

CASE STUDY 3



LAND SLIDE!

LAND SLIDE - TUNBRIDGE WELLS

A Kent developer found itself with a major problem on a new build house project near Tunbridge Wells.

During construction work, a steep bank to the side and to the rear of the property slipped sending many tonnes of soil to come to rest against the gable and rear wall of the house. (See Fig.1 & 2)

Removal of the slipped soil adjacent to the property would only make matters worse. The developer telephoned the Piling and Foundation Solutions Division of Withers Group seeking advice.

After visiting the site, Kirk Jull (Piling Director), proposed the following innovative solution:-

The most cost-effective way of

supporting/retaining the bank and to prevent further movement would be to install a contiguous bored pile retaining wall. However, it would not be possible to operate a mini piling rig sitting on the very soft slip material. The way forward would be to construct a temporary working platform above the soft soils from which the piling rig could operate.

To support the working platform, Withers installed a grid of 100mm dia. bottom driven steel tubular piles using a compressed air moling tool. This equipment is easily manhandled and operated by a two man crew. Once the grid of 41 No. piles had been installed the developer inserted scaffold standards into these piles. Withers then grouted the scaffold tubes in position. (See Fig.3)

The next step was for the developer to form the scaffold temporary working platform above the slip material. (See Fig.4)

With the working platform in place a TD 308 mini piling rig installed 37 No. 300mm dia. auger bored piles at 450mm centre to centre to a depth of 7.5m to form the retaining wall. (See Fig.5)

Following completion of piling works, Withers constructed a reinforced concrete capping beam to link all pile heads together. (See Fig.6)

The developer has now removed all the slip soil from between the house and the new retaining wall. Once "faced-up" the new wall will become an attractive feature of the property. (See Fig.7)

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Fig. 1



Fig. 2



Fig. 3
100mm dia. steel tubular piles.



Fig. 4
Scaffold poles grouted into grid of steel tubular piles of working platform constructed.

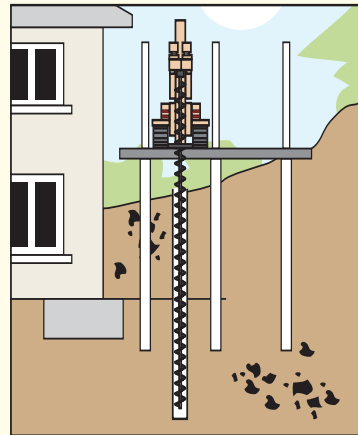


Fig. 5
Mini piling rig installing 300mm auger bored piles at 450mm centre to centre to form contiguous piled retaining wall.

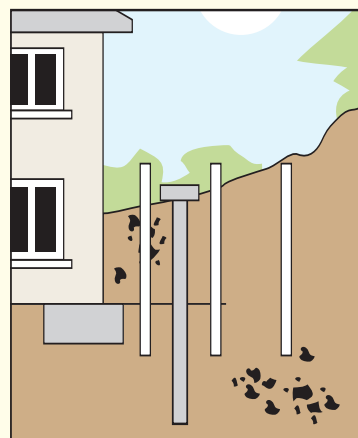


Fig. 6
On completion of contiguous piles a reinforced concrete capping beam is constructed tying pile head together.

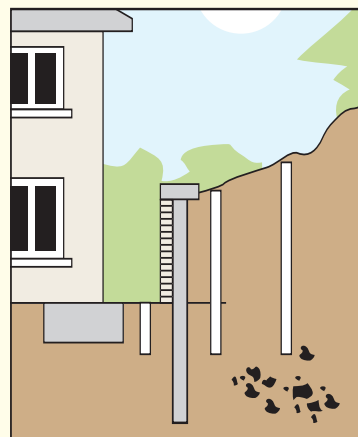


Fig. 7
Soil between house and new contiguous piled retaining wall is removed - problem solved.