

Cementation

SKANSKA

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Parsons Green Embankment Stabilisation

Client
London Underground

Main Contractor
Cementation Skanska

Engineer
London Underground



Cementation Skanska were contracted to carry out embankment stabilisation works to approximately 320m of railway embankment located between Parsons Green and Putney Bridge Stations on the District Line. This stretch of embankment was originally constructed in 1880 and supports two siding roads in addition to the running roads.

The works were undertaken in order to improve the stability of the embankment to protect against slips affecting the tracks, lineside services and adjacent properties. A previous attempt by others to stabilise the embankment had met with difficulties and resulted in a partially completed retaining system. With their extensive experience in railway embankment stabilisations, Cementation Skanska provided a unique two part solution to the problem.

The main part of the works involved the installation of a 230 linear metre continuous sheet

piled wall. Approximately 2000m² of PU28-1 Sheet Piles up to 11.5m in length were installed through the granular embankment fill material and into the underlying terrace gravels. Giken Europe BV were appointed as specialist sub-contractor and installed the piles using a walk-along Super Crush sheet piler with simultaneous augering within the pan of the sheet pile. The sheet piles are located within a few metres of the lineside services and the running rails, and were installed during normal traffic hours.

The 'super crush piler' worked in conjunction with a 'clamp crane'; both pieces of plant 'walked' along the previously installed sheet piles as the wall advanced. The supply of sheet piles to the 'super crush piler' was maintained throughout using a specially designed 'pile runner' which transported the sheet piles on a rail system mounted on top of the sheet piled wall.

On completion of the sheet piling a reinforced concrete capping beam was constructed on top of the wall and the areas on both sides of the wall were re-graded to a new profile. Other works included the installation of hand railing, crest and toe walkways, boundary fencing and grit blasting and protective coating of the exposed sheet pile surface.

The second part of the works involved the completion of the 100m anchored bored pile wall and pre-cast capping beam solution that had been left in a partially completed state. Works included the placement of pre-cast units and in-situ capping beam, re-grading works and hand railing and fencing works.