



Surface Water Drainage Design Notes

Ground conditions here comprise Topsoil over River Terrace Deposits (soft to firm silty sandy clays) over Upper Chalk. The River Terrace Deposits were found at 0.2 to 0.3m below ground level and comprised variable layers of silty clays, clayey silts and banded silty sands. Boreholes extended to 2.3m below ground level and did not penetrate the Upper Chalk.

No groundwater was found during the investigations in late November 2015 but subsequent groundwater monitoring has shown levels rising to 650mm below ground level in January 2016. All four groundwater monitoring points have shown consistent groundwater level changes.

The drainage design is based on percolation tests carried out to BRE365 in two shallow test holes in November 2015. The tests carried out in the deep boreholes have been discounted due to the subsequent high groundwater readings. Soil infiltration rates between 3.72E-5m/s and 6.25E-5m/s were obtained. The lowest value has been used for the surface water drainage design.

Permeable concrete block paving is proposed for the parking areas, combined with three 1.2m dia. concrete ring soakaways, each 2.0m deep. These will collect water from roof areas and distribute it within the permeable paving. Two of the soakaways will be connected as shown with a trench soakaway. A 400mm deep geocell will be used as soakage for a road gully serving the access and the channel drain at the highway boundary.

The permeable paving will incorporate a 350mm thick layer of coarse graded aggregate for storage. If it is to be used as a running surface during construction, a 130mm layer of bituminous material will be laid above so as not to damage the formation. The bituminous material will be punctured on completion prior to laying the block paving. An alternative 100mm thick sacrificial layer of hardcore on Terram could be used instead. 150mm cellweb or similar is to be used within any tree root protection areas.

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Project

Land at Northwood House
Burndell Road, Yapton

Client

Jeremy Napthine

Drawing Title

Foul and Surface Water
Drainage Layout

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