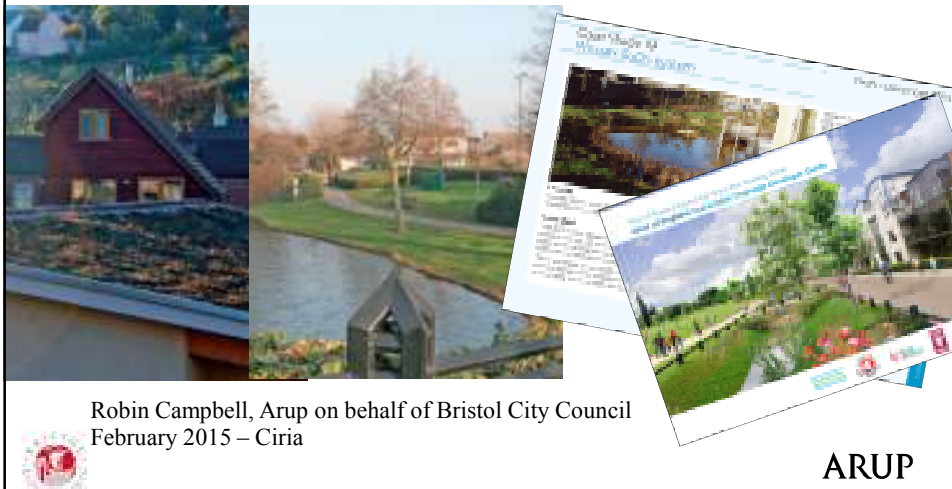


## Supporting a sustainable approach to drainage in the West of England



Robin Campbell, Arup on behalf of Bristol City Council  
February 2015 – Ciria

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### Context and drivers

West of England partnership,  
joined by Somerset County Council,  
working to give:

- a **focus to promote** a sustainable approach to drainage within planning process
- **clarity** to developers/designers
- **consistency**
- and to **share best practice** and educate stakeholders



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## Addressing barriers to SuDS

Key enabling actions identified:

- Local **guidance** including proof of concept, initially as interim ‘existing’ legislation now to be issued Apr-15
- 19 local **case studies** (non-tech)
- Awareness raising and **capacity building**
- IDBs, Water Company and LAs to review/clarify **approach to maintenance** of shared-SuDS



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## West of England SuDS Developer Guide

- Collaborative effort across Local Authorities, with contributions from Wessex Water, Environment Agency and IDBs.
- Signpost to policy and other good guidance
- Section 1 – sub-regional approach
- Section 2 – authority-specific local context and any local requirements
- Guidance building on National/ Local Planning Policy and Local FRM Strategy

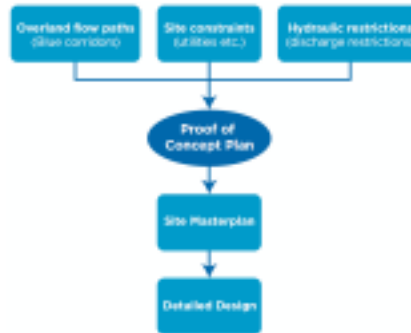
<b>What</b>	is sustainable drainage?
<b>Why</b>	should you use sustainable drainage?
<b>How</b>	should you use sustainable drainage?
<b>When</b>	do you need to do something?



Will be kept under active review

## Early-engagement promoted through voluntary Proof of Concept as part of pre-app

- based on a constraints plan including overland flow paths, proposed 'blue' corridors, any discharge/maintenance requirements from Flood Risk Management Authorities or LPA.
- part of early pre-app, LPA-led
- voluntary and proportionate
- feedback positive, promotes discussion, reduces development risk



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## West of England guide, sample extract

- *How to do SuDS* focus around draft National Standards for SuDS (Jun-14 and Sept-14 consultation)
- Sub-regional requirements where necessary.
- Feedback positive for a consistent approach.









No.	National standards for sustainable drainage systems (Defra, June 2014, final draft)	Sub-regional requirement	Authority with local variation
Standard 3	Where the drainage system discharges to a surface water body that can accommodate uncontrolled surface water discharges without any impact on flood risk from that surface water body (e.g. the sea or a large estuary) the peak flow control Standards (Standard 4 and Standard 5) and volume control National Standards (Standards 6 to 8) do not apply.	This condition will not be applicable to most of the surface water bodies in the sub-region (Check with relevant part of Section 2).	To be confirmed
<b>Peak flow control</b>			
Standard 4	For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must not exceed the peak greenfield runoff rate for the same event.	The Greenfield runoff rates are to be calculated using the Interim Code of Practice for Sustainable Drainage Systems method <sup>2</sup> .	None




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### Example Local SuDS Design Guidance - Bristol

- Vision









	Blue green corridors		Source control
	Integrated urban design		Water quality
	No space is useless		Cumulative impacts
	Innovation		Manage all risks



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### Example Local SuDS Design Guidance - Bristol

- Vision
- Example...

	Blue green corridors		Source control
	Integrated urban design		Water quality
	No space is useless		Cumulative impacts
	Innovation		Manage all risks

**Blue green corridors** should be included within sites to provide physical links and multiple benefits. Consider the movement of water and its interaction with space at the earliest stage of design for efficient sustainable drainage. Identifying and enhancing drainage paths are an essential part of the master-planning stage.

**Source control** - managing runoff at source is the starting point for SuDS design



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## Example Local SuDS Design Guidance - Bristol

- Strategic drivers likely to influence drainage design vary across the city



- e.g. Central Area and Floating Harbour

Water quality mitigation and improvements. Reduction in existing discharge to combined sewers.

Testing of the Floating Harbour carried out weekly shows that water quality deteriorates after heavy rainfall<sup>4</sup>. Reduction in volume and rate of water discharged to the combined sewer network therefore required.



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## SuDS case studies

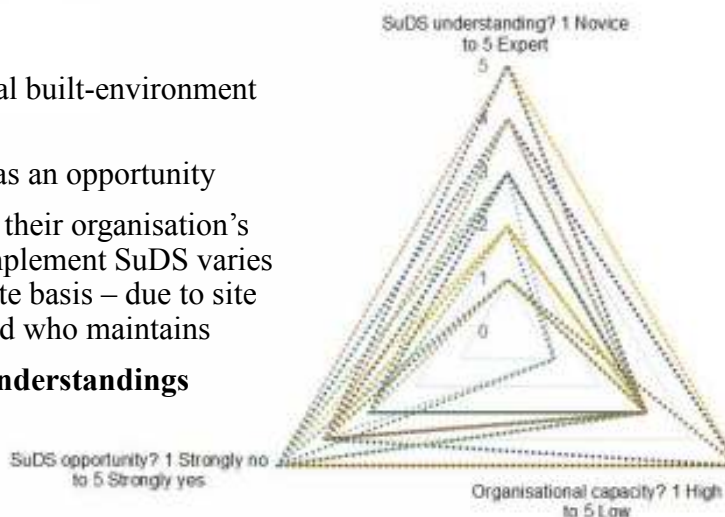
- 19 local ‘non-technical’ case studies from 2009 refreshed with operator management lessons
- Six submitted to susdrain



## Building awareness and user feedback

Survey of local built-environment professionals

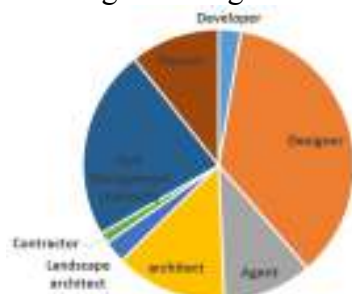
- Saw SuDS as an opportunity
- Largely felt their organisation's capacity to implement SuDS varies on a site by site basis – due to site constraints and who maintains
- **Range of understandings**



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## Building awareness and user feedback

- Tailored built-environment community initial engagement event (Dec-14) and sharing of preliminary draft guide for comment through existing LPA user groups.



- Internal awareness-raising and capacity-building events



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## What's next?

- Update Nov-14 preliminary draft following user feedback and DCLG/Defra announcement – to be issued in March
- IDBs, Water Company and LAs to review/clarify **approach to maintenance** of shared-SuDS
- SuDS maintenance approaches factsheet in Feb-15 to collate good practice including
  - Management companies with alternative governance
  - Councils who adopt by agreement with annual service charge on served properties
  - ...



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## Thank you and questions

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