

Supplementary Guidance: Flooding, Drainage & Water Quality

1. Status of Supplementary Guidance

This Supplementary Guidance (SG) forms part of the Development Plan and is a material consideration in the determination of planning applications.

The SG expands upon the following Aberdeen Local Development Plan policies:

- Policy NE6 – Flooding, Drainage and Water Quality
- Policy NE7 – Coastal Planning

This SG complements other Supplementary Guidance documents on Natural Heritage, Trees and Woodland, Green Space Network and Open Space and Landscape.

2. Introduction to Topic

Planning has a key role to play in a modern approach to managing flood risk in Scotland. When preparing development plans and determining planning applications, Aberdeen City Council will consider flood risk from all sources, to help prevent development which would have a significant probability of flooding or increase the probability of flooding elsewhere. This SG provides further guidance for developers which will help them to ensure their proposals properly address flood risk.

Flood risk is considered as part of the wider assessment of the effectiveness of development sites. In order to determine this at an early stage of the planning process, discussions are encouraged with the local authority to consider both flood risk to the site, as well as the cumulative effects of the development. It is strongly advised that applicants seek pre-application advice from the local authority.

If development is permitted on land at risk from flooding, the development must be designed to be flood resilient, minimise damage as well as take into consideration the evacuation of people.

3. Climate Change

Scotland's climate is already changing and these changes will lead to an increase in flooding from surface water, watercourses and coastal sources. The UK Climate Projections (UKCP09) projects that climate change will see an increase in autumn and winter rainfall intensity of approximately 10% by 2050 and a relative sea level rise of 0.5metres in Aberdeen by the 2080s. Extreme local weather events provide good examples of the consequences of the changing climate in Aberdeen. The Local Climate Impacts Profile (LCLIP) assesses the impact of extreme weather on Aberdeen City Council and has begun investigating necessary adaptations.

Adaptation measures include sustainable flood risk management, like Sustainable Drainage Systems (SuDS), buffer strips and blue, green and grey infrastructure. They provide multiple benefits such as biodiversity enhancement, habitat creation and improved amenity for those living and working in the area. The Green Space Network also plays a role by controlling run off, managing floods and providing space for SuDS.

4. Statutory Roles and Responsibilities

The Flood Risk Management Act (Scotland) 2009 ('the FRM Act') is the primary legislation relating to flood risk in Scotland. It is designed to ensure national legislation complies with the EC Floods Directive (2007/60/EC) and gives many different parties key roles in sustainable flood risk management in Scotland.

Climate Ready Scotland: Scottish Climate Change Adaptation Programme, under section 53 of the Climate Change (Scotland) Act 2009, sets out objectives for a climate ready natural environment, buildings and infrastructure and society. It includes specific objectives for flooding in line with Scottish Planning Policy and the Flood Risk Management (Scotland) Act 2009.

The table below describes the main roles and responsibilities held by different stakeholders, as defined by the Flood Risk Management Act (Scotland) 2009. Further information on flood risk management can be found in SEPA's natural flood management handbook.

Stakeholder	Key Roles, Responsibilities and Powers	Relevant Legislation
All responsible bodies (including local authorities, SEPA, Scottish Ministers, Scottish Water)	<ul style="list-style-type: none"> ▪ Act with a view to reducing overall flood risk, securing compliance with the Directive and having regard to the environmental, social and economic impact of carrying out their functions. 	Flood Risk Management Act (Scotland) 2009
Planning Authority	<ul style="list-style-type: none"> ▪ Responsible for control of development through determination of planning applications and preparation of development plans, taking into account flood risk from all sources when doing so; ▪ Enforcement action against illegal development 	Planning etc. (Scotland) Act 2006
Local Authority	<ul style="list-style-type: none"> ▪ Assess condition of water courses and use their powers to maintain them; ▪ Powers to implement measures to manage flood risk; ▪ Prepare/contribute to the preparation of assessments, maps and plans relevant to their jurisdiction; ▪ Lead the preparation of the Surface Water Management Plan 	Flood Risk Management (Scotland) Act 2009

Scottish Water	<ul style="list-style-type: none"> ▪ Responsible for provision of sewerage infrastructure; ▪ Consider requests from landowners to vest/ adopt constructed, approved and planned SuDS; ▪ Vest/ adopt if SUDS meets relevant standards and requirements; ▪ Dealing with flooding caused by water infrastructure failure; ▪ Co-operation with the Local Authority in the preparation of the SWMP; ▪ Where roads drainage and curtilage drainage enter into the same sewer, enter into an agreement with the Roads Authority for the provision, management, maintenance or use of sewers or drains for the conveyance of water. 	Sewerage (Scotland) Act 1968 (as amended)
SEPA	<ul style="list-style-type: none"> ▪ Regulate discharges into controlled waters; ▪ Provide independent advice and guidance on flood risk to LA's in their role as a statutory key agency; ▪ Preparing national-level assessments and plans 	Control of Pollution Act 1974 (as amended) Planning etc. (Scotland) Act 2006 Flood Risk Management (Scotland) Act 2009
Owner/Occupiers	<ul style="list-style-type: none"> ▪ Responsibility for safeguarding their property and avoiding/managing flood risk; ▪ Maintaining any watercourses/bodies on their land; ▪ Maintain SuDS within the boundaries or curtilage of private property. 	Flood Risk Management (Scotland) Act 2009

5. Flood Risk Management Planning in Scotland

The FRM Act established a new set of arrangements for flood risk management planning in Scotland. At a national level, the National Flood Risk Assessment (NFRA) has been prepared by SEPA with the aim of identifying the areas of Scotland most vulnerable to flooding.

The NFRA identified 243 Potentially Vulnerable Areas (PVAs) of which there are 5 in Aberdeen City covering almost the whole local authority area. The potential impact of flooding in each PVA is considered significant enough to justify further national action.

At a regional level, Flood Risk Management Plans are required to be produced for each Local Plan District in Scotland.

These are comprised of two elements:

- A **Flood Risk Management Strategy** for the North East District has been prepared by SEPA, and identifies the main flooding issues and impacts for each PVA and high-level objectives to address them.
- The **North East Local Flood Risk Management Plan** has been prepared by a local partnership, which is led by Aberdeenshire Council and includes Aberdeen City Council. It identifies areas at risk of flooding and

where the impact of flooding is sufficient to justify further assessment and appraisal there is a short description of the causes and consequences of flooding and the agreed objectives for flood risk management are set out. It also includes the actions that will deliver progress against the objectives over the first six-year planning cycle from 2016 to 2022, including when they will be implemented, which organisation is responsible, and how they are to be funded.

The Local Flood Risk Management Plan identifies 5 PVAs in Aberdeen City, which are:

- Bridge of Don
- Westhill
- Peterculter
- Aberdeen City – Denmore
- Aberdeen City - Deeside

6. Flood Risk Assessment (FRA)

Early thought should be given to potential flood risk issues when considering a site. Flood risk can have important implications for the siting, design and in some cases overall principle of development. Where there is a potential risk of flooding, planning applications are required to be supported with a Flood Risk Assessment (FRA).

6.1 When will FRA be required?

Where a site is allocated in the Local Development Plan, it may be indicated in the Opportunity Site schedule that a FRA will be required.

For sites that are not allocated in the Local Development Plan, applicants will be asked to provide an assessment of flood risk where a development is likely to result in a material increase in the number of buildings at risk of flooding. This will be judged by planning officers using SEPA's Flood Maps and advice sought from the Council's flood engineers.

Developers should give early thought to flood risk when considering a site, as it can have important implications for siting, design and in some cases the overall principle of development in a given location. Where flood risk may be an issue, it is strongly advised that applicants seek pre-application advice from the local authority, particularly for major and national developments.

6.2 Preparing Flood Risk Assessment

SEPA has produced standard technical guidance on producing FRA, which includes a checklist to help ensure that all key elements have been included. It is strongly recommended that applicants make use of this guidance in preparing FRA. It can be found on SEPA's website: [SEPA - Flood Risk Advice for Applicants](#)

6.3 Reviewing Flood Risk Assessments

The Council will ask SEPA to review Flood Risk Assessments. SEPA will provide comments on the appropriateness of the study, its conclusions and the acceptability of the proposals in line with Scottish Planning Policy's Flood Risk Framework, which sets out which types of development is likely to be acceptable given a particular level of flood risk.

Developers can help to speed up the review of their FRA by:

- considering flood risk issues from the outset to ensure that any risks are fully understood and considered in the siting and design of the development;
- entering into pre-application discussions with the planning authority and SEPA for major and national developments; and
- following SEPA's technical guidance and completing their checklist.

Floods are inherently complex phenomena that are extremely difficult to predict; the effects of climate change are likely to have even further impact on the frequency, intensity and unpredictability of flood events. Although probability-based flood maps guide us to areas which are most vulnerable to flooding, they should not be taken as infallible and the granting of planning permission never implies that there is an absence of flood risk.

7. Drainage Impact Assessment

Drainage (encompassing surface water and waste/foul water) is also a material consideration in the planning process. Appropriate drainage arrangements are a key element in sustainable flood risk management as well as water quality management. This section provides guidance on the preparation and submission of a Drainage Impact Assessment (DIA) for new development.

7.1 When will Drainage Impact Assessment be required?

Aberdeen City and Aberdeenshire Councils require that a DIA is required for the following development proposals:

- Any residential development comprising five or more dwellings;
- Non-residential developments of 250 square metres or more;
- Changes of use involving new buildings or hard surfacing of 100 square metres or more;
- Extension to buildings or hard surfacing of 100 square metres or more;
- Any development that is below these thresholds but falls within a sensitive area.

Sensitive areas may include:

- Areas where there is no available public sewer;
- Areas affected by flooding;
- Areas with high water-table problems;
- Receiving waters with no capacity for additional flow;
- Bathing areas;
- Fisheries;
- Areas within or upstream of a conservation site designated under national or international legislation, for example Special Area of Conservation (SAC) or Site of Special Scientific Interest (SSSI);
- Areas where drainage may affect a non-designated conservation site or amenity area such as a public park or picnic site;
- Contaminated land.

7.2 What must a Drainage Impact Assessment Cover?

DIA's should be site-specific. Developers are required to demonstrate that the site will be developed to incorporate a satisfactory means of foul and surface water drainage.

Below are the minimum Drainage Impact Assessment requirements. Depending on the scale and type of development, site conditions and the sensitivity of the receiving watercourse, additional requirements may be specified by Aberdeen City Council. Applicants should therefore seek to confirm requirements with the Council before preparing the DIA.

Minimum DIA Requirements:-

- An examination of current and historical drainage patterns including water courses, ditches, culverts, sewage and general land drainage, both within and adjoining the site;
- A statement of SuDS to be incorporated, and final discharge point(s) where relevant, including how the drainage design satisfied SuDS techniques, both in terms of treatment of water quality and attenuation of water quantity, in accordance with best practice and design;
- A Drainage Plan identifying the type of SuDS to be incorporated and the land-take of the SuDS, allowing for access and maintenance;
- Details of proposals, where relevant, for integrating the drainage system into the landscape or publicly accessible open space, providing habitat and social enhancement;
- The soil classification for the site and evidence of subsoil porosity tests at the location for any proposed infiltration devices, showing the position of the winter water table;

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- Indication of overland flow routes and measures to safeguard properties from flooding.

7.3 Reviewing Drainage Impact Assessment

Evaluation of the submitted Drainage Impact Assessment will be undertaken by the planning authority in conjunction with other regulatory authorities, seeking further information where necessary.

8. Sustainable Drainage Systems (SuDS)

All new developments are required to incorporate SuDS to deal with surface water, with the exception of single dwellings/extensions to residential properties or discharges to coastal waters. SuDS components need to be selected based on specific site opportunities and constraints and provision should be addressed as part of the Drainage Impact Assessment.

SuDS is an approach to surface water management that aims to manage rainfall close to where it falls, mimicking natural systems. SuDS can be designed to slow water down before it enters rivers and streams, and provide areas to store water before it is able to soak into the ground or evaporate. For these reasons, SuDS are more sustainable than traditional 'hard' drainage measures, and may allow development in built up areas where existing drainage systems are close to capacity.

SuDS may provide many other benefits such as habitat and biodiversity enhancement, recreational opportunities and increased residential or workplace amenity. It is important that SuDS also address water quality issues by providing appropriate treatment of surface water run-off prior to discharge.

We will encourage developers to choose SuDS elements that maximise these benefits, such as green roofs and grass paving, within the standards set by the SuDS Manual. Further information can be found in the [Landscape Supplementary Guidance](#).

8.1 SuDS Design

The SuDS Manual, produced by the Construction Industry Research and Information Association (CIRIA) is a useful resource providing guidance on the planning, design, construction and maintenance of SuDS. General information about best-practice SuDS design is also available from Susdrain, which is an online information sharing resource created by CIRIA (www.susdrain.org).

In general terms, the rate and volume of surface water runoff from the post-development situation should not exceed the surface water run-off from the existing site. Site-specific design criteria for surface water management will need to be agreed with Aberdeen City Council.

Technical criterion are set out in the most up-to-date Scottish Water 'Sewers for Scotland' Manual (third edition published 2015). Applicants are advised to seek guidance from Aberdeen City Council flood engineers as early as possible to discuss technical requirements for drainage.

8.2 Long- Term Maintenance of SuDS

Maintenance of SuDS within the boundaries or curtilage of a private property, such as a residential driveway or supermarket car park, is the responsibility of the landowner or occupier. SEPA's preference is for SuDS constructed outwith the boundaries of a private property to be adopted by Scottish Water or the Local Authority, who would be expected to guarantee the long-term maintenance and sustainability of any SuDS implemented. Access requirements – to allow regular maintenance as part of flood risk management.

'Sewers for Scotland' ^{3rd} Edition contains Scottish Water's construction standards for two types of SuDS, detention ponds and detention basins. If a SuDS development is constructed to these standards, Scottish Water has a duty to adopt the SuDS and thereby become responsible for it. Drainage Impact Assessment must demonstrate that the long-term maintenance and management of SUDS has been arranged to the satisfaction of all parties.

8.2.1 *Waste and Foul Water Drainage:*

DIA should also include a section describing the arrangements for wastewater (water from toilets, showers, sinks etc.) National policy indicates that waste/foul water and surface water drainage should be kept separate.

8.2.2 Connection to the Public Sewer:

The Local Development Plan states that connection to a public sewer will be a pre-requisite of all development where this is not already provided. Developers are responsible for laying any off-site extension to connect their development to the public sewer.

Scottish Water can provide advice on the procedure for obtaining connection to a public sewer and the required standards for adoptable infrastructure. Further information on the contributions that may be required towards the provision or upgrading of sewerage infrastructure can be found in the Developer Contributions SG.

8.2.3 Private Sewers:

Private sewer treatment systems for individual properties will not be permitted in areas already served by a public sewer. Where public sewers are not available, developers are advised to first discuss with Scottish Water the possibility of providing a new public sewer to carry wastewater to an existing Waste Water Treatment Plant (WWTP).

If it is not physically possible for a development to be connected to a public sewer, in exceptional circumstances private sewer treatment systems for individual properties will be permitted provided that the developer demonstrates that:

- a. there will be no adverse effects on the environment, amenity and public health individually or cumulatively; and
- b. the development will not obstruct future development of the public sewer; and
- c. the private system will be removed when the public sewer becomes capable of being connected to; and
- d. the development must facilitate later connection to the public sewer.

9. Regional SUDS

9.1 Areas Safeguarded for Regional SUDS

Regional SuDS provide upstream water retention during heavy rainfall events which can help to protect more built-up areas downstream from flooding. They also provide improvements to water quality and habitats. The principle of Regional SuDS is supported by SPP (2014), which states that Local Development Plans should protect land with the potential to contribute to managing flood risk.

These schemes will be built by Aberdeen City Council on land owned by the Council, or on space made available either through planning or commercial agreements made between Council and landowners.

A number of sites have been identified by Aberdeen City Council as having potential to construct Regional SuDS. Development that would affect the future functionality or viability of a Regional SuDS Scheme at these locations will not be permitted.

9.2 Developer Contributions towards Regional SUDS

Where appropriate, there may be opportunities for developers to make contributions towards the construction of Regional SuDS schemes, to help address the drainage implications of the development. For more information, please see Supplementary Guidance on Planning Obligations.