

Surface Water Drainage Design Notes

Ground conditions here comprise topsoil over River Terrace deposits which were found as firm silty sandy clays with some flint gravel becoming more sandy at depth. Groundwater in June 2015 was found at 2.2m below ground level and remained stable during the investigations. Groundwater levels are known to be high at times in this area however and 2 monitoring boreholes have been installed to enable readings to be taken over the winter period.

The drainage design is based on percolation tests carried out to BRE365 in four separate test holes in June 2015. Soil infiltration rates varied between 1.82E-6m/s and 1.11E-5m/s.

A bituminous surface is proposed for the main entrance and access with permeable concrete block paving throughout the remainder of the site, combined with seven 1.5m dia. concrete ring soakaways, each 2.0m deep, some of which have been located in the parking/turning areas with (provisionally) ten geocells in soft landscaped areas. The concrete ring soakaways can collect water from roof areas, distribute it within the permeable paving as required and provide a connection to the lower layers of permeable sandy/gravelly soils when groundwater levels allow. Additional shallow geocells have been assumed in soft landscaped areas as required at detailed design stage.

The permeable paving will incorporate a 350mm thick layer of coarse graded aggregate for surface water storage. It will be provided with a 130mm layer of bituminous material above as a running surface during construction, 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.

There is a 600mm diameter public surface water sewer in Bound Lane to which an attenuated connection could be made if required, subject to Southern Water confirming that there is sufficient capacity. However, it is considered that SUDS techniques for the on-site disposal of surface water would be practical and more preferable.

Foul Water Drainage Design Notes

Southern Water Services Ltd has confirmed in a letter dated 11 August 2015 that there is currently adequate capacity within the public foul sewerage network to accommodate the flow from the proposed development site. The sewer in Bound Lane is 225mm diameter and 3.24m deep and a gravity connection from the site can be made.

General Notes

Site is in Flood Zone 1 and is less than 1 hectare (approx 0.7ha)
OS Grid reference SZ 7250 9900
Post Code PO11 9HU

Key

- Proposed foul water drainage
- Proposed surface water drainage
- 250 dia surface water inspection chamber
- 450 dia surface water inspection chamber
- Surface water rodding eye
- Surface water gully and connection
- 250 dia foul water inspection chamber
- 450 dia foul water inspection chamber
- Existing public foul water sewer
- Permeable paving
- Concrete ring soakaway
- Geocellular soakaway

A	Layout GA updated	PC	RTFC	10.9.15	
-	Original	PC	RTFC	26.8.15	
Rev.	Description	App.	Chk.	Dm.	Date

Client
Whittington Homes Ltd

Project
Bound Lane
Hayling Island

Drawing Title
Drainage Strategy

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