

BS 85600:2017



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Post-event flood assessments — Guidance on investigating flooding incidents



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Summary of pages

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 July 2017. It was prepared by Technical Committee CB/501, *Flood Risk & Watercourses*. A list of organizations represented on this committee can be obtained on request to its secretary.

Use of this document

As a guide, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice and claims of compliance cannot be made to it.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any 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.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

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.

1 Scope

This British Standard gives guidance and recommendations for investigating flood events and carrying out a post-event flood assessment to ensure that consistent, good quality data can be collected repeatedly for a variety of potential uses. Specifically, it gives guidance and recommendations for:

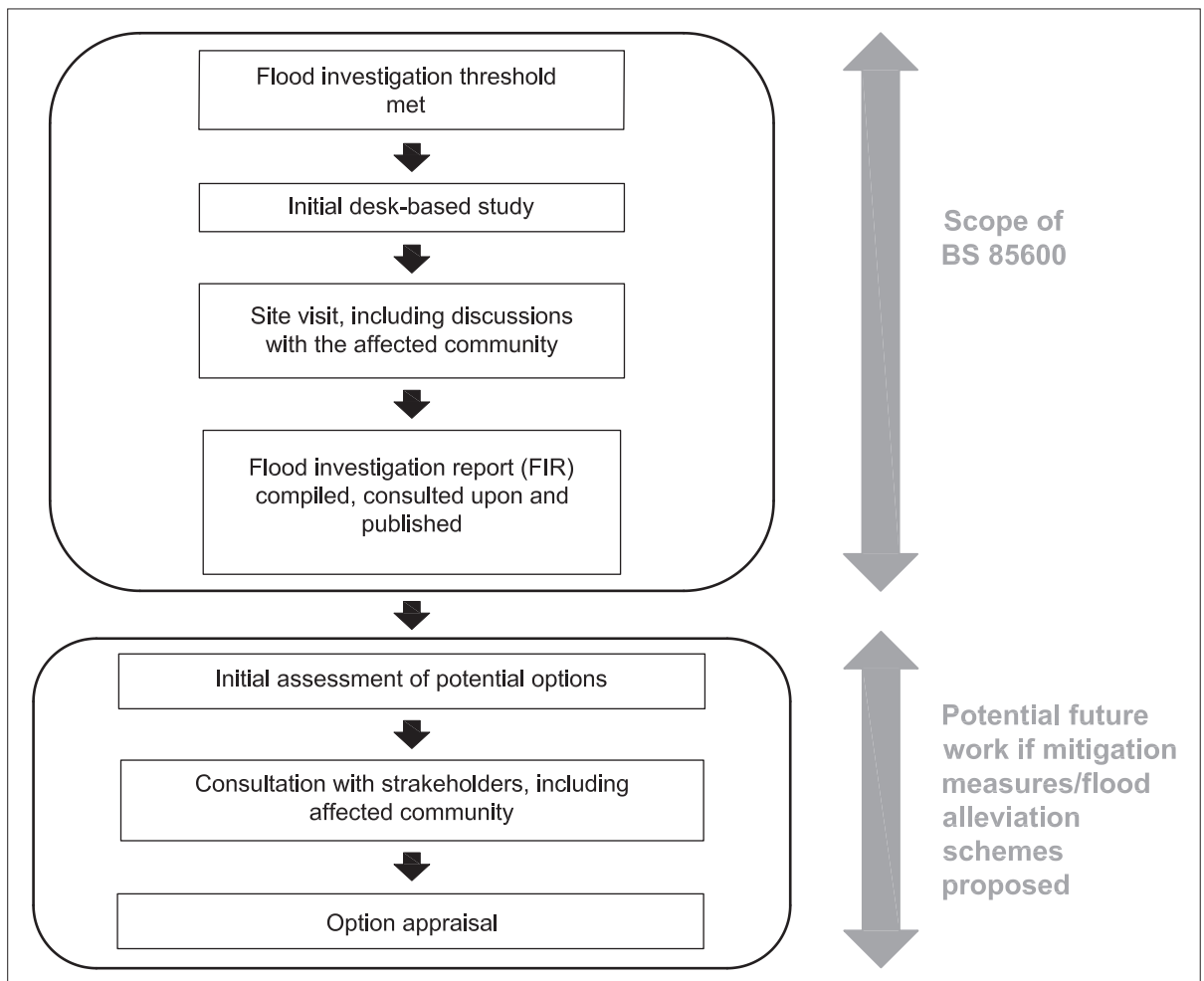
- investigating flooding incidents according to the type and severity of flooding;
- thresholds for different levels of investigations based on the communities, businesses and infrastructures affected (e.g. domestic and commercial buildings, utilities, road and rail networks);
- the most useful information to collect;
- the organizations to contact to supply or corroborate the information; and
- the preparation of a report containing information collected and initial recommendations for risk management authorities.

NOTE In England and Wales, Section 19 of the Flood and Water Management Act 2010 [1] requires Lead Local Flood Authorities to investigate and publish reports on significant flood incidents. The recommendations of this British Standard go beyond the legal requirements of Section 19, but provide a useful basis for informing such reports. No legal requirement for post-flood surveys exists in Scotland or Northern Ireland (NI). In Scotland, such reporting is carried out on an ad hoc basis only, with an annual report to Parliament on flood incidents and affected communities, produced by Scottish Government officials. In Northern Ireland, post flood investigations are carried out as a matter of course where there is flooding from a watercourse only. In both countries good practice is followed for the surveys, although it is recognized that some form of technical standardization would be of benefit.

This British Standard is applicable to investigation of natural sources of flooding, rather than failure of structures or other assets.

This British Standard does not give guidance on resolving flooding or what measures to take to prevent flooding from occurring in the future (see [Figure 1](#)).

This British Standard is intended to be used by flood risk management authorities and consultants engaged to undertake post-flood investigations.

Figure 1 — *Scope of BS 85600*

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1 close proximity

reasonable assumption that the properties affected were flooded from the same source or combination of sources, such as surface water and groundwater acting together

3.2 flood incident

overflow of water onto land which is usually dry

NOTE The various sources of flooding are defined in [3.3](#).

3.3 flood sources

3.3.1 coastal/estuarine flooding

flooding that results from sea levels exceeding the natural or constructed bank or defence level of coasts and estuaries, typically caused by storms at sea raising sea and wave levels, which can combine with periods of high river flows in estuaries

3.3.2 internal flooding

flooding arising from flood water entering a commercial or residential property

NOTE Property includes basements and ground level floors, garages if these are within the fabric of the building and occupied static caravans and park homes, but not tents.

3.3.3 groundwater flooding

flooding that occurs when the water table (the water level below ground) comes close to and/or above the ground surface levels, typically caused by prolonged periods of above average rainfall over weeks and months

3.3.4 river flooding

flooding resulting from river levels exceeding the natural or constructed bank or defence level of a river or stream, typically caused by prolonged and/or heavy rainfall across catchments over days and weeks

3.3.5 sewer flooding

flooding caused by a blockage or overflow in a sewer, or capacity issues, or electro-mechanical failure of the pumping stations

NOTE Includes flooding from storm/surface water and combined sewers.

3.3.6 surface water/pluvial/urban flooding

flooding from intense rainfall falling on impermeable or saturated surfaces and/or exceeding the ability of any drainage channel to manage the flows, typically caused by short period storms over a matter of hours or less

3.4 hydrometric data

data that describe the flood event in terms of incident rainfall, water levels and flows

NOTE These may also include data on catchment conditions such as soil moisture deficit or snow cover, and whether frozen ground existed at the time of the flood.

3.5 lead local flood authority (LLFA)

local authority responsible for taking the lead coordinating role on local flood risk management

NOTE In England, this is a unitary authority or a county council. In Wales, this is a county council or a county borough council.

3.6 local sources of flooding

flooding from surface water, groundwater and watercourses (see [3.10](#))

NOTE See [3.3](#).

3.7 riparian owner

person who owns land or has property adjacent to a watercourse, whether open or culverted, running through their property

3.8 risk management authority (RMA)

Environment Agency, lead local authority, district council for an area for which there is no unitary authority, internal drainage board, water utility or highway authority

[SOURCE: Flood and Water Management Act 2010 [\[1\]](#), Section 6(13), modified]

3.9 Sewers

3.9.1 combined sewer

underground pipes which collect both surface water runoff and foul wastewater

3.9.2 foul sewer

separate underground pipe system designed specifically for transporting foul wastewater from houses and commercial buildings for treatment or disposal

3.9.3 surface water sewer

separate underground pipe system designed specifically for transporting excess rain and surface water from houses, commercial buildings and roads for treatment or disposal

NOTE A surface water sewer can be public (owned by a water and sewerage company) or private/un-adopted (owned by the landowner or management company).

3.10 Watercourses

NOTE Watercourses include all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers) and passages, through which water flows.

3.10.1 main river

watercourse or river shown on a Main River Map for England or Wales

NOTE In Scotland and Northern Ireland, "main river" has not been defined.

3.10.2 ordinary watercourse

watercourse that is not part of a main river

NOTE Examples include smaller brooks, drainage channels, ditches, cuts, dykes, sluices, soughs or culverts that might only convey water for a short length of time in a year.

4 Instigating a post-event survey investigation

Flood events should be investigated in accordance with the procedure set out in [Figure 2](#).

The following information should, where possible, be obtained when a flood incident is first reported:

- a) severity/nature of flooding;
- b) residential/commercial properties/infrastructure affected;
- c) source of flooding;
- d) any time-critical hydrometric data;
- e) frequency of flooding;
- f) depth/level of flooding; and
- g) cause of flooding.

When considering if it is necessary or appropriate to investigate a flood event, each flood incident should be assessed on a case by case basis, reviewing the severity of the incident, the number and type of properties/assets (homes, businesses and significant infrastructure) affected, and the frequency of such an occurrence. In the case of a major or widespread flood incident, it will be necessary to prioritize the order of undertaking the flood surveys and, where appropriate, to consult with other responsible organizations.

Investigations should be proportionate to the scale of flood being considered.