




Renewable Energy and Sustainable Drainage

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Workshop 3: Planning for Sustainable Drainage


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Structure of this Workshop

- What is sustainable drainage?
- Sustainable drainage: Policy changes and key considerations
- Case Study: an example of ongoing work to support a sustainable approach to drainage in the West of England





What is Sustainable Drainage?



What is a Sustainable Drainage (SuDS) approach?

Master planning

Source control

Conveyance and Treatment

Discharge


Integrate site drainage into master planning

Manage surface water runoff and pollutants at source

Convey surface water runoff and reduce transmission of pollutants

Follow a discharge hierarchy to deal with excess

- delivers effective long-term site **drainage**
- minimises impacts on the receiving **environment**
- can deliver **amenity and biodiversity benefits**



What does Sustainable Drainage look like?





Therefore, from 6 April 2015...

- Local planning policy and decisions on Major developments (10+ dwellings, >1000m² or 0.5ha) to ensure SuDS are used, unless demonstrated inappropriate
- Current requirement to prioritise use of SuDS for all development in areas at risk of flooding still applies

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Therefore, from 6 April 2015...

- Local planning policy and decisions on Major developments (10+ dwellings, >1000m² or 0.5ha) to ensure SuDS are used, unless demonstrated inappropriate
- Current requirement to prioritise use of SuDS for all development in areas at risk of flooding still applies
- LPA should consult the LLFA and satisfy themselves that:
 - The proposed minimum standards of operation are appropriate
 - Through planning conditions and planning obligations that there are clear arrangements in place for ongoing maintenance for the lifetime of the development
 - Ensure that the SuDS are designed to have maintenance and operational requirements which are economically proportionate.

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Therefore, from 6 April 2015...

- Initially applies to Major Development (10 dwellings, only but government will keep under review).
- Revised planning guidance and technical standards, based on draft National Standards, published by end of March.
 - When? *depends on the proposed development and its location.*
 - What sort? *Discharge as high up drainage hierarchy as reasonably practicable.*
 - Information sought should be no more than necessary, having regard to the nature and scale of the development concerned.*
- Technical standards relate to the design, construction, operation and maintenance of SuDS will be published as guidance.

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Key considerations for application and determination

- LPA's need to arrange access to expert advice to assess suitability of SuDS in application.
 - LLFAs best-placed - supplementary consultation has been completed and Government's response expected shortly.
 - Proportionate – standing advice for lower risk sites?
- Pre-application opportunity to ensure early consideration of surface water drainage.
- Planning application validation – Do your local lists need updating? Will your LLFA be providing checklists?
- When is a sustainable approach to drainage inappropriate?

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Possible maintenance approaches of shared-SuDS

| | |
|-------------------------------------|--|
| Maintenance Companies | Householders pay annual service charge or commuted sum paid by the developer to the Maintenance Company (could be Trust or WaSC) |
| Water and Sewerage Companies | By agreement, developer build (or contribute to) SuDS that WaSC subsequently owns. Included within ordinary charging. |

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Possible maintenance approaches of shared-SuDS

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|-------------------------------------|---|
| Maintenance Companies | Householders pay annual service charge or commuted sum paid by the developer to the Maintenance Company (could be Trust or WaSC or consortiums formed by individuals) |
| Water and Sewerage Companies | By agreement, developer build (or contribute to) SuDS that WaSC subsequently owns. Included within ordinary charging. |
| Local authorities | By agreement, LAs maintaining as part of open space and amenity management. |
| Internal Drainage Boards | In drainage board areas and subject to IDB consent, developer may build (or contribute to) SuDS that IDB subsequently owns. |
| Private Individuals | Private SuDS serving single properties |

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Key issues around maintenance

- LPA are to ensure, through the use of planning conditions or obligations, that there are clear arrangements in place for ongoing maintenance for the lifetime of the development. Are your model conditions appropriate? Enforcement?
- Safeguards? Designation of Structures by LLFA under FWMA Sch. 1 (prevents alteration/removal without consent)?
- Opportunity for Water Companies to offer to adopt shared-SuDS with necessary safeguards. WaterUK working to address but their focus on drainage may limited wider benefits from SuDS.
- Variety of approaches by Local Authorities regarding adoption and charging of shared-SuDS.

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Case Study : an example of ongoing work to support a sustainable approach to drainage in the West of England

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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 existing 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
- Will be kept under active review

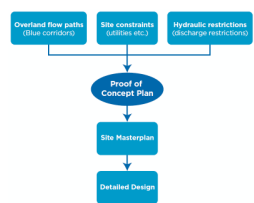
| | |
|-------------|--------------------------------------|
| What | is sustainable drainage? |
| Why | should you use sustainable drainage? |
| How | should you use sustainable drainage? |
| When | do you need to do something? |



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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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graph TD
    A[Overland flow paths (blue corridors), Site constraints (utilities etc.), Hydraulic restrictions (discharge restrictions)] --> B[Proof of Concept Plan]
    B --> C[Site Masterplan]
    C --> D[Detailed Design]
    
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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 |
| 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 ⁹ . | None |

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Example Local SuDS Design Guidance - Bristol

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

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Example Local SuDS Design Guidance - Bristol

- Vision
- Example...
 - 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
 - Innovation
 - Manage all risks

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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 rainfall¹⁰. Reduction in volume and rate of water discharged to the combined sewer network therefore required.

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In summary

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Summary

- Sustainable drainage is not new or difficult.
- From April-6 local planning policy and decisions on Major developments to ensure SuDS are used, unless demonstrated inappropriate
- Current requirement to prioritise use of SuDS for all development in areas at risk of flooding still applies
- Planning practice guidance update by end of March
- Challenges can be overcome by effective early engagement
- Drainage needs to be considered at an early stage, like flood risk.

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