

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		Kirkby Valley Golf Club - The Main Application		
Development Address (including postcode)		Valley Road, Kirkby, Liverpool	Planning Application Reference (if available)	Not submitted yet
Development Grid Reference	Northings	339329	Expected lifetime of development (years)	50yrs (recreational in nature)
	Eastings	397949	Have you submitted a Flood Risk Assessment?	Yes ☒ No ☐
Total Development Site Area (Ha)		25.545ha	Type of Planning Application (✓)	Outline ☐
Site area served by proposed drainage system (excluding open space) (Ha)*		2.878ha		Full ☒
Is your surface water drainage system designed to a (tick all that apply):				Hybrid ☐
Greenfield Standard - 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.		☒		Reserved Matters ☐
Previously Developed Standard Site is already developed and the <u>entirety</u> 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	2.878	2.878	☒	Plans showing development layout of site with existing and proposed impermeable areas.
State Drainage Method	To Ground/ Via Infiltration	Infiltration or watercourse	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
4. Discharge to combined sewer	Yes ☐ No ☒			☒	Statement providing justification in your Sustainable Drainage Strategy

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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	10.8	10.8	10.8	☒	MicroDrainage (or equivalent) calculations
1:1 Year Event	9.4	9.4	9.4		
1:30 Year Event	18.3	18.3	18.3		
1:100 Year Event	22.4	22.4	22.4		

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

Rainfall Event	Existing Volume (m ³)	Greenfield Volume (m ³)	Proposed Volume (m ³)	Evidence Checklist	
1:100 Year 6 Hour Event	856.1	856.1	856.1	☒	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. Have you submitted an alternative 'Plan B' sustainable drainage design?	Yes ☒ No ☐	☒	'Plan B' conceptual sustainable drainage plans and statement of approach

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

Storage Details	Details	Evidence Checklist	
State climate change allowance used (%)	20% (given the design life of 50yrs)	☒	State / use in MicroDrainage
State storage volume provided (m ³) (excluding non-void spaces) <i>Must include an allowance for climate change and urban creep.</i>	1632cu.m - 2103cu.m in the 1 in 100yr +20%CC event when restricted to 10.8l/s	☒	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>	Detailed Design is yet to be undertaken only strategy based drainage plans therefore provided. The report however states that the onsite drainage system will be designed to ensure that no onsite flooding occurs in the 1 in 30yr event and no offsite flooding in the 1 in 100yr plus CC event. this should be appropriate for conditioning as part of any future planning approval.	☐	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>	Detailed Design is yet to be undertaken only strategy based drainage plans therefore provided. The report however states that the onsite drainage system will be designed to ensure that no onsite flooding occurs in the 1 in 30yr event and no offsite flooding in the 1 in 100yr plus CC event. this should be appropriate for conditioning as part of any future planning approval.	☐	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 (Water Industry Act 1991)	☐	
	Applicant to secure maintenance of sustainable drainage features by entering into a Section 106 agreement (Town and Country Planning Act 1990)	☐	

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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	Kirsty Williams - Associate	Email Address	kirstywilliams@betts-associates.co.uk
		Daytime Telephone	01244 289041
Form <u>signed off</u> by	Richard Nicholas - Director	Accreditation(s) and/or Qualification(s) of Signatory	BEng(Hons) MBA GMICE MCIWEM
Date (dd/mm/yyyy)	19/02/2021	Company	Betts Hydro

Client Details

Name		Company	
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