

## Percolation testing result

Site : Land adjacent to Lawndowns Bungalow, Grampound Road, Truro TR2 4EJ

The percolation tests were undertaken in accordance with the procedure described within B.S 6297 and resulted in a percolation value of 20.79s/mm.

Using the equation contained within Building Regulations H3.28 this has resulted in the conversion of the percolation value into an infiltration rate for use in surface water soakways designs as below.

$$f = 10^{-3}/3Vp \text{ m/s} = 10^{-3}/(3 \times 20.79) = 1.6 \times 10^{-5} \text{ m/s} = 0.058 \text{ m/hr.}$$

We believe this to be a reasonable rate demonstrating that the site is suitable for the use of infiltration as a means of surface water disposal and infiltration is top of the surface water disposal hierarchy in this area as described within Drainage Guidance for Cornwall, Building Regulations, CIRIA 753 (The SuDS Manual) etc.

Based on the provision of one soakaway, each serving the proposed dwelling, and an impermeable area of approximately 20m<sup>2</sup> we have calculated required soakaway sizes.

Calculations are based on the use of a granular fill material with a void ratio of approximately 0.3 (clean stone), a factor of safety of 2 (in accordance with the SuDs manual) and the worst-case design storm of 100yr return period with rainfall intensities increase by 40% to allow for the unknown effects of climate change, as generally required by the Lead Local Flood Authority (LLFA).

Results show a requirement for the soakaway to have plan dimensions of 2m x 1m with a cell depth of 1.3m.

Given the space available within the plot it is clear that the site can easily be drained to the required standard.