

London Clay underlies the site and is relatively impermeable. This is topped with more permeable material and soft landscaping. The soft landscaped areas delay the run-off rates from the site to the public sewers. The proposed development will add impermeable area to the site and subsequently will increase the run-off rates. However, the total volumes of run-off will be approximately equal to the existing considering the poor permeability of the London Clay.

The London Plan states that developers should aim to achieve Greenfield run-off rates from their sites. The site is approximately 650 m2 and therefore generates very low Greenfield run-off rates (approximately 0.8 l/sec based on an average Greenfield run-off rate of 8 l/sec/Ha for the London area). Defra and Environment Agency Preliminary Rainfall Run-off document (ref. R&D Technical Report W5-074/ATR/1) states that a minimum practical rate of 5 l/sec should be used for attenuation in order to avoid the flood risk from any blockages. Smaller attenuation rates require very small diameter flow control devices that could easily be blocked by debris.

Preliminary calculations show that a 13m3 attenuation tank will be able to accommodate surface water from the proposed development in the 1 in 100 year plus 30% storm (allowing for the rainfall increase due to the climate change) also restricting the run-off rate to 5l/sec

The area available for surface water retention tanks is limited by the proposed building area, added to which there are tree protection zones providing additional restrictions. The most practical way is to have more than one tank. Therefore, it is proposed that the storage would be divided between tanks at the front and rear of the property, contained within the proposed plant rooms, the exact split would be resolved once the full extent of the available space has been determined.