

# **Appendix: Water Resources, Drainage and Flood Risk**

**Annex 1: Flood Risk Assessment**

**Annex 2: Drainage Strategy**

**Annex 3: Thames Water – Potable Water Supply Correspondence**

**Annex 4: Sustainable Urban Drainage System (SuDS) Proforma**

## The London Sustainable Drainage Proforma

### Introduction

This proforma is intended to accompany a drainage strategy prepared for a planning application where required by national or local planning policy. It should be used to summarise the key outputs from the strategy to allow assessing officers at the Lead Local Flood Authority (LLFA) to quickly assess compliance with sustainable drainage (SuDS)

The proforma is divided into 4 sections, which are intended to be used as follows:

1. Site and project information - Provide summary details of the development, site and drainage
2. Proposed discharge arrangement – Summarise site ground conditions to determine potential for infiltration. Select a surface water discharge method (or mix of methods) following the hierarchical approach set out in the London Plan.
3. Drainage strategy – Prioritise SuDS measures that manage runoff as close to source as possible and contribute to the four main pillars of SuDS; amenity, biodiversity, water quality and water quantity.
4. Supporting information – Provide cross references to the page or section of the drainage strategy report where the detailed information to support each element can be found. This may be more than one reference

### Policy

Drainage strategies for developments in the London Borough of Tower Hamlets need to comply with the following policies on SuDS:

1. [London Borough of Tower Hamlets Local Plan policy DM13](#)
2. [London Plan policy 5.13](#) and draft [New London Plan policy SI13](#)
3. [The National Planning Policy Framework \(NPPF\)](#)

### Technical Guidance

- Post-development surface water discharge rate should be limited to greenfield runoff rates. Proposals for higher discharge rates should be agreed with the LLFA ahead of submission of the Planning Application. Clear evidence should be provided with the Planning Application to show why greenfield rates cannot be achieved.
- Greenfield runoff rate is the runoff rate from a site in its natural state, prior to any development. This should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS
- Attenuation storage volumes required to reduce post-development discharge rates to greenfield rates should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS
- 'CC' refers to climate change allowance from the current Environment Agency guidance.
- An operation and maintenance strategy for proposed SuDS measures should be submitted with the Planning Application and include the details set out in section 32.2 of CIRIA C753 The SuDS Manual. The manual should be site-specific and not directly reproduce parts of The SuDS Manual.
- Other useful sources of guidance are:
  - o [Tower Hamlets Sustainable Drainage guidance](#)
  - o [The London Plan Sustainable Design and Construction SPG](#)
  - o [DEFRA non-statutory technical standards for sustainable drainage](#)
  - o [Environment Agency climate change guidance](#)
  - o [CIRIA C753 The SuDS Manual](#)

1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	Aberfeldy Village
	Address & post code	Poplar Riverside, Aberfeldy Village, E14, London
	OS Grid ref. (Easting, Northing)	E 538365
		N 181398
	LPA reference (if applicable)	
	Brief description of proposed work	The Aberfeldy Village Masterplan aims to deliver, up to 1628 new homes, new workspace, a new high street, new and improved open space and the pedestrianisation of the A12 Abbott Road vehicular underpass.
	Total site Area	48334 m <sup>2</sup>
	Total existing impervious area	37000 m <sup>2</sup>
	Total proposed impervious area	36418 m <sup>2</sup>
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	no
	Existing drainage connection type and location	Traditional piped system, multiple connection points
	Designer Name	Luke Boustead
Designer Position	Senior Engineer	

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	Alluvium - Clay, Silt, S	
	Bedrock geology classification	London Clay Formation	
	Site infiltration rate	1.12x10 <sup>-4</sup> and 2.55x10 <sup>-4</sup> m/s	
	Depth to groundwater level	m below ground level	
	Is infiltration feasible?	No	
	2b. Drainage Hierarchy		
		<i>Feasible (Y/N)</i>	<i>Proposed (Y/N)</i>
	1 store rainwater for later use	N	N
	2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
	3 attenuate rainwater in ponds or open water features for gradual release	N	N
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
	5 discharge rainwater direct to a watercourse	N	N
	6 discharge rainwater to a surface water sewer/drain	N	N
	7 discharge rainwater to the combined sewer.	Y	Y
2c. Proposed Discharge Details			
Proposed discharge location	locations to Thames Water public combine		
Has the owner/regulator of the discharge location been	Thames Water. Response received confirm		



# GREATER LONDON AUTHORITY



	Designer Company	Meinhardt
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	consulted?	
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3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m <sup>3</sup> )	Proposed discharge rate (l/s)
Qbar	18.8			
1 in 1				18.8
1 in 30				18.8
1 in 100				18.8
1 in 100 + CC				18.8
Climate change allowance used		40%		
3b. Principal Method of Flow Control		Vortex Flow control (Hydro-Brake or similar)		
3c. Proposed SuDS Measures				
	Catchment area (m <sup>2</sup> )	Plan area (m <sup>2</sup> )	Storage vol. (m <sup>3</sup> )	
Rainwater harvesting	0		0	
Infiltration systems	0		0	
Green roofs	7000	3500	335	
Blue roofs	11000	6500	620	
Filter strips	0	0	0	
Filter drains	0	0	0	
Bioretention / tree pits	3500	730	0	
Pervious pavements	0	0	0	
Swales	0	0	0	
Basins/ponds			0	
Attenuation tanks	48334		2000	
<b>Total</b>	<b>69834</b>	<b>10730</b>	<b>2955</b>	

4a. Discharge & Drainage Strategy		Page/section of drainage report
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results		Section 2.1.3
Drainage hierarchy (2b)		Section 2.1.3
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location		Appendix B
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations		Appendix C
Proposed SuDS measures & specifications (3b)		Throughout report
4b. Other Supporting Details		Page/section of drainage report
Detailed Development Layout		Appendix B
Detailed drainage design drawings, including exceedance flow routes		Appendix B
Detailed landscaping plans		Appendix E
Maintenance strategy		Section 2.5
Demonstration of how the proposed SuDS measures improve:		Section 2
a) water quality of the runoff?		Section 2.1.5
b) biodiversity?		Section 2.1.6
c) amenity?		Section 2.1.6