



Surface Water Drainage Design Notes

The published geology here is Alluvium of clay, silt, sand and gravel bordering on Raised Beach and River Terrace Deposits overlying the New Pit Chalk Formation. Our investigations, however, and those of Ashdown SI, revealed a depth of up to 2.6m of Made Ground above these natural deposits.

The Made Ground generally comprised sandy, silty, gravely clay with fragments of brick, flint and concrete. Groundwater was found perched at various levels within the Made Ground. Groundwater monitoring was installed in early February 2018 and this has shown the underlying groundwater level within the chalk to be fairly consistent but rising to a maximum of 2.264m below ground level on 10th April 2018.

Percolation tests carried out to BRE365 principles has provided a soil infiltration rate of 6.238×10^{-9} m/s in the Made Ground but there is likely to be considerable variation across the site due to the nature of the ground and the perched groundwater.

We therefore propose permeable concrete block paving for the parking areas throughout the site in order to provide a large soakage area at shallow depth. We also propose two new concrete ring soakaways, each 2.1m diameter, 2m deep and will incorporate an existing concrete ring soakaway as indicated as it has shown to operate well in recent storm conditions.

This will only cater for the yard and parking, however, and we propose a deep-bore soakaway for the clean roof water, which will comply with the Environment Agency's Groundwater Protection Policy. This will comprise a 250mm diameter borehole 17.5m deep with headworks within a concrete ring for storage. Additional storage will be required, however, and this is provided for in 400mm geocells beneath one of the parking areas as shown. Ashdown SI carried out the deep-bore soakage testing and has provided the results used within the Microdrainage calculations.

The permeable paving will comprise 80 blocks over 50 laying course over 250 of hydraulically bound coarse graded aggregate such as no-fines concrete over a minimum of 150mm of coarse graded aggregate (to be determined following in-situ CBR testing).

Foul Water Drainage Design Notes

An existing 100mm diameter foul drain will be used for the new development. Gravity flows will not be possible from the new units and a pumped connection has been designed as indicated. This will serve staff toilets and washbasins only and flows will be minimal.

-	Original			RTFC	12.6.18
Rev.	Description	App.	Chk.	Dn.	Date
Client					
Vanstian Ltd					
Project					
Units 6 and 7 Brookside Avenue Rustington					
Drawing Title					
Drainage Layout, Sheet 2 Access and Parking Areas					
Robert Clark Associates Ltd Chartered Civil Engineers Willow Cottage, Herne Lane, Rustington West Sussex BN16 3EE Tel: 01903 778945 Fax: 01903 778967					
© This drawing is the copyright of Robert Clark Associates Limited It may not be copied or reproduced without their written authority					
Scale		At original		A2	
Drawing Number		1776/D1.2		Revision	
				-	