

BREEAM UK New Construction 2014
Guidance Note GN15

Relating drainage reports to BREEAM

The purpose of this guidance note is to help assist BREEAM Assessors relate the contents of a drainage report to the Surface water run-off and Minimising watercourse pollution criteria in Pol 03 (Surface water run-off and minimising water course pollution) in the BREEAM UK New Construction 2014 scheme. This note and the accompanying template can be used by the BREEAM Assessor as supporting evidence for their assessment of the building and award of BREEAM credits.

Note:

- Completing this template is optional, it is not a requirement for demonstrating compliance with Pol03 but an aid.
- This form is not applicable to the 'Flood resilience' section of this issue.

Instructions

The **BREEAM Assessor must complete Section A Contact details** and the **appropriate consultant must complete all other sections**, including section E 'Signature of Validation'.

If the form is incomplete and / or unsigned it will not be accepted as evidence supporting a BREEAM assessment.

The below sections to be completed by the projects BREEAM Assessor

Section A: Contact Details

Consultant/Engineer Details

Company name:	<input type="text"/>
Company address:	<input type="text"/>
Contact name:	<input type="text"/>
Contact telephone number:	<input type="text"/>

Developer/Client Details

Company name:	<input type="text"/>
Company address:	<input type="text"/>
Contact name:	<input type="text"/>
Contact telephone number:	<input type="text"/>

Development Details

BRE project reference number (if known):	<input type="text"/>
Development name:	<input type="text"/>
Development address:	<input type="text"/>

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All of the following sections of the template to be completed by the appropriate consultant

Section B: Assessment Information

1.	Where the assessed building is part of a larger development of buildings there are number of options for assessment of the surface water run-off and minimising water course pollution credits. Please tick one of the following boxes to confirm the approach taken:	
	<input type="checkbox"/>	A. An individual building is being assessed independently where the run-off is being dealt with on a building by building basis (i.e. each building has its own dedicated sub-catchment that serves only that building).
	<input type="checkbox"/>	B. This assessment is part of a larger site with a number of buildings (which can include domestic and/or non-domestic buildings), and this template covers the drainage from the local sub-catchment serving all those dwellings/buildings within the sub catchment. To do this the site has been split up into smaller pockets of land covering one or several buildings ¹ . Please confirm the number of assessed areas within the site (you will need to complete this template for each assessed area) ² . Number of assessed areas: _____
OR		
	<input type="checkbox"/>	C. The whole development has been assessed for compliance on a site wide basis.

Site Information

2.	<input type="checkbox"/>	A. Please provide the site area ³ (select unit of measurement in drop-down list)	
	<input type="checkbox"/>	B. Please provide the impermeable area of the site pre-development (select unit of measurement in drop-down list)	
	<input type="checkbox"/>	C. Please provide the impermeable area of the site post development (select unit of measurement in drop-down list)	
3.	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 ⁴ :		
	<input type="checkbox"/>	A. The highways are being adopted.	
	<input type="checkbox"/>	B. The building(s) will be located beside existing highways already adopted.	

- Note: proportioning cannot be used to calculate the percentage of run-off discharging into the local sub-catchment resulting from just the assessed building.
- 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.
- The site area will include all areas within the boundaries of the site, including both permeable and impermeable areas. If box 1A or 1B has been ticked, the 'site area' will be only that for which this template demonstrates compliance.
- Refer to the BREEAM UK New Construction 2014 technical manual, compliance note CN14, for details on when an adoptable road can be omitted from the assessment.

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Section C: Consultant's qualifications

Pre-Requisite

Appropriate Consultant

1. I can confirm that I am an appropriate consultant, as defined by BREEAM⁵

Section D: Awarding of credits

FIRST CREDIT: Peak Rate of Run-off

	<input type="checkbox"/>	Please tick this box if this credit within the Pol 03 issue is not being sought.	
2.		A. Please provide the pre-development peak rate of run-off for the 1 year return period event ⁶	l/s
		B. Please provide the post-development peak rate of run-off for the 1 year return period event ⁵ (this figure must be less than or equal to A, except where the 5l/s rule has been used)	l/s
		C. Please provide the pre-development peak rate of run-off for the 100 year return period event ⁵	l/s
		D. Please provide the post-development peak rate of run-off for the 100 year return period event ⁵ (this figure must be less than or equal to C, except where the 5l/s rule has been used)	l/s
3.	<input type="checkbox"/>	Please tick this box to confirm that the building meets the 5l/s compliance criteria.	
4.		If, post-development, it is necessary to reduce the peak rate of run-off to meet the BREEAM criteria, please provide a brief explanation below describing how the peak rate will be reduced. For example, 'soakaways reduce the peak rate of run-off to pre-development levels'. ⁷	
	<input type="checkbox"/>	N/A	
5.	<input type="checkbox"/>	Please tick this box to confirm that the post development peak rate of run-off calculations include an allowance for climate change in accordance with current best practice planning guidelines.	

5 Refer to the BREEAM UK New Construction technical manual for the definition of an appropriate consultant.

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

7 Note that a consultants report containing all necessary information is required to demonstrate how the peak rate of run-off has been reduced.

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6.	Please tick one of the following boxes as applicable to this site:	
	<input type="checkbox"/>	A. The assessed project is located on a greenfield site and is less than 50 ha therefore run-off 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"/>	B. The assessed project is located on a greenfield site of 50 to 200 ha therefore run-off 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. The assessed project is located on 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 run-off rate calculations have been carried out in accordance with the 'Flood estimation handbook' (Centre for Ecology and Hydrology, 1999).
	<input type="checkbox"/>	D. The assessed project is located on 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. The assessed project is located on a brownfield site and run-off rates have been calculated in accordance with current best practice simulation modelling.
	<input type="checkbox"/>	F. The assessed project is located on a Brownfield site where the pre-development surface water drainage system is not known therefore the run-off rates have been calculated using the Greenfield run-off model ticked above (please tick the relevant methodology above), but using soil type 5.

SECOND CREDIT: Volume of Run-off

	<input type="checkbox"/>	Please tick this box if this credit within the Pol 03 issue is not being sought.
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Designing for Local Drainage System failure (criteria 8)

7.	<input type="checkbox"/>	Tick here to confirm that flooding of property will not occur in the event of local drainage system failure (caused by extreme rainfall or lack of maintenance). ⁸
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Volume requirements - criteria 9-10 and 13-14

8.	<input type="checkbox"/>	Please tick this box to confirm that the following post development volume of run-off calculations include an allowance for climate change in accordance with current best practice planning guidelines.
	<input type="checkbox"/>	Please tick this box to confirm that the following volume of run-off calculations are for the 100 year event of 6 hour duration.

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

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9.	A. Please provide the pre-development volume of run-off		m ³
	B. Please provide the post development volume of run-off caused by the new development prior to mitigation		m ³
	C. Calculate the additional predicted volume of rainwater caused by the new development prior to mitigation (= 9B – 9A)		m ³
	D. If the answer to 9C 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':		
	<input type="checkbox"/>	N/A	
<input type="checkbox"/>	Please provide the additional volume of run-off discharged from the site when all (if any) mitigation measures described in 9D are in place.		m ³
10.	A. Where there is an increase in the volume of run-off as a result of the development and criteria 9 and 10 cannot be fully satisfied via infiltration or other SuDS techniques (as listed below), please provide an explanation under the following headings (evidence to support the reasoning should be provided in/via the hydrological report):		
	<p>Soakaways:</p> <p>Porous/Pervious paving:</p> <p>Rainwater re-use/harvesting:</p> <p>Green Roof:</p> <p>Other surface infiltration techniques:</p> <p><input type="checkbox"/> N/A (all additional volumes of run-off have been dealt with)</p>		

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Volume requirements – Criteria 10-11⁹ (and 12-13)

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

⁹ Note that criteria 9 and 10 (and 13-14) must be satisfied as far as possible prior to then applying criteria 11-12 (and 13-14).

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THIRD CREDIT: Minimising Water Course pollution		
	<input type="checkbox"/>	Please tick this box if this credit within the Pol 03 issue is not being sought.
12.	<input type="checkbox"/>	<p>Tick this box to confirm that there will be no discharge from the developed site for rainfall up to 5 mm.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p> <p style="text-align: right;"><input type="checkbox"/> N/A</p>
	<input type="checkbox"/>	<p>Tick this box to confirm the specification of Sustainable Drainage Systems (SUDs) or source control systems such as permeable surfaces or infiltration trenches where run-off drains are in areas with a relatively low risk source of watercourse pollution.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p> <p style="text-align: right;"><input type="checkbox"/> N/A</p>
	<input type="checkbox"/>	<p>Tick this box to confirm the specification of oil/petrol separators (or equivalent system) in surface water drainage systems, where there is a high risk of contamination or spillage of substances such as petrol and oil.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p> <p style="text-align: right;"><input type="checkbox"/> N/A</p>
	<input type="checkbox"/>	<p>Tick this box to confirm that, where present, chemical/liquid gas storage areas have a means of containment.</p> <p><i>Please provide a brief explanation as to how this is being met.</i></p> <p style="text-align: right;"><input type="checkbox"/> N/A</p>
	<input type="checkbox"/>	<p>Tick this box to confirm that all water pollution prevention systems have been designed and detailed in accordance with the recommendations of Pollution Prevention Guideline 3 and where applicable the SUDS manual.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p> <p style="text-align: right;"><input type="checkbox"/> N/A</p>

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12	<input type="checkbox"/>	<p>Tick this box to confirm that a comprehensive and up-to-date drainage plan of the site will be made available. (NOTE: Evidence from the developer will be required to confirm that this drainage plan will be made available for the building/site occupiers)</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p>	<input type="checkbox"/> N/A
	<input type="checkbox"/>	<p>Tick this box to confirm that relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS have been / will be put in place.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide a brief explanation.</i></p>	<input type="checkbox"/> N/A
	<input type="checkbox"/>	<p>Tick this box to confirm that, where present, all external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidelines.</p> <p><i>Please provide a brief explanation as to how this is being met. Where this is N/A please also provide an explanation.</i></p>	<input type="checkbox"/> N/A

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Section E: Signature of Validation

Signature

The following declaration should be signed by the appropriate consultant responsible for ensuring that the development meets the Pol 03 surface water run-off and minimising water course pollution criteria, where applicable.

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Name of appropriate consultant:

Signature of appropriate consultant:

Date:
