

# Greenfield runoff rate estimation for sites

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#### Site Details

 Latitude:
 50.95497° N

 Longitude:
 0.53082° W

Reference: 904707120

Date: Jul 03 2021 11:03

Calculated by: Paul Anderson

Site name: 2019-249 - BGC, Pulboroughh

Site location: RH20 1DS

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be

the basis for setting consents for the drainage of surface water runoff from sites.

## **Runoff estimation approach**

Edited

4

N/A

0.47

#### Site characteristics

Notes

Total site area (ha):

0.4

# (1) Is $Q_{BAR} < 2.0 \text{ l/s/ha}$ ?

Methodology

Q<sub>BAR</sub> estimation method:

Calculate from SPR and SAAR

Default

N/A

0.1

IH124

SPR estimation method: Calculate from SOIL type

When  $Q_{BAR}$  is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

#### Soil characteristics

SOIL type:

**HOST class:** 

SPR/SPRHOST:

# (2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements

#### Hydrological characteristics

SAAR (mm):

Hydrological region:

Growth curve factor 1 year:

Growth curve factor 30 years:

Growth curve factor 100 years:

Growth curve factor 200 years:

Default	Edited
857	857
7	7
0.85	0.85
2.3	2.3
3.19	3.19
3.74	3.74

### (3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

#### Greenfield runoff rates

Q<sub>BAR</sub> (I/s):

1 in 1 year (l/s):

1 in 30 years (I/s):

1 in 100 year (l/s):

1 in 200 years (I/s):

Default	Edited
0.09	2.45
0.07	2.08
0.2	5.63
0.27	7.81
0.32	9.15

Soakaway tests found impermeable clay therefore the edited soil values have been applied.

A discharge design rate of Qbar has been selected for design storms up to 100 year plus climate change as shown in the attached Microdrainage calculations.

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.