

Soakaway Design (SUDs)
For Site at
34 Vine Lane, Hillingdon, UB10 0BA

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Introduction

AB Structural Designs Ltd was appointed by Mr Harvey Purewal to conduct an infiltration report and to design a suitable drainage system for the site of No34 Vine Lane, Hillingdon, UB10 0BA. This report is based on the site testing that started on 14th July 2022 and lasted for 3 days.

Proposal

The site is proposed to be developed by way of demolishing the existing dwelling and construction of two detached dwellings known as No34 and No34a. This document will provide a design for a soakaway for the proposed new dwellings impermeable areas consisting of the roof areas and hardstanding's.

Content of the report

- BRE 365 calculation (SUD calculation please see attached)

Infiltration calculation

The Ground investigation taken on site was investigated over 1 trial pit drawing No CD/ASB/6 shows the location of the trial pit on the site.

One trial pit was dug 1m deep, 1m wide and 1m long and was filled 3 times to 0.75m (effective depth) over the 3 days. The drop of water from 75% to 25% was timed and recorded below.

Trial pit 1

- Day 1, 75% to 25% drop in 165 minutes
- Day 2, 75% to 25% drop in 187 minutes
- Day 3, 75% to 25% drop in 206 minutes

The attached BRE 365 calculation shows the infiltration calculation.

Soakaway design

The two attached BRE 365 calculation shows sizes of soakaway for No34 and No34a.

An Aquacell system is proposed to be used for the Soakaway and according to the calculation the required soakaway size based on this system for No34 and No34a is to be no less than 10.57m³ and 11.35m³ respectively.

As each aquacell unit provides a 0.2m³ volume No34 and No34a require 53 and 57 units respectively are required.

Conclusion:

From the site testing that took place and the supporting calculations the recommended soakaway design for the site should be of a aquacell system the amount of volume for No34 and No34a is to be no less than 10.57m³ and 11.35m³ respectively. This is so that the storm water can be held adequately and discharged in to the soil naturally.