BS 8582:2013

# Code of practice for surface water management for development sites

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**Summary of pages**

This document comprises a front cover, an inside front cover, pages 1 to 50, an inside back cover and a back cover.

# Foreword

## Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 November 2013. It was prepared by Technical Committee CB/501, *Flood risk and watercourses*. A list of organizations represented on this committee can be obtained on request to its secretary.

## Relationship with other publications

This British Standard is complementary to:

- BS 8533, *Assessing and managing flood risk in development – Code of practice*;
- BS EN 752, *Drain and sewer systems outside buildings*;
- BS 8595:2013, Code of practice for the selection of water reuse systems

## Information about this document

The initial drafting of this British Standard was produced in association with BIS as part of their ongoing programme of support for standardization.

The focus of this British Standard is on the sustainable management of flood risks arising from surface water run-off on development sites, although criteria relating to the management of a wider suite of environmental risks is given. The benefits that can accrue from surface water drainage systems are highlighted and relevant references provided.

This British Standard has been developed to support:

1) planners and drainage approval bodies: in setting consistent drainage criteria and principles (for new developments and redevelopments) that deliver effective surface water flood risk management as sustainably as possible while contributing towards the delivery of relevant environmental, sustainability and urban design planning objectives for the site and local area.
2) designers: in planning and implementing safe, robust surface water management systems that meet the criteria and principles referred to in 1).

## Use of this document

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

## Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the Clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

### Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

# Introduction

Surface water drainage systems have historically comprised subsurface pipe conveyance and tank storage systems that drain and control run-off from development sites. These drainage systems have generally been designed to meet the criteria set out in Sewers for Adoption [N1], Sewers for Scotland [N2] and Sewers for Adoption Northern Ireland [N3]) in order to secure long-term adoption and ownership of the infrastructure from local sewerage undertakers.

It is recognized that the rapid subsurface drainage of developed impermeable surfaces, even with controlled discharges for extreme events, is still likely to increase flood risk for the receiving catchment and adversely affect the local hydrological and morphological balances. In addition, there is a significant risk of pollution to the receiving environment as a result of:

a) urban surface water run-off contaminants being discharged directly to watercourses;

b) foul sewage contaminants contained within the discharged surface water run-off as a result of misconnections; and/or

c) the operation of combined sewer overflows during periods of extreme rainfall.

Sustainable drainage systems (SuDS) are required to:

a) minimize the change in the hydrological regime resulting from the urbanization of the area (and associated negative impact on downstream flood risk);

b) protect or enhance:

   1) receiving watercourse water quality and morphology,

   2) natural drainage patterns on the development site,

   3) habitat diversity and biodiversity, and

   4) public health and amenity;

c) protect the safe replenishment of groundwater resources and river baseflows and conserve surface water resources;

d) manage run-off in excess of the drainage system capacity to mitigate on-site flood risk to people and property.

In England and Wales, the Flood and Water Management Act 2010 [1] makes provision for the formation of SuDS Approving Bodies (SABs) within Lead Local Flood Authorities (LLFAs) to approve all surface water management systems in new developments and redevelopments to national standards, prior to taking responsibility for their long-term operation and maintenance (where the system serves more than one property). At the time of publication, the national standards were still being developed. The Flood and Water Management Act 2010 [1] also amended the Water Industry Act 1991, Section 106 [2], by making the right to connect surface water to the public sewer conditional on a SAB approving the site drainage system. In England, the National Planning Policy Framework [3] encourages the use of SuDS. Where local authorities do not adopt these systems, water companies or other private organizations might take ownership of the systems for a fee.

In Wales, the following planning policy technical advice notes (TANs) promote the implementation of SuDS:

- TAN 15: Development and flood risk [4];
- TAN 5: Nature conservation and planning [5].

In Scotland, the Water Environment and Water Services (WEWS) (Scotland) Act 2003 [6] makes provision for the protection of the water environment. The WEWS Act 2003 [6] made the use of SuDS obligatory when dealing with surface water drainage for all new developments (except single dwellings and discharges to coastal waters). Scottish Water were made responsible for the future maintenance and capital replacement of shared public SuDS that manage run-off from roofs and paved surfaces, providing they are designed to Scottish Water specifications as set out in Sewers for Scotland [N2]. The Flood Risk Management (Scotland) Act 2009 [7] introduced requirements for a more sustainable approach to flood risk management. The Scottish Environment Protection Agency (SEPA) have set out regulatory guidance on the management of surface water discharges from built developments in WAT-RM-08 [8]. The Scottish Planning Policy [9] includes policies on flooding and drainage and is supported by the following Planning Advice Notes (PANs) relating to SuDS:

- PAN 61: Planning and Sustainable Urban Drainage Systems [10];
- PAN 69: Planning and Building Standards Advice on Flooding [11];
- PAN 79: Water and Drainage [12].

Where SuDS are adopted by local roads authorities, the SuDS for Roads [13] manual is used to set the appropriate adoption standards.

In Northern Ireland, Planning Policy Statement (PPS) 15 Planning and Flood Risk [14] sets out the Department of the Environment's planning policies on minimizing flood risk through sustainable development and the Department of Agriculture and Rural Development (DARD) Rivers Agency is responsible for consenting discharges to watercourses. The Northern Ireland Environment Agency has been charged with the responsibility of meeting a range of the Water Framework Directive [15] requirements, some of which encourage the wider application of SuDS for treating contaminated urban run-off.

Surface water drainage within the property curtilage is also dealt with in the Building Regulations 2010, Approved Document H [16] and the Building Regulations (Northern Ireland) Order [17].

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# 1 Scope

This British Standard gives recommendations on the planning, design, construction and maintenance of surface water management systems for new developments and redevelopment sites in:

a) minimizing and/or mitigating flooding and other environmental risks arising from:

   1) site surface water run-off as a result of rain falling onto the development site;

   2) run-off conveyed across or arising on the site from other sources.

   *NOTE 1 Run-off resulting from snow melt is not covered in this British Standard.*

b) maximizing the societal and environmental benefits arising from the:

   1) use of surface water run-off to protect and enhance local water resources and supplies;

   2) contribution of surface water management systems in mitigating climate risks associated with urbanization;

   3) integration of surface water management systems with urban design in delivering amenity and community value and in repairing, protecting and enhancing landscape and/or townscape character;

   4) repair, protection and enhancement of biodiversity.

*NOTE 2 For further information on the planning, design, construction and maintenance of SuDS see the CIRIA SuDS Manual [18].*

*NOTE 3 A design process map for surface water management is set out in Figure 1, which supports effective navigation through this standard. This map works in conjunction with Figure 2, which shows how the surface water management design process is linked with the development planning process.*