

Civils

Fraser Road, Erith - soil nailed retaining wall

Peter Dann were involved in a retail development that was constructed on a reclaimed site in Erith, Kent. In order to achieve the desired building footprint it was necessary to cut into a very steep embankment on the southern boundary of the site which rose over 30 metres above the proposed finished site levels.

The slope is 70° to the horizontal in its finished condition. The retained height of the slope varies between approximately 3 metres at its lowest point and up to 9 metres at its highest along the retained length of approximately 100 metres.

The adopted solution for stability of the slope was to use soil nailing in conjunction with a timber crib facing. This involved drilling and grouting in to the bank reinforcing rods to depths of up to 5 metres on a grid of approximately 1200mm vertical centres and 1500mm horizontal centres which act to resist the natural slip planes which form in the retained slope. This enables the facing wall to be of relatively lightweight construction as it simply acts to retain the outer face of the embankment. In this instance a timber interlocking crib wall was used to give a more natural appearance to the embankment but also to permit the passage of ground water from the slope to pass through the wall and into land drains at the toe.

