

SUR 1 - Summary Report Template

Introduction:

This template can be used to demonstrate compliance with the criteria specified in Sur 1 in the Code for Sustainable Homes. The form can be used by the Code Assessor to aid in assessing the Sur 1 issue and can be provided as supporting evidence in addition to the items listed in the schedule of evidence for Sur 1. Completing this template is optional (where this template is not used, a summary in the format of this template must be provided).

National policy documents have been used to set the standards for the mandatory element of Sur 1. PPS25 Development and Flood Risk (ODPM, 2006) and the SuDS manual are two of the key documents used. Further reading is listed in the References section of the Technical Guide.

Instructions:

Where submitting this template as supporting evidence for a Code assessment please ensure that the assessor completes the contact details (Section A) and the appropriately qualified professional completes the rest of the template, ensuring that it is signed and dated. If the form is incomplete and / or unsigned it will not be accepted as evidence supporting a Code assessment.

The Technical Guide states the calculation methodologies to be used to demonstrate compliance with some aspects of the criteria, for example the greenfield runoff rates. Although flexibility in choice of methodology is available for some of the criteria, best practice methodologies should always be used. If required, information regarding applicable calculation methodologies can be found in the SUDS Manual (CIRIA, 2007). Reputable software, such as Microdrainage, can be used for calculation purposes.

Code for Sustainable Homes - Technical Guidance Issue

This template is for use with the following technical guidance issue(s):

- November 2010

Section A - To be completed by the Code assessor**Contact Details:****Consultant / Engineer details**

Company Name:	Techniker Limited
Company Address:	13-19 Vine Hill. London. EC1R 5DW
Contact Name:	Fardad Ghaffari
Contact Telephone Number:	020 7360 4300

Developer / Client details

Company Name:	Iain Brewster (Private Client)
Company Address:	15 Pond Square, Highgate, London N6 6BA
Contact Name:	Iain Brewster
Contact Telephone Number:	0207 4340235

Developer details

Company Name:	Iain Brewster (Private Client)
Company Address:	15, Pond Square, Highgate, London, N6 6BA
Contact Name:	Iain Brewster
Contact Telephone Number:	0207 4340235

Section B - To be completed by the Appropriately Qualified Professional

Mandatory Requirements

Part 1: Appropriately Qualified Professional

1.	Please tick one of the appropriate boxes to confirm where details have been provided to corroborate your suitability to undertake the calculations and design criteria for the SUR 1 assessment. ¹		
	A. Details have been provided within the SUR 1 report and issued to the Code assessor.	<input type="checkbox"/>	
	Or:		
	B. Details have been provided within a CV and issued to the Code assessor.	<input checked="" type="checkbox"/>	
	Or:		
	C. Details have been provided within a letter/email and issued to the Code assessor.	<input type="checkbox"/>	
	Or:		
	D. Details are provided below.	<input type="checkbox"/>	
Please state your experience / qualifications to undertake the calculations and design criteria:			

Part 2: Assessment Information

2.	For sites containing a mixture of non-Code and Code assessed dwellings there are several assessment options for Sur 1. The first would be to assess the whole site (including the non-Code dwellings) under the Code criteria. The second would be to demonstrate with several separate reports that each group of Code dwellings (and the associated sub catchments serving those dwellings) on the site have met the criteria individually. Please tick one of the following boxes;		
	A. The site contains a mixture of Code and non-Code dwellings and the whole site has been assessed under the Sur 1 criteria including any associated sub catchments serving these dwellings.	<input type="checkbox"/>	
	Or:		
	B. The site contains a mixture of Code and non-Code dwellings and there is more than one assessed area for Sur 1 within the site boundary. Please write the number of assessed areas within the site in the space provided below (you will need to complete this template for each assessed area) ² .	<input type="checkbox"/>	
		Number of assessed areas:	
	Or:		
C. The site only contains Code assessed dwellings and the associated sub catchment serving those dwellings.	<input checked="" type="checkbox"/>		

Part 3: Site Information

3.	A. Please provide the site area ³ (delete units of measurement as applicable)	0.82	m ²
	B. Please provide the impermeable area of the site pre-development (delete units of measurement as applicable)	0.82	m ²
	C. Please provide the impermeable area of the site post development (delete units of measurement as applicable)	0.82	m ²

¹ Refer to the technical guide for details on the definition of an appropriately qualified professional.

² It would aid the QA process to provide a site plan highlighting each assessment area and highlighting which area is being assessed in this report.

³ The site area will include all areas within the boundaries of the site, including both permeable and impermeable areas. If box B, Part 2 has been ticked, the 'site area' will be only that for which this template demonstrates compliance.

Part 4: Special Cases⁴

4.	Please tick the relevant box below to identify where a special case applies for the site:	
	A. The man-made impermeable surface area has decreased or remained unchanged as a result of the development, and the mandatory element of this issue has been met by default.	<input type="checkbox"/>
	B. A minimum flow rate or maximum storage requirement has been set by the sewerage undertaker (or other statutory body).	<input type="checkbox"/>
	C. Planning approval has been granted for the detailed drainage strategy prior to the Code requirement being set for the development	<input type="checkbox"/>
	D. The assessed dwelling is directly connected to existing infra-structure which pre-dates the Code requirement.	<input checked="" type="checkbox"/>
	E. Not applicable.	<input type="checkbox"/>
5.	Tick one or both of the following to confirm if some or all of the highways will be omitted from the impermeable areas in the calculations for one of the following reasons ⁵ :	
	A. The highways are being adopted	<input type="checkbox"/>
	B. The Code dwellings are being built beside existing highways.	<input checked="" type="checkbox"/>
	C. Not applicable.	<input type="checkbox"/>

Part 5: Peak Rate of Runoff

6.	A. Pre-development peak rate of runoff for the 1 year return period event ⁶	4.9	l/s
	B. Post-development peak rate of runoff for the 1 year return period event ⁶ (this figure must be less than or equal to A, except where the 5l/s rule has been used)	5	l/s
	C. Pre-development peak rate of runoff for the 100 year return period event ⁶	14.7	l/s
	D. Post-development peak rate of runoff for the 100 year return period event ⁶ (this figure must be less than or equal to C, except where the 5l/s rule has been used)	5.13	l/s
7.	Please tick this box to confirm that the 5l/s rule has been applied where the peak rates of runoff have increased post development, but are still equal to or less than 5l/s.		<input checked="" type="checkbox"/>
8.	If, post-development, it was necessary to reduce the peak rate of runoff to meet the Code criteria, please provide a brief explanation below describing how the peak rate was reduced. For example, 'soakaways reduce the peak rate of runoff to pre-development levels'.		N/A <input type="checkbox"/>
9.	Please tick this box to confirm that the post development peak rate of runoff calculations include an allowance for climate change in accordance with current best practice (PPS25, 2006).		<input type="checkbox"/>
10.	Please tick one of the following boxes as applicable to this site:		
	A. This is a greenfield site and is less than 50 ha therefore runoff rate calculations have been carried out in accordance with the IH Report 124 'Flood estimation for small catchments' (Marshall and Bayliss, 1994). The pro rata method on the size of catchment detailed in table 4.2 of the SuDS manual has been used.		<input type="checkbox"/>

⁴ Refer to the Technical Guide for details on the supporting evidence required to demonstrate compliance with these special cases. This evidence must be provided to demonstrate how the special case is being met.

⁵ Refer to the technical guide for details on when an adoptable road can be omitted from the assessment.

⁶ Peak rate of runoff calculations should be carried out for the range of storm durations up to and including the 6 hour storm. The peak rate of runoff for the storm event will then be the 'worst case' runoff rate for the range of storm durations. The climate change allowance should be added only to the post development calculations.

⁷ Note that detailed documentary evidence (as per the schedule of evidence table in the Technical guide) is required to demonstrate how the peak rate of runoff has been reduced.

B. This is a greenfield site of 50 to 200 ha therefore runoff rate calculations have been carried out in accordance with the IH Report 124 'Flood estimation for small catchments' (Marshall and Bayliss, 1994).	<input type="checkbox"/>
C. This is a greenfield site of more than 200 ha (or where there is a preference to do so and the catchment is considered suitable for its application) therefore runoff rate calculations have been carried out in accordance with the 'Flood estimation handbook' (Centre for Ecology and Hydrology, 1999).	<input type="checkbox"/>
D. This is a greenfield site of more than 200ha where the Flood Estimation handbook is considered inappropriate for the development therefore the IH Report 124 has been used.	<input type="checkbox"/>
E. This is a brownfield site and runoff rates have been calculated in accordance with current best practice simulation modelling.	<input checked="" type="checkbox"/>
F. This is a Brownfield site where the pre development surface water drainage system is not known therefore the runoff rates have been calculated using the Greenfield run-off model ticked above (please tick the relevant methodology), but using soil type 5.	<input type="checkbox"/>

Part 6A: Volume of Runoff

11.	Please tick this box to confirm that the following post development volume of runoff calculations include an allowance for climate change in accordance with current best practice (PPS25, 2006).	<input type="checkbox"/>	
	Please tick this box to confirm that the following volume of runoff calculations are for the 100 year event of 6 hour duration.	<input checked="" type="checkbox"/>	
12.	A. Pre-development volume of runoff	106	m ³
	B. Volume of runoff caused by the new development prior to mitigation	108	m ³
	C. Additional predicted volume of rainwater caused by the new development prior to mitigation (= 12B - 12A)	2	m ³
	D. If the answer to 12C is greater than zero, please provide a brief explanation below describing how you have reduced the additional volume discharged from the developed site, for example, 'soakaways will infiltrate all of the additional volume': Green roof will manage this additional volume <p style="text-align: right;">(criterion Part 6A cannot be satisfied, see section 13)</p>		N/A <input type="checkbox"/>
	Please provide the additional volume of runoff discharged from the site when all (if any) mitigation measures described in 12D are in place.	0	m ³
13.	A. Where there is an increase in the volume of runoff as a result of the development and criteria "Part 6A" cannot be satisfied via infiltration or other SuDS techniques (as listed below), please provide an explanation below (evidence to support the reasoning should be provided in the hydrological report): ----- Soakaways: ----- Porous/Pervious paving: ----- Rainwater re-use harvesting: ----- Green Roof: To manage additional volume		

	<p>Other surface infiltration techniques:</p>
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Part 6B: Volume of Runoff

14.	Where it has not been possible to reduce all of the additional volume by infiltration or other SuDS techniques, the volume of runoff should be discharged in accordance with one of the following rates of runoff, whichever is the higher. Please tick one of the boxes below to confirm the level of flow control that has been achieved:	
	A. The peak discharge rate has been reduced to pre development 1 year peak flow rate	<input type="checkbox"/>
	Please state the pre development 1-year peak flow rate:	
		l/s
	Or:	
	B. The peak discharge rate has been reduced to the site's estimated mean annual flood flow rate (Qbar).	<input type="checkbox"/>
	Please state Qbar:	
		l/s
	Or:	
	C. The peak discharge rate has been reduced to 2l/s/ha.	<input type="checkbox"/>
	Please state the peak discharge rate at 2l/s/ha:	
	Or:	
	D. The limiting discharge rate requires a flow rate of less than 5l/s at a discharge point, therefore a flow rate of up to 5l/s has been used	<input checked="" type="checkbox"/>

Part 7: Designing for Local Drainage System failure

15.	Tick here to confirm that the consequences of system failure caused by extreme rainfall, lack of maintenance, blockage or other causes, have been considered and evaluated fully and there will be no increased risk to dwellings either on or off site. ⁸	<input checked="" type="checkbox"/>
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Section C - To be completed by the Appropriately Qualified Professional

Awarding of Credits


Part 8: Water Quality Criteria

16.	A. Tick here to confirm that there will be no discharge from the developed site for rainfall depths up to 5 mm. Please provide a brief explanation below describing how the runoff from rainfall depths up to 5 mm will be prevented from leaving the site:	<input checked="" type="checkbox"/>
	B. Tick here to confirm that the runoff from all hard surfaces shall receive an appropriate level of treatment in accordance with the SuDS Manual to minimise the risk of pollution to the receiving watercourse. Please provide a brief explanation below describing how the hard surfaces will receive an appropriate level of treatment:	<input checked="" type="checkbox"/>

⁸ Refer to the technical guide for details on the evidence that would be required to demonstrate that this has been considered fully.

Section D - To be completed by the Appropriately Qualified Professional

Part 9: Confirmation

17.	The following declaration should be signed by the appropriately qualified professional responsible for ensuring that the development meets the SUR 1 mandatory criteria and the necessary criteria to allow the awarding of credits, where applicable.	
	I confirm that the information provided in this document is truthful and accurate at the time of completion.	
	Name of Appropriately Qualified Professional:	Fardad Ghaffari
	Signature of Appropriately Qualified Professional:	
	Date:	18 May 2016