This project reinforces the advantages of collaborating with a local piling contractor well-versed in the site's ground conditions and equipped with a range of piling and foundation solutions to address various challenges.