

Royal Borough of Windsor and Maidenhead Surface Water Drainage Summary Pro-forma

February 2025

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Introduction

RBWM recommends that this pro-forma is completed in full and accompanies the submitted drainage strategy and sufficient additional evidence to confirm the information supplied.

This information should be submitted with any planning application which seeks permission for 'major' development. The RBWM will use the information on this form in its role as Lead Local Flood Authority and 'statutory consultee' on SuDS for all 'major' planning applications. The pro-forma aligns with the national non-statutory technical SuDS standards and can be completed using freely available tools including SuDS Tools ([Tools | UK SuDS](#)).

The pro-forma should be considered in conjunction with other supporting SuDS guidance such as the LASOO guidance ([Knowledge & Resources - Association of SuDS Authorities \(suds-authority.org.uk\)](#)) however, it focuses on NPPF paragraphs 170-182: ([National Planning Policy Framework \(publishing.service.gov.uk\)](#)) ensuring flood risk is not increased on or off-site and using SuDS as the primary drainage option. The SuDS solution must function properly for the duration of the developments existence and consideration of maintenance and management must be clearly demonstrated throughout its lifetime.

Please complete this proforma in full for full applications and only sections marked as outline for outline applications. See the notes column for additional guidance.

Section 1- Site Details

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
1.1	Planning application reference (if known)			Outline & Full
1.2	Site name			Outline & Full
1.3	Total application site area (in hectares)	All area within the proposed application site boundary to be included.		Outline & Full
1.4	Predevelopment use	Predevelopment use may impact on the allowable discharge rate. The LLFA will seek for reduction in flow rates to greenfield rate.		Outline & Full
1.5	Urban Creep applicable		Yes/No	Outline & Full
1.6	If Urban Creep required, factor applied (percentage)			Outline & Full
1.7	Proposed design life/ planning application life (in years)			Outline & Full
1.8	Have agreements in principle (where applicable) for discharge been provided?		Yes/No	Outline & Full

Section 2- Method(s) of Discharge

Runoff may be discharged by one or multiple methods.

Reference number	Information needed	Response (to be completed)	Required
2.1	Reuse	Yes/No	Full
2.2	Infiltration	Yes/No	Full
2.3	Hybrid	Yes/No	Full
2.4	Watercourse	Yes/No	Full
2.5	Surface Water Sewer	Yes/No	Full
2.6	Combined Sewer	Yes/No	Full

Section 3- Calculation Inputs

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
3.1	Area within proposed site which is drained by SuDS (in hectares)	The site area which is positively drained includes all green areas which drain to the SuDS system and area of surface SuDS features. It excludes large open green spaces which do not drain to the SuDS system.		Outline & Full
3.2	Impermeable area drained predevelopment (in hectares)	Impermeable area should be measured pre and post development. Impermeable surfaces include roofs, pavements, driveways and paths; where runoff is conveyed to the drainage system.		Outline & Full
3.3	Impermeable area drained post development (in hectares)	Impermeable area should be measured pre and post development. Impermeable surfaces include roofs, pavements, driveways and paths; where runoff is conveyed to the drainage system.		Outline & Full

3.4	Additional impermeable area (Question 3.3 minus Question 3.2) (in hectares)			Outline & Full
3.5	Method for assessing greenfield runoff rate			Outline & Full
3.6	Method for assessing brownfield runoff rate (if applicable)			Outline & Full
3.7	Coefficient of runoff (Cv)	Sewers for Adoption 7 th Edition recommends a Cv of 100% when designing drainage for impermeable area (assumes no loss of runoff from impermeable surfaces) and 0% for permeable areas. Where lower Cv's are used the applicant should justify the selection of Cv.		Outline & Full
3.8	Source of rainfall data			Outline & Full
3.9	Climate change factor applied (percentage)			Full

Section 4- Attenuation (positive outlet)

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
4.1	Drainage outlet at risk of drowning (elevated water levels in watercourse/sewer)		Yes/No	Full
4.2	Invert at final outlet (in metres above ordnance datum)			Full
4.3	Design level used for surcharged water level at outlet (in metres above ordnance datum)	Careful consideration should be used for calculations where flow control/storage is likely to be influenced by surcharged sewer or peak levels within a watercourse. Calculations should demonstrate that risk of drowned outlet has been taken into consideration. Vortex controls require		Full

		conditions of free discharge to operate as per specification.		
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Section 5- Infiltration (Discharge to Ground)

Reference number	Information needed	Response (to be completed)	Required
5.1	Have infiltration tests been undertaken?	Yes/No	Outline & Full
5.2	If yes, which methods have been used? (please specify whether tests have been completed on site or using a desk study)		Outline & Full
5.3	Infiltration rate (where applicable) (in metres per second)		Outline & Full
5.4	Depth to highest known ground water table (in metres above ordnance datum)		Full
5.5	Depth of infiltration feature (in metres above ordnance datum)		Full
5.6	Factor of safety used for sizing infiltration storage		Full

Sections 6- 11 Calculation Outputs

Sections 6, 7 and 8 refer to sites where storage is provided by full attenuation or partial infiltration. For sites where all flows are infiltrated to ground go straight to section 9.

Section 6- Greenfield runoff rates

Reference number	Information needed	Response (to be completed)	Required
6.1	1 in 1 year rainfall (in litres per second)		Outline & Full
6.2	1 in 30 year rainfall (in litres per second)		Outline & Full
6.3	1 in 100 year rainfall (in litres per second)		Outline & Full
6.4	Qbar (in litres per second)		Outline & Full

Section 7- Brownfield runoff rates

Reference number	Information needed	Response (to be completed)	Required
7.1	1 in 1 year rainfall (in litres per second)		Outline & Full
7.2	1 in 30 year rainfall (in litres per second)		Outline & Full
7.3	1 in 100 year rainfall (in litres per second)		Outline & Full

Section 8- Proposed maximum rate of runoff from site (incl. Urban Creep)

It is the RBWM's preference that discharge rates for all events up to the 1 in 100 year rainfall event plus climate change match the greenfield rate for the same rainfall event.

The climate allowance for all developments is 40%.

Reference number	Information needed	Response (to be completed)	Required
8.1	1 in 1 year rainfall (in litres per second)		Outline & Full
8.2	1 in 30 year rainfall (in litres per second)		Outline & Full
8.3	1 in 100 year rainfall plus climate change allowance (in litres per second)		Outline & Full

Section 9- Attenuation storage to manage flow rates from site (inclusive of Climate Change Allowance and Urban Creep)

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
9.1	Volume of Storage for the 1 in 100 year plus Climate Change Allowance (in metres cubed)	Runoff generated from rainfall events up to the 1 in 100 year rainfall event will not be allowed to leave the site in an uncontrolled way. Temporary flooding of designated areas to shallow depths and velocities may be acceptable.		Full
9.2	50% storage drain down time for 1 in 30 year rainfall (in hours)			Full

Section 10- Volume control provision

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
10.1	Interception losses (in metres cubed)			Full
10.2	Rain harvesting (in metres cubed)			Full
10.3	Infiltration (in metres cubed)			Full
10.4	Attenuation (in metres cubed)			Full

10.5	Separate volume designated as long- term storage (in metres cubed)	Flows within long term storage areas should be infiltrated to the ground or discharged at low flow rate of maximum 2 l/s/ha.		Full
10.6	Total volume control (sum of inputs for Questions 10.1 to 10.5) (in metres cubed)			Full

Section 11- Site storage volumes (for sites proposing full infiltration only)

Reference number	Information needed	Notes (for additional guidance)	Response (to be completed)	Required
11.1	Volume of Storage for the 1 in 30 year	Storage for the 1 in 30 year rainfall event must be fully contained within the SuDS components such as ponds, basins and swales is not classified as flooding. Storage should be calculated for the critical duration rainfall event.		Full
11.2	Volume of Storage for the 1 in 100 year plus Climate Change Allowance	Climate change is specified between 10% and 40% increase to rainfall intensity depending upon the design life of the development. Sensitivity testing should be carried out up to the 40% climate change allowance.		Full

Section 12- Construction and Exceedance Planning

Reference number	Information needed	Response (to be completed)	Required
12.1	How will exceedance/infrastructure failure events be managed on site without significantly increasing flood risks on site and outside the development?		Outline & Full
12.2	How will drainage be managed during the construction period? (including any necessary connections, impacts, diversions and erosion control)		Outline & Full
12.3	Has pollution control for any local watercourses been considered?		Outline & Full

Section 13- Management and Maintenance

Reference number	Information needed	Response (to be completed)	Required
13.1	How is the whole drainage system to be maintained		Outline & Full

	in the long term?		
13.2	Please list the owners/adopters of the whole drainage system throughout the development. Please specify all the owners.		Outline & Full
13.3	Please demonstrate that any third party agreements required for adoption or using land outside the application site have been secured.		Outline & Full