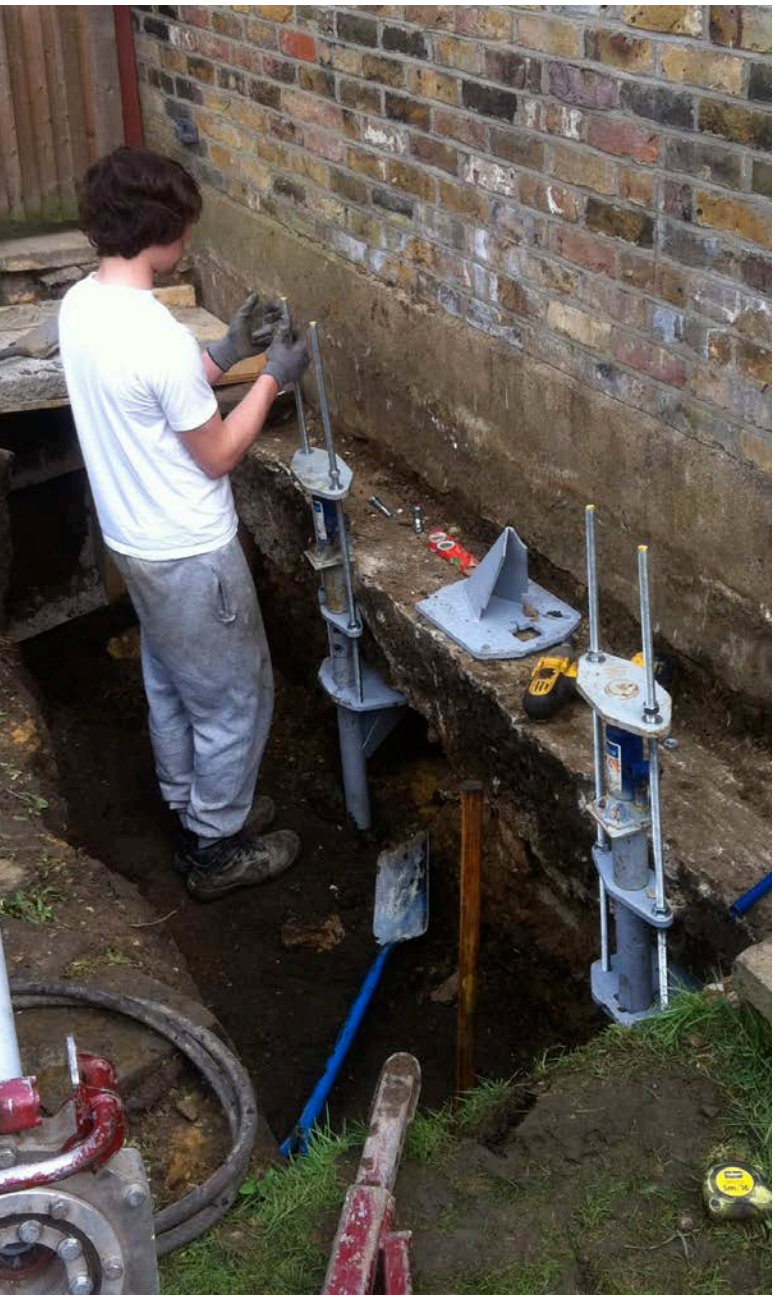
u-knight LIMITED

INFORMATION SHEET



UNDERPINNING PILES

Generally structures that need underpinning have poor ground conditions. This can make conventional underpinning too dangerous to achieve the depths needed to install the new footings.

The screw pile underpinning system is an ideal solution. Using this narrow access piling system, with zero vibration that produces no spoil it is possible to achieve considerable loads. A constant pressure to ground resistance reading establishes the capabilities of the pile. Further depths can be gained by adding one or two metre sections until the correct resistance is found. To utilise the system further an underpin bracket has been developed and it may be possible for settled buildings to be returned to their original line and level.

CONSTRUCTION

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CASE STUDY

Client: Private client

Purpose: Underpin house extension

Ground conditions: Made ground

Pile type: 60mm to a depth of 4-7m

Quantity: 4

Additional work: Ground excavations

Completed: 1 day

The corner of this 1970's extension was sagging where it joined the existing property. A conventional underpinning company was called but they could only find good ground at four metres depth. Due to the excessive depth, tight access, and health and safety issues, they turned to Screw piles.

Piles were installed, some had to be driven to seven metres to find good bearing ground, this is achieved by monitoring a torque gauge which is mounted on the hand held rig. The remaining piles were driven to four metres with maximum resistance achieved to give the highest Kilo Newton loads possible. These particular piles have a maximum load of 12 tonnes.

Once correct loads are achieved jack rams are placed on the tops of the piles, this gives good compression and also to achieves good pre tension on the footing. The jacks are evenly loaded slowly bringing the building back to alignment.

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