

- Depth from ground level bearing stratum
- Final set, weight and drops of hammer
- Details of any obstructions observed

All records shall be accurately kept in duplicate as the work proceeds and one copy shall be handed to the Engineer at the completion of each day's work.

5.4.6.12 Precast reinforced concrete piles

Precast reinforced concrete piles shall be designed cast and cured to develop the strength necessary to withstand the transporting, handling and driving stresses without damage. Square piles shall have chamfered corners. Manufacturing and curing shall be in accordance with the herewith Employer's Requirements, Section 6: Concrete and Steel Works.

Any precast concrete pile section shall be checked against handling, stacking and storing stresses. In computing stresses due to handling, the static loads shall be increased by 50% as an allowance for impact and shock.

5.4.6.13 Cast in situ piles

Driven or bored cast in situ piles

Driven or bored cast-in-situ piles shall comprise a temporary or permanent casing of steel, or a permanent casing of precast concrete, augered or driven to a set and completely filled with dense concrete reinforced with steel bars.

All joints in the casing and between the casing and shoes where applicable shall be watertight during driving and completion of driven cast-in-situ piles. Permanent casing shall be inspected, e.g. by using a light lowered from the top after installation to ensure that the casing is neither damaged nor deformed and that all loose soil has been removed from the bottom of bored piles.

Drilling mud shall not be used unless otherwise approved by the Engineer.

Casing for cast in situ piles

The casing shall be suitable for the method of installation and for the purpose of jointing piles. The casing shall either be permanent or temporary.

Steel casing shall be delivered to site in lengths as long as can be conveniently handled. Ends shall be prepared for butt welding and designed to maintain true alignment of the pile.

Joints between steel casings shall be made by butt welding to DIN 1910 so that the full strength of the original section is developed. Welded joints shall be watertight.

Concrete filling cast in situ piles

The slump for the concrete shall be agreed with the Engineer prior to concreting preliminary test piles. Concrete filling in cast-in-situ piles shall be placed continuously. Removal of temporary casings must be completed before the placed concrete loses its workability, but placing of concrete shall keep in advance of withdrawal of casing to prevent 'necking'.

The groundwater table in the wastewater treatment plant area is close to the ground surface. Special care shall be taken while concreting piles under water. All concreting works both in dry and under water conditions shall be performed according to of "TS 3168 EN 1536: Execution of special Geotechnical Work: Bored Piles – Part 8"

Pile heads shall be stripped down and bonded into the pile caps as specified for precast concrete piles.