Cementation Skanska maintains a large fleet of rigs for the installation of small diameter bored piles. Small Diameter Bored Piling is a definition which applies to replacement piles with diameters not exceeding 600mm. They can be constructed in most ground conditions and carry their loads by either friction or end bearing or a combination of both depending on the strata encountered. Construction is by means of hydraulically operated rotary boring units or crane-mounted rotary boring units. Choice of method is dependent on factors such as access and ground conditions. Piles can be positioned close to existing structures or known underground services without impairing their stability as they are constructed with minimum vibration.

Rotary Boring

Rotary bored piles can be constructed either as continuous flight auger (CFA) or using a short auger and kelly bar.

The CFA technique uses the self-erecting hydraulic units and is one of the quietest forms of piling and virtually vibration free. The system obviates the need for any form of casing, using the auger itself to maintain the integrity of the bore during drilling, and the concrete during auger extraction. After concreting, the reinforcing cage is inserted into the fluid concrete – cages up to 12 metres length are common. Rotary augered piles are constructed with crane mounted or hydraulic units using a short auger and kelly bar. Where ground conditions dictate, a length of temporary casing can be installed to support non-cohesive strata and prevent ingress of ground water. A reinforcement cage is placed within the pile bore prior to concreting and any temporary casing is removed as the final operation in construction.

Where design conditions require, a heavy reinforcing cage can be installed to withstand horizontal loads or long reinforcing cages to...
withstand tension loads. Pile diameters of 300mm, 400mm, 500mm and 600mm are available with depths of up to 29 metres for CFA and 40 metres for Rotary augered piles depending on ground conditions.

Where access and working space are restricted, purpose built smaller rigs are used to construct Small Diameter bored piles. Piles can be installed working in limited headroom. The headroom and pile diameters available vary depending on type of rig.

**Bored Piled Walls**
Temporary or permanent bored piled walls can be constructed using CFA or Rotary rigs and can be designed to function in cantilever mode or with the support of props. Vertical loads from the proposed structure can also be accommodated.

The choice of any particular system will be dependent on access, working space, soils and loading conditions and we are always pleased to consider your individual design requirements.