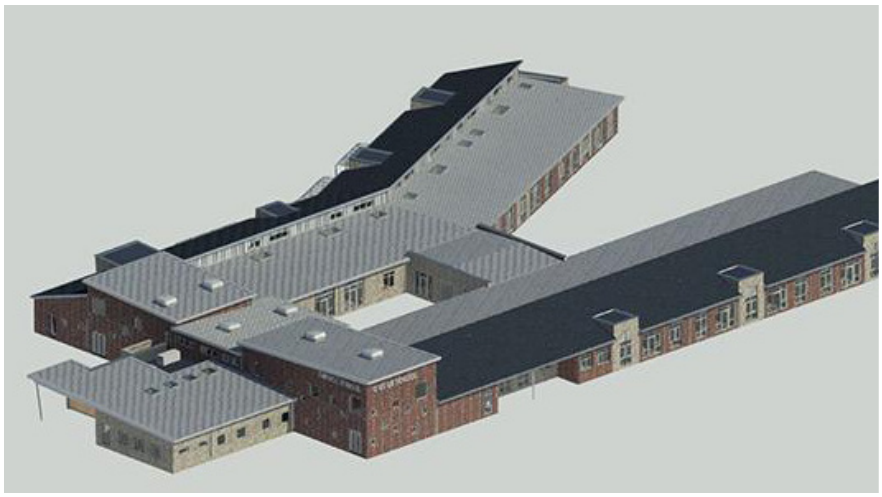
Gibside SEN School, Gateshead

Drilling and grouting operations for the construction of a new school



AARSLEFF

Aarsleff Ground Engineering carried out drilling and grouting operations for the construction of a state-of-the-art special needs primary school in Saltwell. Located on the Shipcote Playing Field on Avenue Road, the new single-storey school building will cater for 170 key stage 1 and 2 pupils aged from 3 to 11 years. The school will feature secure external play facilities, a sensory courtyard, a hydrotherapy treatment pool and a multi-use games area.

On behalf of Wates Construction and Gateshead Council, Aarsleff were awarded the scheme in mid-October 2019, commencing on site on the 28th October and demobilising on the 17th December 2019.

Holes for drilling and grouting were spaced on a 4.25m staggered square grid, of which Aarsleff drilled 364 No. holes and mixed and injected 900 Tonnes of grout. 5% of the total number of holes drilled on the site were pressure tested and 4No. grout cubes were taken per day to ensure compliance. The required grout strength was in the order of 0.7 - 1N/mm^2.

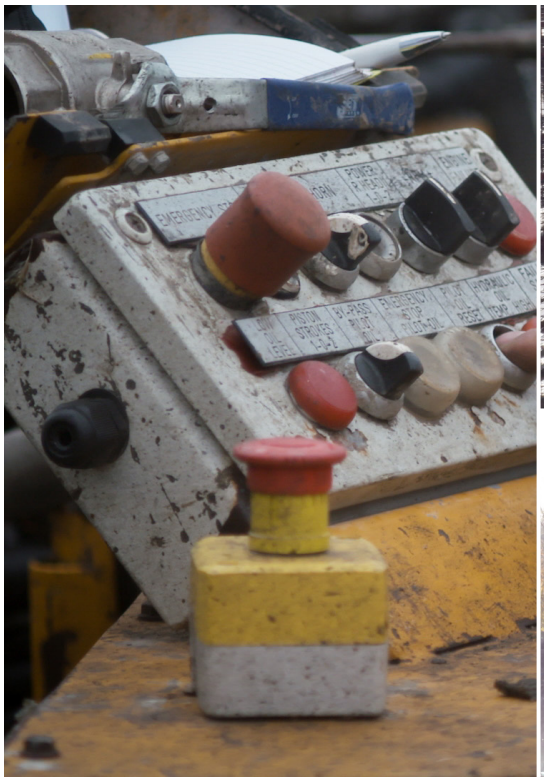
Aarsleff deployed its Klemm 806, Boart drilling rig and bespoke grout batching equipment for the works, which were completed in December.

In the planning phase of the development, a desk study and subsequent site investigation were carried out which indicated the site was located on an overburden of soft clay between depths of 1.9m and 4.0m. Following the clay, there were consistent interbedded layers of Sandstone/Mudstone with rockhead ranging between 12.0m and 18.3m. Boreholes indicated that the majority of the site was Broken Ground/Soft with some boreholes still showing solid coal; the average thickness of the worked seam showed to be 2.6m at a depth of roughly 18m.

Aarsleff's Graduate Civil Engineer Liam Trick said:

"It was a challenging project due to the adverse weather conditions having an impact on our production and deliveries. The heavy rainfall caused a lot of standing water which in effect caused parts of the site to be deemed completely inaccessible. We utilised our own excavator in order to reduce the impact the telehandler would have had at leaving large ruts around the site. Under the conditions we were tasked with, the team on site performed excellently without any problems. Wates held a daily co-ordination meeting with all contractors involved to plan a sequence of works for the next day to ensure that safety and production was maximised. We used a silo allowing us to use blown cement instead of bagged cement which in turn reduced the cement dust produced and also increased the production rate. This method was very effective and will be used in future projects where applicable. Wates also commented on how the site lads worked very well under the conditions they were faced with which is always nice to hear."

It is hoped that the school will be ready to welcome pupils and staff in early 2021.



Scope of Works
364No. holes
900 Tonne Grout

Contractor
Wates Construction

Equipment
Klemm 806
Boart Drilling Rig
Bespoke Grout Batching Equipment

Construction period
28th October 2019 -17th December 2019

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.

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