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Department  
for Environment  
Food & Rural Affairs



Department for  
Communities and  
Local Government

## **Delivering Sustainable Drainage Systems**

**September 2014**

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# Part 1: Background and purpose of consultation

## Background

- 1.1 The independent review into the causes of the 2007 floods (The Pitt Review) concluded sustainable drainage systems (commonly known as SuDS)<sup>1</sup> were an effective way to reduce the risk of 'flash-flooding' which occurs when rainwater rapidly flows into the public sewerage and drainage system, causing overloading and back-up of water to the surface. Typically, sustainable drainage systems slow the rate of surface water run-off and improve infiltration, thus mimicking natural drainage in both rural and urban areas.
- 1.2 Following the Pitt Review, proposals to increase the uptake of sustainable drainage systems in new developments were included in the Flood and Water Management Act 2010<sup>2</sup>. Schedule 3 to the Act introduces a regime for the approval and adoption of sustainable drainage systems for construction work which have drainage implications. Government consulted on the implementation of Schedule 3 from 20 December 2011 to 13 March 2012<sup>3</sup>. In response to that consultation, and in discussions to date, local government and housebuilder representatives identified a number of issues. These included the impact on development of approving sustainable drainage systems under a separate consenting regime from that to approve planning applications, and the fact that these regimes were to have been run by two different parts of local government, rather than just the one. Respondents to that consultation were also concerned about further risk of delay if local authorities were not fully prepared to take on their new duties, including a new duty to maintain sustainable drainage systems that had been approved. Additional concerns were also raised by local government about the mechanism for charging householders to pay for sustainable drainage systems maintenance.

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<sup>1</sup> National Archives version of Pitt's Annexes (in Glossary at Annex G)  
[http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/\\_media/assets/www.cabinetoffice.gov.uk/flooding\\_review/pitt\\_review\\_annexes\\_web%20pdf.pdf](http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/_media/assets/www.cabinetoffice.gov.uk/flooding_review/pitt_review_annexes_web%20pdf.pdf)

<sup>2</sup> <http://www.legislation.gov.uk/ukpga/2010/29/contents>

<sup>3</sup> <https://www.gov.uk/government/consultations/implementation-of-the-sustainable-drainage-provisions-in-schedule-3-to-the-flood-and-water-management-act-2010>

## **Purpose of the consultation**

- 1.3 This consultation document sets out an alternative approach to the one envisaged in Flood and Water Management Act 2010 to deliver effective sustainable drainage systems that will be maintained for the lifetime of the developments they serve. The government has listened and in response, now wishes to consult on delivering sustainable drainage systems through changes to the current planning regime. We are seeking views on this approach.

## **Rationale**

- 1.4 The system proposed by government builds on the existing planning system, which developers and local authorities are already using. Policy changes to the planning system can also be introduced relatively quickly ensuring that sustainable drainage systems flood risk benefits can be brought forward as soon as possible.

## **Coming into force date**

- 1.5 Subject to the outcome of this consultation, any changes to planning policy would come into force in Spring 2015.

## **Geographical scope**

- 1.6 This consultation relates to England only.

# Part 2: Strengthening the planning regime for sustainable drainage systems

## Planning policy

2.1 The National Planning Policy Framework<sup>4</sup> sets out the expectation that local planning authorities, as part of their function of determining planning applications, should avoid flood risk to people and property and should manage any residual risk. Paragraph 103 states that:

*When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test<sup>5</sup>, and if required the Exception Test<sup>6</sup>, it can be demonstrated that:*

- *Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location; and*
- *Development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.*

2.2 This consultation document contains proposals to strengthen planning policy to make clear that the expectation is that sustainable drainage systems will be provided in new developments (subject to the threshold referred to in paragraphs 2.20 to 2.22 below).

2.3 This would give scope for decision-makers to give increased weight to the provision and maintenance of sustainable drainage systems for the management of run-off, alongside other **material considerations**<sup>7</sup> during the determination of a planning application. Planning applications that fail to meet a policy requirement to normally deliver SuDS first over conventional drainage could be rejected.

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<sup>4</sup> NPPF [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6077/2116950.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf)

<sup>5</sup> <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-aim-of-the-sequential-test/>

<sup>6</sup> [http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-exception-test/#paragraph\\_023](http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-exception-test/#paragraph_023)

<sup>7</sup> A material consideration is a matter that should be taken into account in deciding a planning application or on an appeal against a planning decision. Definition from Planning Portal

<http://www.planningportal.gov.uk/general/faq/faqapplyprocess#Whatarematerialconsiderations>

2.4 We will also use the planning system to make clear the government's expectation that local planning authorities will put in place robust and sustainable arrangements for the maintenance of sustainable drainage system. Further details can be found under Conditions (on page 8).

## Planning guidance

- 2.5 In support of the National Planning Policy Framework, the planning guidance<sup>8</sup> (March 2014) sets out the appropriate use of sustainable drainage systems as a way of using the opportunities offered by new development to reduce the causes and impacts of flooding, and explains why priority should be given to the use of sustainable drainage systems.
- 2.6 In support of the proposed policy change, amendments to planning guidance would set out what is expected of local planning authorities and developers when planning applications are submitted for new developments in relation to the provision of sustainable drainage systems.
- 2.7 The amendments to planning guidance would be based on the draft sustainable drainage systems National Standards and Specified Criteria which include a hierarchy of acceptable discharge solutions with infiltration to the ground the most preferred and connection to sewers the least preferred (but still permissible). The most recent version of the draft sustainable drainage systems National Standards and Specified Criteria (June 2014) can be found at the Annex.
- 2.8 We envisage that the draft sustainable drainage systems National Standards will be supported by partner-led guidance maintained as a stand-alone document. It is entirely open to other organisations to publish other independent guidance.
- 2.9 Furthermore, to support the local planning authority in their role as decision maker, the planning guidance would make clear that during the preparation of a Local Plan, the Strategic Flood Risk Assessment would be expected to include consideration of the provision and suitability of sustainable drainage systems across the local area.
- 2.10 The evidence base for the Local Plan including in relation to the provision of sustainable drainage systems would be informed by expertise from the Lead Local Flood Authority where there is already an expectation that they would be consulted on the preparation of local plans. The Strategic Flood Risk Assessment should take account of the latest evidence from Local Flood Risk Management Strategies,

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<sup>8</sup> Planning Practice Guidance – Meeting the challenge of climate change, flooding and coastal change section  
<http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/>

Surface Water Management Plans and other locally held information. The Local Plan also remains the key document in relation to directing development away from areas of high flood risk wherever possible, including areas at risk of flooding from surface water.

- 2.11 When considering a planning application, the Local Planning Authority must determine the application in accordance with the Local Plan, unless material planning considerations indicate otherwise. The evidence supporting the Strategic Flood Risk Assessment can be used by the planning authority to inform their judgement both on the appropriateness of the proposed development and on the suitability of the proposed drainage system.

## Conditions

- 2.12 Local planning authorities have a broad discretion to impose conditions on planning permissions providing they meet the legal and policy tests (as set out in the National Planning Policy Framework). Planning conditions can require the use of effective sustainable drainage systems to drain a development's surface water runoff, and also to ensure that the sustainable drainage systems will be maintained for the lifetime of the development. Any conditions imposed on the grant of planning permission run with the land and continue to apply so future land owners would be required to adhere to them. In some circumstances it may be appropriate for this to be delivered using a Section 106 (Town and Country Planning Act 1990)<sup>9</sup> agreement. Local planning authorities are currently using a combination of planning conditions and section 106 agreements to deliver sustainable drainage systems.
- 2.13 To ensure the delivery of effective sustainable drainage systems, conditions could require that the construction of the drainage solution be in accordance with a detailed scheme as agreed with the Local Planning Authority. In order to be effective, the conditions would need to provide that the sustainable drainage systems be maintained for the lifetime of the development.
- 2.14 Any breach of a planning condition can be enforced under existing planning enforcement regime. No changes to the current enforcement mechanisms are proposed.

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<sup>9</sup> Town and Country Planning Act 1990 <http://www.legislation.gov.uk/ukpga/1990/8/contents>



## Advice to the Local Planning Authority

- 2.15 To ensure the appropriate provision and maintenance of sustainable drainage systems, local planning authorities, in their role as decision makers on planning applications, need access to expert advice. There are a number of ways that the planning authority can gain this advice; they could seek independent advice, for example from another public body, or another public body could be placed under an expectation or duty to provide that advice.
- 2.16 We are interested in views on the best way to advise the local planning authority.
- 2.17 Whichever route is chosen, government accepts that the need to provide good advice on sustainable drainage systems is likely to give rise to a new burden, and will undertake a new burdens assessment once the best way forward has been agreed.
- 2.18 In addition, we propose that the following bodies are also consulted on a relevant planning application:
- a)** any sewerage undertaker with whose public sewer the drainage system is proposed to communicate;
  - b)** the Environment Agency, if the drainage system directly or indirectly involves the discharge of water into a watercourse;
  - c)** the relevant highway authority for a road which the approving body thinks may be affected;
  - d)** Canal and River Trust, if the approving body thinks that the drainage system may directly or indirectly involve the discharge of water into or under a waterway managed by them;
  - e)** an internal drainage board, if the approving body thinks that the drainage system may directly or indirectly involve the discharge of water into an ordinary watercourse (within the meaning of section 72 of the Land Drainage Act 1991) within the board's district.
- 2.19 We propose to amend planning guidance to recommend that the local planning authority invite these organisations to comment on planning applications where appropriate. Ideally, these organisations should already be working together on local surface run off issues, and there could be benefits for the Local Planning Authority if single contact points are set up.

**Q1. Do you agree that the proposed revision to planning policy would deliver sustainable drainage which will be maintained? If not, why?**

**Q2. How should the Local Planning Authority obtain expert advice on sustainable drainage systems and their maintenance? What are the costs/benefits of different approaches?**

**Q3. What are the impacts of different approaches for Local Planning Authorities to secure expert advice within the timescales set for determining planning applications?**

## **Development size threshold**

2.20 Most respondents to government's consultation on the implementation of Schedule 3 (December 2011 to March 2012) were agreed on the benefits to developers and local authorities if smaller (minor size) developments were exempted from the provisions initially.

2.21 It is therefore proposed that any planning policy change to require sustainable drainage systems to be provided as part of new development would apply only to major development<sup>10</sup>, excluding waste development and minerals development (i.e. residential developments of 10+ houses; equivalent non-residential and/or mixed developments) with drainage implications.

2.22 Minor development (developments 9 houses or fewer; equivalent non-residential and/or mixed developments) with drainage implications would continue to be subject to existing planning policy.

**Q4. Do you agree that minor size developments be exempt from the proposed revision to the planning policy and guidance? Do you think thresholds should be higher?**

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<sup>10</sup> See article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2010 for a definition of major development. [http://www.legislation.gov.uk/uksi/2010/2184/pdfs/uksi\\_20102184\\_en.pdf](http://www.legislation.gov.uk/uksi/2010/2184/pdfs/uksi_20102184_en.pdf)

# Part 3: Options for sustainable drainage systems maintenance and the funding options which could support them

## Maintenance arrangements: an overview

- 3.1 Sustainable drainage systems must be maintained to ensure effectiveness. We are therefore proposing that conditions should normally be attached to a planning permission for a development requiring that provision is put in place so that the sustainable drainage systems to be constructed must be maintained to a minimum level of effectiveness. To be effective a maintenance option must:
- clearly identify who will be responsible for maintaining the sustainable drainage systems and funding for maintenance should be fair for householders and premises occupiers; and,
  - set out a minimum standard to which the sustainable drainage systems must be maintained.
- 3.2 In practical terms, a suite of viable maintenance options will need to be available to developers to ensure that at least one option is open to them in every case to enable them to satisfy a planning condition requiring effective sustainable drainage systems and sustainable maintenance. Where there is no viable option, a planning condition cannot be attached to a permission. We therefore propose to set out in the planning policy options for delivery of long term maintenance of sustainable drainage systems. The list would not be exhaustive as we would not want to preclude innovation.
- 3.3 We are leaving it open to the developer to maintain the sustainable drainage systems themselves or to negotiate with, and secure the agreement of, a third party to maintain the sustainable drainage systems. This provides the developer with flexibility as there are a range of maintenance options available.

## Potential maintenance options

### Service management companies

- 3.4 Maintenance Companies are often set up to manage public spaces on new developments and maintenance of sustainable drainage systems could be added to their remit.
- 3.5 Under this option householders and premises occupiers would pay for sustainable drainage systems maintenance as part of the annual service charge or equivalent outdoor space service charges that they pay to cover a range of activities. Developers will need to ensure that any requirement to pay fees is binding.
- 3.6 Another potential funding path is a commuted sum paid by the developer to the Maintenance Company. Though this may be appropriate in a limited number of cases, in general, other options are likely to work better. Any commuted sums would need to be consistent with the need for the site to be viable overall.
- 3.7 Charitable Trusts could also serve as Maintenance Companies.

### Water and sewerage companies

- 3.8 Water and Sewerage Companies already have duties and can make charges relating to water and there is an association between their current activities and any new arrangements relating to managing surface water from properties.
- 3.9 Water and Sewerage Companies may construct, maintain and operate drainage systems which relieve the public sewer. This includes sustainable drainage systems. The legal basis is set out in section 114A of the Water Industry Act 1991 (as amended by the Water Act 2014).
- 3.10 If a Company and a developer agreed, the developer could build (or contribute towards the construction of) a sustainable drainage system that the Company would subsequently own. The sustainable drainage system would be included within a Water and Sewerage Company's ordinary charging scheme, and maintenance costs would be funded through the surface water drainage element of household water bills. This means that all those bill payers in the Company's area paying the company for surface water management would share the cost burden. Given that the cost of maintaining sustainable drainage systems is generally cheaper than traditional pipework, all bill payers would benefit. These charges would be regulated by OfWat.
- 3.11 Alternatively a Water and Sewerage Company could offer its services as a Service Management Company (see above). In this instance it would not be exercising its statutory function so could not spread its charges amongst all its bill payers for those

services. Instead the beneficiaries of the service would be the ones billed and the amount would not be regulated by Ofwat.

## **Local government**

3.12 Some local authorities may wish to take on responsibility for the maintenance of sustainable drainage systems as part of their wider public open space and amenity management function and/or where the sustainable drainage system provides advantages for the wider community. Under this option, local authorities would need to charge to fund their activities in maintaining sustainable drainage systems. We intend to consider over the course of consultation whether and in what form charging arrangements might be put in place.

## **Private Individuals: property owners or occupiers**

3.13 It is reasonable to expect the owners/occupiers of properties drained by sustainable drainage systems that do not also drain other properties to maintain their own sustainable drainage system.

3.14 Where the sustainable drainage systems are simple systems involving minimal or no proprietary products, easy to maintain and serving only small numbers of properties, the owners of those properties could also agree to maintain the sustainable drainage systems collectively.

3.15 The developer would need to provide the owner or owners with full instructions on the maintenance of the sustainable drainage systems including repair and replacement requirements.

## Ensuring that maintenance costs are reasonable

- 3.16 Government intends to ensure that the cost of maintaining sustainable drainage systems not add to household bills or, when paid for upfront, to the costs of building and buying a new home. All the available evidence is that sustainable drainage systems are generally cheaper to build; and maintaining them will be cheaper (or need be no more expensive) than the same cost as is required to maintain conventional drainage at present. Ofwat has been given powers to require Water and Sewerage Companies to reflect in their charges schemes where measures have been put in place to reduce the volume of surface water entering the public sewer or the rate at which it does so (Section 143B Water Industry Act 1991 (as amended by Section 16 Water Act 2014<sup>11</sup>)). This means that we will expect to see reductions in the surface water drainage element of household water bills for those households where sustainable drainage systems are managing their surface water run-off.
- 3.17 By taking a flexible and permissive approach to how sustainable drainage systems maintenance will be paid for, government intends to allow developers and communities to find the best solution to funding maintenance for a site, that will be transparent, good value and acceptable to homebuyers.
- 3.18 However, occasionally a sustainable drainage solution on a particular site might be exceptionally costly to maintain. Where the cost of on-going maintenance would impair the deliverability of the development, the planning authority may consider that a condition requiring the implementation of a sustainable drainage system is not appropriate.
- 3.19 Government's intention is that the policy approach being taken, with these safeguards applied, will meet the aim of ensuring maintenance is affordable. We would value evidence submitted in response to this consultation.

**Q5. What other maintenance options could be viable? Do you have examples of their use?**

**Q6. What evidence do you have of expected maintenance costs?**

**Q7. Do you expect the approach proposed to avoid increases in maintenance costs for households and developers? Would additional measures be justified to meet this aim or improve transparency of costs for households?**

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<sup>11</sup> <http://www.legislation.gov.uk/ukpga/2014/21/section/16/enacted>

## Part 4: consultation process

Comments and views are welcome on the questions asked in this consultation (as listed again in Part 5).

### How to contribute

The duration of this Consultation is 6 weeks and will take place from 12 September 2014 to 24 October 2014.

There are a number of ways to respond to the consultation:

#### Online survey

The questions contained in the consultation have been incorporated into an online survey. We would be grateful if you could complete this survey to enable us to analyse your responses efficiently and effectively.

#### Postal and email responses

Responses should be sent to:

SuDS Team  
Defra  
Area 3D  
Nobel House  
17 Smith Square  
London, SW1P 3JR  
Email: [suds@defra.gsi.gov.uk](mailto:suds@defra.gsi.gov.uk)

#### Confidentiality

Defra is proud of its policy of openness and at the end of the consultation period copies of the responses will be made publicly available at:

Defra  
Information Resource Centre  
Atrium  
Nobel House  
17 Smith Square  
London SW1P 3JR

They may also be published in a summary of responses to this consultation. **If you do not consent to this, you must clearly request that your response be treated as**

**confidential.** Any confidentiality disclaimer generated by your IT system in email responses will not be treated as such a request. Respondents should also be aware that there may be circumstances in which Defra will be required to communicate information to third parties on request, in order to comply with its obligations under the Freedom of Information Act 2000.

## Compliance with the government's consultation principles

This consultation is being undertaken in accordance with the Better Regulation Executive guidance on written consultation as set out at:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/255180/Consultation-Principles-Oct-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255180/Consultation-Principles-Oct-2013.pdf)

If you have any comments or complaints about the consultation process, as opposed to comments about any of the issues in this consultation paper, please address them to:

Defra's Consultation Coordinator  
Room 629  
9 Millbank  
17 Smith Square  
London, SW1P 3JR

Email: [consultation.coordinator@defra.gsi.gov.uk](mailto:consultation.coordinator@defra.gsi.gov.uk)

## Next steps

Government intends to place a copy of the responses together with copies of consultation responses to personal callers or in response to telephone or email requests in the Defra Information Resource Centre. This is so that the public can see them. Wherever possible, personal callers should give the Centre 24 hours' notice of their requirements. Also, members of the public may ask for a copy of responses under freedom of information legislation. All the responses received by the deadline will be analysed and a summary of the responses received will be placed on the Defra web site. To see consultation responses and summaries, please contact the Information Resource Centre at:

Defra  
Information Resource Centre  
Atrium  
Nobel House  
17 Smith Square  
London SW1P 3JR  
Telephone: 020-7238-6575

Email: [defra.library@defra.gsi.gov.uk](mailto:defra.library@defra.gsi.gov.uk)



## Part 5: consultation questions

Q1. Do you agree that the proposed revision to planning policy would deliver sustainable drainage which will be maintained? If not, why?

Q2. How should the Local Planning Authority obtain expert advice on sustainable drainage systems and their maintenance? What are the costs/benefits of different approaches?

Q3. What are the impacts of different approaches for Local Planning Authorities to secure expert advice within the timescales set for determining planning applications?

Q4. Do you agree that minor size developments be exempt from the proposed revision to the planning policy and guidance? Do you think thresholds should be higher?

Q5. What other maintenance options could be viable? Do you have examples of their use?

Q6. What evidence do you have of expected maintenance costs?

Q7. Do you expect the approach proposed to avoid increases in maintenance costs for households and developers? Would additional measures be justified to meet this aim or improve transparency of costs for households?

# Annex: draft national standards and specified criteria for sustainable drainage

## National standards

These Standards are issued to set out the requirements for the design, construction, maintenance and operation of sustainable drainage systems (SuDS) in accordance with paragraph 5 of Schedule 3 (National Standards) to the Flood and Water Management Act 2010 (the Act).

Terms used in the Standards have the same meaning as those in the Act and supporting Statutory Instruments.

## 1. Design

### Runoff destinations

**Standard 1.** Surface runoff not collected for use must be discharged to one or more of the following, listed in order of priority:

- 1) discharge into the ground (infiltration); or where not reasonably practicable,
- 2) discharge to a surface water body; or where not reasonably practicable,
- 3) discharge to a surface water sewer, highway drain, or another drainage system; or where not reasonably practicable,
- 4) discharge to a combined sewer.

### Flood risk outside the development

**Standard 2.** The design of the drainage system must mitigate any negative impact of surface runoff from the development<sup>12</sup> on the flood risk outside the development boundary.

**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.

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<sup>12</sup> In these standards 'development' means the area of land for which approval for work was required in accordance with paragraph 7 of Schedule 3 to the Flood and Water Management Act 2010

## Peak flow control

**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.

**Standard 5.** For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but must not exceed the rate of discharge from the development prior to redevelopment for that event.

## Volume control

**Standard 6.** Where reasonably practicable, for greenfield developments, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must not exceed the greenfield runoff volume for the same event.

**Standard 7.** Where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but must not exceed the runoff volume for the development site prior to redevelopment for that event.

**Standard 8.** Where it is not reasonably practicable to constrain the volume of runoff to any drain, sewer or surface water body in accordance with **Standard 6** or **Standard 7** above, the additional volume must be discharged at a rate that does not adversely affect flood risk.

## Flood risk within the development

**Standard 9.** The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the development for a 1 in 30 year rainfall event.

**Standard 10.** The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur during a 1 in 100 year rainfall event in any part of: a building (including a basement) or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development.

**Standard 11.** The design of the drainage system must ensure that so far as is reasonably practicable, flows resulting from rainfall in excess of a 1 in 100 year rainfall event are managed in exceedance routes that minimise the risks to people and property.

## Water quality

**Standard 12.** The drainage system must be designed and constructed so surface water discharged does not adversely impact the water quality of receiving water bodies, both during construction and when operational.

## Structural integrity

**Standard 13.** Components must be designed to ensure structural integrity of the drainage system and any adjacent structures or infrastructure under anticipated loading conditions over the design life of the development taking into account the requirement for reasonable levels of maintenance.

**Standard 14.** The materials, including products, components, fittings or naturally occurring materials, which are specified by the designer must be of a suitable nature and quality for their intended use.

## Designing for maintenance considerations

**Standard 15.** The drainage system must be designed to take account of the construction, operation and maintenance requirements of both surface and subsurface components, allowing for any personnel, vehicle or machinery access required to undertake this work.

**Standard 16.** The drainage system must be designed to ensure that the maintenance and operation requirements are economically proportionate.

**Standard 17.** Pumping must only be used to facilitate drainage for those parts of the development where it is not reasonably practicable to drain water by gravity.

**Standard 18.** The drainage system must be designed so that the capacity of the drainage system takes account of the likely impacts of climate change and likely changes in impermeable area within the development over the design life of the development.

## 2. Construction

**Standard 19.** The drainage system must be constructed in accordance with the approved design such that materials, including products, components, fittings or naturally occurring materials, are adequately mixed or prepared and applied, used, or fixed so as to perform adequately the functions for which they are intended and constructed in a workmanlike manner.

**Standard 20.** The mode of construction of any communication with an existing sewer or drainage system must be such that the making of the communication would not be prejudicial to the structural integrity and functionality of the sewerage or drainage system.

**Standard 21.** Once constructed in accordance with the approved design, an approving body must presume that a drainage system is functioning in accordance with the approved design unless there is evidence to demonstrate that it is not.

**Standard 22.** Damage to the drainage system resulting from associated construction activities must be minimised and must be rectified before the drainage system is considered to be completed.

### 3. Maintenance

**Standard 23.** The drainage system must be maintained to ensure that it continues to function as designed.

### 4. Operation

**Standard 24.** The drainage system must be operated to ensure that it continues to function as designed.

#### **Specified criteria by which judgments are to be formed**

The specified criteria are published in accordance with paragraph 5(3)(a) of the Flood and Water Management Act 2010 which states “National Standards may permit or require approving bodies to form judgements by reference to specified criteria”.

### 5. Specified criteria to which regard is to be had

**Criterion 1.** The approving body may have regard to a technical standard or criteria submitted as evidence:

- a) of the hydrological modelling of flood risk off and on the development,
- b) of the hydrological modelling of flow rate and volume of water to be discharged,
- c) of the water quality outcomes achieved by drainage components,
- d) that components are designed to ensure structural integrity of the drainage system and any adjacent structures,
- e) that materials, including products, components, fittings or naturally occurring materials are of a suitable nature and quality for their intended use.

**Criterion 2.** The approving body must have regard to the flood risk management and water quality requirements, if any, which apply to the provision of drainage systems, in:

- a) the National Planning Policy Framework and its technical guidance;
- b) up-to-date local and neighbourhood plans which covers the area of the development;
- c) the National Flood and Coastal Erosion Risk Management Strategy;
- d) the Local Flood Risk Management Strategy which covers the area of the development;

e) IDB, EA and Local Authority Bylaws where a drainage system discharges to a relevant watercourse.

Where a drainage system is designed, constructed, maintained and operated in accordance with the National Standards, would in the opinion of the approving body, not meet a requirement of the above criteria the approving body may refuse the application.

**Criterion 3.** In the National Standards **Standards 1 to 24**, geology, geography and costs associated with construction of a drainage system are relevant criteria which must be considered in determining what is reasonably practicable.

**Criterion 4.** This criterion requires an approving body to form its judgement of what is reasonably practicable in **Standard 1** by special reference to construction costs. If, in an application for approval of a drainage system, it is demonstrated that it would cost more to design and construct a drainage system which discharges to a higher priority discharge destination rather than to a discharge destination which is lower in the order of priority, it is not to be considered reasonably practicable to achieve the higher discharge destination. The calculation of construction costs may include the opportunity cost of providing land for a drainage system above ground where the land utilised for the drainage system is not also utilised for another land use. Each movement down the hierarchy must be demonstrated.

**Criterion 5.** This criterion requires an approving body to form its judgement of what is reasonably practicable in **Standards 5, 6, 7, and 11** by reference to the construction cost of an effective drainage system which would not require approval. If, in an application for approval of a drainage system, it is demonstrated that the design and construction costs of a drainage system in accordance with the **Standards 5, 6, 7, and 11** would be more expensive than an effective drainage system which would be built but for these Standards, then it is not to be considered reasonably practicable to achieve the full requirements of those Standards. The calculation of construction costs may include the opportunity cost of providing land for a drainage system above ground where the land utilised for the drainage system is not also utilised for another land use. To be considered reasonably practicable, the drainage system proposed must demonstrate it complies as far possible with those National Standards, without exceeding the design and construction costs of the alternate system.

**Criterion 6.** This criterion requires an approving body to form its judgement of what is economically proportionate in **Standard 16** by reference to the costs that would be incurred by consumers for the use of an effective drainage system, connecting directly to a public sewer, which would have been built but for these Standards.

**Criterion 7.** Where a drainage system is partly in the area of one approving body and partly in the area of another approving body or bodies, each approving body must form judgements having regard to the existence and effect of the parts of the drainage system in the area of the other approving body or bodies.