

CASE STUDY HILLINGTON PARK, SCOTLAND



PILING

CLIENT

**Frasers Property UK
(for TrustFord)**

CONTRACTOR

Muir Construction Limited

SCOPE OF WORKS

**Driven Precast Concrete
Piles
Static load tests
Dynamic load tests**

Project Brief

A 3.7-acre site on Hillington Park, Scotland's largest industrial estate is being developed into one of the most modern vehicle showroom and service facilities in the UK for TrustFord, one of the UK's most ambitious vehicle dealerships. The bespoke 29,000 sq. ft build by Muir Construction Limited for Frasers Property UK recently started on site with completion targeted for the end of 2023.

The dealership has been pre-let to TrustFord, part of the world's largest dedicated Ford dealer group. It is anticipated that TrustFord will be recruiting over 40 new employees from the area when it opens in Spring 2024 following a high-quality fit-out.

The new facility will benefit from PV solar panels on the roof, underfloor heating powered by an air source heat pump, EV charging, low-energy and water-efficient fittings. Upgrades to footpaths and extension of cycle paths will be undertaken in the vicinity to enhance accessibility and safety for pedestrians. It is expected to be one of the first automotive developments in Scotland to achieve a BREEAM Excellent sustainability accreditation.

Achievements

To ensure productivity levels remained consistent throughout the works, Roger Bullivant Limited (RBL) pre-loaded the worksite with over 4,500Lm of in-house manufactured precast concrete piles prior to arrival of our piling rig.

RBL's works were completed safely over one week ahead of the programme, with peak production reaching over 1,000Lm of pile being safely installed per day.



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Key Issues/Requirements

- RBL were required to provide a design methodology to suit the underlying ground conditions using both information provided by the Client, along with our local knowledge and extensive experience working in the area. Piles required to be driven through made ground and superficial deposits consisting of loose sands and very soft clays, terminating at a design depth in the underlying medium dense to dense sands or bedrock.
- The site was positioned directly beneath a 400kV overhead transmission line. Scottish Power Energy Network (SPEN) advised that all works involved in the project required to remain below the maximum safe working height of 16m for new building works.

Solution

- RBL installed all piles using our 5500-series rig which has a maximum operating mast height of 12.62m to ensure all works were carried out safely, productively and in accordance with SPEN's mandatory requirements outlined above.
- 494 No. 250mm sq. Driven Precast Concrete Piles were installed using RBL's in-house built 5502-series rig and were installed to depths up to 31m. A further 9 No. 250mm sq. Driven Precast Concrete Piles were added as works progressed for an on-site valet building.
- Piles were designed and constructed in accordance with the relevant design standards. Verification of SLS was delivered during the works by undertaking 5 No. static load tests on working piles. Maximum settlement was recorded as circa 10mm at peak test loads of 450kN. All 5 No. pile tests performed in line with our expectations and within the parameters detailed within the ICE SPERWALL3 and project specification.

Site Manager, Muir Construction Limited

“Thanks to your guys for their effort and cooperation during the piling works, seamless operation from start to finish.”



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