

Shakespeare School, Leeds

Installing steel tubes, soil nails and drilling vertical bores for a new primary school.



AARSLEFF

Leeds City awarded BAM Construction Ltd North East the contract to construct a two-storey new build primary school and associated external works at Shakespeare Primary School in Leeds. Leeds is a vibrant, extremely dynamic and successful City. The City's population is growing rapidly, and naturally this is reflected in an increasing demand for school places. BAM Construction Ltd awarded Aarsleff Ground Engineering the foundation works for this scheme, comprising Driven Steel Tube Piling, Drilling and Grouting of shallow mineworking beneath the main school building, and Soil Nailing to the car park and nursery retaining walls.

Beginning on the 3rd August, Aarsleff drilled 109no vertical bores on a radial grid including casing under the school building with its Boart and Klemm 806 rigs. Aarsleff then mixed and injected OPC/PFA grout to the 4500m² area ensuring that any surface instability due to the shallow workings, was eliminated.

Aarsleff's second remit of work included the design and installation of soil nails which followed a top down construction with a soil nail spacing of 1.5mX1.5m. Prior to the main works, suitability tests of 4no positions took place to confirm the ultimate bond stress used in the design. To facilitate the car park's retaining wall, Aarsleff employed its Boart AJ18 rig to install 105no soil nails of 5.5m average length to the 205m² vertical wall area. For the nursery retaining wall, Aarsleff installed 64no soil nails of approximately 5m in length to the 115m² vertical wall area. Each of the R32-280 galvanised epoxy coated bars were fitted with a

head plate and face clad with a stone filled mesh basket using local stone to blend with the existing stonework of the area. Acceptance testing of 2 nails randomly selected from each wall was undertaken concurrently with the main works to confirm satisfactory performance at working load.

Aarsleff's final remit of work included the driven steel tube piling. Aarsleff utilised its Junttan PM20 rig to drive 411no thick walled steel tube piles of varying lengths between 3m and 14m. Aarsleff also carried out dynamic proof load testing and vibration monitoring during the works. Soil Nailing and Piling works were completed on the 13th October 2017.

Managing Director Chris Primett said "Working on Shakespeare School is another great project to add to our growing portfolio of educational builds and is testimony to the company's technical competence and expertise in delivering a multitude of ground engineering services on one site. To be awarded the Drilling and Grouting, Soil Nails and Piling works for this scheme is a huge acknowledgement in our package solutions and our ability to tailor our services to meet our client's needs."

Aarsleff Ground Engineering Manager Dave Evans said: "This project had its challenges. The site had up to 10 vehicle movements at any one time from other associated contractors leading to the requirement of daily detailed planning meetings".



Scope of Works

109 No. Vertical Bores
169 No. Soil Nails
411 No. Thick Steel Tubes

Equipment

Boart AJ18
Klemm 806

Construction period

3rd August 2017 - 13th
October 2017

Contractor

BAM Construction Ltd

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

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