

Appendix E

Green-field Run-off Calculations

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.

Project details

Date	08/09/2025
Calculated by	
Reference	
Model version	2.1.2

Location

Site name	Westbury Road
Site location	Warminster



Site easting (British National Grid)	387059
Site northing (British National Grid)	146344

Site details

Total site area (ha)	6.7	ha
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Greenfield runoff

Method

Method	FEH statistical
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FEH statistical

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	854	mm	854
BFIHOST	.645		
QMed-QBar conversion	1.075		1.075
QMed (l/s)	19.11	l/s	
QBar (FEH statistical) (l/s)	20.55	l/s	

Growth curve factors

	<u>My value</u>		<u>Map value</u>
Hydrological region	8		8
1 year growth factor	0.78		
2 year growth factor	0.93		
10 year growth factor	1.49		
30 year growth factor	1.95		
100 year growth factor	2.43		
200 year growth factor	2.78		

Results

Method	FEH statistical	
Flow rate 1 year (l/s)	16.0	l/s
Flow rate 2 year (l/s)	19.1	l/s
Flow rate 10 years (l/s)	30.6	l/s
Flow rate 30 years (l/s)	40.1	l/s
Flow rate 100 years (l/s)	49.9	l/s
Flow rate 200 years (l/s)	57.1	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.1.2) developed by HR Wallingford and available at uksuds.com (<https://www.uksubs.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksubs.com/terms-conditions>). The outputs from this tool have been used to estimate 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, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.