NORTH WEST SuDS PRO-FORMA

This pro-forma is a requirement for any planning application for major development¹.

It supports applicants in summarising and confirming how surface water from a development will be managed sustainably under current and future conditions.

Your sustainable drainage system should be designed in accordance with <u>CIRIA The SuDS Manual C753</u> and any necessary adoption standards.

HOW TO COMPLETE

Blue Box	Instruction/ Question
Orange Box	Evidence Required
White Box	To be completed by Developer / Consultant

1. Complete ALL white boxes

- **2.** Submit this pro-forma to the Local Planning Authority, along with:
 - Sustainable Drainage Strategy
 - Site Specific Flood Risk Assessment (if required)
 - Minimum supporting evidence, as indicated in orange boxes of this pro-forma.

GUIDANCE TO SUPPORT YOU

The pro-forma should be completed in conjunction with 'Completing your SuDS Pro Forma Guide.'

The pro-forma can be completed using freely available tools such as **Tools for Sustainable Drainage Systems** or appropriate industry standard surface water management design software.

¹ as defined in Section 2 of <u>Statutory Instrument 2015 No. 595</u> or on sites of 0.5 hectares in Critical Drainage Areas.

SECTION 1. APPLICATION & DEVELOPMENT DETAILS

Planning Application Reference (if available)	n/a	
State type of planning application <i>i.e. Pre-application, Outline, Full, Hybrid, Reserved Matters</i> * *Information only required if drainage is to be considered as part of reserved matters application	Full	
Developer(s) Name:	PRIMA Homes	Group
Consultant(s) Name:	A L Daines & Pa	ortners LLP
Development Address (including postcode)	Land to the nor Road, Whiteha	
Development Grid Reference (Eastings/Northings)	267408E, 5174	16N
Total Development Site Area (Ha)	1.039	
Drained Area (Ha)* of Development	1.039	
Please indicate the flood zone that your development is in. Tick all that apply. Based on the Environment Agency Flood Map for Planning and the relevant Local Authority Strategic Flood Risk Assessment (to identify Flood Zones 3a/3b).	FI Flo	ood Zone 1 ood Zone 2 od Zone 3a od Zone 3b
What is the surface water risk of the site? Tick all that apply. Based on the Environment Agency Surface Water Flood Map.		High □ □ Medium Low ⊠
Have you submitted a Site Specific Flood Risk Assessment (FRA)? See separate guidance notes for clarification on when a FRA is required	Yes 🛛	No 🗆
Have you submitted a Sustainable Drainage Strategy?	Yes 🖂	No 🗆
Does your drainage proposal provide multi-functional benefits via SuDS?	Yes 🖂	No 🗆
Expected Lifetime of Development (years) Refer to Planning Practice Guidance "Flood Risk and Coastal Change" Paragraph 026	100	
Development Type:		State Proposed Number of Units
Greenfield Site Site is wholly undeveloped, and a new drainage system will be installed 		
 Previously Developed/ Brownfield Site Site is already developed, and the <u>entirety</u> of the existing surface water drainage system will be used to serve the new development (evidence must be provided to prove existing surface water drainage system is reusable); <u>OR</u> Where records of the previously developed system are not available so that the hydraulic characteristics of the system cannot be determined or where the drainage system is not in reasonable working order i.e. broken, blocked or no longer operational for other reasons, then one of the approaches outlined in Section 24.5 of The SuDS Manual (C753) should be 		35
adopted. Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 1.	16902-001 Pro plan 1 of 2 16902 Drainage report and app	e strategy

SECTION 2: IMPERMEABLE AREA AND EXISTING DRAINAGE

	Existing (E)	Proposed (P)	Change (P – E)
State Impermeable Area (Ha)	0.5	0.443	0.057
Evidence Required: Plans showing development layout of site with existing and proposed impermeable areas.			

Are there existing sewers, watercourses, water bodies, highway drains, soakaways or filter drains on the site?		Yes □	No 🛛 Don't Know
Evi	dence Required:		
Plan(s) showing existing layout to include all:			\boxtimes
•	Watercourses, open and culverted		_
•	Water bodies – ponds, swales etc.		
•	Sewers, including manholes		
•	Highway drains, include manholes, gullies etc.		
•	Infiltration features - soakaways, filter drains etc.		

Drainage Design			
<u>Outline planning applications</u> should be able to demonstrate that a suitable drainage system is achievable.			
<u>All other type of planning application</u> should provide full details or reference to previous planning application where drain details have been submitted or approved.			
Select which design approach you are taking to manage water quantity (refer to Section 3.3 SuDS Manual)			
 Approach 1 – Volume control / Long Term Storage (Technical Standards S2/3, S4/5) The attenuated runoff volume for the 1 in 100 year 6 hour event (plus climate change allowance) is limited to the greenfield runoff volume for the 1 in 100 year 6 hour event, with any additional runoff volume utilising long term storage and either infiltrated or released at 2 l/s/ha The discharge rate for the critical duration 1 in 1 year event is restricted to the 1 in 1 year greenfield runoff rate The discharge rate for the critical duration 1 in 100 year event (plus climate change allowance) is restricted to the 1 in 100 year areenfield runoff 			
 to the 1 in 100 year greenfield runoff rate Approach 2 – Qbar (Technical Standards S6) Justification has been provided that the provision of volume control/long term storage is not appropriate and an attenuation only approach is proposed. All events up to the critical duration 1 in 100 year event (plus climate change allowance) are limited to Qbar (1 in 2 year greenfield rate) or 2 l/s/ha, whichever is greater. 			
Evidence Required: Plans showing: • Existing flow routes and flood risks	\boxtimes		
Modified flow routes			
Contributing and impermeable areas			
 Current (if any) and proposed 'source control' and 'management train' locations of sustainable drainage components (C753 Chapter 7) 			
Details of drainage ownership			
Details of exceedance routes (Technical Standards S9)			

- Topographic survey
- Locations and number of existing and proposed discharge points

Note consideration should be given to manage surface water from both impermeable and permeable surfaces (including gardens and verges) likely to enter the drainage system.

Please list any relevant document and or drawing numbers (including revision
reference) to support your answers to Section 2.16902/001 Proposed drainage
plan.
16902/002 Proposed drainage
plan.
16902 Drainage strategy
report and appendices
16902 Flood Risk Assessment
and appendices

SECTION 3: PEAK RUNOFF <u>RATES</u> – TECHNICAL STANDARDS S2, S3 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Rate (I/s)	Greenfield Rate (I/s)	Proposed Rate (I/s) Previously developed sites - In line with S3 should be equivalent to Greenfield runoff rates – discuss with LLFA if this is not achievable pre-application
Qbar (Approach 2)	13.4	3.1	n/a
1 in 1 Year Event (Approach 1)	11.6	2.7	n/a
1 in 30 Year Event	20.3	5.2	n/a
1 in 100 Year Event* (Approach 1)	22.7	6.4	n/a

* Total discharge at the 1 in 100 year rate should be restricted to the greenfield runoff volume for the 1 in 100 Year 6 hour event with additional volumes (long-term storage volume) released at a rate no greater than 2 l/s/ha where infiltration is not possible. The climate change allowance should only be applied to the proposed rate and not the existing or greenfield rate.

Evidence Required: Methodology used to calculate peak runoff rate clearly stated and justified.	\boxtimes
Impermeable areas plan, supported by topographical survey confirming positive drainage.	\boxtimes
Hydraulic calculations and details of software used.	\boxtimes

State the hydraulic method used in your calculations	ICP SuDS Mean Annual Flood
(Refer to Table 24.1 of The SuDS Manual)	method

	16902/001 Proposed drainage	
	plan.	
Please list any relevant document and or drawing numbers (including revision	16902/002 Proposed drainage	
reference) to support your answers to Section 3.	plan.	
	16902 Drainage strategy	
	report and appendices	

SECTION 4: DISCHARGE <u>VOLUME</u> – TECHNICAL STANDARDS S4, S5 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Volume (m³)	Greenfield Volume (m ³)	Proposed Volume (m ³)
1 in 100 Year 6 Hour Event (Approach 1)	n/a	n/a	n/a
Does the below statement apply to your development proposal? Long term storage is not achievable on this site and, in accordance with S6 of the Non Statutory Technical Standards for SuDS, the surface water discharge rates for events up to and including the 1 in 100 year critical event are limited to Qbar (Approach 2)			Yes 🛛 No 🗆
Evidence Required: Approach to managing the quantity of surface water leaving the site clearly stated and justified			
Methodology used to calculate discharge volume clearly stated and justified.			
Hydraulic calculations and details o	f software used.		\boxtimes

Please list any relevant document and or drawing numbers (including revision reference)	16902 Drainage Strategy
to support your answers to Section 4.	10902 Drainage Strategy

SECTION 5: STORAGE - TECHNICAL STANDARDS S7 AND S8

State climate change allowance used (%)	50%
State housing density (houses per ha)	35
State urban creep allowance used (%)	10%
Evidence Required: State / used in appropriate industry standard surface water management design software.	\boxtimes

State storage volume required (m ³) (excluding non-void spaces)	326m ³
Must include an allowance for climate change and urban creep	
Have you incorporated interception into your design? (Refer to Chapter 24 of The SuDS Manual C753) Where possible, infiltration or other techniques are to be used to try and achieve zero discharge to receiving waters for rainfall depths up to 5mm.	Yes 🛛 No 🗆
Evidence Required: Drainage plans showing location of attenuation and all flow control devices and supporting calculations.	

Summarise how storage will be provided for 1 in 30 year event on site. Storage must be designed to ensure that at no flooding occurs onsite in a 1 in 30 year event except in designed areas <u>and</u> no flooding occurs offsite in a 1 in 100 year (plus climate change allowance) event.	Oversized pipes designed to ensure no flooding to the site up to 1:100 year plus 50% for climate change
Summarise how storage will be provided for 1 in 100 year (plus climate change) event on site. Where storage above the 1 in 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 calculations used in appropriate industry standard surface water management design software. It is important to run a range of duration events to ensure the worst case condition is found for each drainage element on the site	Oversized pipes designed to ensure no flooding to the site up to 1:100 year plus 50% for climate change
Evidence Required: Plans showing size and location of storage and supporting calculations. Where there is controlled flooding, extents and depths must be indicated.	

	16902/001 Proposed drainage
	plan.
Please list any relevant document and or drawing numbers (including revision	16902/002 Proposed drainage
reference) to support your answers to Section 5.	plan.
	16902 Drainage strategy
	report and appendices

SECTION 6: WATER QUALITY PROTECTION

the nature, scale and location of the development.

Contaminated surface water run-off can have negative impacts on the quality of receiving water bodies. The potential level of contamination will influence final the design of an appropriate treatment train as part of your sustainable drainage system.

Is the proposal site known to be or potentially contaminated?	Yes 🗆	No⊠

• If the site is contaminated, it should be demonstrated that the sustainable drainage system will not increase the risk of pollution to controlled waters though the mobilisation of contaminants and/or creation of new pollution pathways.

Confirm the Pollution Hazard Level of the proposed development - Tick ALL that apply

Refer to Pollution Hazard Indices for different Land Use Classifications in Table 26.2 of The SuDS Manual C753 for further guidance.

Pollution Hazard Level <i>Tick <u>ALL</u> that apply</i>		Surface water run-off from the proposed development will drain from:		
VERY LOW	\boxtimes	Residential roofs		
LOW		 Other roofs (typically commercial/industrial roofs) Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home-zones and general access roads) Non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day 		
MEDIUM		 Commercial yard and delivery areas Non-residential car parking with frequent change (e.g. hospitals, retail) All roads except low traffic roads and trunk roads/motorways² 		
нісн		 Sites with heavy pollution (e.g. haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites) Sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured Industrial sites Trunk roads and motorways¹ 		

If the development's Pollution Hazard Level is 'Very Low' or 'Low', has the sustainable drainage design been risk assessed and appropriate mitigation measures included?	Yes 🛛	No□	
If the proposed development has a very low or low polluting potential, you should design your sustainable drainage system to include an appropriate treatment train in accordance with The SuDS Manual (C753).			

If the development's Pollution Hazard Level is 'Medium' or 'High', is the application supported by a detailed water quality risk assessment?		Yes 🗆	No⊠
•	 If the proposed development has a high polluting potential, a detailed risk assessment <u>will</u> be required to identify an appropriate SuDS treatment train and ensure compliance with Paragraph 170 of the National Planning Policy Framework. 		
•	If the proposed development has a medium pollutina potential, a detailed risk assessment may be	reauired deper	ndina on

Has pre-application advice on water quality been obtained from the Environment Agency?			No⊠
If YES, provide details:			

Please list any relevant document and or drawing numbers (including revision
reference) to support your answers to Section 6.16902 Drainage strategy
report and appendices

² Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

SECTION 7: DETAILS OF YOUR SUSTAINABLE DRAINAGE SYSTEM

a) Function of your Sustainable Drainage System

Do your proposals store rainwater for later use (as a resource)?	Yes 🗌 No 🛛
Evidence Required:	
Please provide a brief sentence in the adjacent white box to describe how this function has	
been achieved.	

Do your proposals promote source control to manage rainfall close to where it falls? (e.g. promoting natural losses through soakage, infiltration and evapotranspiration)	Yes 🛛 No 🗆
Evidence Required:	Infiltration not viable on site
Please provide a brief sentence in the adjacent white box to describe how this function has	
been achieved.	

	16902/001 Proposed drainage
	10902/001 Proposed dramage
	plan.
Please list any relevant document and or drawing numbers (including revision	16902/002 Proposed drainage
reference) to support your answers to Section 7a.	plan.
	16902 Drainage strategy
	report and appendices

b) Hierarchy of Drainage Options – Planning Practice Guidance

The proposed method of discharge are set out within order of priority. Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.

Proposed method of surface water discharge			Is this proposed?	
Hierarchy Level 1: Into the ground (via infiltration)			Yes 🗆 No 🗵	
	If YES - Evidence Required			If NO – Evidence Required Tick <u>ALL</u> that apply
	A. Completed Infiltration Checklist from The SuDS Manual (C753) Appendix B An editable version of this form is available on <u>SusDrain website.</u>		A.	Site investigation to demonstrate that the ground is not free draining. Test results to be provided in accordance with: • The methodology within BRE 365 (2016), <u>OR</u> • Falling head permeability tests BS EN ISO 22282-2: 2012
	 B. British Geological Survey (BGS) Infiltration SuDS Map 		В.	NOTE: where an applicant is unable to access a site to undertake testing, e.g. where unable to access a site for an outline application, they can submit a <u>SuDS GeoReport</u> or similar.
	C. Infiltration testing to BRE 365 (2016) or falling head permeability tests to BS EN ISO 2228-2: 2012 (optional for outline)		C.	Evidence to confirm that infiltration to ground would result in a risk of deterioration to ground water quality.
	'Plan B' sustainable drainage plan and statement of approach with an alternative discharge method, in case infiltration proposals are proven not feasible upon further site specific ground investigation		D.	Geotechnical advice from a competent person* which determines that infiltration of water to ground would pose an unacceptable risk of geohazards to the site and/or local area. *Note: Competent person may include a Chartered Engineer, Chartered Geologists, Registered Ground Engineering Professionals (RoGEP).

e.g. to consider seasonal variations to	
groundwater.	

Proposed	Proposed method of surface water discharge			Is this proposed?		
Hierarch	Hierarchy Level 2: To a surface water body (select type)			Yes 🗆	No 🗆	N/A 🗆
NOTE: Co	nsent from LLFA or Permit from Environme	nt Agen	псу	Main river		Canal
may be re	equired – refer to guidance			⊠ Ordinary watercours	e	Other water body
	If YES - Evidence Required			If NO – Evidence	Require	d
			Tick <u>ALL</u> that apply			
	Surface water body / watercourse survey	\boxtimes	Plan sho	wing nearby watercourses a	and water	bodies
	and report		AND			
		\boxtimes	Stateme	ent providing justification in	your Susta	ainable Drainage Strategy
				(here third party land is cited of discussions held to date work		

Proposed method of surface water discharge		Is this proposed?			
Hierarchy Level 3: To a surface water sewer or highway drain		Yes 🗆 🛛 No	□ N/A ⊠		
(select typ	(select type)		□ Surface water sewer	🗆 Highway drain	
	If YES - Evidence Required			If NO – Evidence Req Tick <u>ALL</u> that apply	
	Written correspondence from Water and		Plan sho	wing nearby sewers and highway	drains
	Sewerage Company/ Highway Authority regarding proposed connection.		AND Stateme	ent providing justification in your S	ustainable Drainage Strategy

Propose	d method of surface water discharge	Is this proposed?
Hierarch	y Level 4: To combined sewer	Yes 🗆 No 🗆 N/A 🖂
	If YES - Evidence Required	If NO – Evidence Required
	Written correspondence from Water and Sewerage Company	N/A

	16902/001 Proposed drainage
	plan.
Please list any relevant document and or drawing numbers (including revision	16902/002 Proposed drainage
reference) to support your answers to Section 7b.	plan.
	16902 Drainage strategy
	report and appendices

c) Proposed SuDS Component Types

			Tick ALL that apply	,	
Within property boundary	□ Rainwater harvesting	□ Green/ blue roofs	□ Pervious pavements [Type: A □ B □ C □]	🗆 Soakaway	□ Bio retention systems

	Tick ALL that apply				
	Infiltration system	ı	Filter strips	☐ Filter drains	Swales
[Type: \Box Surface level \Box Below ground		vel 🛛 Below ground]	Filter strips		
Within development site boundary	☐ Bio retention system	□ Detention basins	Ponds and wetlands	 Attenuation tanks/ Oversized pipes 	□ Other (state below)
(not property)	If 'Other' please stat	e:			

Off site	Please state:
(not within the	
boundary of the	
proposed	
development)	

I confirm that the above selected components have been designed in accordance with The SuDS Manual (C753).	I confirm 🖂
I confirm that the management of flows resulting from rainfall in excess of a 1 in 100 year plus climate change rainfall event, and their exceedance route(s), has been fully considered in order to minimise the risks to people, property (new and existing) and infrastructure.	I confirm 🛛

ſ		16902/001 Proposed drainage
		plan.
	Please list any relevant document and or drawing numbers (including revision	16902/002 Proposed drainage
	reference) to support your answers to Section 7c.	plan.
		16902 Drainage strategy
		report and appendices

SECTION 8: OPERATION AND MAINTENANCE – TECHNICAL STANDARD S12 AND NATIONAL PLANNING POLICY FRAMEWORK

The applicant is responsible to ensure that ALL components selected in Section 7 can be maintained for the design life of the development. This information is required so the Local Planning Authority can ensure the maintenance and management of the sustainable drainage system. The Local Planning Authority will discuss how this will be secured (e.g. via planning condition or planning obligation).

	Information Provided?
Management Plan	Yes 🗌 No 🖂
 Evidence Required: Plan/ drawing provided to show the position of the different SuDS components with: Key included to identify any of the adopting bodies that you will be offering your sustainable drainage components for adoption (relates to maintenance and management arrangements below). Plan/ drawing to identify any areas where certain activities are prohibited, detailing reasons why. 	
Action plan for accidental pollutant spillages.	

	Information Provided?
Maintenance Schedule	Yes 🗌 🛛 No 🖾
Evidence Required:	
A copy of the maintenance schedule including:	
1. Proactive and preventative maintenance	
Detailing regular, occasional and remedial maintenance activities including	
recommendations for inspection and monitoring. This should include recommended	
frequencies, advice on plant/ machinery required and an explanation of the objectives	
for the maintenance proposed and potential implications of not meeting them.	
2. Reactive and corrective maintenance (e.g. product repair and replacement).	
Including advice on excavations, or similar works, in locations that could affect the SuDS	
components/ adjacent structures.	

	Information Provided?
Maintenance and Management Arrangements	Yes 🗵 🛛 No 🗆
Evidence Required: Evidence of formal agreement with the party responsible for undertaking maintenance.	
Please select any of the adopting bodies that you will be offering your sustainable drainage components for adoption. Tick all that apply.	
 Water and Sewerage Company Section 104 agreement (Water Industry Act 1991) Highway Authority Section 278/38 agreement (Highways Act 1980) 	
Local Authority Public Open Space [Refer to Local Authority Policy]	
Please select the arrangement(s) for all non-adopted sustainable drainage components. Tick all that apply.	
 Management Company Property Owner (for SuDS components within property boundary only) 	
Other (please state)	

Please list any relevant document and or drawing numbers (including revision
reference) to support your answers to Section 8.16902 Drainage strategy
report and appendices

DECLARATION AND SUBMISSION

This pro-forma has been completed using evidence from information which has been submitted with the 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				
<u>Completed</u> by	P.ALLAN	Email Address	p.allan@aldaines.co.uk	
		Telephone Number(s)	01228 527428	
Signed off by	P.ALLAN	Accreditation(s) and/or Qualification(s) of Signatory	C.WEM & C.Env	
Date (dd/mm/yyyy)	22/08/23	Company	CIWEM	

Client Details				
Name	PRIMA HOMES Group	Company	PRIMA HOMES Group	