

PILING & FOUNDATIONS CONTRACTS

Foundation heave neigh problem



A COLLAPSIBLE system that creates a gap to prevent foundation heave has been used on a fast-track project in Berkshire.

On 4 January the Withers Group won the £35,000 contract to install foundations for a new tractor store and disabled toilet block at the Treetops Equestrian Centre in Ascot.

Foundations had to be in place by 20 February, in time for the centre's

charity event six days later.

Work began on 25 January. Because of the short time scale and because piles were the only option – there is a wood next to the site and the underlying ground is clay – Withers proposed its With-A-Void foundation system.

With-A-Void uses recyclable collapsible steel-fabricated chairs to create a void in the ground. The chairs replace ground beams and

brickwork and once overlaid with a 250mm thick reinforced concrete slab, are collapsed and removed.

Managing director Robert Withers explained this creates a gap for any heave and the slab negates the need for a precast concrete floor.

The edge detail of the concrete slab allows gas vents to be incorporated and a stepped detail if required, enabling bricks to be laid straight on the base.

Withers installed 200mm diameter piles to 8m deep, slip-sleeved for the top 3m to protect against heave. Piles were installed on a 2m grid, overlaid with With-A-Void and a 250mm reinforced concrete slab. The foundation was fitted with 100mm vents to prevent methane build-up under the slab.

Withers said the system reduced the contract period by a third. "We met the deadline and installed the foundation system within a matter of weeks rather than months."

Superstructure work for the tractor store and toilet block started after the charity day and is due to be finished in time for the Easter holiday.



Installation of plastic sheet piles to protect houses on the seafront in Worthing, West Sussex was due to finish at the end of last month.

Consultant Card Geotechnics designed the scheme for contractor Cofra UK. The client was Worthing Borough Council.

Cofra's patented Geoflex vinyl sheet piling system was used to form a 5m deep, 500m long storm water barrier along the pebble beach.

The wall will protect properties behind the beach from seawater seepage through the shingle bank.

Card Geotechnics director Nick Langdon said: "The system has major advantages in these environments, as corrosion within the design life is effectively zero and speedy installation is possible with lightweight equipment and minimal disturbance."

Housing hat-trick

GROUND ENGINEERING contractor Pennine has scored a hat-trick of contracts on a new housing development in Scotland.

Housebuilders Taylor Woodrow, Robertson Homes and Stewart Milne enlisted Pennine's help to carry out ground improvement using stone columns for new homes at the Exelsior Development in Motherwell.

It was no easy task, said Pennine contracts manager Richard McKenna. "With ground conditions varying widely from dense fill to alluvial clay with mudstone or



sandstone bedrock, the projects presented a real hotchpotch of ground conditions.

"There's also a capped culvert running underneath the site – and the made ground varies in depth from 1.5m to 11m."

Taylor Woodrow brought in Pennine in spring 2005 to prepare the ground for three blocks of three-storey flats and 73 houses.

Just weeks after completing the two-month project, Robertson Homes – which is building 138 houses – invited Pennine back to the same site.

Most recently Stewart Milne awarded Pennine a £150,000 contract that has just finished.

A total of 1515 stone columns were installed to depths between 3m and 11m. These improved ground bearing capacity to 125kN/m², enabling Stewart Milne to start building 43 houses on the site.

Piling has just finished on the first of three futuristic curved glass apartment buildings on the banks of the River Aire in Shipley, near Bradford in Yorkshire.

Quarmby Construction Company installed 250, 600mm diameter and 20m deep CFA piles over 1200m² for the VM1 building.

VM1, with its a rotunda and sail-shaped elevations, was designed by architect Tony Lupton of Beckwith Design Associates for developer Newmason Properties.

It will house 113 riverside apartments, adding to the 105 already created by Newmason through restoration



of the Grade II listed Victoria Mills worsted mill that stands on the same site.

The building is due to be finished early next year.

Crowded underground

BACHY SOLETANCHE had to deal with a large number of below-ground obstructions, including old foundations, during piling for client Land Securities on an office block in central London.

The £700,000 contract began on site at 1 Wood Street, Cheapside in November. It involved installation of 140 rotary bored large diameter auger piles, from 750mm to 1050mm diameter, up to 43m deep.

"The compact site meant it was very tight to work two piling rigs productively," said Bachy Soletanche contracts manager Barry Osborn.

"Careful co-ordination was required between the Bachy Soletanche site team, the main contractor

Bovis LendLease and the consulting engineer, Waterman.

"Aside from this, there were a large number of obstructions [found] as work progressed. Piles from previous developments on the site needed to be cored out using our heavy-duty hydraulic rigs," he added.

Piling was completed at the end of January.

