

PRO-FORMA 1: Sustainable Drainage System: Planning Permission

This pro-forma is a requirement of the **Planning Validation Checklist**. You must complete all white boxes in full and submit this pro-forma along with your supporting evidence to the Local Planning Authority for any application which seeks planning permission for major development (as defined in section 2 of Statutory Instrument 2015 No. 595).

This pro-forma supports developers and regulators in **summarising and confirming** how surface water from a development will be managed sustainably under current and future conditions. It should be completed in conjunction with the Council's 'Completing your Pro Forma' document and your sustainable drainage system should be designed in accordance with CIRIA The SuDS Manual C753.

The pro-forma follows Policy CS24 of Knowsley MBC's Local Plan, National Planning Policy Framework, House of Commons Written Statement (HWSW 161) on SuDS, Planning Practice Guidance and Defra's Non-Statutory Technical Standards for Sustainable Drainage Systems. It is supported by the Defra/EA Guidance on Rainfall Runoff Management and can be completed using freely available tools such as Tools for Sustainable Drainage Systems or approved Industry Standard surface water management design software. The Council's Sustainable Drainage & Surface Water Management Technical Guidance document also provides further information.

Section 1: Development Details

Development Name		Ford Walswood South Car Park 2nd App			
Development Address (Including postcode)		Specie Blvd, Speke 124 9th		Planning Application Reference	23601056-00
Development Grid Reference		Northings	384263	Expected lifetime of development (years)	N/A
		Eastings	35070	Have you submitted a Flood Risk Assessment?	Yes ☒ No ☐
Total Development Site Area (Ha)		12.9			
Site area served by proposed drainage system (excluding open space) (Ha)*		0.7			
Is your surface water drainage system designed to a (tick all that apply):					
Greenfield Standard		Type of Planning Application (✓)			
- Site is undeveloped and a new drainage system will be installed; OR - Site is already developed and a new surface water drainage system will be installed to serve the new development.		☒ Outline ☒ Full ☐ Hybrid			
Previously Developed Standard		Reserved Matters			
Site is already developed and the entirety of the existing surface water drainage system will be used to serve the new development.		☐			

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Section 2: Impermeable Area and Existing Drainage For outline or reserved matters applications, go to Section 3

	Existing (E)	Proposed (P)	Difference (P - E)	Evidence Checklist
Impermeable Area (Ha)	0	0.7	0.7	Plans showing development layout of site with existing and proposed impermeable areas.
State Drainage Method	Natural	Existing Sewers	N/A	Plans showing current and proposed locations of sustainable drainage system.
Are there existing sewers, watercourses, water bodies, highway drains, soakaways or filter drains on the site?	Yes ☒ No ☐			Plans showing existing layout to include: • Watercourses, open or culverted • Water bodies – ponds, swales etc. • Sewers, including manholes • Highway drains, include manholes • Soakaways, filter drains

Section 3: Surface Water Discharge Hierarchy – Planning Practice Guidance

Surface Water Discharge Method	Proposed?	If YES - Evidence Checklist	If NO - Evidence Checklist
1. Infiltration to ground	Yes ☐ No ☒	Completed Infiltration Checklist from CIRIA The SuDS Manual C753 Appendix B <i>An editable version of this form is available on SusDrain website</i>	Geotechnical Survey, including Soil Permeability Testing stating Percolation Coefficient, in accordance with BRE 365 AND Statement providing justification in your Sustainable Drainage Strategy
2. Discharge to watercourse or surface water body (Main River or Ordinary)	Yes ☐ No ☒	Watercourse and/or Water Body Survey Report	Plan showing nearby watercourses and water bodies AND Statement providing justification in your Sustainable Drainage Strategy
3. Discharge to surface water sewer	Yes ☒ No ☐	Water and Sewerage Company written agreement for the Right to Connect.	Plan showing nearby sewers AND Statement providing justification in your Sustainable Drainage Strategy
4. Discharge to combined sewer	Yes ☐ No ☐		



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Section 4: Calculate Peak Discharge Rates – Technical Standards S2 and S3 (unless S1 applies)

Rainfall Event	Existing Rate (l/s)	Greenfield Rate (l/s)	Proposed Rate (l/s) <i>Brownfield sites must reduce discharge rates by 50%</i>	Evidence Checklist
Qbar		3.77	5	MicroDrainage (or equivalent) calculations
1:1 Year Event		3.28	5	☐
1:30 Year Event		6.41	5	
1:100 Year Event		7.85	5	

Section 5: Calculate Discharge Volume – Technical Standards S4 and S6 (unless S1 applies)

Rainfall Event	Existing Volume (m³)	Greenfield Volume (m³)	Proposed Volume (m³)	Evidence Checklist
1:100 Year 6 Hour Event			448	MicroDrainage (or equivalent) calculations

Section 6: Infiltration

Site Information	✓	Evidence Checklist
Do your sustainable drainage proposals include any infiltration?	Yes ☐ No ☒ <i>If NO, please move on to Section 7</i>	Proposed sustainable drainage plans
You should submit an alternative 'Plan B' sustainable drainage design utilising an alternative discharge method if site specific ground conditions are unknown at this stage. This will become the default design in the event infiltration proposals are not feasible upon site specific ground investigation.	Yes ☐ No ☒	'Plan B' conceptual sustainable drainage plans and statement of approach
Have you submitted an alternative 'Plan B' sustainable drainage design?		☐



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Section 7: Storage – Technical Standards S7, S8 and S9

Storage Details	Details	Evidence Checklist
State climate change allowance used (%)	25	☐ State / use in MicroDrainage
State storage volume provided (m ³) (excluding non-void spaces) Must include an allowance for climate change and urban creep.	448	☐ Drainage plans showing location of attenuation and all flow control devices and any supporting calculations
Summarise how storage will be provided for 1:30 year event on site. <i>Storage must be designed to ensure that at no flooding occurs onsite in a 1 in 30 year event except in designed areas and no flooding occurs offsite in a 1 in 100 year (+ climate change allowance) event.</i>	Storage for all events up to 100 + 25% CC will be provided over the car park area of 4,000m ² to a maximum depth of 64mm	☐ Plans showing size and location of storage and supporting calculations
Summarise how storage will be provided for 1:100 year (+ climate change) 6 hour event on site. <i>Where storage above the 1:30 year rainfall event is provided in designated areas designed to accommodate excess surface water volumes, plans showing storage locations and surface water depths and supported by MicroDrainage (or equivalent) calculations.</i>	Storage for all events up to 100 + 25% CC will be provided over the car park area of 4,000m ² to a maximum depth of 64mm	☐ Plans showing size and location of storage and supporting calculations

Section 8: Operation and Maintenance – Technical Standard S12 and HCWS161

Consideration	Select <u>ALL</u> that apply (✓)	Evidence Checklist
State how <u>ALL</u> components of the sustainable drainage system will be maintained for the design life of the development.	Sustainable drainage features are at property level	☒ Statement provided within your Sustainable Drainage Strategy
	Sustainable drainage system to be adopted by Water and Sewerage Company through a Section 104 agreement (<i>Water Industry Act 1991</i>)	☐
	Applicant to secure maintenance of sustainable drainage features by entering into a Section 106 agreement (<i>Town and Country Planning Act 1990</i>)	☐



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Declaration and Submission

This pro-forma has been completed using evidence from information which has been submitted with my planning application.

The information submitted in the Sustainable Drainage Strategy and site-specific Flood Risk Assessment (FRA), where submitted, is proportionate to the site conditions, flood risks and magnitude of development and I agree that this information can be used as evidence to this sustainable drainage approach.

Submitter Details

Form <u>completed</u> by	Roy Lobley	Email Address	roy.lobley@outlook.com
Form <u>signed off</u> by		Daytime Telephone	07847482244
Date (dd/mm/yyyy)	26/4/2023	Accreditation(s) and/or Qualification(s) of Signatory	
		Company	Roy Lobley Consulting

Client Details

Name	Sunathon Wada	Company	On Site Energy
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Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by: Roy Lobley

Site name: RLC-1199

Site location: Halewood

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.

Site Details

Latitude: 53.34901° N

Longitude: 2.82366° W

Reference: 3161214624

Date: Apr 26 2023 07:07

Runoff estimation approach IH124

Site characteristics

Total site area (ha): 0.7

Methodology

Q_{BAR} estimation method: Calculate from SPR and SAAR

SPR estimation method: Calculate from SOIL type

Soil characteristics Default Edited

SOIL type: 4 4

HOST class: N/A N/A

SPR/SPRHOST: 0.47 0.47

Hydrological characteristics Default Edited

SAAR (mm): 769 769

Hydrological region: 10 10

Growth curve factor 1 year: 0.87 0.87

Growth curve factor 30 years: 1.7 1.7

Growth curve factor 100 years: 2.08 2.08

Growth curve factor 200 years: 2.37 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 $SPR/SPRHOST \leq 0.37$?

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): 3.77 3.77

1 in 1 year (l/s): 3.28 3.28

1 in 30 years (l/s): 6.41 6.41

1 in 100 year (l/s): 7.85 7.85

1 in 200 years (l/s): 8.94 8.94

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.