

Appendix H

Greenfield Runoff Calculations

Calculated by:

Site name:

Site location:

Site Details

Latitude:

Longitude:

Reference:

Date:

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

Site characteristics

Total site area (ha):

Methodology

Q_{BAR} estimation method:

SPR estimation method:

Soil characteristics

	Default	Edited
SOIL type:	<input type="text" value="4"/>	<input type="text" value="4"/>
HOST class:	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>
SPR/SPRHOST:	<input type="text" value="0.47"/>	<input type="text" value="0.47"/>

Hydrological characteristics

	Default	Edited
SAAR (mm):	<input type="text" value="987"/>	<input type="text" value="987"/>
Hydrological region:	<input type="text" value="10"/>	<input type="text" value="10"/>
Growth curve factor 1 year:	<input type="text" value="0.87"/>	<input type="text" value="0.87"/>
Growth curve factor 30 years:	<input type="text" value="1.7"/>	<input type="text" value="1.7"/>
Growth curve factor 100 years:	<input type="text" value="2.08"/>	<input type="text" value="2.08"/>
Growth curve factor 200 years:	<input type="text" value="2.37"/>	<input type="text" value="2.37"/>

Notes

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

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

(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.

(3) Is $SPR/SPRHOST \leq 0.3$?

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	Default	Edited
Q_{BAR} (l/s):	<input type="text" value="81.91"/>	<input type="text" value="81.91"/>
1 in 1 year (l/s):	<input type="text" value="71.26"/>	<input type="text" value="71.26"/>
1 in 30 years (l/s):	<input type="text" value="139.25"/>	<input type="text" value="139.25"/>
1 in 100 year (l/s):	<input type="text" value="170.37"/>	<input type="text" value="170.37"/>
1 in 200 years (l/s):	<input type="text" value="194.13"/>	<input type="text" value="194.13"/>

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.