



Birmingham City Council

Summary of the Local Flood Risk Management Strategy for Birmingham



October 2017



Birmingham
City Council

What is a Local Flood Risk Management Strategy?

Local Flood Risk Management Strategies must be produced by all Lead Local Flood Authorities as a requirement of the Flood and Water Management Act 2010. Birmingham City Council has a duty to maintain, apply and monitor the application of a Local Flood Risk Management Strategy in its area.

The overarching aim of the strategy is to ensure that local flood risk is understood and managed in a coordinated way in Birmingham. One of the main aims of the strategy is to make it clearer to the public who is responsible for flood risk, their level of flood risk and measures that can be taken to manage that risk. The strategy sets out seven objectives and twenty policies in relation to:

- **Who does what**
- **The type and level of flood risk**
- **Who manages flood defences**
- **How flood events are managed and investigated**
- **How flood risk schemes are prioritised**
- **Reducing the impact of development; and**
- **Considering the environment**

Who Does What

The responsibility for flood risk management lies with a number of organisations, depending on the type of flood risk.

Birmingham City Council

Lead Local Flood Authority:

- Managing flood risk from ordinary watercourses, surface water and groundwater
- Investigate flooding incidents
- Giving permission for work on ordinary watercourses
- Maintaining a register of flood defences
- Assessing major planning applications in relation to surface water

Highway Authority:

- Maintenance of road drainage

Emergency Planning

- Coordinating council response to large scale flooding

Planning Authority

- Developing strategies and local plans which take account of flood risk
- Considering flood risk when determining planning application.

Environment Agency

- Overview of all forms of flooding
- Managing risk from main rivers
- Giving permission for work on main rivers
- Ensuring safety works are undertaken at reservoirs
- Assessing planning applications in relation to flood risk from main rivers

Severn Trent Water

- Providing and maintaining sewers to receive domestic drainage and by agreement highway drainage
- Accepting new connections from development
- Responding to water/flooding emergencies

Householders and Businesses

Landowners who own land bounding a watercourse are, under common law, riparian owners. Riparian owners have the right to receive a flow of water in its natural state, and the right to protect their property against flooding from the watercourse. Responsibilities include the maintenance of the bank and bed of that section of watercourse, in order to avoid any obstruction of flow in the watercourse. Further details of can be found in [‘Living on the Edge’](#)

Flood Action Groups

A number of Flood Action Groups have been established in order to provide a joined up response by the local community. Their role may include; advising residents when warnings are issued, disseminating advice and information, supporting vulnerable members of the community, initiating the distribution/placing of flood products, setting up local patrols to monitor the situation and providing information.



Flood risk management is the responsibility of everyone, not solely the organisations identified by the Flood and Water Management Act 2010. No single body has the means to reduce all flood risk. Effective management will involve various bodies each with a range of relevant duties and powers together with individual householders and businesses.



Partnership Working

Birmingham City Council and its flood risk partners work together to manage flood risk through a Three Tiered Flood Risk Management Structure, comprising the Strategic Flood Risk Management Board, Birmingham Water Group and Project Specific Partner Groups.

Policy 1:

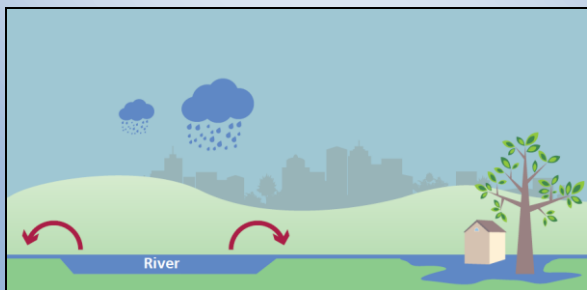
The City Council **will** operate a flood risk management governance structure to support a partnership approach to managing flood risk.

The Type and Level of Flood Risk

Birmingham's location makes it susceptible to different types of flooding, from rivers, ordinary watercourses, surface water and groundwater, as well as flood risk from sewers, reservoirs and canals.

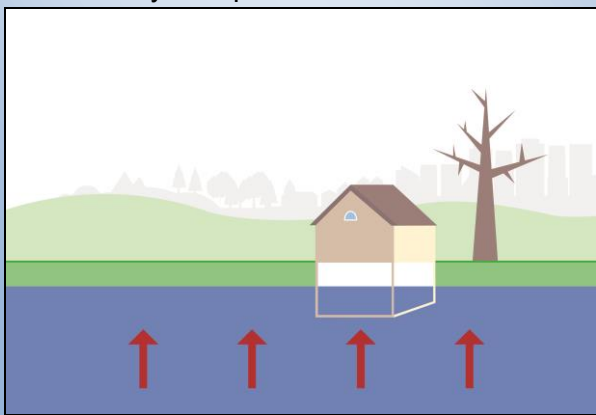
Watercourse Flooding

Rivers flood when the amount of water in them exceeds the flow capacity of the channel. Most rivers have a natural floodplain into which the water spills in times of flood, however in an urban situation these floodplains have often been built on over time.



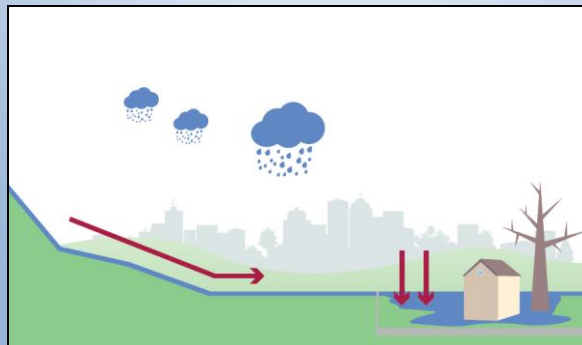
Groundwater Flooding

Groundwater flooding occurs when water levels in the ground rise above surface levels or into the basement of buildings. It is most likely to occur in areas underlain by permeable rocks, called aquifers. These can be extensive regional aquifers, such as chalk or sandstone; or may be more local sand or river gravels in valley bottoms underlain by less permeable rocks.



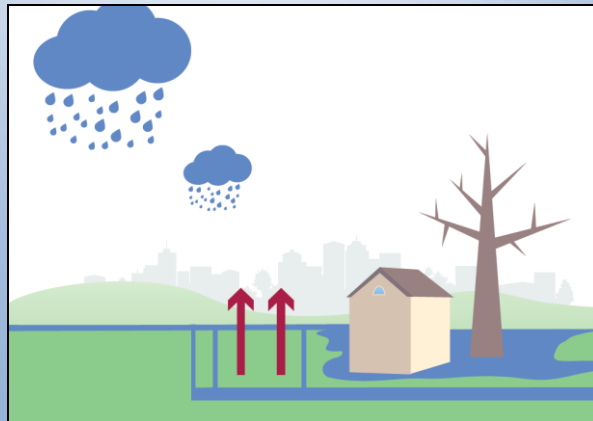
Surface Water Flooding

Surface water is rainwater which is on the surface of the ground and has not entered a watercourse, drainage system or sewer. Surface water flooding occurs where high rainfall exceeds the drainage capacity in an area. Surface water cannot then enter the system or infiltrate into the ground and the drainage network overflows, with manholes surcharging. It is more difficult to predict and pinpoint than river or coastal flooding.



Sewer Flooding

Sewer flooding occurs when sewers are overwhelmed by heavy rainfall or when they become blocked. The likelihood of flooding depends on the capacity of the local sewerage system.



There are a number of national and local sources of data that are available that may be used to assess where there is potential for flooding to occur from watercourses, surface water and groundwater.

Surface Water Flood Risk

The Environment Agency has produced the [Risk of Flooding from Surface Water](#) (RoFSW) dataset which shows predicted surface water flooding. The mapping shows areas where surface water would be expected to flow or pond.

Birmingham City Council, as part of the [Surface Water Management Plan](#), has produced maps that indicate the areas shown to be at risk of surface water flooding from a number of sources. This data does not cover the entire City, just those areas that were considered to be at the most significant risk of surface water flooding.

Birmingham's locally agreed surface water information will consist of the RoFSW maps overlaid by the SWMP maps in areas where detailed studies were carried out.

Watercourse Flood Risk

There are no national datasets that deal solely with predicted fluvial flood risk from ordinary watercourses; however the [Risk of Flooding from Rivers and Sea](#) & [Flood Map for Planning](#) shows flood risk from main rivers and ordinary watercourses. Flood outlines are available for the following ordinary watercourses:

- River Cole
- Chinn Brook
- Hockley Brook
- Griffins Brook
- Chad Brook
- Perry Brook
- Plants Brook

Historic Flood Risk

Birmingham has experienced a number of flood events in recent years. During these events there are reports of flooding from watercourses, surface water, sewers and groundwater. However due to the built up nature of the City, these flood types tend to interact. For example, large river flooding (the responsibility of the Environment Agency) is often combined with flooding from small watercourses and localised surface water flooding (the responsibility of the LLFA).

Policy 2:

The City Council **will** use the most appropriate and up to date data on flood risk to provide an understanding of flood risk in Birmingham.

Policy 3:

The City Council **will** use data, when available, to increase public awareness of local flood risk and encourage communities to take action.

Policy 4:

The City Council **will** maintain a database of properties that have returned flood survey questionnaires and will track the actions taken by flood risk management partners in response to the flooding.

Who Manages Flood Defences

The Council has a role in ensuring that flood risk assets are appropriately identified, maintained and managed.

Managing Assets

The Council has a duty to maintain an [asset register](#) of structures and features that are important to managing flood risk (such as flood defence walls, storage tanks, balancing ponds, land drainage, highway drainage) along with the relevant organisation responsible for their maintenance. All owners of assets that have been included on the register have been notified and advised that they should have an inspection and maintenance regime in place to ensure that it is operating as designed.

Assets on the register, both Birmingham City Council and third party, are inspected by the Flood Risk Management Team. The frequency of the inspection is dependent on the type of asset and the risk of blockage, varying between 18 months and 15 years.

Policy 5:

The City Council **will** maintain a register of significant assets which it believes has an effect on flood risk and carry out routine inspections of these assets.

Consenting

Anyone wishing to undertake certain types of work on a watercourse will need permission from the appropriate body. This depends on whether the watercourse is classed as a 'main river' (large river) or an 'ordinary watercourse' (small watercourse).

If the watercourse is classed as a main river they need to apply for [consent from the Environment Agency](#) for any works that you propose to carry out within eight metres of the top of the bank. Works affecting an ordinary watercourse may require [consent from the Council](#). A watercourse includes all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers i.e. being vested in a sewerage undertaker etc) and passages through which water flows, but may not hold water all the time.

This ordinary watercourse consenting process is in place to ensure that any works carried out do not have a detrimental effect on other people or the environment. It also ensures that any works which may affect flood risk are properly designed.

Policy 6:

The City Council **will not** consent to works on ordinary watercourse that increase flood risk or have a detrimental effect on the environment.

Maintenance of Assets

The City's watercourses, culverts and sewers need regular maintenance to ensure water can flow through freely, as intended.

The Council's Flood Risk Management Team undertake maintenance of watercourses and culverts where necessary utilising a small revenue budget.

The City Council, as the Highway Authority, has a duty to maintain the public highway and this includes highway drainage, which typically comprises gullies draining into the sewer or highway drains. The City Council has entered into a 25-year contract with Amey for highway maintenance and management services (from June 2010). This means that maintenance of the city's highway infrastructure (including highway drainage) is carried out by a private sector partner (Amey). This contract specifies standards to be met, including maintenance responsibilities for network drainage.

Other areas of the City Council are also involved in asset management, such as the Districts, often with the support of the local community. Within Leisure Services, Grounds Maintenance staff work to keep brooks free from litter to allow water to flow. Maintenance is also carried out by private landowners and Registered Social Landlords.



Policy 7:

The City Council **will** undertake maintenance works on watercourses and culverts for which it has responsibility for the purpose of flood risk management where it is essential in the general public interest.

Powers to Carry Out Work

Blockages and debris in watercourses are often the result of fly-tipping and littering. Blockages may also be caused by property owners constructing fences etc. across watercourses on their property boundary. The City Council writes to owners, as necessary, to remind them that it is the responsibility of the properties on either side of the brook to keep it maintained and free from obstruction.

The Land Drainage Act makes it the responsibility of riparian owners, owners of land at the top of the bank of a watercourse, to keep the respective watercourse clear of blockages and obstruction to its centre. The City Council has the powers to serve notice on riparian owners who allow watercourses to become impeded. The Council also has the powers to carry out any necessary work and recover the cost from the landowner. In both cases this is subject to appropriate noticing.

Policy 8:

The City Council **will** use its powers under the Land Drainage Act to remove blockages to watercourses that present a flood risk and recover the costs from the landowner where they have failed undertake their riparian responsibilities.

Managing and Investigating Flood Events

Birmingham City Council has a role in responding to and investigating flooding incidents, however other groups and individuals have a part to play.

Managing Flooding

When flooding occurs, or is threatened, people often look to the Council to take responsibility and take steps to prevent or reduce flooding. However, the Council does not have a statutory duty to prevent properties from flooding. The Council may undertake works in the general public interest but are not obliged to act.

The Council has a Corporate Emergency Plan that specifies how the Council will respond to any incident. As part of its contingency plans, the Council maintains a number of duty officers which ensure that a range of Council services can respond to emergencies.

There is currently no reliable rainfall warning service, as such, the decision to send out resources will draw from pre-existing knowledge, history and conditions, weather forecasting, liaison with local partners and Flood Action Groups.

Policy 9:

The City Council **will** ensure that there is appropriately qualified and experienced staff available to respond to flooding emergencies 24 hours a day every day.

Policy 10:

The City Council **will not** deploy resources on the sole basis of weather forecasting; an escalating series of triggers will be used to identify when resources should be deployed.



Provision of Sandbags

Sandbags are considered to be one of the first lines of defence in the event of flooding despite significant evidence of their limitations. In the event of widespread flooding there are insufficient resources available to despatch sandbags to individual properties that request them.

Policy 11:

The City Council **will** provide sandbags in bulk deliveries to approved Flood Action Groups during a flooding event, sandbags **will not** be provided to individual properties.

Role of Flood Action Groups

One of the best ways a neighbourhood can prepare for flooding is to set up a Flood Action Group. All Flood Action Groups in Birmingham have identified locations for bulk sand bag drops, and coordinate the distribution to the community. Established Flood Action Groups in Birmingham are:

Flood Action Group	Area Covered
Selly Park South	Cecil Road, Fashoda Road, Hobson Road, Kitchener Road, Dogpool Lane and Moor Green Lane
Rea Valley	Middlemore Road, West Heath Road, Station Road and Coleys Lane
Frankley Neighbourhood Forum	Miranda Close, Oberon Close, Fisher Close, Ringwood Drive, Gannow Green Lane and New Inns Lane
Witton	Brookvale Road, Electric Avenue, Deykin Avenue, Tame Road, Brantley Road, Westwood Road and Westwood Avenue

If you are interested in forming a Flood Action Group, you can contact the [Flood Risk Management Team](#) for support and advice

Policy 12:

The City Council in liaison with the Environment Agency **will** support the establishment and maintenance of Flood Action Groups and other relevant community groups with guidance and advice in setting up flood plans and liaising with emergency services.

Role of the Public

Further information on flood warning and practical advice on what you can do to prepare for flooding, during flooding and after flooding is available on the [Birmingham Prepared Website](#)

Individual property owners can help the Council to respond to and investigate flooding by:

- **Reporting flooding to the appropriate organisation;**
- **Providing detailed information on the nature of the flood and its impact; and**
- **Completing flood survey returns and returning them as soon as possible**

Investigating Flood Events

The Council has a duty to investigate flooding. Not all flooding will require a formal investigation. Where there is a report of internal flooding a flood survey will be sent to the properties at that location. Where flooding is significant, the Council will publish a formal report (Section 19) outlining the causes of the flooding and the appropriate actions that may be undertaken by the relevant organisations.

Policy 13:

The City Council **will** record all reports of flooding that it receives and will investigate those incidents that are considered significant.

How Flood Risk Schemes are Prioritised

Funding

The level of funding available for flood risk management is a real concern for the Council. The following sources of funding are currently available to carry out works in relation to flood risk management.

Flood Defence Grant in Aid

In the past, flood risk management schemes were generally funded by central government through the Flood Defence Grant in Aid (FDGIA) process which allocated funding to projects nationally, based on which delivered the biggest benefit for the lowest cost.

Currently a revised approach has been undertaken. Funding levels for each scheme relate directly to the benefits the scheme delivers, including number of households protected and damages prevented. If the FDGIA does not cover the cost of the scheme, in order to proceed, the scheme cost can be reduced and/or local contributions would need to be found.

Between April 2015 and March 2021, the government has committed to invest £2.5 billion to reduce the risks of flooding and coastal erosion. These schemes will reduce flood risk to more than 300,000 households.

The Environment Agency regularly review the [investment programme](#) to ensure it can respond appropriately to changes such as serious flooding, local partnership funding contributions and new flood risk information.

Water Company Funding

Severn Trent Water invests money in flood alleviation. In some cases sewer flooding may combine with surface water or ordinary watercourse flooding thus making it beneficial to work with the LLFA to deliver partnership schemes.

Local Levy

The Council pays levies to the Environment Agency as Local Levy. The Local Levy is raised by the Regional Flood and Coastal Committee (Birmingham is within the Trent RFCC) and is used as a locally-raised source of income to fund projects within the Trent region. It may be used to fund projects that might not be eligible for national funding or as a regional contribution to scheme costs under the partnership funding approach.

The Trent RFCC has an agreed programme of projects and new projects proposals can be submitted every 3 months, although currently the programme is over committed.

Council Flood Management Budget

Funding for Lead Local Flood Authority

The Council receives funding to meet its duties under the FWMA as part of its annual settlement. The money is not 'ring fenced' so individual authorities must decide how much of the grant to spend and where.

Revenue Budget

The Flood Risk Management Team also receive a small budget to support flood management responsibilities. These include land drainage and maintenance of ordinary watercourses. This budget has reduced over recent years, in line with City Council budget cuts.

Prioritising Works

With large parts of the City at historic and/or predicted risk of flooding, it is impossible for the Council to undertake flood alleviation works to protect all of these locations due to limited budgets and resources. Therefore we need to spend the money where it will have the greatest overall benefit and will prioritise people, critical infrastructure and homes, over businesses, other infrastructure and amenities.

When it comes to prioritising actions for capital works, the Council will consider the following:

Can a practical solution be developed?	Is the solution cost beneficial?	Can arrangements be put in place for long term ownership and maintenance?
What is affordable and is there potential for funding?	What level of protection can be provided?	
Is there a legal requirement to undertake the work?	Are there multiple sources of flooding and the opportunity to invest with other Risk Management Authorities?	What will reduce the risk most to the highest risk receptors?
What is the design life of the protection measures?		Can a solution be developed that mitigates flooding to more than one location or provides multiple benefits?
Is it a local priority for the Regional Flood and Coastal Committee?	Is there community support for the scheme?	

Following an investigation or other strategic study, the Flood Risk Management Team will look to put forward bids for FDGiA to undertake works where a viable scheme has been identified. Where the cost benefit of these schemes is such that the scheme cannot be fully funded by FDGiA, alternative sources of funding will be explored including Local Levy and private contributions.

The Council is committed to securing funding to undertake flood risk management mitigation measures to reduce the impact of flooding in Birmingham. [Appendix B](#) contains the full strategy which outlines the current locations where the Council or its flood risk management partners are undertaking work or have bids in place for future funding.

Policy 14:

The City Council **will** seek funding opportunities, both public and private, to deliver flood risk management improvements.

Policy 15:

The City Council **will** seek to maintain and where possible increase its flood risk management skills and capacity

Reducing the Impact of Development

The risk of flooding is a key consideration in new development. The impact of flooding needs to be assessed and managed both in respect of the risk of flooding to a particular proposed development and any increased risk of flooding to surrounding and downstream areas.

The Council will aim to:

- **Avoid new development in high risk flood areas;**
- **Promote the use of sustainable drainage and source control;**
- **Promote the adoption of flood risk reduction in land-use planning;**
- **Reduce runoff to greenfield rates for both greenfield and brownfield developments;**
- **Ensure that residual flood risk in new development is managed;**
- **Ensure that the impacts on flood risk upstream and downstream of a development site are managed;**
- **Promote de-culverting and naturalisation of watercourses; and**
- **Avoid the culverting of watercourses.**

Policy 16:

The City Council **will** establish and imbed flood risk management into its development policies to manage flood risk to new and existing communities.

Sustainable Drainage Systems

Sustainable Drainage is an approach to drainage which prioritises the management of runoff at source, and follows a hierarchy of discharge to deal with surface water. Sustainable Drainage Systems (SuDS) reduce the impact of development on flooding, in addition to delivering water quality, amenity and environmental benefits.



Local planning policy and decisions on major developments (10 dwellings or more; or equivalent non-residential or mixed development) are expected to ensure that SuDS for the management of runoff are put in place.

The [Sustainable Drainage: Guide to Design, Adoption and Maintenance](#) has been drafted to provide detailed guidance to support the implementation of SuDS in future development in Birmingham.

Policy 17:

The City Council **will** implement the Sustainable Drainage Guidance on all developments in accordance with the Birmingham Development Plan.

Assessment of risk from Ordinary Watercourses

Where a development is taking place adjacent to an ordinary watercourse, the Council requires an appropriate assessment of the potential flood risk of the watercourses and the potential for interaction with surface water flood risk to be undertaken.

An easement will also be required between the development and watercourse to provide access for maintenance, reduced flood risk and enable opportunities for amenity and biodiversity improvements.

Policy 18:

The City Council **will** require an assessment of flood risk as part of any development proposals adjacent to an ordinary watercourse.

De-Culverting and Naturalisation of Watercourses



In order to enhance the environment and improve water quality, the Council will promote the de-culverting and naturalisation of watercourses. The benefit of this is to increase the channel conveyance, reduce the risk of blockage, minimise the need for trash screens and, most importantly to, lead to an environmental enhancement of the area.

Many of Birmingham's watercourses flow within engineering channels. Where appropriate, these should be removed and returned to a natural channel to provide environmental and water quality improvements.

Policy 19:

The City Council **will not** support the culverting of watercourses and **will** seek opportunities for the de-culverting and naturalisation of watercourses.

Considering the Environment

It is important that the actions adopted to manage flood risk achieve wider environmental benefits. The implementation of flood risk management plans and measures provides an opportunity to improve the natural and built environment across Birmingham.

The Council will:

- **Encourage the use of Sustainable Drainage, to reduce runoff, pollution and improve water quality**
- **Encourage infiltration to improve aquifer recharge**
- **Encourage the de-culverting of watercourses**
- **Look to enhance biodiversity and habitat creation as part of any proposed flood alleviation schemes**
- **Encourage the provision of amenity green spaces as part of development proposals**
- **Work with the Environment Agency, Severn Trent Water and other partners to deliver improvements**

Policy 20:

The City Council **will** ensure that where feasible flood risk management actions deliver wider environmental benefits.

Strategy Monitoring and Review

Continued monitoring, review and development of the strategy is important to ensure that the strategy remains relevant. It is a living document and will be updated to ensure that new guidance and data is incorporated into the strategy. Issues which may trigger a review of the strategy include; changes to legislation, the development of the understanding of local flood risk, occurrence of a major flood event, revised planning policies and the development of Flood Risk Management Plans.