



Swindon Local Flood Risk Management Strategy

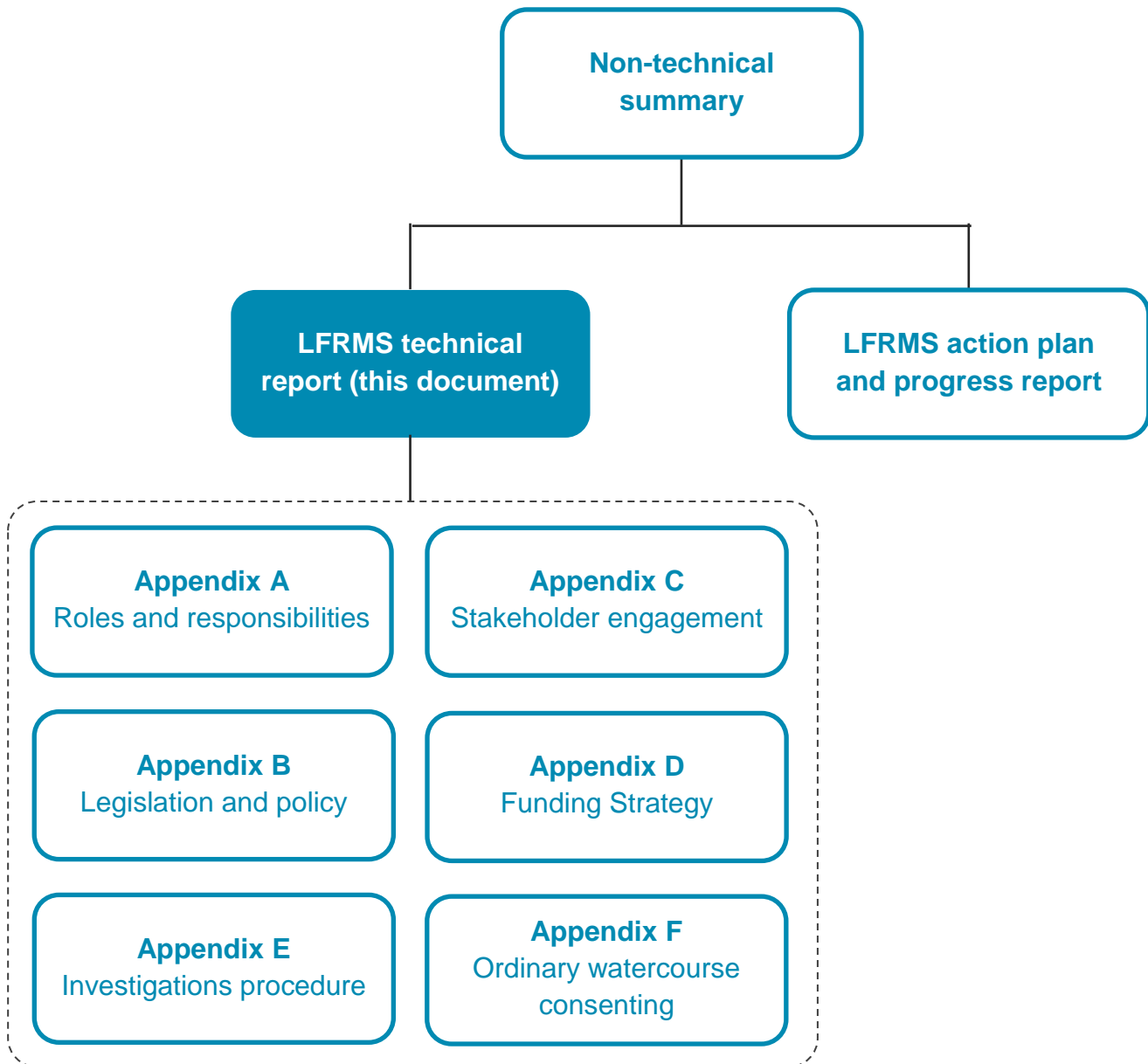
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The Local Flood Risk Management Strategy (LFRMS) structure



Foreword

It has been recognised that flooding causes damage to property and infrastructure, and results in significant stress and disruption to people and I am delighted to have been involved in developing this strategy that should set the framework for enhancing our environment and protecting our residents thorough action, policy and public engagement. I chair the Strategic Flood and Water Management Advisory Group that has included officers from our neighbour authorities at Oxfordshire and Wiltshire, Thames Water and The Environment Agency.

We have worked closely with partners, local communities, residents and interested parties in preparing this Strategy to help us understand the broad nature and extent of flood risk across the Borough. This will help us greatly improve our knowledge of flood risk and create a better understanding on which we hope to build over time.

The evidence and information within it will also place Swindon Borough Council in a strong position to be able to bid for future funding from central Government, as it becomes available, to address flood problems across the Borough.

Our local communities are potentially vulnerable to flood risk from a number of sources including rivers, surface runoff, groundwater, exceedence from highway and drainage networks, and previously no one organisation has been solely responsible for managing flood risk from all these sources. Therefore this document recognises the value and importance of working with others to manage flood risk and to fulfil our roles and responsibilities.

Alongside this Strategy Swindon Borough Council is putting in place plans and procedures for flood investigations and compiling a register of flood risk features. A programme of Action Plans is also in preparation to further improve our understanding of flooding issues around the Borough and to provide clarity on how we will implement our new duties.

This document should be seen as a first step in understanding flood risk rather than an end in its own right as the Strategy will be reviewed in 2018 and if any major flooding event occurs. We cannot wholly prevent flooding, though its impacts can be reduced. Indeed, we have made substantial investment in flood risk management as can be seen in the pages of this document. It is also hoped that through talking and raising the awareness of our changing weather conditions the residents and businesses of Swindon can be informed and take actions to protect themselves and others.

Enhancing and maintaining our local environment and natural habitats are key priorities and I am proud that this Strategy contributes to our Stronger Together principles.

Councillor Dale Heenan

Cabinet Member for Strategic Planning and Sustainability

1. Introduction

Swindon Borough is located in south west England and borders the counties of Wiltshire, Gloucestershire and Oxfordshire. Swindon Borough Council is a unitary authority, approximately 230 km² in size. About 25 per cent of the Borough is urban, containing the towns of Swindon and Highworth and a number of villages. The population within the Borough is 209,156 ¹.

Swindon Borough has experienced flooding from surface water, rivers, groundwater and sewers. The most significant event in the recent past occurred in July 2007, when the Borough experienced severe fluvial (river) and surface water flooding. In heavy rainfall events, the existing drainage network has capacity problems. This has resulted in parts of the sewerage network causing localised flooding over recent years.

It is important to recognise that flooding is a natural process which provides numerous benefits including the recharge of groundwater, improvement of soil fertility, maintenance of ecosystems in river corridors and floodplain biodiversity. However, floods can also threaten life and health and cause substantial social and economic damage.

Given the risks, it is vital that we work together to understand flood risk better and seek to reduce the negative impact flooding has on people and property where we can. It is not economically, technically, socially or environmentally feasible to prevent flooding completely. We can, however, reduce and mitigate the negative impact of flooding through good planning and management, and effective investment.

Under the Flood and Water Management Act 2010, Swindon Borough Council is now a Lead Local Flood Authority (LLFA) with new statutory responsibilities and powers for managing local flood risk in partnership with other organisations.

One of our key responsibilities as a LLFA is to 'develop, maintain, apply and monitor a strategy for local flood risk management' (a Local Flood Risk Management Strategy or LFRMS) within Swindon Borough. This document is our LFRMS.

Whilst the LFRMS is primarily concerned with risk of flooding from local sources (flooding from surface water, groundwater and ordinary watercourses), we recognise that flooding from rivers also affects Swindon Borough. We are, therefore, using the LFRMS to develop a strategic overview of flooding within Swindon Borough, focussing on local flood risk but acknowledging river flooding.

¹ From Office for National Statistics, 2011 Census: QS102EW Population density, local authorities in England and Wales. Released 30 January 2013. www.ons.gov.uk

1.1. What is local flooding?

Local flooding is defined as flooding caused by surface water runoff, groundwater, and small ditches and streams (known officially as ordinary watercourses). These sources of flooding are the focus of this LFRMS. Flooding can also be caused by rivers (known as fluvial flooding) or by the sea. This Strategy focuses on local flooding but also considers other forms of flooding where it interacts with local flooding.

Chapter 2 describes what local flooding is in more detail

1.2. Who is responsible for local flooding in Swindon?

As LLFA, we are responsible for leading and co-ordinating local flood risk management, but we cannot do this by ourselves. Successful local flood risk management will only be achieved if those authorities with a responsibility to manage flood risk (known as Risk Management Authorities or RMAs), local communities and others with relevant interests and responsibilities, work together to deliver effective improvements.

Some flooding remains the responsibility of other bodies, such as the Environment Agency. However, for those who suffer flooding, it matters little what type of flooding is causing the problem. Sometimes the type of flooding is not clear. Who to contact in an emergency, who to contact when you have experienced flooding, who is responsible for managing the risk and what you can do to protect yourself are important questions that need to be answered and are addressed by this Strategy.

Chapter 3 describes responsibility for local flood risk management in Swindon Borough

In the event of a flood emergency calls should be directed to the usual 999 emergency number and Swindon Borough Council's emergency response will be provided through this route. However, we understand that after a flood event, a single body needs to act as the lead body. We are proposing that we act as the single point of contact and co-ordinating authority for recording and investigating (as appropriate) all forms of flooding in Swindon. The Council's 'Swindon Direct' customer service number is 01793 445500, and out of hours you can use 01793 466453. The email address customerservices@swindon.gov.uk can be used for reporting flooding incidents in writing.²

² Further information and support are available in the following resources:

- Environment Agency website (<https://www.gov.uk/prepare-for-a-flood>)
- What to do before, during and after a flood (Environment Agency Publication: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292935/LIT_5216_d5fc0d.pdf)
- Flooding from groundwater (Environment Agency publication: <https://www.gov.uk/government/publications/flooding-from-groundwater>)
- Ready for Flooding (National Flood Forum publication: http://nationalfloodforum.org.uk/?page_id=14)

1.3. Who has been involved in preparing this Strategy?

We have developed this LFRMS in partnership with Risk Management Authorities and in consultation with other stakeholders. Maintaining this partnership approach will be essential when fulfilling our commitments under this Strategy.

This Strategy has been prepared under the guidance of the Swindon Strategic Flood and Water Management Advisory Group (SFWMAG), which comprises a representative from all RMAs, representatives from neighbouring Lead Local Flood Authorities, representatives from Thames Water, the Environment Agency, and Officers and Members of Swindon Borough Council.

Chapter 3 describes how we have been working in partnership to develop this Strategy

1.4. Aim and objectives of this Strategy

The simple aim of this Strategy is to manage flood risk in a way that will benefit people, property and the environment. The Strategy must be consistent with the Environment Agency's National Strategy for Flood and Coastal Erosion Risk Management. The Strategic Group has developed a set of objectives that are locally relevant to Swindon but are also consistent with the national strategy.

Chapter 4 describes the objectives of this Strategy

1.5. What period does this Strategy cover?

The Strategy covers the period to 2019 with a formal review in 2018. The Action Plan that forms part of this Strategy will be reviewed annually and an update published along with a progress report.

Chapter 8 describes the triggers for an early review of the Strategy

We have also identified a number of triggers that would require an early review of the Strategy, for example, if there is a significant flood or if new data become available.

1.6. Our understanding of local flood risk in Swindon

The two main rivers flowing through Swindon are the River Ray and the River Cole, both of which are tributaries of the Thames. There is a network of watercourses (streams and ditches) across the Borough that flow into these two rivers. In periods of heavy or prolonged rainfall, some of these watercourses become inundated, which can result in flooding.

The Borough has also experienced sewer flooding. In heavy rain, the capacity of some parts of the sewerage networks can be exceeded. This can result in flooding inside and outside of buildings. Recently, significant sewer flooding occurred in Swindon in July 2006, November 2006, July 2007 and January 2008.

Chapter 5 contains detailed information about the risk of local flooding in Swindon

1.7. Measures to reduce flood risk in Swindon

We want our investment in flood risk management to have the greatest possible benefit. We recognise that flooding is a concern for many in Swindon Borough and we will use this LFRMS to minimise flood risk where practicable. To achieve this, we will prioritise investment in areas at greatest risk from local flooding. We will base the prioritisation on the best available information and will ensure that resources are directed to areas with the highest demonstrable areas of risk within the Borough. This prioritisation will be revisited and adjusted as our understanding of flood risk improves and new information becomes available.

Chapter 6 describes the measures and actions that Swindon Borough Council will be undertaking to reduce and manage flood risk

1.8. Achieving multiple benefits

Flood risk management offers many opportunities beyond the primary aim of reducing or mitigating flood risk. It can, for example, protect or enhance the environment and provide more pleasant areas to work and live. Wherever possible, we will seek to provide the greatest value to the Borough by delivering multiple benefits through our investment in flood risk management.

1.9. Funding flood risk management improvements

Delivery of the measures proposed in this Strategy will depend on the availability of funding. The most cost-effective measures to improve local flood risk management will only be determined and delivered through partnership working. By working with our partners and stakeholders, including community groups, Swindon Borough Council will identify local flood risk management measures and together determine the most appropriate ways of funding these. In order to attract funding for local flood risk management measures, we will need to ensure that every pound spent is effective. Where local flood risk management schemes are proposed, these schemes will need to demonstrate multiple benefits, not just flood risk

Chapter 7 describes how local flood risk management schemes can be funded

mitigation, in order to attract funding. This will require close partnership working with stakeholders and other Risk Management Authorities.

1.10. Personal responsibility

Everyone has a role to play in managing local flood risk. Risk Management Authorities have legal powers and duties to manage drainage and watercourses (see Appendix A). Individuals, communities and businesses also have an important role to play. Property owners are responsible for maintaining a proper flow of water in any watercourse running through their land. In addition, people can reduce flood risk by taking action such as disposing of leaf litter rather than letting it block drains, getting involved in local flood risk management activities or protecting their property (through property level resilience and resistance measures).

We recognise the vital role individuals, communities and businesses have in managing flood risk. The LFRMS, therefore, aims to promote and encourage personal responsibility by raising awareness of flood risk and how this can be reduced and by supporting community-based actions.

2. What is local flood risk management?

2.1. What is local flooding?

Local flooding is defined as flooding caused by surface water runoff, from groundwater or from ordinary water courses (small ditches and streams). The focus of this Strategy is on these forms of local flooding.

Fluvial flooding caused by the main rivers or coastal flooding caused by the sea are the responsibility of the Environment Agency and is not classed as local flooding unless it interacts with other sources of local flooding.



Figure 2-1 Surface water flooding

Surface water flooding occurs when rainfall cannot soak into the ground or drain into local surface water drains or rivers. This leads to the surface water flowing across the ground and pooling in low-lying areas. This flooding often occurs quickly during, or shortly after, a high intensity storm.

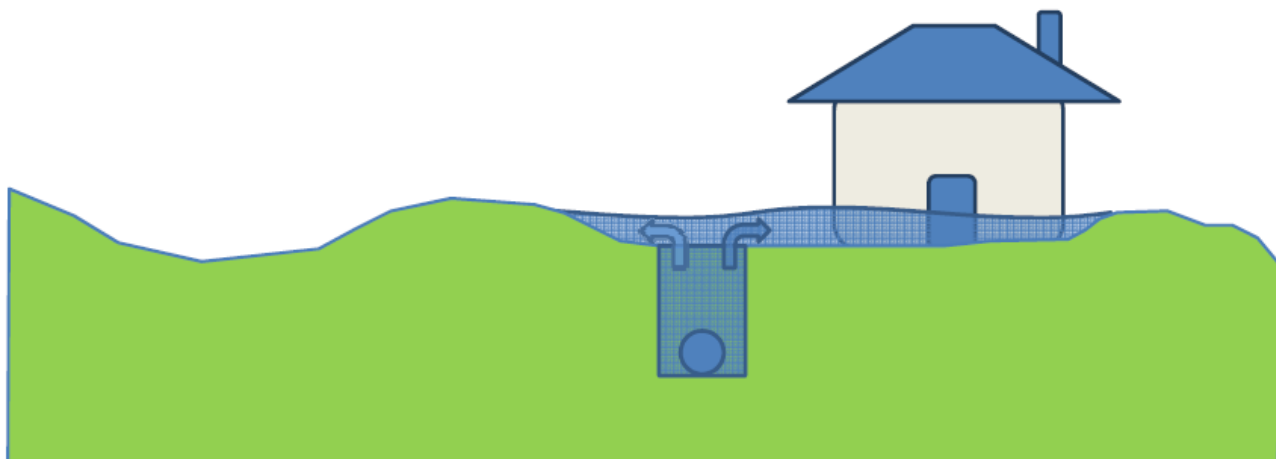


Figure 2-2 Sewer flooding

Sewer flooding happens when the capacity of the sewerage system is less than the amount of rain and sewage trying to flow through it. This leads to sewage being surcharged from manholes and gullies. The lack of capacity can be caused by the system simply not being able to cope with the amount of rainfall and sewage, or it can be caused by blockages and collapses in the system. Sewer flooding from public sewers is the responsibility of the water company (Thames Water).

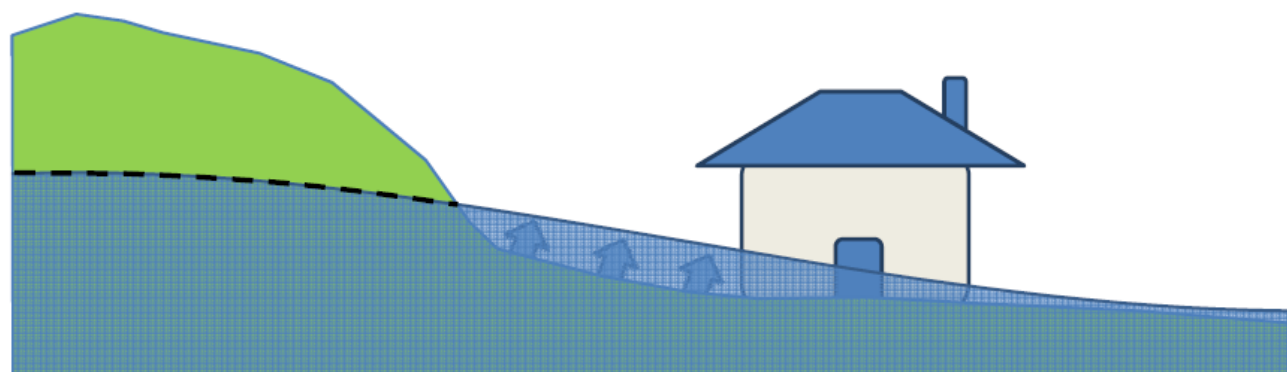


Figure 2-3 Groundwater flooding

Groundwater flooding is caused when the water level held within underground rocks rises above the surface. Groundwater tends to respond to rainfall more slowly than water in rivers or on the surface. This slow response means that groundwater flooding can occur a long time after prolonged or heavy rainfall and can last for a long time (often several weeks or months).

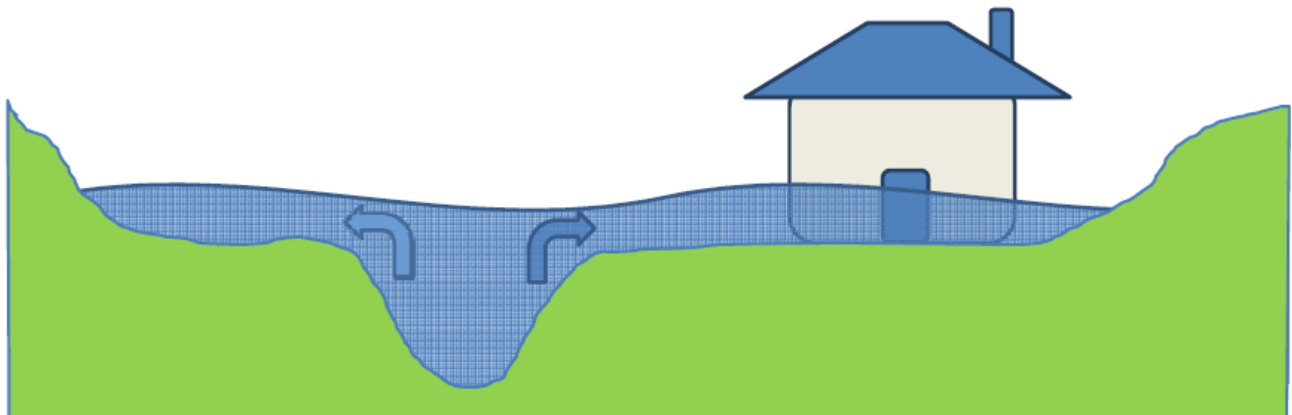


Figure 2-4 River (fluvial) flooding

River Flooding occurs when water overtops the banks of the stream. This can occur because there is more water draining into the channel than it can hold, or because it is blocked. Local flooding only refers to flooding from ordinary watercourses, which are small ditches and streams. Flooding from larger rivers and streams, officially classed as Main Rivers, remains the responsibility of the Environment Agency, and is not classed as local flooding.

2.2. Historic management of local flooding

Although this is the first Local Flood Risk Management Strategy that has been prepared by Swindon Borough, the Council has prepared a number of Borough-wide appraisals of flooding since 1998. This Strategy builds on the information and understanding gathered in those appraisals. [Figure 2-5](#) below shows how we have been improving our understanding of flood risk in Swindon and activities that have been delivered to manage that risk since 2008. Future activities, where known, are shown with a dotted line.

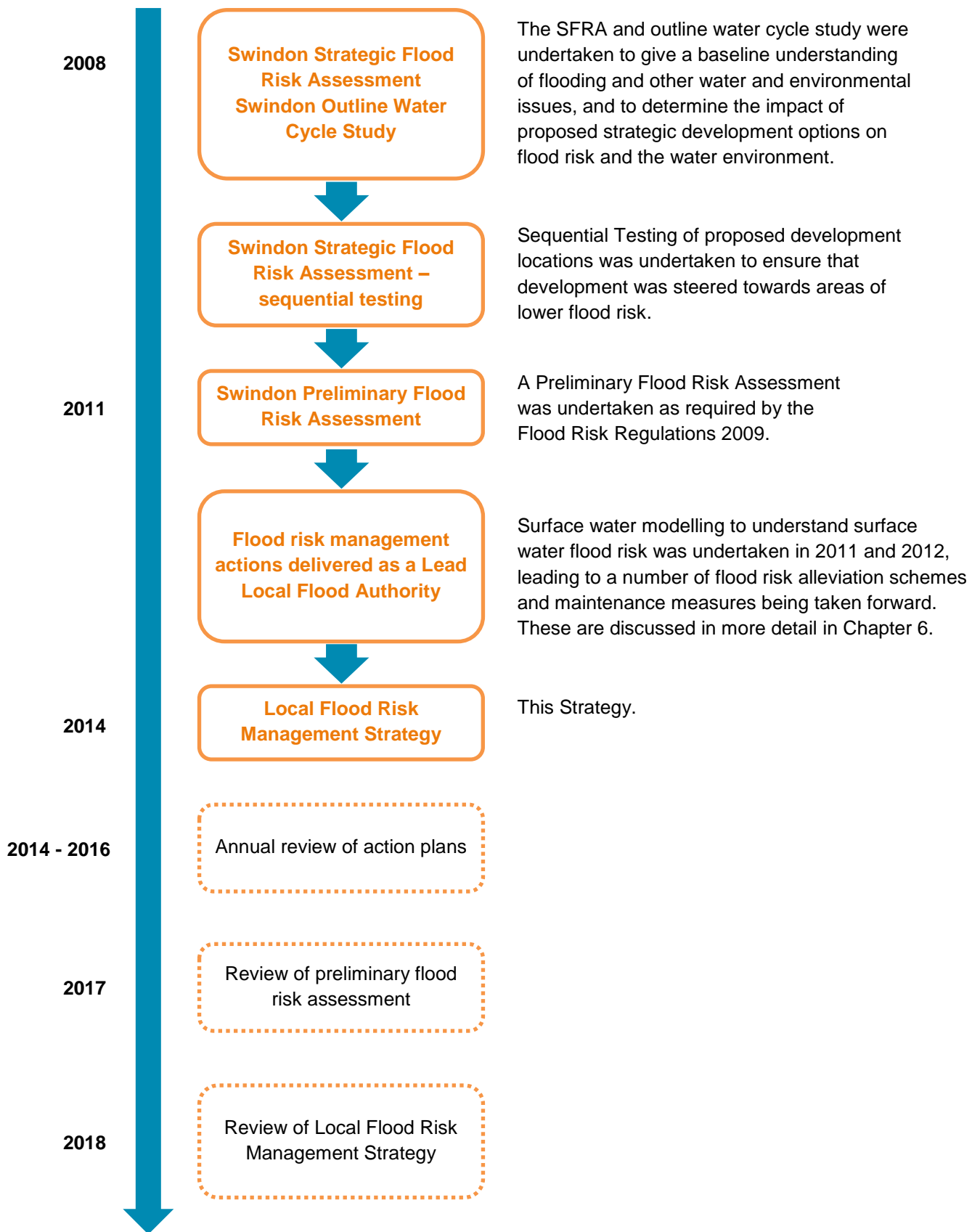


Figure 2-5 Flood risk management timeline for Swindon Borough Council

3. Responsibilities for local flood risk management

This LFRMS sets out our high-level vision for local flood risk management in Swindon. It identifies the extent of local flood risk in the Borough and establish priorities for managing that risk. The LFRMS also identifies how we will work together with other Risk Management Authorities, stakeholders and the local community to manage the local flood risk.

In producing the LFRMS, we have maintained consistency with the National Flood and Coastal Erosion Risk Management Strategy, published by Defra (the Department for Environment, Food and Rural Affairs) and the Environment Agency.

This LFRMS provides the means for us to discharge our duties under the Flood and Water Management Act 2010 to provide leadership and co-ordinate local flood risk management.

What is a Risk Management Authority?

Risk Management Authorities (RMA) are defined in the Flood and Water Management Act as the Lead Local Flood Authorities, Unitary Authorities, District Councils (for areas without a Unitary Authority), the Environment Agency, internal drainage boards, water companies and highways authorities.

Each of the RMAs has involvement in managing local flood risk. A full list of the duties, roles and responsibilities of the RMAs can be found in Appendix A.

3.1. Responsibility for producing the LFRMS

Working in partnership with others is vital if the aims and objectives of this Strategy are to be delivered. Whilst Swindon Borough Council is ultimately responsible for co-ordinating and delivering the LFRMS, we recognise that no one organisation can successfully deliver the LFRMS in isolation and that we need to work with others. By working together we are able to share information, develop realistic solutions and identify opportunities for achieving multiple benefits (beyond the core aim of local flood risk management).

Appendix C provides further information about how and when we engaged the stakeholders during the development and delivery of the LFRMS. Stakeholder engagement will continue as the LFRMS is implemented.

There are broadly three categories of organisations and individuals involved in the development and delivery of the Strategy:

- Risk Management Authorities, as defined within the Flood and Water Management Act
- Other groups and organisations with responsibilities for drainage and flood risk management, or who may be affected by the Strategy

- The local community, including community groups, parish councils, businesses and individuals

The following sections summarise the roles and responsibilities of these groups and how we are working with them.

3.2. Risk Management Authorities

Risk Management Authorities have a duty, under the Flood and Water Management Act, to act consistently with or - in the case of a water company - to have regard to the LFRMS. They are required to share information and co-operate with each other in the exercise of their flood risk management roles. They are also able to delegate flood management functions to each other by mutual consent, except for the development of the LFRMS which cannot be delegated.

The Risk Management Authorities within Swindon Borough are Swindon Borough Council (as Lead Local Flood Authority and Highway Authority), the Environment Agency and Thames Water. The duties, powers and responsibilities of each are summarised in [Table 3-1](#).

The Risk Management Authorities are members of the Strategic Flood and Water Management Advisory Group, which meet regularly. We also hold additional briefings and technical meetings, as required. The adjacent LLFAs of Wiltshire and Oxfordshire are also part of the Strategic Flood and Water Management Advisory Group.

3.3. Other groups and organisations

There are a number of other organisations who have an interest in or responsibilities relating to drainage and flood risk management and might, therefore, be affected by the Strategy. These stakeholders have been involved throughout the development of the LFRMS, as described in Appendix C. Means of engagement varies depending on the role and interest of the stakeholder and includes invitations to take part in formal online consultation, briefing notes and technical meetings. We also work with many of these stakeholders on a project-by-project basis - for example when actions will directly influence them, or when they could provide information or support.

3.4. The community

The Localities team has been created as part of a recent reorganisation of Swindon Borough Council. The Council's commitment is to support our Ward Members and to put people first. This Strategy's primary form of community engagement is through the Localities system.

The Localities team are working to encourage:

- stronger and more resilient communities
- increased trust in the Council
- greater local capacity and participation in public and democratic life
- the use of local insight to develop a more focused, relevant and effective Council
- working together to meet shared challenges

The wider community has a vital role to play in local flood risk management. RMAs and other responsible organisations cannot prevent all floods or address all concerns. Local communities and individuals need to understand their risk and their responsibilities in relation to local flood risk. For example, people who own land adjoining a watercourse (also known as riparian owners) have a responsibility to make sure that the flow of water is not obstructed (for example, by clearing gullies and vegetation) and to maintain existing flood defences. Everyone has a role to play in reporting flooding problems and ensuring that they are themselves prepared for flooding.

We recognise that individuals will need support and advice to help them engage with flood risk management. Therefore, it is particularly important that we effectively communicate flood risk to the local community to make sure that the Borough's residents and businesses are better prepared to cope with flooding and know what they can do to reduce the risk. To ensure that the Community Risk Register is updated with the latest flood risk information we will liaise with the Local Resilience Forum during future reviews of both the LFRMS and the Community Risk Register.

We have engaged with the local community via the Localities throughout the development of the Strategy and will continue to do so.

Table 3-1 Risk Management Authorities' duties and powers relating to flood risk management

Risk Management Authority	Statutory flood-related duties, powers and other responsibilities
<p>Swindon Borough Council as LLFA, responsible for managing and co-ordinating local flood risk management</p>	<p>Duties:</p> <ul style="list-style-type: none"> • develop, maintain, apply and monitor a LFRMS, which is consistent with the national flood and coastal erosion management strategy • act consistently with the LFRMS and national flood and coastal erosion management strategy • when aware of a flood, the LLFA must, to the extent it considers necessary or appropriate, investigate which authority has flood risk management responsibilities and whether that authority has or is proposing to exercise those functions • co-operate with RMAs for the purposes of managing flood or coastal erosion risk • maintain a register of structures or features which are considered to affect flood risk significantly • consenting third party works on ordinary watercourses • approval, adoption and maintenance of sustainable drainage systems (SuDS) (not yet commenced) • contribute towards achievement of sustainable development • lead the co-ordination of, preparation for and response to a flooding emergency through the Civil Protection Unit • management and co-ordination of local flood risk, bringing together all relevant bodies to help manage local flood risk • SBC is a Category 1 Responder under the Civil Contingencies Act 2004 (CCA 2004) and in its own right is responsible for the preparation of emergency plans in respect of its own agency and the co-operation with other agencies in the compilation of multi-agency plans. <p>Powers:</p> <ul style="list-style-type: none"> • to do works to manage flood risks from surface runoff and groundwater • designate structures and features that affect flooding • request information from any person with respect to flood and coastal erosion • sanction persons who do not provide information on request • enforcement where works have been completed without a necessary consent • enforcement to maintain a proper flow on ordinary watercourses <p>Other:</p> <ul style="list-style-type: none"> • SBC is the local planning authority under the Town and Country Planning Act 1990, having responsibility for preparing a local plan, outlining proposals for growth, and determining planning applications • SBC is the local highways authority under the Highways Act 1980, with responsibility for highway drainage and roadside ditches (excluding roads that are the responsibility of the Highways Agency)

Risk Management Authority	Statutory flood-related duties, powers and other responsibilities
Environment Agency (EA) - strategic overview of all sources of flood risk, and operational responsibility for flooding from main rivers, the sea and reservoirs	<p>Duties:</p> <ul style="list-style-type: none">• develop, maintain, apply and monitor a strategy for flood and coastal erosion risk management in England• statutory consultee for the SuDS Approval Body where a drainage system directly or indirectly involves discharge of water into a watercourse• responsible for consenting third party works on Main Rivers• establish Regional Flood and Coastal Committees• co-operate with Risk Management Authorities to manage flood or coastal erosion risk• contribute towards achievement of sustainable development• must report to the minister (Defra) on flood and coastal erosion risk management• to be subject to scrutiny from LLFA with respect to flood risk management functions <p>Powers:</p> <ul style="list-style-type: none">• designate structures and features that affect flooding• request information from any person with respect to flood and coastal erosion• sanction persons who do not provide information following a request for information• manage flood risk from Main Rivers, the Sea and Reservoirs• may make grants for expenditure incurred or expected in connection with flood or coastal erosion risk management in England• may issue levies to the LLFA for an area in respect of the EA's flood and coastal erosion risk management functions in that area <p>Other:</p> <ul style="list-style-type: none">• provides fluvial and coastal flood warnings nationally• supports emergency responders when flooding occurs• allocates flood and coastal erosion risk management capital funding (Flood defence grant in aid or FDGiA)• provides advice to local planning authorities on development and flood risk
Thames Water - responsible for draining foul water and runoff from roofs and yards	<p>Duties</p> <ul style="list-style-type: none">• responsible for effectually draining foul water, and roof and yard runoff from its area• duty to co-operate and may share information• duty to be subject to scrutiny from LLFA with respect to flood risk management functions• adopting private sewers• statutory consultee for the SuDS Approval Body where a drainage proposal would interact with a public sewer• to consider the LFRMS and the national flood and coastal erosion management strategy

Risk Management Authority

Statutory flood-related duties, powers and other responsibilities

Highways Agency - responsible for highway drainage and roadside ditches

Duties:

- responsible for the provision and management of highway drainage and roadside ditches for primary routes under the Highways Act (1980), excluding roads that are the responsibility of Swindon Borough Council
 - contribute towards achievement of sustainable development
-

3.5. Responsibility for monitoring the Strategy

The objectives and actions outlined in the Strategy will be monitored annually as set out in Chapter 8, with strategic oversight by the Strategic Flood and Water Management Advisory Group. This will ensure that progress is made in local flood risk management and that the Strategy remains relevant. A report on progress against objectives and measures taken to reduce and manage risk will be prepared for the Strategic Group. The LFRMS action plan and progress report document will be published annually following this review.

3.6. Environmentally responsible flood risk management

Flood risk management offers many opportunities beyond the primary aim of reducing or mitigating flood risk. It can, for example, protect or enhance the environment and provide more pleasant areas in which to work and live. Wherever possible, we will seek to provide the greatest value to the Borough by delivering multiple benefits through our investment in flood risk management.

Many of the strategic measures proposed for managing local flood risk in Swindon have been developed to set policy, procedure or process to seek opportunities to improve the water environment and to prevent damage to the water environment.

At a local level, when we are proposing local flood risk management schemes as part of our Strategy, these schemes will be subject to a Water Framework Directive Assessment³ where they involve works to ordinary or main watercourses. We are proposing in this

³ The requirements of the Water Framework Directive (WFD) and actions to achieve GES (Good Ecological Status) need to be taken into account in the planning of all new activities, plans or strategies that could affect the water environment. Many of the aims of the WFD are relevant to the preparation of local flood risk management schemes, and such schemes also may offer opportunities to help deliver some of the actions identified in relevant River Basin Management Plans. Therefore when we are proposing local flood risk management schemes as part of our Strategy, these schemes will be subject to a WFD Assessment where they involve works to ordinary or main watercourses. This assessment will take account of the requirements of the WFD and ensure that the scheme proposals do not conflict with the relevant local River Basin Management Plan (RBMP) or undermine the aims of the WFD.

Strategy to set a policy that applies the Environment Agency's policy on Water Framework Directive Assessments for main rivers to our ordinary water bodies and we will use that policy and procedure when consenting activities in water bodies.

In the event of larger schemes being identified, these will be subject to the planning controls, which will include consideration of environmental impact, and a screening opinion on the need for an Environmental Impact Assessment will be sought from Natural England. However, it is recognised that an environmental reporting procedure should and will be undertaken to ensure that the Council's duties under the relevant legislation are met. The details of this procedure will be published as part of the adopted Strategy document and the efficacy of the procedure will be reviewed annually by the Strategic Flood and Water Management Advisory Group.

3.7. Links to other responsibilities and activities

Swindon's LFRMS is influenced by and has an influence on a range of other plans, policies and legislation. These links need to be considered to ensure that the LFRMS is consistent with other plans, policies and legislation but does not duplicate information contained elsewhere.

Figure 3-1 illustrates the links between the LFRMS and other plans, policy and legislation. A more in-depth description is provided in Appendix B.

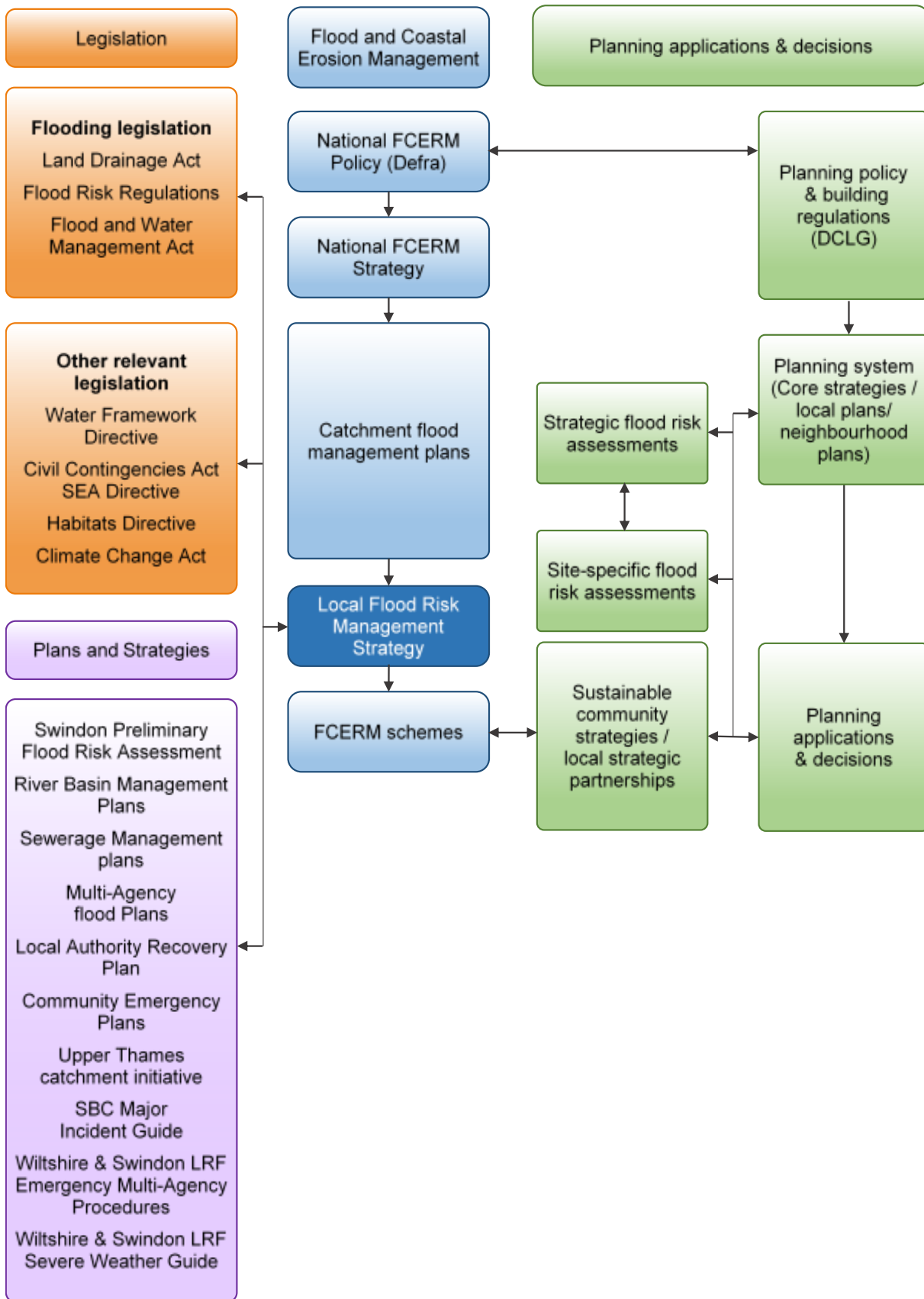


Figure 3-1 Relationships between plans and strategies affecting Swindon Borough

4. Aims and objectives

The aim of Swindon LFRMS is to manage flood risk in a way that will benefit people, property and the environment. A number of key objectives support this aim. These objectives have been derived with consideration of the Environment Agency's National FCERM (Flood and Coastal Erosion Risk Management) Strategy with which we are required to act consistently. The nine objectives for the LFRMS are described below:

4.1. Improve knowledge and understanding of all flood risk in Swindon

A thorough understanding of the risk from flooding is key to effective management of local flooding. This requires an understanding of where flooding may occur, how often these areas may flood and what the impacts of this flooding could be.

A thorough understanding of flood risk enables energy and investment to be directed where it will have the greatest influence in reducing the potentially negative impacts of flooding. In addition, increasing public awareness of flood risk will help individuals and communities become more resilient to flooding.

This Strategy makes best use of all available modelled data about potential flooding, as well as information gathered about past flooding in Swindon to develop a better understanding of the risks of flooding across the Borough. The LFRMS seeks to explain the risk of flooding and, through a process of consultation, increase general awareness of the issues around flooding in Swindon.

4.2. Ensure appropriate development that takes account of flood risk

Development in inappropriate locations can increase the risk of flooding, for example, by increasing run off or reducing flood water storage areas. It is outside the scope of the LFRMS to specify where development can occur but it has identified areas of higher flood risk. This information is available for use in planning and development decisions and will help the Planning Authority make informed decisions about flood risk when considering development.

4.3. Improve awareness of flood prediction, warning and post-flood recovery

The measures considered as part of the LFRMS include awareness raising and knowledge sharing activities. The Strategy also identifies who has responsibility for flood-related activities and help to clarify how individuals and communities can plan and respond to local flood risk.

The actions under the LFRMS aim to reduce the likelihood of flooding while increasing the ability of individuals and the community to respond to and recover from flooding when it occurs. It achieves this by improving the knowledge and understanding of flooding (objective 4.1 above) so that communities can better understand whether they are at risk and, therefore, their need to plan for response and recovery. In addition, by engaging with local communities through the development of the LFRMS and publishing information on the roles of Risk Management Authorities, communities are provided with information on how to respond to and recover from flooding.

4.4. Encourage communities to manage their own localised flood risk

Swindon Borough Council will work together with communities, enabling an understanding of risk and encouraging communities to manage their risk actively through dialogue and decision-making. Communities at risk of local flooding will be represented in local partnerships, for instance, by local flood action groups and resilience initiatives. Swindon Borough Council will engage directly with parish councils and recognised flood action groups to maintain two-way lines of communication with communities. A representative from the Local Resilience Forum sits on the Strategic Flood and Water Management Advisory Group, to facilitate effective co-ordination of flood risk strategy and emergency planning.

Swindon Borough Council, working with the Regional Flood and Coastal Committee⁴ (RFCC), aims to understand the most effective and fair way to apply Local Flood Risk Management Strategy funding to local areas, potentially by being informed of local preference on need and fund sourcing. This initiative will decentralise funding decisions and encourage local participation through consultation on local strategies.

4.5. Develop a prioritised action plan to manage flood risk by maintaining, and improving where appropriate, local flood risk management infrastructure and systems

Having developed an understanding of the potential likelihood and consequences of local flooding, the LFRMS seeks to identify means to manage the risk of flooding through a variety of measures. It identifies a wide variety of potential measures and responses that will reduce the negative impacts of flooding and, where possible, provide additional benefits to wider society and the environment.

The principal purpose of the LFRMS is to reduce local flood risk. It identifies and develops a variety of means to do this, including maintenance and improvements to existing local flood risk management infrastructure. We have developed and apply a consistent

⁴ Swindon Borough Council is covered by the Thames RFCC

appraisal process to identify those measures that will bring the greatest benefit to the area as a whole.

4.6. Ensure that actions and measures proposed to manage flood risk deliver multiple benefits, including environmental, social and economic

Flood risk management responses can bring economic, social and environmental benefits, as well as reducing flood risk. Through reducing pollution and damage to habitats and heritage, it can enhance and protect the built, rural and natural environments, cultural heritage and biodiversity, for example through the use of Sustainable Drainage Systems (SuDS). It can enhance economic growth through regeneration and income and protect infrastructure. Communities will be able to develop risk management actions and so prioritise what they value and be appropriately supported by local contributions to increase benefits. This will also be applicable to other activities such as development, land use or infrastructure planning, where flood risk management benefits can be achieved in parallel with other objectives. Flood risk management activities should not damage the environment, but benefit it by working with the natural processes as required by the Habitats, Birds and Water Framework Directives. This could include providing new habitats in compensation for those lost through risk management activities.

4.7. Ensure the LFRMS is integrated with, and supports, Swindon's wider objectives and aspirations

Swindon Borough Council has ensured that its overall objectives and policies are reflected in the LFRMS, such as providing sustainable solutions while consulting and engaging with the local community when developing flood risk management solutions. The Strategy's policy has been incorporated in the planning and development of future growth areas within Swindon.

4.8. Work in partnership with other Risk Management Authorities to manage flooding in Swindon

As Lead Local Flood Authority, Swindon Borough Council is responsible for co-ordinating the LFRMS and to do so it needs to work with other Risk Management Authorities. This is a requirement under the Flood and Water Management Act. Partnership working and co-operation are vital to ensure that a thorough understanding of local flood risk is established and that the measures selected to manage this risk are realistic, sustainable and effective. Working together in this way will also help the delivery of multiple benefits above and beyond that of flood risk management. In this way, the Strategy will also benefit Swindon Borough in terms of biodiversity, recreation and landscape, to name but a few opportunities.

This LFRMS document identifies the Risk Management Authorities and their agreed responsibilities to manage local flood risk.

Throughout the development, implementation and review of the Strategy, Risk Management Authorities have been engaged to develop an understanding of who is best suited to implement any actions and the timescales over which this is possible. This engagement ensures that the selected strategy, policy and actions can be realistically delivered, taking into account the opportunities for funding likely to be available.

4.9. Understand and address cross-boundary flood risk issues by working in partnership with neighbouring LLFAs

As part of the development of the LFRMS, the Partners have engaged with Risk Management Authorities in other areas to develop an understanding of and approach for managing local flood risk across administrative boundaries. This includes neighbouring authorities but also the wider regional peer group through the South West Flood Risk Managers' Forum which meets quarterly to share knowledge and discuss key issues.

The impact of a flood management action on neighbouring areas will be fully assessed to avoid passing the risk downstream. This catchment approach promotes integrated management, alternate fund sourcing and resource pooling. Plans, such as Catchment Flood Management Plans (CFMP), promote such co-ordination.

5. Our understanding of flood risk in Swindon

5.1. Historical flooding

Swindon Borough has experienced flooding from surface water, rivers and sewers. The most significant event in the recent past occurred in July 2007, when the Borough experienced severe fluvial (river) and surface water flooding. Most of the other historical surface water flooding events in Swindon have been caused by local drainage problems.

The two main rivers flowing through Swindon are the River Ray and the River Cole, both of which are tributaries of the Thames. There is a network of watercourses (streams and ditches) across the Borough that flow into these two rivers. In periods of heavy and/or prolonged rainfall, some of these watercourses become inundated, which can result in flooding.

The Borough has also experienced sewer flooding. In heavy rain, the capacity of some parts of the sewerage networks is exceeded. This can result in flooding inside and outside buildings. Recently, significant sewer flooding occurred in Swindon in July 2006, November 2006, July 2007 and January 2008.

Swindon Borough Council, the Environment Agency and Thames Water have been delivering measures in a number of locations to reduce the risk in areas that have flooded. Measures to reduce the risk of flooding are discussed in Chapter 6.

5.2. Current flood risk

Our understanding of the current risk of flooding in the Borough is based upon records of past flood events and numeric modelling of flood risk. Information about past flooding can tell us about locations at risk, but there is not enough recorded information to understand the frequency of flooding, or the severity or consequences. The use of modelled data allows the assessment of frequency of flooding and also shows areas that may be at risk but have not yet been flooded.

Each data source has advantages and disadvantages. We can be sure that flooding occurred where the Council holds records of this. However recorded data are unlikely to be complete and they may miss locations that are at risk. Modelled information is based on modelled assumptions and there is a limit to how well this represents reality. However, modelled data can provide more standardised information (they will not have gaps like recorded data) and can be used to estimate depths and frequency of flooding. The strengths and weaknesses of each of the types of information are shown below in [Table 5-1](#).

Table 5-1 Strengths and weaknesses of flood risk information

Recorded flooding	Modelled flooding
Based on data held by Swindon Borough Council	Based on mapping provided by the Environment Agency (fluvial main river and ordinary watercourse flooding), and surface water modelling
✓ Covers all types of flooding	✗ Only covers fluvial and surface water flooding
✓ If a flood incident is recorded we are 100% sure that it has happened	✓ Detailed information available regarding depth and return period of flooding to calculate actual consequences
✗ Some people do not want to advise authorities that their properties have flooded for insurance purposes	✓ Model risk of flooding
✗ Little information regarding frequency of event or actual consequences	✗ Chance of model error: may predict risk in areas not actually at risk
✗ Does not provide an understanding of risk of flooding in areas that have not experienced flooding	✗ May not fully identify all areas at risk if modelled conditions do not represent the reality (e.g. lack of maintenance of watercourses)

To allow a broad-scale assessment of the risk of flooding, the LFRMS has analysed the risk on a locality level. It was agreed by the SFWMAG that presenting the risk assessment at a locality level allowed an understanding of risk at a small enough spatial scale to allow measures and actions to be prioritised, but at a large enough scale to prevent individual properties and houses being at risk of ‘blight’.

You can find out which Locality you live in using the following weblink:
<http://www.swindon.gov.uk/cm/localityworking/Pages/cm-Locality-Working.aspx>

It has been assumed that no single data source has a higher weighting or greater importance than any other.

5.3. Recorded flooding

Although the recorded flooding information does not record the probability of flooding, the Environment Agency report into the 2007 floods concluded that the probability (of happening within any one year) of the rainfall event that caused the flooding in most of Swindon was found to be between one in 50 and one in 100. The Environment Agency classes any property with a higher than one in 75 probability of flooding in any one year as being at significant risk of flooding, and more than one in 30 as being at very significant risk of flooding.

Table 5-2 below shows the Environment Agency risk thresholds and probability of flooding defined by that threshold.

The data held on recorded flooding were mostly collected after the 2007 and 2009 floods. For the purposes of this assessment, it has been assumed that any flooding incidents recorded have a risk threshold of significant. Although this is an approximation and the probability of the flood event will have been different in different areas of Swindon, this is consistent with the Environment Agency report into the 2007 floods.

Table 5-2 Risk thresholds and probability

Probability of flooding	Annual Exceedence probability	Risk threshold
One in 30 in any year	3.33%	Very significant
More than one in 75 in any year	1.33%	Significant
More than one in 200 in any year	0.5%	Moderate
Less than one in 200 in any year	<0.5%	Low

5.4. Predicted flood risk

To calculate the risk of flooding we have combined information from a number of different sources as described below.

River flooding. We used Environment Agency Flood Maps and its national flood risk assessment data to identify properties that are at risk of significant flooding.

Surface water flooding. We used the Environment Agency updated flood maps for surface water published in December 2013 to calculate the risk of surface water flooding.

Groundwater flooding. There are no reliable or robust numerical modelling techniques that can predict risk of flooding from groundwater. There are very few records of groundwater flooding in Swindon and none of these are incidents of property flooding. The geology of Swindon is such that the risk of flooding from

Return periods and annual exceedence probabilities

A property with a 1% annual exceedence probability would be expected to, on average, flood once every 100 years. However, statistically, it is possible for the property to be affected by more than one 1% annual exceedence probability event within a 100 year period. The use of the term 'return period' is being phased out by the Environment Agency because of this.

groundwater is low, and it is a localised issue with very few properties potentially impacted by internal flooding from groundwater. No modelling or numerical assessment is available to quantify this conclusion.

Quantified risk assessment

Table 5-3 below summarises the risk of surface water and river flooding at a Locality scale for each of the Localities.

This assessment shows recorded incidents (in 2007 and 2009) and the percentage of properties at significant risk of flooding based on Environment Agency data⁵. Further detail and maps about the Environment Agency’s predicted risk can be obtained on the [Environment Agency website](#) by going to the ‘What’s in your backyard’ section.

Table 5-3 Properties at significant risk of flooding

Locality	Predicted risk		Recorded incidents (2007 and 2009 floods)	
	Domestic properties at significant risk of surface water flooding (% of total number of domestic properties in Locality)	Domestic properties at significant risk of fluvial flooding (% of total number of domestic properties in Locality)	Number of properties that have flooded internally from surface water flooding	Number of other flooding incidents (including internal property flooding from fluvial sources)
East	0.13%	1.16%	3	137
North	0.14%	2.17%	1	84
North Central	0.00%	0.01%	4	77
North East	0.03%	0.11%	2	172
South	0.15%	0.00%	14	98
Town Centre	0.04%	0.62%	0	28
West	0.30%	0.62%	0	30
Total	0.11%	0.70%	24	626

⁵ The Environment Agency has not produced data for the 1 in 75 event (Significant threshold), but has produced data for the 1 in 100 and the 1 in 30 year event. We have adopted the 1 in 100 probability flood outline as a proxy for the properties at significant risk threshold. **Note, all flood event probabilities quoted here refer to the likelihood of that event occurring within any one year.**

Figure 5-1a Extract of Environment Agency website for Covingham area map showing properties at risk of surface water flooding

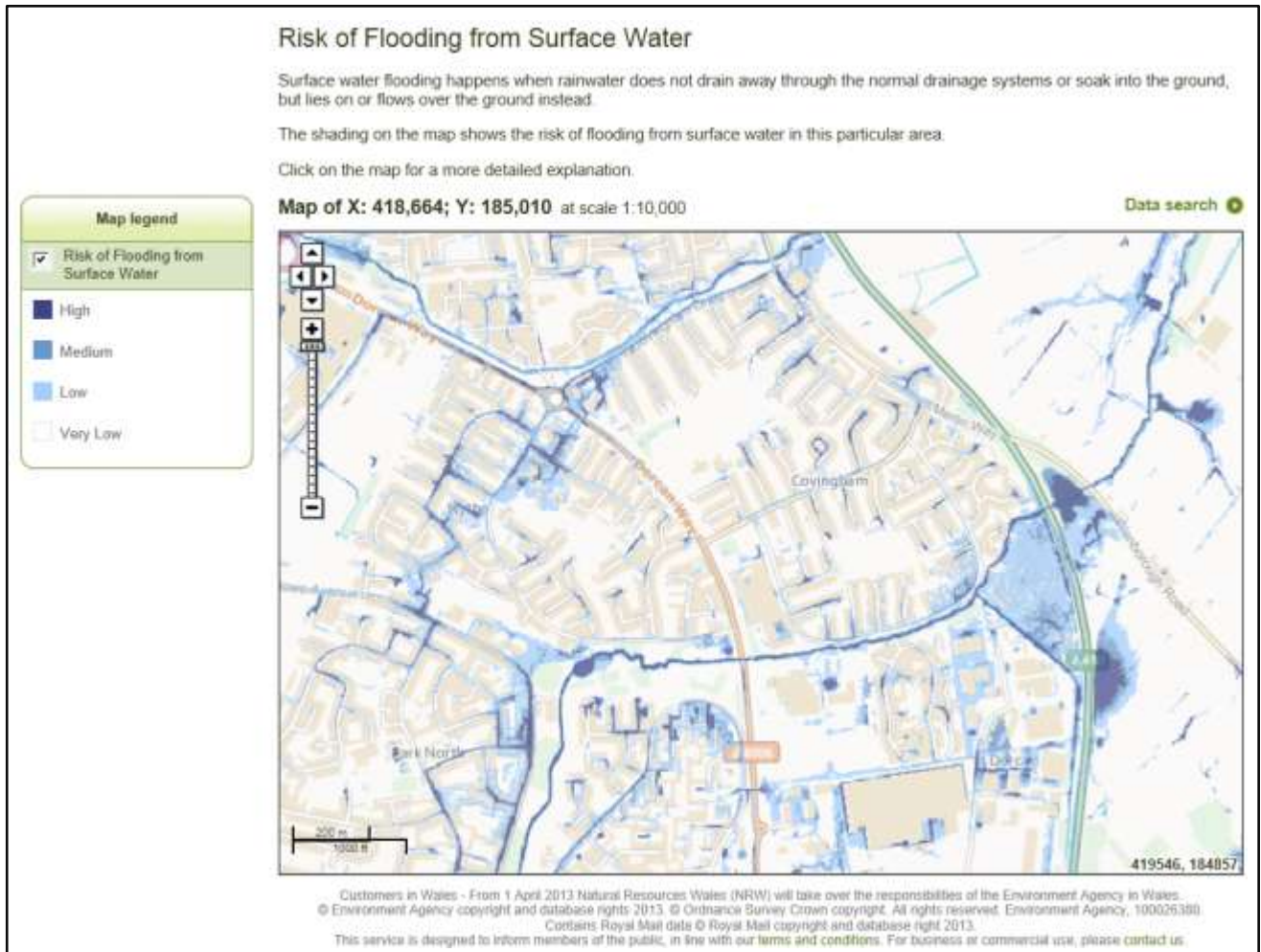
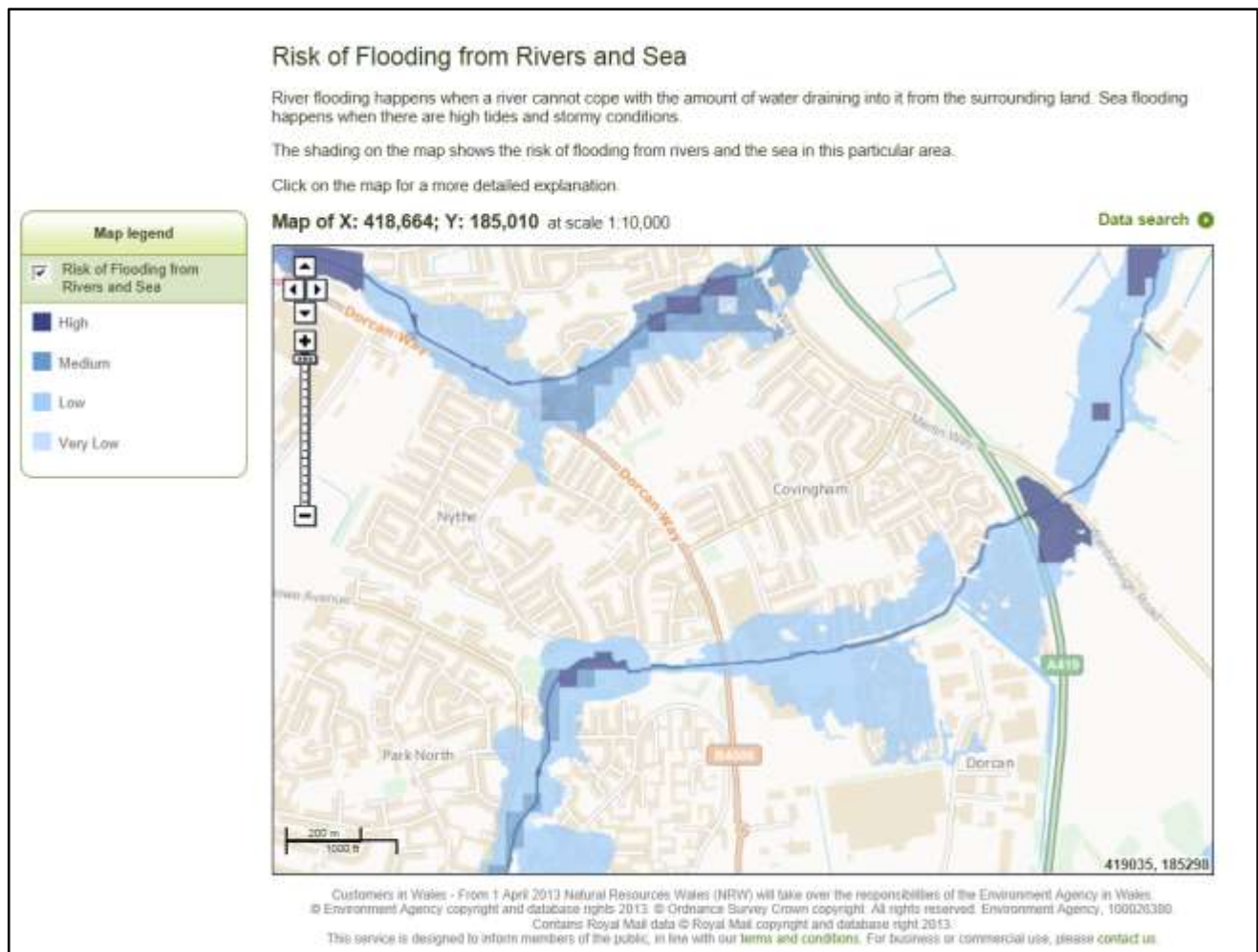


Figure 5-2b Extract of Environment Agency website for Covingham area map showing properties at risk of river flooding



5.5. Communities at risk of local flooding

A Locality level risk assessment provides risk outputs that allow strategic decisions to be made at a Borough-wide level. However, it is too broad an area to allow a detailed understanding of the risks to individual communities and parishes within that Locality. It is also often more effective to target investment at smaller areas that have a single root cause of flooding, rather than considering what options might be available to mitigate risk at such a broad scale.

Chapter 6 details the measures that Swindon Borough Council and partners plan to take to reduce or manage these risks at a Locality scale

To address this issue of scale, a cluster analysis has also been undertaken alongside engineering judgement, local knowledge and public representations to identify those communities most at risk of local flooding. The cluster analysis has used both incidents

reported to Swindon Borough Council since 2007, and the outputs of modelling to identify the communities that are at the greatest risk of flooding.

The analysis identifies the communities most at risk of local flooding. [Table 5-4](#) below summarises the outputs of the communities at risk of local flooding cluster analysis for all clusters where there are more than ten recorded incidents. These have been prioritised for investigation (see Chapter 6 for more detail) and, where appropriate, local flood risk management schemes.

Table 5-4 Communities at risk of local flooding

Cluster name	Predicted risk		
	Domestic properties at significant risk of surface water flooding	Domestic properties at significant risk of fluvial flooding	Number of recorded flood incidents per cluster
	(% of total number of domestic properties in cluster)	(% of total number of domestic properties in cluster)	
Covingham and Nythe	2.58	10.74	62
Haydon Wick	5.38	22.74	56
South Marston	2.78	4.17	53
Upper Stratton	0.95	0	47
Wanborough	8.15	0	23
Town Centre	6.28	0	22
Gorsehill	0	0	16
Rodbourne	4.76	0	15
Tadpole Lane	0	0	15
Wroughton	0.76	0	14
Lower Stratton	0	0	9
Kingshill	3.86	10.39	5
Park North	2.92	14.6	5
Middleleaze	4.55	31.82	4
Roughmoor	0	37.5	0
Total	1.63%	7.55%	343

Note1: The data used to generate these communities at risk of local flooding may not have been updated to include schemes delivered in recent years. This is discussed further in Chapter 6.

Table 5-4 is ranked according to the number of recorded flood incidents. We are aware that our records may not be accurate and we are proposing measures to address inaccurate recording in the future (see Chapter 6). In some of these communities, measures and actions have already been delivered to reduce the risk of future flooding and historical records are not necessarily an indication of future risk. This is discussed further in the action plan in Chapter 6.

5.6. Future changes to flood risk

Flood risk is likely to change over time. Many factors can influence how flood risk will change, including: climate change, new developments, urban creep and a lack of maintenance or deterioration of assets which have flood risk management functions. If action is not taken to mitigate these changes, then properties that are not currently at significant risk could face higher risk in the future. The impact of these factors is described below.

5.6.1. Climate change

There is clear evidence that global climate change is occurring. Over the last century around the UK, we have seen sea level rise and more of our winter rain falling in intense wet spells. Seasonal rainfall is highly variable. It seems to have decreased in summer and increased in winter, although winter amounts have changed little in the last 50 years. Some of the changes might reflect natural variation but the broad trends are in line with projections from climate models.

There is enough confidence in large-scale climate models to say that we must plan for change. There is more uncertainty at a local scale, but we can still use model results to help us plan to adapt. For example, we understand rain storms may become more intense, even if we cannot be sure about exactly where or when. By the 2080s, the latest UK climate projections (UKCP09)⁶ are that there could be around three times as many days in winter with heavy rainfall (defined as more than 25 mm in a day). It is plausible that the amount of rain in extreme storms (with a 1 in 5 annual chance or rarer) could increase locally by 40%.

Climate change can affect local flood risk in several ways. The impact will depend on local conditions and vulnerability. The latest UK climate projections provide information about possible changes at a number of scales, including river basin district (RBD). Swindon Borough lies within the Thames river basin district and, if emissions follow a medium future scenario, UKCP09 projected changes by the 2050s relative to the recent past are:

⁶ <http://ukclimateprojections.defra.gov.uk/>

- Winter precipitation increases of around 15% (very likely to be between 2% and 32%)
- Precipitation on the wettest day in the winter up by around 15% (very unlikely to be more than 13%)
- Peak river flow in a typical catchment likely to increase between 8% and 18%

5.6.2. Implications for flood risk

Climate change can affect local flood risk in several ways, depending on local conditions and vulnerability.

Wetter winters and more of this rain falling in wet spells may increase river flooding in both rural and heavily urbanised catchments. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers, so we need to be prepared for the unexpected.

Rising river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses.

There is a risk of flooding from groundwater from chalk and limestone aquifers across the district. Recharge may increase in wetter winters, or decrease in drier summers.

5.6.3. Adapting to Change

Past emissions means some climate change is inevitable. It is essential we respond by planning ahead. We can prepare by understanding our current and future vulnerability to flooding, developing plans for increased resilience and building the capacity to adapt. Regular review of and adherence to these plans is key to achieving long-term, sustainable benefits.

Although the broad climate change picture is clear, we have to make local decisions against deeper uncertainty. We have therefore, considered a range of measures and retain flexibility to adapt. This approach, embodied within flood risk appraisal guidance, will help to ensure that we do not increase our vulnerability to flooding.

Chapter 6 demonstrates how the measures we have adopted will ensure that Swindon Borough is resilient to climate change.

5.6.4. Urban development

Without effective planning policy, there is a risk that the increase in impermeable surface associated with new developments will increase surface water runoff and, consequently, the risk of flooding. It is therefore vital that flood risk to, and caused by, a new development is fully assessed as part of the consideration of any planning applications.

Implementation of Sustainable Drainage Systems (SuDS) and development control policies (such as setting back buildings from watercourses) may help mitigate this risk.

It is also important that the impact of climate change is considered when planning new developments to ensure they are sited in areas which will not increase flood risk to the development or surrounding areas in the future.

In England, the National Planning Policy Framework⁷ and supporting technical guidance⁸ will ensure that “inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flooding risk elsewhere”.

Adherence to government policy ensures that new development does not increase local flood risk. However, in exceptional circumstances the local planning authority may accept that flood risk can be increased contrary to government policy, usually because of the wider benefits of a new or proposed major development. Any exceptions would not be expected to increase risk to levels which are "significant" (in terms of the government's criteria), but should be recorded so that they can be reviewed in the future.

Managing flood risk is identified as one of the key issues for the Swindon Borough Local Plan. A policy to avoid development in areas at flood risk, and to prevent any increase in flood risk caused by development has been put in place.

Figure 5-3 below shows the key strategic development locations identified in the Swindon Local Plan.

A Strategic Flood Risk Assessment was undertaken for the Pre-submission Core Strategy⁹ in 2008. This document set out the principles for Sequential Testing of potential development sites in Swindon Borough and included an initial Sequential Test for the potential development sites. A further Sequential Testing of the proposed development locations was undertaken in 2012¹⁰. These tests have informed the development locations selected in the Pre-submission Local Plan and have also informed the Local Plan policy EN6: Flood risk (text box on page 35).

The draft national SuDS standards state that all new developments of ten properties of greater will be required to submit a SuDS application to the SuDS Approval Board. The

⁷ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6000/2115548.pdf

⁹ [http://www.swindon.gov.uk/ep/ep-planning/forwardplanning/ep-planning-localdev/localplanexamination/Documents/CD%208.5.15%20-%20Strategic%20Flood%20Risk%20Assessment%20Level%201%20\(%20Halcrow%20Group%20Ltd\).pdf](http://www.swindon.gov.uk/ep/ep-planning/forwardplanning/ep-planning-localdev/localplanexamination/Documents/CD%208.5.15%20-%20Strategic%20Flood%20Risk%20Assessment%20Level%201%20(%20Halcrow%20Group%20Ltd).pdf)

¹⁰ <http://www.swindon.gov.uk/ep/ep-planning/forwardplanning/ep-planning-localdev/Documents/Flood%20Risk%20-%20Sequential%20Test%20of%20Potential%20Strategic%20Development%20Sites%20in%20Swindon%20Borough.pdf>

SuDS Approval Board is a function of Swindon Borough Council as a Lead Local Flood Authority, and is a separate process to planning. A SuDS approval will be required in addition to the planning permission, and properties cannot be occupied until the SuDS approval has been granted. The SuDS Approval Board will be responsible for ensuring that the SuDS application is compliant with the national standards, and any local standards.

Swindon Borough Council's proposed measures to enact the SuDS Approval Board and to develop local standards are described in Chapter 6.

5.7. Urban creep

Urban creep is the change of permeable areas within the urban environment to impermeable areas due to activities such as building extensions or paving over of front gardens to create hard-standing parking areas. This creates increased runoff and contributes to surface water flooding.

Although each individual development may have a relatively small impact, when combined urban creep can have a significant impact on the volume of water entering the drainage system. Planning permission is required to pave over a front garden, if the surface is greater than 5 square metres, and to lay traditional impermeable driveways¹¹. Laying permeable surfaces, which have less impact on flooding, is exempt from planning permission. Effective enforcement of these regulations is critical to ensure that planning permission is being sought and permeable materials are used, wherever practically possible.

However, many of the activities are outside the development control process (for example, small driveways and property extensions at the rear of premises). A key part of the mitigation approach is the need to improve public understanding and knowledge of the impact of increasing impermeable area on flood risk. This can be achieved through targeted media and web campaigns to raise awareness of planning law and the ways in which people can reduce run-off (such as using permeable surfaces). The ways in which we plan to do this are described in Chapter 6.

¹¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf

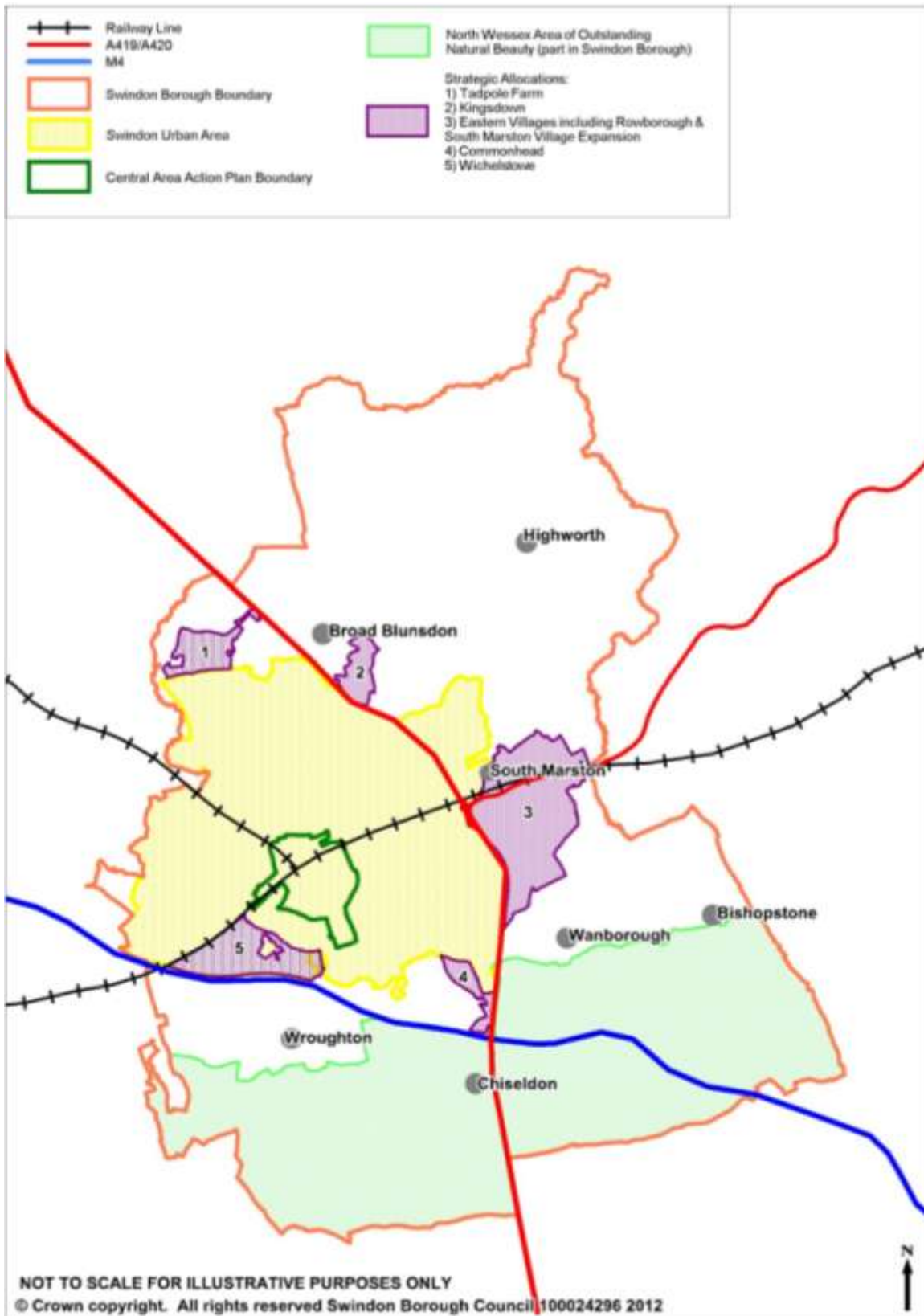


Figure 5-3 Swindon Pre-submission Local Plan strategic development locations

Policy EN6: Flood Risk

- a. The risk and impact of flooding will be minimised through:
 - directing new development to areas with the lowest probability of flooding;
 - ensuring that all new development addresses the effective management of flood risk;
 - ensuring that development does not increase the risk of flooding elsewhere including on adjoining and surrounding land; and
 - ensuring wider environmental benefits of development in relation to flood risk
- b. The suitability of development proposed in flood zones will be assessed using the Sequential Test, and, where necessary, the Exceptions Test. A sequential approach should be used at site level.
- c. A site specific flood risk assessment will be required for development proposals of one hectare or greater in Flood Zone 1 and for all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3 and Critical Drainage Areas, and also where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding. Appropriate mitigation and management measures must be implemented.
- d. All development proposals must be assessed against the Swindon Surface Water Management Plan and the Local Flood Risk Management Strategy to address locally significant flooding. Appropriate mitigation and management measures must be implemented.
- e. All development shall be required to provide a drainage strategy. Developments will be expected to incorporate sustainable drainage systems and ensure that run-off rates are attenuated to greenfield run-off rates. Higher rates would need to be justified and the risks quantified.

The measures taken to ensure that new development does not increase flood risk are detailed in Chapter 6.

5.8. Lack of maintenance and deterioration of assets

As assets, such as drains and sewers, age and deteriorate they become less capable of performing during flood events. Further, even new assets, if not adequately maintained, may not function appropriately during times of rainfall. This deterioration in performance may exacerbate the risk of flooding.

The impact on flood risk will vary depending on the type of asset. For example, drains may silt up, or ditches become blocked by rubbish or extensive plant growth, reducing their capacity to carry water and therefore increasing the risk of surface water flooding. Other assets, such as flood walls can weaken over time and become less able to withstand the forces of flood water which they hold back. Routine maintenance, such as clearing drains, can mitigate this risk and extend the lifetime of assets. However, without regular maintenance and a programme of replacement and remediation, the deterioration of assets with age would increase flood risk.

Flood risk management assets on main rivers may either be the responsibility of the Environment Agency or third parties. The Environment Agency uses an Asset Information Management System to record the condition of these assets. Where they are in Environment Agency ownership, this information is used to plan future maintenance. Where assets are the responsibility of a third party, the Environment Agency uses this information to discuss with the asset owner what future maintenance may be required. The aim is that all assets are maintained to their required condition.

Historically, we have a lesser understanding of the condition and performance of assets associated with local flood risk. Section 21 of the Flood and Water Management Act has created a duty for Swindon Borough Council to maintain a register of assets which records the location, ownership and condition of assets with a significant effect on a flood risk. In response to this requirement, Swindon Borough Council is developing a register of assets and a process for prioritising asset maintenance in areas of higher flood risk. Our approach to doing this is explained in Chapter 6.

6. Managing local flood risk in Swindon

This section discusses the types of activities that are being undertaken, or are being planned, to manage and reduce flood risk in Swindon Borough.

Floods can be managed through structural and non-structural approaches. Structural approaches involve the use of physical structures to prevent, divert or mitigate the impact of flooding. Non-structural responses aim to reduce the impact of flooding on society and the economy through interventions, such as issuing flood warnings, planning and implementing emergency responses to flooding and ensuring new houses are not built in high flood risk areas.

This Strategy sets out measures that improve and inform non-structural measures at a Borough-wide scale and puts in place a process for delivering structural responses at a local scale in priority communities.

6.1. Non-structural responses

Non-structural responses can be broken down into two broad groups, flood incident

Flood incident management

Detection, forecasting & warning.

Working with communities (for example, community groups, flood wardens, flood ambassadors) to improve flood understanding and acceptance of risk and encourage effective flood response.

Resistance and resilience measures. Resilience measures are those that reduce the damage of flooding if it occurs, for example, raising power sockets.

Emergency planning and exercising, multi-agency response and recovery.

Land use (and development) planning control and management

Planning of both urban and rural land use including development planning at catchment and local level.

Control of development and other land uses by various techniques including consultation, planning permission, regulation and policies.

Utilisation of land and its development to minimise the down-stream flooding, for example, sustainable urban drainage systems (SuDS), rainwater harvesting in urban areas (garden ponds, water butts etc) and afforestation in rural areas.

Strategic flood risk assessments.

management and land use management as detailed

There are a number of different ways in which non-structural responses can be strengthened or improved, ranging from better partnership working when planning emergency flood response to better equipping the community to protect itself from flooding. For the purposes of this Strategy, we have broken the measures proposed into the following types:

- **Partnership approach:** Measures to ensure that Risk Management Authorities and communities act in partnership to achieve better flood risk management outcomes
- **Policy:** A new policy aimed at achieving one or more of the LFRMS objectives
- **Information:** Better information about the risk of flooding, or better sharing of information between authorities and the public
- **Procedures:** Procedures that more rigorously implement policy
- **Guidance:** Guidance for developers, business or communities about how to protect communities from flooding and how to achieve multiple benefits
- **Enforcement:** Enforcement of policies or procedures
- **Community engagement and resilience:** measures to help the community better protect itself
- **Maintenance:** Measures to improve the maintenance of assets in high flood risk areas

Table 6-1 below details the non-structural policy measures that are planned or delivered as part of this Strategy.

Table 6-1 Strategy objectives

Objective	Measure	Type
Improve knowledge and understanding of all flood risk in Swindon	The risk assessment and cluster analysis undertaken for the LFRMS assimilates the best data available and provides the most up-to-date understanding of flood risk in Swindon.	Information
	The draft LFRMS was made publicly available, the current understanding of flood risk has been communicated directly with communities through the Strategy consultation, and the Strategy has been reviewed in line with responses received.	Community engagement and resilience
	Swindon Borough Council has developed an investigations procedure and this is published in Appendix E.	Procedures
Ensure appropriate development that takes account of flood risk	Policy EN6 has been agreed with the Environment Agency and provides the necessary protection to ensure that development takes account of flood risk.	Policy
	The SuDS Approval Body (SAB) requirement has been postponed by the government. At this point in time the draft national standards propose that all large development applications will need a separate approval from the SAB to ensure that development takes account of flood risk and climate change.	Policy
	Swindon Borough Council is currently developing policies and procedures to implement the SAB, but these cannot be made public until the government confirms the commencement and the development size thresholds.	Procedures
	Swindon Borough Council will evaluate the need for Borough-wide local SuDS policy and design guidance. We are currently developing SuDS and drainage design standards for the Eastern Villages development. Once this is complete we will evaluate the need for local SuDS and drainage design policy for the remainder of the Borough.	Guidance
	Swindon Borough Council has powers to designate structures and features that affect flooding. We will exercise these powers where necessary to ensure that these features are protected. If structures are designated, they will be identified on the asset database and the information will be available on the Land Charges Register.	Procedures Information
	Where we are notified that works that affect flood risk have been completed on a watercourse without our consent, we will take enforcement action where appropriate and proportionate to the risk.	Enforcement
	Any revisions to the Minerals and Waste Plan will comply with policies in the LFRMS and will be consistent with the LFRMS local plan, water cycle study and LFRMS are working closely together with sustainability at the heart of the local plan.	Policy
Improve awareness of flood prediction, warning and post-flood recovery	Refer to the Civil Protection Unit’s leaflet “What you can do in an emergency”, the EA website (https://www.gov.uk/prepare-for-a-flood/find-out-if-youre-at-risk), and the National Flood Forum website (http://nationalfloodforum.org.uk/) for advice on flood awareness, flood protection and flood recovery.	Guidance
	Swindon Borough Council will take a lead role in the management and co-ordination of flood risk. We will act as the primary point of contact for our communities at risk or with experience of local flooding. However, fluvial flooding from main rivers and flooding from public sewers remains outside of our direct control. We will work in partnership with the Environment Agency and Thames Water to reduce confusion and present a united Strategy to manage flooding.	Policy
	The Civil Protection Unit is already working on a number of activities to build community resilience and has been involved in the production of the LFRMS.	Community engagement and resilience
Encourage communities to manage their own localised	We will work with our partners to engage with all Localities and to ensure that communities are equipped with the knowledge and expertise to protect themselves.	Guidance

Objective	Measure	Type
flood risk	The Civil Protection Unit is already working on a number of activities to build community resilience and has been involved in the production of the LFRMS.	Community engagement and resilience
Develop a prioritised action plan to manage flood risk by maintaining, and improving, where appropriate, local flood risk management infrastructure and systems.	We will develop a prioritised action plan based on the communities at risk of local flooding and the Locality risk assessment. We plan to undertake three investigations of the highest risk communities every financial year. These investigations will identify if there are cost beneficial, locally specific actions to reduce or manage risk and that provide other benefits beyond flood risk management wherever practicable. The output of each investigation will be a project mandate for consideration in the Council's capital spending review. Detailed design and implementation of the actions will depend on funding being secured from the Council, the Environment Agency and other partnership organisations.	Action plan
	We will ensure that our highways maintenance schedules use flood risk as a factor in planning when and where highways maintenance takes place.	Maintenance
	A register of drainage and flood-related assets is being developed. We have an ongoing programme to improve the data in this register and are currently undertaking a pilot study to understand the costs and multiple benefits of extending or continuing this programme.	Information Maintenance
Ensure that actions and measures proposed to manage flood risk deliver multiple benefits, including environmental, social and economic	Any structural flood management schemes will need to undertake a Water Framework Directive Risk assessment to ensure that there are no negative environmental impacts. This will comply with the WFD risk assessment requirements as set out in the Environment Agency's advice on consenting works in ordinary watercourses.	Policy
	Swindon Borough Council will evaluate the need for local SuDS policy and design guidance to ensure that drainage and flood risk management activities associated with new developments achieve multiple benefits. Swindon Borough Council will evaluate the need for Borough-wide local SuDS policy and design guidance. We are currently developing SuDS and drainage design standards for the Eastern Villages development. Once this is complete we will evaluate the need for local SuDS and drainage design policy for the remainder of the Borough.	Policy Guidance
	Where the risk assessment and cluster analysis has identified the need for further actions or investigations to manage or reduce risk in communities at risk of local flooding, a multiple benefits assessment will be undertaken of the options put forward for further study.	Action plan
	A register of drainage and flood-related assets will be created. We have an ongoing programme to improve the data in this register and are currently undertaking a pilot study to understand the costs and multiple benefits of extending or continuing this programme.	Information Maintenance
Ensure the LFRMS is integrated with, and supports, Swindon's wider objectives and aspirations	Local plan, water cycle study and LFRMS delivery teams are working closely together with sustainability and Swindon Borough's wider objectives at the heart of the local plan.	Policy
	Community engagement is being undertaken through the Localities, who are Swindon's representative group for ensuring council activities support Swindon residents' wider objectives and aspirations.	Policy
Work in partnership with other Risk Management Authorities to manage flooding in Swindon	Throughout the development of the Strategy we have worked closely with our fellow flood Risk Management Authorities to ensure that the selected strategy, policy can be realistically delivered, taking into account the opportunities for funding likely to be available.	Partnership approach
	We will continue to facilitate the Strategic Flood and Water Management Advisory Group, working in partnership with the other RMAs and our stakeholders, including local communities, to deliver the aims and objectives of this Strategy. This will include the use of partnership funding where appropriate in order to enable schemes to go ahead.	Partnership approach
Understand and address cross-boundary flood risk issues by working in partnership with neighbouring LLFAs	We will liaise regularly with our neighbouring LLFAs, both through the Strategic Flood and Water Management Advisory Group and individually as necessary to ensure that cross-boundary issues are recognised and dealt with in a coordinated manner.	Partnership approach
	Opportunities for joint working and partnership funding will be explored for any cross-boundary issues identified.	Partnership approach

6.2. Structural responses

The type of flood risk management activity undertaken in any one location will depend on local factors so that the most economically and technically feasible solution is adopted.

The communities at risk of local flooding (identified in Chapter 5) have been prioritised, based on the number of actual recorded flood incidents. These priority communities form the basis of the LFRMS action plan.

A number of the communities at risk of local flooding are already under investigation, are being actively promoted for flood risk management interventions, or have had flood risk management schemes delivered. These are detailed in the Action Plan and progress summary.

Further details about the activities planned or being undertaken in these locations are detailed in the inset below. Where activities have been delivered or are planned to reduce the risk, the communities have been removed from the action plan until the schemes are delivered and evaluated, and the level of residual risk is understood.

To deliver the LFRMS action plan, we are proposing that three priority communities at risk of local flooding are investigated every financial year, with the first three priority communities already being investigated. [Figure 6-1](#) demonstrates the future programme for the action plan.

Table 6-2 shows the top fifteen priority communities from the LFRMS action plan.

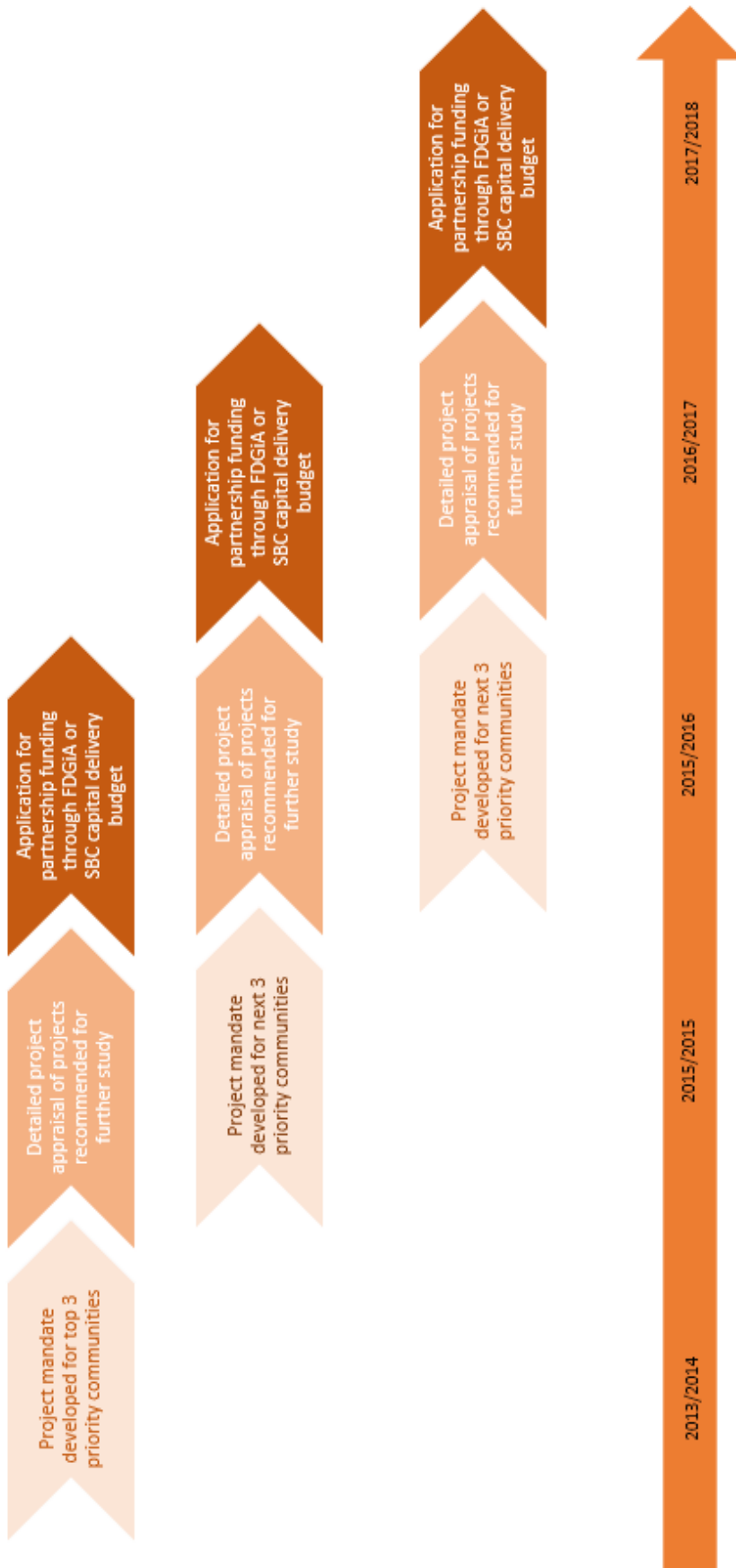


Table 6-2 Top 15 communities at risk of local flooding and LFRMS action plan

Community at risk of local flooding	Action Plan
Covingham and Nythe	Minor improvements in 2014 whilst investigation underway
Haydon Wick	SBC, EA and Thames Water flood alleviation schemes delivered or in construction
South Marston	To be investigated in 2015/16
Upper Stratton	To be investigated in 2015/16
Shaw - Roughmoor	To be investigated in 2015/16
Central – River Fleet	Pilot partnership project underway
Town Centre	To be investigated in 2014/15
Wanborough	Investigation completed, design of Lower Wanborough flood mitigation scheme subject to funding bid approval.
Rodbourne Cheney	Cheney Manor Flood Mitigation Scheme due to commence Summer/Autumn 2014
Walcot and Park North	To be investigated in 2014/15
Gorsehill	To be investigated in 2016/17
Middlelease	To be investigated in 2017/18
Wroughton	Minor improvements planned for 2014. Further investigation in 2017/18
Tadpole Lane	To be investigated in 2017/18
Lower Stratton	Drainage survey to be undertaken in 2014 to identify drainage defects. Any defects identified to be prioritised for improvement.

6.3. Activities already delivered by Swindon Borough Council as a Lead Local Flood Authority

In 2011, the Council undertook a surface water flood risk assessment and prepared surface water flood maps based on ISIS-FAST modelling and the best available 5 m resolution digital terrain modelling (DTM). We have compiled a drainage asset register and will prepare a flood risk matrix, based on known and recorded events, resulting in parishes receiving a flood risk status. Proposed flood risk reduction options were outlined based on

this flood risk assessment. A planned preventative maintenance programme was outlined and recommended for the drainage assets and a flood resilience and resistance strategy was proposed.

In 2012, the modelling was updated using the latest ISIS-FAST software and increased resolution of predicted rainfall. The flood risk matrix was amended to increase usability and to include the parish council flooding questionnaire. Flood risk issues were prioritised according to a Red Amber Green (RAG) ranking system, based on actual flooding incidents. From the flood risk rankings and Drainage Asset Collection and Condition Survey (DACCS) recommendations, flood alleviation actions were prioritised into a schedule of recommended works called an action strategy. The proposed flood resilience and resistance strategy was also updated.

Approximately 30 DACCS have been undertaken by Swindon Borough Council, to record existing highways assets, provide an indication on their condition and capacity, and recommend remedial works and maintenance requirements. Subsequent schemes as a result of findings and recommendations of DACCS undertaken in 2012 included Wheatstone Road, Mannington Road, Purley Road and Ermin Street area. Works included rehabilitation of failed Swindon Borough Council road drainage assets to maintain existing standards, or cleaning and operational maintenance of road drainage assets to maintain existing standards. Further DACCS are proposed, and these are identified in the Action Plan.

The Cheney Manor flood mitigation scheme has been developed following the surface water modelling work in 2012. Work completed includes a detailed risk assessment and mitigation works' design, and an approved project appraisal report (2013). Detailed design of the preferred option has just completed and construction will begin Autumn 2014.

The Bruce Street Bridges road improvement scheme has been undertaken in parallel with the Cheney Manor scheme, as the road drainage ties in directly with the scheme.

The Upper Wanborough, Kite Hill, Rotten Row, High Street - Wanborough and Moor Leaze studies were undertaken including a detailed flood risk assessment and preliminary mitigation options. A preferred option was recommended for the Kite Hill, Rotten Row and High Street - Wanborough studies.

Around 2011, Thames Water undertook ordinary watercourse clearance and major improvements to both foul and surface water sewer networks, and cleaned all highway drains in Haydon Wick. Within AMP5 (Asset Management Plan 5 covering the period 2010-2015), Thames Water is proposing the Swindon sewage treatment works inlet upgrade and an associated network upgrade capital works scheme. These improvements will increase both foul and surface water sewer capacity within Swindon and alleviate a number of properties at risk of flooding along Cheney Manor Road. This scheme was subject to approval in April 2012.

Haydon Wick Flood mitigation scheme in partnership with EA has taken 118 properties, 4 commercial and 1 substation out of significant flood risk. Works have now completed on Haydon Brook.

The EA have recently updated their modelling and floodplain mapping of the South Marston Brook with the Swindon Eastern Villages project in 2011. The River Ray model was updated in 2013.

7. Funding strategy to manage local flood risk

This Strategy has set out a range of measures to help achieve its flood risk management objectives. The measures include changes to internal systems and processes, improved internal and external communications with relevant stakeholders, promoting local capital schemes and helping communities become better prepared for flooding. Delivery of these measures is dependent on the availability of funding, either ongoing revenue for systems improvements or project-based finance to support one-off capital schemes. SBC will monitor potential single and multi-agency funding streams that may assist in the management of local flood risk.

The funding available will be closely linked to the types of measures that are implemented and the outcomes that these provide. Measures that offer wider benefits like public amenity, cultural heritage or biodiversity, alongside the flood risk objectives, are more likely to attract funding from alternative sources outside the dedicated flood risk funding sources.

Flood Defence Grant-in Aid (FDGiA) has historically been the most important source of funding for flood risk management and coastal erosion schemes. This capital funding from the government is provided by the Department of Environment, Food and Rural Affairs (Defra) and administered by the Environment Agency. Funding approvals are also subject to the consent of the relevant Regional Flood and Coastal Committee¹²(RFCC). FDGiA is available to projects relating to any source of flooding. Defined 'outcome measures' are used to determine which applications will receive funding and how much.

In 2011, Defra introduced the partnership funding approach. This means that, while it may be possible to fund some projects using only mainstream dedicated flood risk funding sources, there will be other projects that require a range of funding sources to make up the total sum needed. The ability of Swindon Borough Council to leverage contributions (both financial and in kind) from local partners could make the difference between whether or not locally important projects can be delivered. Successful fundraising is dependent on relationships, timing and effort. Understanding what types of outputs and outcomes are

¹² Swindon Borough Council is covered by the Thames RFCC

needed to qualify for various funding sources is critical in order to persuade potential funders to commit to a project.

Local levy is raised by the RFCC by way of a levy (precept) on County and Metropolitan Councils, Unitary Authorities and London Boroughs. Funds raised using this existing RFCC local levy will count as a local contribution in terms of the FDGiA process, even though the levy is supported by funding through the Department of Communities and Local Government. Local levy funding can be used to support flood risk management projects that do not attract 100% national funding through FDGiA, thus enabling locally important projects to be undertaken.

In December 2010, Defra announced £21million worth of grants to provide additional funding specifically to support councils with LLFA status (in addition to existing formula grant arrangements) to perform new roles and duties under the Flood and Water Management Act and Flood Risk Regulations.

In addition to funding specifically available to Swindon Borough Council in its flood risk management role, the Council also has its own funding for other capital projects and revenue programmes. Such funding could contribute towards flood risk management activities, particularly where measures or schemes can be identified which create multiple benefits across a number of Council responsibilities.

This Chapter summarises the types of funding available to deliver the measures of this Strategy. Further details of potential funding sources are outlined in Appendix D.

There are a wide range of other funding sources not specifically linked to flood risk management which it may be possible to access. These include lottery funding, landfill tax, charitable trusts, developer contributions and private beneficiary funding. Those sources considered to have the highest potential suitability are described in Appendix D.

We anticipate that the majority of funding available to deliver the Strategy will come from dedicated flood risk management sources, supplemented by other alternative sources of funding identified as being potentially suitable, based on the type of measure, anticipated outputs/outcomes, and the size of the funding gap (the element of a project's cost which cannot be funded through one or more of these dedicated sources). Successful delivery of the Strategy measures will require innovative ways of working and funding, based on teamwork and trust. Collaborative working and joint funding across partner organisations will be the key to maximising the return on investment in flood risk management.

8. Next steps and recommendations

8.1. Development of the Strategy

This Strategy is based on the latest published information available at the time of its preparation. It will be updated in consultation with other organisations and individuals involved in managing flood risk. We aspire to have information from our local residents to inform and drive this Strategy. The Strategy should be considered a 'live' product which will evolve over time as new information becomes available and flood events occur. It will also be supplemented by an annual review of the LFRMS Action Plan and progress report.

The draft Strategy was published for consultation in December 2013 and all responses received were taken into account during finalisation. After the consultation period the Strategy was reviewed and the final version presented to the Council's Cabinet for Adoption.

The Strategy when presented to Cabinet will authorise the Head of Highways and Transport, in consultation with the Cabinet Member for Strategic Planning, Sustainability and Transport, to develop and publish annual action plans to deliver the objectives of the Local Flood Risk Management Strategy. The annual action plans will be published by the Head of Highways and Transport, in consultation with the Cabinet Member supported by the Strategic Flood and Water Management Advisory Group. We have developed, and will keep up to date, a prioritised action plan with key planned interventions to reduce risk in those communities most at risk of local flooding. The actions proposed through this process will manage flood risk by maintaining, and improving where appropriate, local flood risk management infrastructure and systems.

8.2. Working in partnership

Swindon Borough Council will continue to work in partnership with the other RMAs and our stakeholders, including local communities to deliver the aims and objectives of this Strategy. We know that the most cost-effective measures that achieve multiple benefits can only be determined and delivered through true partnership working. This will include the use of partnership funding in order to enable schemes to go ahead.

Swindon Borough Council has a responsibility to co-ordinate all the RMAs where there are integrated sources of flooding. This is largely achieved through Swindon Borough Council facilitating the Strategic Flood and Water Management Advisory Group.

8.3. Monitoring

The Strategic Flood and Water Management Advisory Group will oversee an annual review of the progress of the LFRMS against its objectives. The outcome of this review will be published on www.swindon.gov.uk/floodrisk.

8.4. Review of the Strategy

This Strategy and the supporting LFRMS action plan will remain live documents over the Strategy period.

The Strategy is valid until 2019, and (excepting the action plan element) is not planned for review until 2018, following the review of the Swindon Preliminary Flood Risk Assessment (PFRA) (see Appendix B). However, the Strategy may need to be updated within this period if:

- There are significant flood events that challenge the conclusions of the risk assessment
- There are significant changes to any of the datasets that underpin the risk assessment
- There are significant policy changes that amend the roles and responsibilities of the flood risk management agencies
- The annual monitoring identifies that the Strategy is not achieving its objectives
- There is a change in funding availability which has a significant effect on the actions proposed in this Strategy

8.5. Review of LFRMS action plan and progress report

Swindon Borough Council will review the LFRMS action plan and progress report annually and prepare an update for review and approval by the Strategic Flood and Water Management Advisory Group. The review will assess if:

- measures have been delivered that mitigate risk
- there has been any material impact that changes the risk prioritisation of communities at risk of local flooding

The outcome of this review will be published on www.swindon.gov.uk/floodrisk.

8.6. Recommendations

[Figure 8-1](#) below summarises the main actions proposed in this Strategy.



Figure 8-1 Strategy recommendations and actions

9. Appendices

A. Appendix A – Roles and responsibilities

A.1. Overview

Swindon Borough Council cannot deliver the aims and objectives set out in the Local Flood Risk Management Strategy (LFRMS) in isolation. We will need to work together and this appendix outlines who we will work with, their roles and responsibilities and how we will work with them. Broadly, there are three categories of organisations and people who we will need to work with:

- Risk Management Authorities, as defined by the Flood and Water Management Act (2010). This includes relevant departments and service areas within Swindon Borough Council, strategic planning, development control, legal, environmental health and the Civil Protection Unit.
- Other flood risk management stakeholders, which are defined as organisations who have a responsibility for drainage and flood risk management, or who may be affected by the LFRMS (for example, Highways Agency, Natural England)
- Public and local community groups, including the Local Resilience Forum, recognised flood action groups, parish and town councils, and businesses.

Scrutiny procedures are available to monitor and provide feedback on the LFRMS and progress on managing flood risk in Swindon Borough Council. The Swindon Borough Council Strategic Flood & Water Management Group consists of representatives from the Risk Management Authorities and its main purpose is to help set the direction and policy for flood risk management in Swindon Borough Council.

A.2. Working with Risk Management Authorities

A.2.1. Risk Management Authorities

Risk Management Authorities are defined in the Flood and Water Management Act as the lead local flood authorities, district councils for areas where there is no unitary authority, the Environment Agency, internal drainage boards, water companies and highway authorities.

Relevant authorities must co-operate with each other in exercising functions under the Act and can delegate functions to each other by local agreement (except for the LFRMS which Swindon Borough Council cannot delegate).

A.2.2. Functions of Risk Management Authorities

The primary flood-related roles and responsibilities of the Risk Management Authorities are illustrated in Table A-2.

A.2.3. Partnership approach with Risk Management Authorities

In response to the new duties and powers given to Swindon Borough Council, a Strategic Flood and Water Management Advisory Group was established to begin to address the requirements of the Flood and Water Management Act (the Act) in early 2013.

The group meets approximately quarterly and brings together all of the relevant flood risk management organisations including representatives from Swindon Borough Council as well as the water companies, the Environment Agency, and adjoining LLFAs (Wiltshire and Oxfordshire).

Implementing the Act is a new learning process for everyone so Swindon Borough Council aims to share experiences and best practice within the strategic group and achieve a joined-up and consistent approach to managing flood risk.

Future activities of the group are to consider the register and third party assets aspects of the Act and to consider the commencement of the SuDS Approval Body (SAB), required by the Flood and Water Management Act 2010.

Sections 13-15 of the Flood and Water Management Act provide the basis for co-operation and sharing of information between relevant authorities (Risk Management Authorities). Section 13 states that relevant authorities must co-operate with one another in exercising their flood risk management functions. It also outlines that relevant authorities may share information with another relevant authority to assist them with their flood risk management responsibilities.

Defra and the Environment Agency have produced guidance on co-operating and sharing information, which is available at: <http://www.official-documents.gov.uk/document/other/9780108510373/9780108510373.pdf>. This provides helpful advice on how to share and request information and should be read in parallel to this appendix of the LFRMS.

A flow chart is provided Figure A.1 which illustrates how Risk Management Authorities in Swindon Borough should request information from other relevant authorities. It outlines a hierarchical approach. Through our well-established partnership working, Swindon Borough Council anticipates that most data requests can be satisfactorily dealt with through effective communication with relevant authorities. Information will need to be shared to enable studies and flood alleviation schemes to be undertaken successfully. Therefore, as part of the establishment of partnerships on a project-by-project basis, there should be an early and open dialogue about what information can be shared and how it can be achieved.

Section 14 permits LLFAs and the Environment Agency to request a person to provide information in connection with relevant flood risk management functions. Section 15 of the Act permits an authority to issue an enforcement notice if the information request is not complied with. Partnership working engendered through the Strategic Flood and Water

Management Advisory Group should prevent the use of Sections 14 and 15, wherever possible.

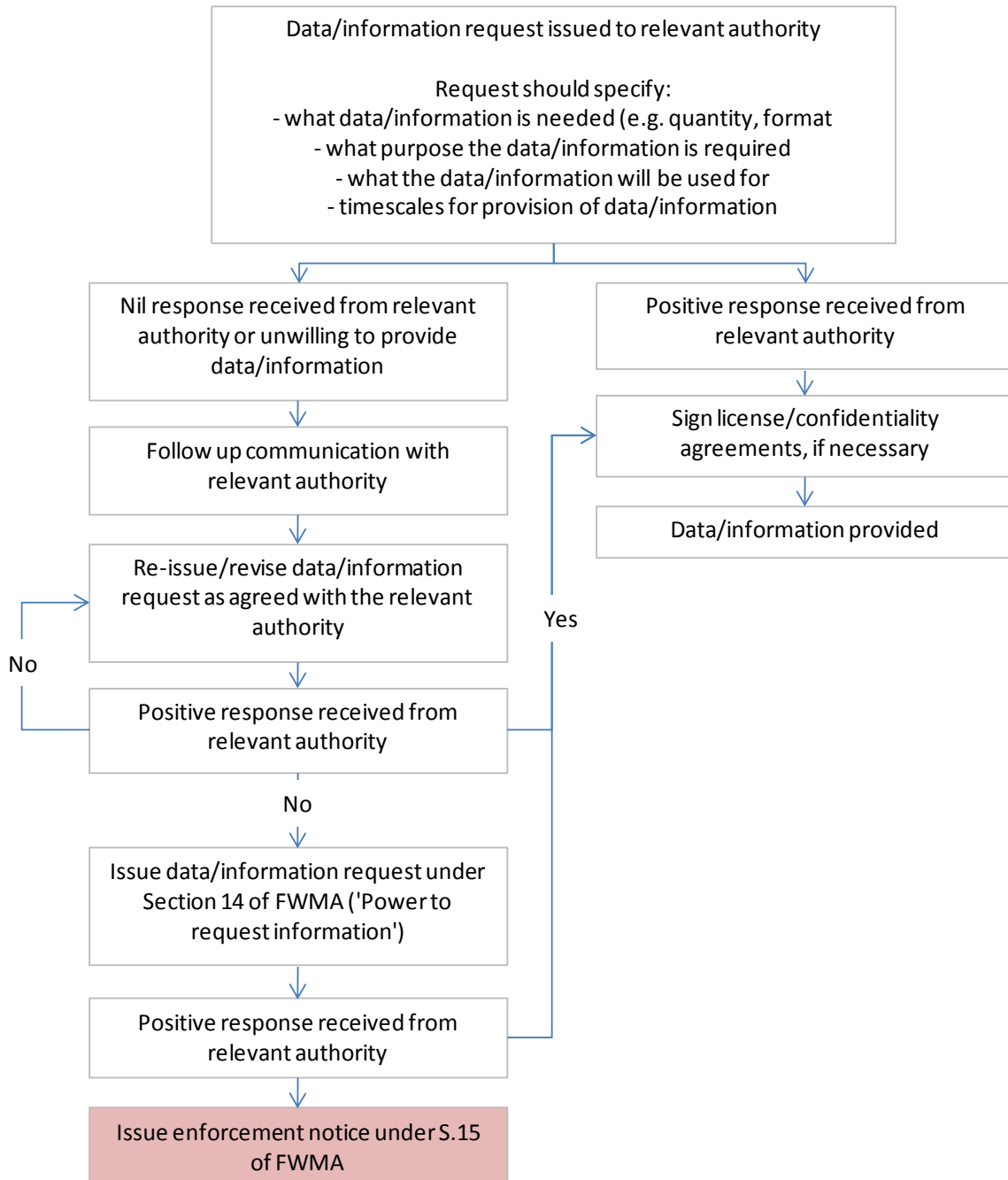


Figure A-1 Flow chart of how to request information

A.2.4. Working with other relevant flood risk management organisations

There is a range of other relevant organisations that have a key role to play in local flood risk management, have a responsibility for drainage and flood risk management, or may be affected by the LFRMS. Table A-1 identifies these stakeholders and considers their role in LFRM and how Risk Management Authorities should engage with them. These organisations will primarily be engaged when needed to support flood alleviation projects, or to provide information, support and input on a project-by-project basis.

Table A-1 Organisations with responsibility for or interest in local flood risk management

Stakeholder	Role in LFRM	Method of engagement
Association of British Insurers	Provide insurance for flooding and support for recovery from flooding	Providing advice and comments where necessary
Canal and River Trust	Ownership and maintenance of waterways and associated assets	By invitation when required if measures or actions may impact on the organisation's duties or assets
Department for Environment, Food and Rural Affairs (Defra)	Sets policy for flood risk management in England	Responding to consultations and inquiries
Emergency services	Deal with emergency situations	Through Multi-Agency Flood Plan and Gold Command
English Heritage	Statutory adviser on the historic environment	By invitation, when required, if measures or actions may impact on the organisation's duties or assets
Highways Agency	Responsible for drainage from trunk roads (A419 and M4)	By invitation, when required, if measures or actions may impact on the organisation's duties or assets

Stakeholder	Role in LFRM	Method of engagement
Housing associations	Provide social housing	Sharing information on areas vulnerable to flooding and providing advice on property protection
Land owners and land/estate managers	Responsible for maintaining proper flow of watercourses (as riparian owner). Access and acquisition of land may be required for flood alleviation schemes	By invitation, when required, if measures or actions may impact on the organisation's duties or assets
Local Government Association (LGA) and Local Government Information Unit (LGIU)	Voluntary lobbying organisation which advocates the local government sector	Sharing best practice and responding to queries
Met Office and Flood Forecasting Centre	Provide extreme rainfall alerts and daily flood guidance statements	Officer communication on local authority needs
National Farmers Union and agricultural groups	Responsible for land drainage and riparian ownership	By invitation, when required, if measures or actions may impact on the organisation's duties or assets
Natural England	Responsible for helping to conserve and protect the natural environment	By invitation, when required, if measures or actions may impact on the organisation's duties or assets
National Flood Forum	Provide support and advice to victims of flooding and persons at risk of flooding	Encourage local communities to take advice from NFF where they are seeking to establish action groups

Stakeholder	Role in LFRM	Method of engagement
Neighbouring local authorities	Responsibilities for LFRM within their area	Sharing information to assist with responsibilities and seek consistency, where possible
Network Rail	Responsible for drainage of rail and ownership of rail assets	By invitation, when required, if measures or actions may impact on the organisation's duties or assets
Parish and town councils	Play a key role working with us to engage local communities in flood risk management, emergency planning and flood recovery at a local level	Through community flood action groups
Regional Flood and Coastal Committees (RFCCs)	Responsible for managing local levy	Through local RFCC members
Universities	Develop flood science and officer knowledge	Through ongoing dialogue to continue learning opportunities
Utility companies	Hold network plans for various utilities	By invitation, when required, if measures or actions may impact on the organisation's duties or assets

Table A-2 Flood related roles and responsibilities in Swindon

	Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered
<p>Swindon Borough Council</p> <p><i>LLFA, responsible for managing and co-ordinating local flood risk management</i></p>	<p>Duties</p> <ul style="list-style-type: none"> develop, maintain, apply and monitor a LFRMS, which is consistent with the national Flood and Coastal Erosion Management Strategy 	<p>Strategy in development. Strategy will be maintained and reviewed in line with other Swindon Borough Council's flood risk policies. Action plan will be reviewed annually</p>
	<ul style="list-style-type: none"> act consistently with the LFRMS and national flood and coastal erosion management strategy 	<p>Strategy will be consistent with the Environment Agency's National Flood and Coastal Erosion Risk Management Strategy</p>
	<ul style="list-style-type: none"> on becoming aware of a flood, the LLFA must, to the extent is considers necessary or appropriate, investigate which authority has flood risk management responsibilities and whether that authority has exercised or is proposing to exercise those functions 	<p>Swindon Borough Council to develop investigations procedure and publish in adopted Local Flood Risk Management Strategy</p>
	<ul style="list-style-type: none"> co-operate with Risk Management Authorities for the purposes of managing flood or coastal erosion risk 	<p>Strategic group set up</p>
	<ul style="list-style-type: none"> maintain a register of structures or features which are considered to affect flood risk significantly 	<p>Asset database set up. Programme in place to improve data in asset database</p>
	<ul style="list-style-type: none"> responsible for consenting third party works on ordinary watercourses 	<p>We will adopt the Environment Agency advice for consenting activities to main rivers, and develop a procedure that is consistent with that advice for ordinary watercourses</p>
	<ul style="list-style-type: none"> approval, adoption and maintenance of sustainable drainage systems (SuDS) (not yet commenced) 	<p>Requirement to be reviewed when further duty commencement notification is provided by Defra</p>
	<ul style="list-style-type: none"> contribute towards achievement of sustainable development 	<p>LFRMS is linked to Water cycle study and Swindon</p>

Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered	
	Local Plan with sustainability at the heart of the plan	
<ul style="list-style-type: none"> • lead the co-ordination and preparation of emergency planning through the Civil Protection Unit 		
<ul style="list-style-type: none"> • LAs have responsibilities under section 2 of the Reservoirs Act 1974 (http://www.legislation.gov.uk/ukpga/1975/23) to keep a register of reservoirs situated wholly or partially within their area which fall under the Act, and to ensure that the undertakers (responsible party for each reservoir) comply with the requirements of the Act. Each undertaker must prepare a flood plan for their reservoir(s). The LA is the enforcement authority for this. 		
Powers	<ul style="list-style-type: none"> • to do works to manage flood risks from surface runoff and groundwater 	Where action plans identify risks arising from third parties, actions may result in this power being exercised
<ul style="list-style-type: none"> • designate structures and features that affect flooding 	If structures are designated they will be identified on the asset database and the information will be publicly available on the Land Charges Register	
<ul style="list-style-type: none"> • request information from any person with respect to flood and coastal erosion 	Power will only be exercised if information cannot be obtained through agreement/ negotiation	
<ul style="list-style-type: none"> • sanction persons who do not provide information following a request for information 	Power will only be exercised if information cannot be obtained through agreement/ negotiation	
<ul style="list-style-type: none"> • enforcement where works have been completed without a necessary consent 	No proactive enforcement action planned. If notified of breaches by public/partners, enforcement will be considered on a risk basis	
<ul style="list-style-type: none"> • enforcement to maintain a proper flow on ordinary watercourses 	No proactive enforcement action planned. If notified of breaches by public/partners, enforcement will be considered on a risk basis	
Other	<ul style="list-style-type: none"> • management and co-ordination of local flood risk, bringing together all relevant bodies to help manage local flood risk 	Swindon Borough Council will take a lead role in the management and co-ordination of flood risk. We will act as the primary point of contact for our communities at risk of

	Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered	
		flooding, or who have experienced flooding. However, fluvial flooding from main rivers and flooding from public sewers remain outside of our direct control, and we will work in partnership with the Environment Agency and Thames Water to reduce confusion and present a united strategy to manage flooding.	
<p>Swindon Borough Council as highways authority</p> <p><i>Responsible for highway drainage and roadside ditches</i></p>	<p>Duties</p> <ul style="list-style-type: none"> responsible for the provision and management of highway drainage and roadside ditches under the Highways Act (1980). This excludes the roads that are the responsibility of the Highways Agency 	We will ensure that our highways maintenance schedules use flood risk as a factor in planning when and where highways maintenance takes place	
		<ul style="list-style-type: none"> contribute towards achievement of sustainable development 	LFRRMS is linked to Water cycle study and Swindon Local Plan with sustainability at the heart of the plan
		<ul style="list-style-type: none"> statutory consultee for the SuDS Approval Body where a drainage proposal is likely to affect a road 	Requirement to be reviewed when further duty commencement notification is provided by Defra.
<p>Swindon Borough Council as planning authority</p> <p><i>Responsible for undertaking works on ordinary watercourses, spatial planning lead, and part of emergency response</i></p>	<p>Duties</p> <ul style="list-style-type: none"> act consistently with the LFRRMS and national Flood and Coastal Erosion Management Strategy 	Strategy will be consistent with the national Flood and Coastal Erosion Management Strategy. Environment Agency advisory role on strategic group to ensure this happens	
		<ul style="list-style-type: none"> co-operate and may share information 	Swindon Borough Council will ensure that any data it holds with respect to flood risk management, assets or features will be available to partner RMAs

Environment Agency
Strategic overview of all sources of flood risk, and operational responsibility for flooding from main rivers, the sea and reservoirs

Duties

Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered
<ul style="list-style-type: none"> contribute towards achievement of sustainable development 	<p>Local plan, water cycle study and LFRMS are working closely together with sustainability at the heart of the local plan</p>
<ul style="list-style-type: none"> as the local planning authority, prepare a Local Plan outlining proposals for growth and determine planning applications 	
<ul style="list-style-type: none"> planning authority for minerals and waste, provider of infrastructure/local services and a significant landowner/developer 	
<ul style="list-style-type: none"> SBC as a Category 1 Responder under the CCA has a duty to plan for emergencies, including flooding. Responsible for assisting in preparation of multi-agency flood plans 	<p>The Civil Protection Unit is contributing to the LFRMS and is delivering a number of activities to build community resilience under the CCA</p>
<ul style="list-style-type: none"> develop, maintain, apply and monitor a strategy for flood and coastal erosion risk management in England 	<p>The LFRMS will be consistent with the national strategy</p>
<ul style="list-style-type: none"> statutory consultee for the SuDS Approval Body where a drainage system directly or indirectly involves discharge of water into a watercourse 	<p>SAB approvals procedure not yet in development. We will consult the Environment Agency where required on SAB applications</p>
<ul style="list-style-type: none"> responsible for managing flood risk from reservoirs (a reservoir flood risk map is available on the EA's website) 	<p>SBC provides information to the EA as required</p>
<ul style="list-style-type: none"> responsible for consenting third party works on main rivers 	<p>Any applications received in error by Swindon Borough Council will be referred to the Environment Agency</p>
<ul style="list-style-type: none"> establish regional flood and coastal committees 	<p>The Environment Agency sits on Swindon Borough Council's strategic group providing advice on the LFRMS. We will work closely together to develop flood risk management measures where there are combined sources of flooding</p>
<ul style="list-style-type: none"> co-operate with Risk Management Authorities for the purposes of managing flood or coastal erosion risk 	
<ul style="list-style-type: none"> contribute towards achievement of sustainable development 	

	Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered
	<ul style="list-style-type: none"> must report to the Minister about flood and coastal erosion risk management 	
	<ul style="list-style-type: none"> duty to be subject to scrutiny from LLFA with respect to flood risk management functions 	
Powers	<ul style="list-style-type: none"> designate structures and features that affect flooding 	
	<ul style="list-style-type: none"> request information from any person with respect to flood and coastal erosion 	<p>We will operate a free and fair information data exchange with the Environment Agency, and expect the Environment Agency to work on the same basis.</p> <p>Where our communities report flooding from main river to use, we will record these data and make them available to the Environment Agency.</p>
	<ul style="list-style-type: none"> sanction persons who do not provide information following a request for information 	
	<ul style="list-style-type: none"> manage flood risk from main rivers, the sea and reservoirs 	<p>Where schemes to reduce or manage flood risk are developed by Swindon Borough Council, we will continue to work with the Environment Agency to ensure that these schemes are effectively funded and delivered</p>
	<ul style="list-style-type: none"> may make grants for expenditure incurred or expected to be incurred in connection with flood or coastal erosion risk management in England 	
	<ul style="list-style-type: none"> may issue levies to the Lead Local Flood Authority for an area in respect of the Agency's flood and coastal erosion risk management functions in that area 	
	<ul style="list-style-type: none"> arrange for a coastal erosion risk management function to be exercised on its behalf by a coast protection agency, LLFA or IDB 	Not applicable
Other	<ul style="list-style-type: none"> provide fluvial and coastal flood warnings nationally 	<p>We will work with the Environment Agency to promote the Floodline</p>

Statutory flood-related duties, powers and other responsibilities	Measures in development/delivered
	service in all flood awareness events we run
<ul style="list-style-type: none"> • support emergency responders when flooding occurs 	We will continue to work with the Environment Agency through the Local Resilience Forum
<ul style="list-style-type: none"> • allocation of flood and coastal erosion risk management capital funding (FDGiA) 	Where schemes to reduce or manage flood risk are developed by Swindon Borough Council, we will continue to work with the Environment Agency to ensure that these schemes are effectively funded and delivered
<ul style="list-style-type: none"> • provide advice to local planning authorities in relation to development and flood risk 	Environment Agency advice is very important to Swindon Borough Council planners, and we will ensure that the advice received is used correctly when making strategic planning and development control decisions
<p>Thames Water Responsible for draining foul water, and runoff from roofs and yards</p>	<p>Duties</p> <ul style="list-style-type: none"> • responsible for effectually draining foul water and roof and yard runoff from its area • duty to co-operate and may share information • duty to be subject to scrutiny from LLFA with respect to flood risk management functions • adopt private sewers • statutory consultee for the SuDS Approval Body where a drainage proposal would interact with a public sewer • need to have regard to the LFRMS and the national Flood and Coastal Erosion Management Strategy

B. Legislation and policy

B.1. The Pitt Review¹³

Following the summer 2007 flood events, an independent review of the flood-related emergencies that occurred was undertaken by Sir Michael Pitt on behalf of the Government. The final published report entitled 'Learning Lessons from the 2007 Floods' called for urgent and fundamental changes in the way the country is adapting to the likelihood of more frequent and intense periods of heavy rainfall. Searching for practical solutions to highly complex problems and careful thought about the public interest resulted in challenging recommendations that were deemed to require strong national leadership to make them a reality.

The report included 92 recommendations, of which 21 were specifically designated to local authorities. Of particular importance was the recommendation that local authorities should play a major role in the management of local flood risk, taking the lead in tackling local problems of flooding and co-ordinating all relevant agencies. This recommendation has been delivered through the Flood and Water Management Act 2010. The Act puts in place the changes recommended by Sir Michael Pitt and allows for wider changes to roles and responsibilities of relevant Risk Management Authorities.

B.2. The Flood and Water Management Act

The Act brings together the recommendations of the Pitt Review and previous policies, to improve the management of water resources and create a more comprehensive and risk-based regime for managing the risk of flooding from all sources. The Act states that its purpose is to "make provision about water, including provision about the management of risks in connection with flooding and coastal erosion". The key features of the Act are that it:

- Gives the Environment Agency a strategic overview role of flood and coastal erosion risk management and gives it responsibility for fluvial, coastal and reservoir flood risk
- Gives unitary authorities and county councils a Lead Local Flood Authority (LLFA) role, allocating responsibility for managing local flood risks – surface runoff, groundwater and ordinary watercourses
- Introduces an improved risk-based approach to reservoir safety

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http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/thepittreview/final_report.html

- Introduces a duty for relevant flood Risk Management Authorities to co-operate and share information
- Encourages the uptake of sustainable drainage systems (SuDS) by removing the automatic right to connect to sewers and providing for LLFAs to adopt SuDS for new developments and redevelopments
- Widens the list of uses of water that water companies can control during periods of water shortage, and enables Government to add to and remove uses from the list
- Enables water and sewerage companies to operate concessionary schemes for community groups on surface water drainage charges
- Reduces 'bad debt' in the water industry by amending the Water Industry Act 1991 to provide a named customer and clarify who is responsible for paying the water bill
- Makes it easier for water and sewerage companies to develop and implement social tariffs where companies consider there is a good cause to do so

A key implication for county councils and unitary authorities is the introduction of the Lead Local Flood Authority role, which enhances their responsibilities so that they lead the co-ordination of local flood risk management in their areas. However, partnership arrangements are encouraged to ensure full use of all capabilities and experience locally. As a LLFA, Swindon Borough Council will take on these new powers and responsibilities, extending the responsibilities of the Environment Directorate. The Act places significant new responsibilities on LLFA, including:

- Requirements to develop, maintain, apply and monitor a strategy for local flood risk management for the area
- The management of local flood risk, which includes surface runoff, groundwater and ordinary watercourses
- Leading the co-ordination of local flood risk management, bringing together all relevant bodies to help manage local flood risk
- When aware of a flood, the LLFA must, to the extent it considers necessary or appropriate, investigate which authority has flood risk management responsibilities and whether that authority has exercised or is proposing to exercise those functions
- Maintaining a register of structures or features which are considered to affect significantly flood risk and record ownership and state of repair
- Powers to do work to manage flood risks from surface runoff and groundwater
- Powers to designate structures and features that affect flooding
- The approval, adoption and maintenance of sustainable drainage systems (SuDS)

- Contributing towards achievement of sustainable development

To avoid administrative burdens, the Act does not require routine reporting on performance, but allows information to be requested where necessary. Local authorities can bring matters to the Government's attention and, if a Risk Management Authority fails to exercise a flood or coastal erosion risk management function, the Secretary of State can direct another authority to carry out that function. In addition, the Act enables overview and scrutiny committees in LLFAs to hold all the Risk Management Authorities to account. In this way, the public can be actively involved in ensuring authorities perform and fulfil their responsibilities.

B.3. The Flood Risk Regulations 2009

The Flood Risk Regulations came into force on 10th December 2009. Their purpose is to transpose the European Commission (EC) Floods Directive (Directive 2007/60/EC on the assessment and management of flood risks) into domestic law and to implement its provisions. The regulations outline the roles and responsibilities of the various authorities consistent with the Flood and Water Management Act 2010 and provide for the delivery of the outputs required by the Directive. The Directive requires EC member states to develop and update a series of tools for managing all sources of flood risk.

It had been originally intended to transpose the Directive through the Flood and Water Management Act 2010, but the Regulations had to be imposed by the end of 2009 in order to avoid infraction proceedings. The Regulations are, however, consistent with the Act and indeed overlap in some cases. The intention is to consolidate the Act and Regulations to achieve a single coherent set of provisions dealing with flood risk assessment and management. Initially the local and national flood risk management strategies will help shape the work to be completed on the flood risk regulation outputs, and over time the maps and plans produced under the Directive will, in turn, shape the national and local strategies.

The Regulations:

- Give responsibility to the Environment Agency to prepare Directive deliverables: preliminary flood risk assessments, flood risk maps and hazard maps and flood risk management plans for flood risk from the sea, main rivers and reservoirs and to co-ordinate publishing of the Directive deliverables from the LLFA.
- Give responsibility to LLFAs to do the same for all other forms of flooding (excluding sewer flooding), including surface runoff, groundwater and ordinary watercourses
- Require preliminary flood risk assessments to be prepared
- Require areas of significant risk to be identified on the basis of the preliminary flood risk assessments

- Require flood risk maps and hazard maps for the identified areas of significant flood risk
- Require flood risk management plans to be prepared for the areas of significant flood risk
- Require engagement with the public and relevant authorities in the production of Directive deliverables

The Environment Agency has undertaken initial mapping for England and Wales to define the River Basin District (RBD) borders and sub-borders, areas of coastline, topography and land use. Both the Environment Agency and LLFAs must then undertake a preliminary flood risk assessment (PFRA). The Environment Agency must produce a PFRA for each RBD covering flood risk from main rivers, the sea and reservoirs. LLFAs must create a PFRA for their administrative boundary covering flood risk from surface runoff, groundwater and ordinary watercourses. The output from the PFRA will be a preliminary assessment map and report which detail:

- Historic flooding within the area which had significant consequences and which could recur
- The assessment of flood risk from potential future flooding
- The review of the default flood risk areas provided by the Environment Agency, and any proposed amendments to the proposed flood risk areas
- Communication with partners
- Proposals to support the review of the PFRA every six years

For the PFRA, the Environment Agency will supply the LLFA with the core national datasets including the National Receptor Dataset (NRD) (which will assist with the assessment of consequences of floods in terms of the impact on human health, the economy and the environment); the second generation areas susceptible to surface water flooding national map (which gives an indication of areas more vulnerable to surface water flooding); and the proposed 'areas of significant risk'. The LLFA will subsequently be responsible for reviewing and validating these datasets and the proposed areas of significant risk using local information and knowledge. Any proposed changes or additions to the proposed areas of significant risk must be included in the preliminary assessment report.

In the areas of significant risk, both the Environment Agency and LLFAs will need to produce flood risk maps, flood hazard maps and flood risk management plans for their respective sources of flooding. The flood risk management plans must include objectives for managing flood risk and proposed measures for achieving those objectives, much like the requirements of the Local Flood Risk Management Strategy.

LLFAs must submit their preliminary assessment reports, flood risk and flood hazard maps and flood risk management plans to the Environment Agency six months before the specified December deadlines to allow for collation and reporting to the European Commission. The assessment, mapping and planning cycle continues thereafter on a six-yearly basis, with the first review of the PRFA due by 22nd December 2017. Flood maps must be reviewed by 22nd December 2019 and flood risk management plans by 22nd December 2021. Each review must take into account the likely impact of climate change on the occurrence of floods.

B.4. Other relevant policy, regulation and legislation

B.4.1. The Water Framework Directive (WFD)

The Water Framework Directive (WFD) is the most substantial piece of EC water legislation to date and is designed to improve and integrate the way water bodies are managed throughout Europe. It came into force on 22nd December 2000 and was transposed into UK law in 2003. Member States must aim to reach good chemical and ecological status in inland and coastal waters by 2015. It is designed to:

- Prevent deterioration in the classification status of aquatic ecosystems, protect them and improve the ecological condition of waters
- Aim to achieve at least good status for all waters - where this is not possible, good status should be achieved by 2021 or 2027
- Promote sustainable use of water as a natural resource
- Conserve habitats and species that depend directly on water
- Progressively reduce or phase out releases of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants
- Contribute to mitigating the effects of floods and droughts

In essence, the Water Framework Directive establishes new and better ways of protecting and improving rivers, lakes, groundwater, transitional (where freshwater and sea water mix) and coastal waters. To address this, the Environment Agency has embarked on river basin management planning with the aim of developing new and better ways of protecting and improving the water environment. It should be noted, the objectives referred to above and contained in the Water Framework Directive, whilst supported in this Strategy, will be considered outside its scope. It is important that measures to manage local flood risk do not cause deterioration of water bodies and consider opportunities to improve water bodies in conjunction with local flood risk management.

B.4.2. Making Space for Water

Making Space for Water (MSfW) (published on 29th July 2004) is the cross-Government programme taking forward the developing strategy for flood and coastal erosion risk management in England. The Government will, over the 20-year lifetime of the strategy, implement a more holistic approach to managing flood and coastal erosion risks in England. The approach involves taking account of all sources of flooding, embedding flood and coastal risk management within a range of Government policies and reflecting other relevant Government policies in the policies and operations of flood and coastal erosion risk management. The aim is to manage risks by employing an integrated portfolio of approaches which reflect both national and local priorities, so as to reduce the threat to people and their property and deliver the greatest environmental, social and economic benefit, consistent with the Government's sustainable development principles.

MSfW highlights the important role of land use planning, rural land management and integrated urban drainage management in managing flood risks. Greater use of rural and land use management solutions to flooding is promoted in MSfW, alongside a commitment to continue providing finance for land and property purchase required for managed realignment and research into the effectiveness of land management solutions.

B.4.3. National planning policy framework

The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied.

It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

With respect to flood risk, the NPPF requires that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.

Local Plans should be supported by Strategic Flood Risk Assessment and develop policies to manage flood risk from all sources, taking account of advice from the Environment Agency and other relevant flood risk management bodies, such as lead local flood authorities and internal drainage boards. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change, by:

- applying the Sequential Test;
- if necessary, applying the Exception Test;

- safeguarding land from development that is required for current and future flood management; using opportunities offered by new development to reduce the causes and impacts of flooding; and
- where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to facilitate the relocation of development, including housing, to more sustainable locations.

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. The Strategic Flood Risk Assessment will provide the basis for applying this test. A sequential approach should be used in areas known to be at risk from any form of flooding.

If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate. For the Exception Test to be passed:

- it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and
- a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
- Both elements of the test will have to be passed for development to be allocated or permitted.

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 assessment²⁰ following the Sequential Test, and if required the Exception Test, 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.

For individual developments on sites allocated in development plans through the Sequential Test, applicants need not apply the Sequential Test. Applications for minor development and changes of use should not be subject to the Sequential or Exception Tests but should still meet the requirements for site-specific flood risk assessments.

B.4.4. Climate Change Act

The Climate Change Act (2008) requires a UK-wide climate change risk assessment every five years, accompanied by a national adaptation programme that is also reviewed every five years. The Act has given the Government powers to require public bodies and statutory organisations, such as water companies, to report on how they are adapting to climate change.

B.4.5. Conservation of Habitats and Species Regulations

The Conservation of Habitats and Species Regulations (2010) transposes the Habitats Directive into UK law. The regulations aim to help maintain and enhance biodiversity throughout the EU, by conserving natural habitats, flora and fauna. The main way it does this is by establishing a coherent network of protected areas and strict protection measures for particularly rare and threatened species.

B.4.6. Civil Contingencies Act (CCA)

The Civil Contingencies Act (2004) is legislation that aims to deliver a single framework for civil protection in the UK and sets out the actions that need to be taken in the event of an emergency. The CCA is separated into two substantive parts: local arrangements for civil protection (Part 1) and emergency powers (Part 2).

B.4.7. Strategic Environmental Assessment Directive

The Strategic Environmental Assessment (SEA) Directive (2001) (EC Directive 2001/42/EC) is legislation which aims to increase the consideration of environmental issues during decision-making related to strategic documents such as plans, programmes or strategies. The SEA identifies the significant environmental effects that are likely to result due to the implementation of a plan, programme or strategy.

B.4.8. Land Drainage Act

The Land Drainage Act (1991) outlines the duties and powers to manage land drainage for a number of bodies including the Environment Agency, internal drainage boards, local authorities, navigation authorities and riparian owners.

C. Stakeholder engagement strategy

C.1. Stakeholder engagement

C.1.1. Purpose

Prior to the start of the LFRMS, a standalone stakeholder engagement strategy for the project was agreed. This explained:

- Who would be consulted
- When they would be consulted
- How they would be consulted
- How their feedback would be used to shape the strategy

SBC has a duty to undertake consultation on the LFRMS. The Flood and Water Management Act 2010 states (in Section 9) that:

“A lead local flood authority must consult the following about its local flood risk management strategy — (a) Risk Management Authorities that may be affected by the strategy (including Risk Management Authorities in Wales), and (b) the public.”

The Act does not specify how or when consultation should take place. The consultation methodology adopted for this project, therefore, built on good practice to develop an overall engagement strategy which was embedded within and clearly influenced the LFRMS development process.

The approach takes account of the guidance set out in Swindon’s Statement of Community Involvement (SCI) and the messages contained within the Local Government Association document ‘Framework to assist the development of the LFRMS for Flood Risk Management’ (November, 2011).

C.2.1. Our approach

The LFRMS is designed to bring together and co-ordinate the flood risk management activity of a wide variety of organisations and bodies. It should both influence, and be influenced by, the future plans and activities of these groups. It is therefore vital that relevant stakeholders are engaged in the preparation of the strategy.

Consultation and stakeholder engagement is very much integral to the agreed methodology for the study as a whole. In developing the LFRMS, our approach has sought to ensure that relevant groups are given a genuine opportunity to help shape the LFRMS, through consultation set within clear boundaries. Consultation has and will continue to help:

- Ensure the strategy is robust and that the data used to underpin it are as accurate as possible - ensuring that best use is made of local knowledge and that our analysis of flood risk matches local experience
- Pave the way for a smooth working relationship with our flood risk management partners
- Generate greater support for the way in which we intend to manage local flooding in the future
- Encourage stakeholders and the general public to take actions themselves to help prevent flooding on their premises
- Promote understanding about flooding issues, responsibilities and the range of actions that can be taken

C.2. Who and how?

C.2.1. Types of consultation

We are consulting with different groups at various stages of the LFRMS process. The key phases of consultation include:

- Informal consultation was undertaken in parallel with the preparation of the draft LFRMS which helped to inform the draft document.
- Formal consultation has taken place, inviting feedback on the published draft version of the LFRMS. The draft LFRMS, together with a non-technical summary document, was placed on the Council’s website and a questionnaire allowed people to comment on the documents.
- Technical discussions throughout the process.

C.2.2. Key stakeholders

Table C.1 provides an overview of the key stakeholder groups and details the methods of involving each.

Table C.1 Key Groups for Consultation

Stakeholder Group	Main means of engagement	Other means of engagement
SBC project lead officers - Swindon’s Flood Risk Manager - Highways and transport - Drainage - Civil Protection Unit	Member of the Strategic Flood and Water Management Advisory Group – to meet regularly throughout project	Additional one-to-one technical meetings as required
Lead members Cabinet Member for Highways, Strategic Transport and Leisure Cabinet Member for Public Protection, Housing and Streetsmart	As above	Additional briefings, as required
Thames Water	As above	Additional one-to-one technical meetings as required
Environment Agency	As above	As above
Local Resilience Forum	As above	As above

Stakeholder Group	Main means of engagement	Other means of engagement
Adjacent LLFAs <ul style="list-style-type: none"> - Wiltshire - Oxfordshire - Gloucestershire 	As above	As above
Wider group of SBC officers <ul style="list-style-type: none"> - Development control - Planning policy - Maintenance - Parks - Rights of Way 	Via the Strategic Flood and Water Management Advisory Group who discuss the emerging LFRMS with a wider group of colleagues and report back Face-to-face technical meetings as required	Direct email to each Officer to invite comments on the draft LFRMS during the formal consultation Possible lunchtime presentation in Council's offices
SBC Members	Officers to brief at key stages Cabinet to approve final version of LFRMS in June 2014	Direct email to all members to invite comments on the draft LFRMS during the formal consultation
Wiltshire Fire and Rescue Service	Meeting Exchange of information email	
Swindon Localities	Exhibition display and presentation from project team as agenda item at meetings during October and November 2013	Via correspondence with the Locality lead officers, who report to the group as required
Pathfinder Resilience Officer ¹⁴	One-to-one technical meeting prior to the formal consultation	Direct email to invite comment on the draft LFRMS

¹⁴ The Pathfinder Resilience Officer is seconded from the National Flood Forum for a limited period to lead the Swindon Pathfinder Project, which seeks to increase resilience through education.

Stakeholder Group	Main means of engagement	Other means of engagement
Natural England and English Heritage	Direct email to invite comment on the draft LFRMS	
List of other wider stakeholders - list to be agreed but potentially to include <ul style="list-style-type: none"> - Parish Councils - Wiltshire Association of Local Councils - Forward Swindon - Key developers/landowners - Network Rail - Highways Agency - First Great Western - Wilts and Berks Canal Trust - Residents' Associations - Standard list of consultees used by highways and planning - Additional stakeholders to be identified as project progresses - Business community 	Direct email to invite comment on the draft LFRMS via the formal consultation	
General public	Via formal online consultation and supporting events	Word of mouth via ward Councillors Publicity to encourage attendance at Locality meetings

C.2.3. Consultation activities

Our main means of involving these stakeholders are:

- Meetings of the **Strategic Flood and Water Management Advisory Group**. The first meeting of this group was held in March 2013
- **Technical project meetings** to discuss specific issues
- **Briefings to the Localities** to raise the profile of the strategy and encourage participation in the formal consultation
- **Formal consultation** on the draft LFRMS (current). This document was made available on the Council's website for comment and feedback

- **An exhibition** to explain the draft LFRMS runs in parallel to the formal consultation
- **Events and publicity** to advertise the formal consultation and the Locality exhibitions/presentations. This includes press releases, posters, letters and emails.

C.2.4. Key tasks

Table C.2 lists the key consultation tasks, in broadly chronological order.

Table C.2 Key consultation activities

Activity	Purpose/Detail
Regular meetings of the Strategic Flood Risk Management Group.	To guide the evolution of the LFRMS.
Briefing for Members.	To outline the LFRMS and explain the purpose, report structure and risk assessment outputs and to start to build understanding prior to the formal consultation.
Exhibition display and presentation at each of the Locality meetings. Presentation at parish clerk's meeting and Borough parish meeting.	To discuss the draft LFRMS and invite comments through the formal consultation phase.
Advance notification of the consultation - via emails, letters and newsletters.	To give people advance notice, and for organisations to make time on their agendas to respond to the consultation on the draft document.
Formal consultation on the draft LFRMS.	To allow wider comment on the document. Document placed on the Council's website, and available as a hard copy from the Council office.
Publicity for formal consultation and Locality exhibitions via mail outs, press releases and posters.	Includes Localities, parishes, SBC website, Swindon Evening Advertiser, Swindonweb, Link Magazine (or similar for each area), Council publications and posters in public places.
Presentation to Cabinet.	To present the final strategy.

C.2.5. Documentation

Consultation comments submitted during the consultation on the draft LFRMS have been used to help shape the final LFRMS document. Comments have been grouped and for each group of similar comment an explanation of how they have influenced the strategy

have been documented (see Section C2.6 below). In cases where it has not been possible to respond to a comment this has been noted and a reason given.

C.2.6. Summary of Consultation Responses

The draft LFRMS was made available for consultation between 19th December 2013 and 10th March 2014. A summary document, plus the full LFRMS report could be accessed via the Council's website. A questionnaire was used to collect feedback. This was available online or as hard copy. The consultation was publicised via the local press, the Council's website, the parish councils and local groups. A drop-in session, to explain the document and answer questions, was also held in the Central Library on 1st February 2014.

In total, 32 responses were received. 4 of these respondents answered only the first question.

The following organisations responded:

- Wanborough Anti-Flood Group
- Wanborough Parish Council
- South Marston Parish Council
- Bishopstone Parish Council
- Wroughton Parish Council
- Haydon View Community Association
- Wilts and Berks Canal Trust
- Swindon Borough Council – Planning
- Swindon Borough Council – Civil Protection

The remainder of the responses were from individuals, or were anonymous.

The feedback received is summarised below. Note that where percentages are shown these are calculated as a percentage of the total number of people who responded to each question.

Question 1

Question 1 asked whether respondents thought the objectives were a suitable basis for the Strategy. 25 people answered this question (note that 4 of these answered yes to this question, but then did not answer subsequent questions).

Generally respondents were fairly comfortable with the objectives set out in the draft document. 52% said they were happy with the objectives and a further 40% stated they were happy subject to some minor changes.

Table 1 – Question 1: Do you think the objectives are a suitable basis for the

Strategy?

Yes	13 (52%)
Yes, subject to some minor changes	10 (40%)
No	1 (4%)
Not sure	1 (4%)
Question not answered	7

The questionnaire asked those people who responded that they were happy with the objectives 'subject to some minor changes' to state what these should be. These are summarised in Table 5.

Question 2

Question 2 asked whether respondents felt that the LFRMS had correctly identified the areas at greatest risk of flooding. 8 people said they felt generally happy that the areas had been correctly identified. 10 respondents felt that specific areas had been missed in the LFRMS. Their responses are summarised in Table 5.

Table 2 – Responses to Question 2: Do you think we have correctly identified the areas which are at greatest risk of flooding?

Yes	5 (26%)
Yes, subject to some minor changes	3 (16%)
No – I think there are areas you have missed, or areas where you have over-estimated the risk	10 (53%)
Not sure	1 (5%)
Question not answered	13

The following areas were all noted as suffering from notable flooding which respondents

felt ought to be recognised in the Strategy:

- Haydon View Road
- Sunningdale Road
- Eastville Road
- Wanborough
- Westlea
- Rodbourne Road
- Hannington Wick
- Castle Eaton
- Stratton to South Marston
- Wroughton
- Liden Brook
- Thyme Close
- Carpenters Arms Bridge or Old Vicarage Lane, South Marston
- Villages and roads in the far north of the Borough at risk of flooding from the Thames.

Question 3

Question 3 asked whether respondents agreed with the actions and commitments set out in the LFRMS Action Plan. Generally, the response was positive, with 32% stating that they did agree, and a further 53% stated they agreed with them subject to some minor comments.

Again, the majority of comments noted alongside this question raised general issues about the LFRMS rather than specific comments on what people would like to see altered in the Action Plan. The responses are summarised in Table 5.

Table 3 – Responses to Question 3: Do you agree in general terms with the actions/commitments contained within the overarching Action Plan?

Yes	6 (32%)
Yes, although I have some minor comments/concerns	10 (53%)
No	3 (16%)
Not sure	0
Question not answered	13

Question 4

Question 4 asked what other measures or actions respondents would like to see included in the Action Plan. 15 people answered this question. The responses are summarised in Table 5.

Question 5

Question 5 asked whether respondents felt that flood risk was a significant issue for Swindon. Overwhelmingly respondents agreed that flooding is an important issue within the Borough.

Table 4 – Responses to Question 5: Would you consider flood risk to be a major concern within Swindon Borough?

Yes	16 (84%)
No	3 (16%)
Question not answered	13

Question 6

Question 6 asked respondents to note any flood defence work or projects that they are involved in that the Council might not already know about. The responses are summarised in Table 5

Question 7

Question 7 asked for other comments. These are summarised in Table 5.

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Table 5: Key consultation themes	Response	No. of references
General		
Responder suggests Appendix E is removed	Appendix E has been removed - the most up-to-date version of this information is provided via several other locations so references to these have been provided instead.	3
Responder considers the review date is too far in the future	The review date has not been changed. The Local Flood Risk Management Strategy (LFRMS) already covers the need for review and what factors will trigger review of the LFRMS in the interim.	5
Text amendments suggested to improve clarity/correct errors	Where the text amendments are factually correct they have been applied.	22
Responder supplies Information about local flooding issues	Detailed local information provided in the response has been noted and will be taken into account by Swindon Borough Council (SBC) during its ongoing programme of flood management work. Chapter 5 of the LFRMS provides information about how the prioritisation of at risk areas was carried out. SBC may contact the respondents for further discussion of the issue raised.	18
Responder requests more information or action on a specific local issue	The detail of individual flooding issues is too specific for the LFRMS document. Detailed local information provided in the response has been noted and will be taken into account by SBC during its ongoing programme of flood risk management work. Action and investigation has been prioritised based on the criteria outlined in Chapter 5 of the LFRMs. Please continue to report any flooding incidents to SBC for inclusion during the next review of the LFRMS. SBC may contact the respondents for further discussion of the issue raised.	6
Responder suggested solutions to flooding issues	SBC welcomes viable suggestions from local stakeholders. Detailed local information provided in the responses has been noted and will be taken into account by SBC during its ongoing programme of flood management work. SBC may contact respondents for further discussion.	2
Responder highlights that Gloucestershire County Council are not mentioned	Gloucestershire County Council added in Table C.1.	4
Responder states that flood investigations should be carried out during a flooding incident, not when rivers in banks and no issues	Data about flooding are gathered, but full investigation is completed after the event. Emergency protection and management is prioritised during a flood incident.	1

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Responder states that all Information should only be shared with the Utilities/SBC, not insurance companies.	SBC shares information with the Risk Management Authorities. Insurance companies are not a Risk Management Authority so data are not proactively shared with them	1
Responder states that there is not enough detail as to the actions SBC proposes to take	The LFRMS is a high level strategy document and as such there is a balance to be struck between providing sufficient information and not obscuring the overarching messages with details which have a limited relevance. More details will be provided in the priority area action plans and/or in individual scheme information.	1
Responder suggests changes to the aims and objectives	Aims and objectives were agreed with the Swindon Strategic Flood and Water Management Advisory group. They have not been changed.	2
Responder requests that the role of the Resilience Pathfinder Officer is explained	The following explanation has been added as footnote 12 (Table C.1): "The Pathfinder Officer is seconded from the National Flood Forum for a limited period to lead the Swindon Pathfinder Project which seeks to increase resilience through education."	1
The responder comments on the workings of other flood risk management authorities	SBC has passed responder comments on to the appropriate organisations.	2
Responder highlights that the representative for the Flood Forum will not be in this post as the document states, as this position terminates in March 2015 as it was a temporary solution to the flood crisis, therefore, any reliance in this post should not be included in this document which has a longer life than this post and not reviewed until 2019.	LFRMS text amended to take this into account.	1
Responder suggests that LFRMS should incorporate information from recent flooding	This is an ongoing activity, and where data have been reported to and recorded by SBC they are being taken into account in our action plan preparation.	2
Responder suggests that sandbags should be provided by SBC	SBC will provide sandbags under the direction of the emergency services. We do not keep a stockpile of sandbags and cannot assist others to maintain their own stockpile.	2
Responder states that it is unacceptable that the Swindon Outline Water Cycle Study is incomplete and must be completed.	The water cycle study has been published as part of the Examination in Public of the Local Plan.	1

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Responder suggests that LFRMS should take better account of rural areas	SBC is committed to working with all its flood risk stakeholders, see Appendix A.	1
Sources of flooding		
Responder requests that the LFRMS include a reference about responsibilities related to reservoirs	Local authorities have responsibilities under section 2 of the Reservoirs Act. A description of these responsibilities has been added to the LFRMS in Table A-2.	1
Responder raises issues relating to sewer flooding	Sewer flooding is included within the LFRMS. Detailed local information provided in the response has been noted and will be taken into account by SBC during its ongoing programme of flood management work	2
Responder states that surface water flooding is not mentioned	Surface water flooding is included throughout the LFRMS (e.g. see Chapter 2).	1
Responder queries whether there is consideration of Thames flooding on villages and roads in the far North of Borough?	Explicit consideration of flooding from the Thames is not considered within the LFRMS. As a 'main river' the Thames is the responsibility of the Environment Agency. Information about flooding from rivers can be obtained from the Environment Agency website.	1
Responder raises issues relating to coverage of groundwater flooding in the LFRMS	SBC does not currently have enough information to quantify the flood risk from groundwater. Any additional local detail provided has been noted and will be taken into account in ongoing flood management work.	5
Maintenance issues		
Responder considers that the approach overlooks the impact of lack of maintenance on flooding		2
Responder asks for planned maintenance schedule	The LFRMS outlines the need for ongoing maintenance to manage flood risk. SBC is producing a register and methodology in order to better prioritise maintenance of its own assets. Funding is limited, which is why prioritisation must be applied. Where a drainage asset is owned by someone else it is their responsibility to maintain it, if this is not undertaken, and SBC is informed, SBC will work to enforce the responsibility.	1
Responder considers that SBC needs to carry out more maintenance		7
Responder suggests that SBC should commit to providing adequate funding for maintenance		3
The Civil Protection Unit		
Not mentioned		3
Responder suggests that CPU should be a key stakeholder and included in the Strategic Flood and Water Management Group	The term 'Emergency Planning Unit' had been used and this has now been replaced with 'Civil Protection Unit'.	2
Development issues		

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Responder suggests that planning applications must include the effect of flooding on the Local Area	The National Planning Policy Framework deals with flood risk in relation to planning and development. This is not repeated within the LFRMS. SBC has acknowledged the importance of appropriate development in the second objective "Ensure appropriate development that takes account of flood risk".	2
Responder raises concern that not enough is done to ensure that new development does not increase flood risk		4
Responder expresses concern about impact of Eastern Villages development on flooding	Statement added to LFRMS regarding the sharing of information with planning and development (Section 4.2, 4.7 and Table A-2). SBC is in the process of commissioning a sustainable drainage strategy for the Eastern Villages which will set standards for the developers with respect to drainage and flood risk to protect local communities.	2
Responder states that the areas included in the LFRMS appear to relate only to domestic properties at risk of flooding under current conditions and therefore do not include impacts or risks relating to future development	The LFRMS addresses current and future flood risk in terms of historic and predicted risk to existing properties. It is not a planning document. Information from the LFRMS will be provided to the planning and development team to inform their decision-making process as per statements in Sections 4.2, 4.7 and Table A-2. Flood risk is assessed as part of the planning process (e.g. Water Cycle Strategy and site drainage strategies).	1
Funding		
Responder suggests SBC should horizon scan for external funding opportunities	SBC does aim to be aware of potential funding opportunities. Text added to the LFRMS to reflect this (Sections D.2.3 and D.2.5)	2
Responder highlights that funding constraints may limit flood risk management actions	This is a valid point and prioritisation of actions is undertaken in the LFRMS, in recognition of the constraint imposed by limited funding.	1
Involvement of the LRF		
Responder highlights that the LRF needs to better tie in with Community Risk Register.	Reference to Local Resilience Forum and Community Risk Register added to LFRMS. The Local Resilience Forum will be invited to be represented on the SFMAG	3
Responder suggests that better consultation with the Local Resilience Forum is needed		2
Roles and responsibilities of residents		
Responder requests advice on grants and support available for personal flood management	Responder is encouraged to research this on the SBC or Environment Agency websites, or to contact either organisation directly.	1

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Responder queries how SBC will promote personal responsibility	As stated in Section 1.10, by raising awareness of flood risk and how this can be reduced and by supporting community-based actions. SBC's Civil Protection Unit is already working on a number of activities to build community resilience, and SBC is engaging directly with parish councils and communities via the Pathfinder Resilience Officer to raise awareness and support community-based projects.	1
Responder has queries about details of responsibility of riparian owners and residents	The LFRMS outlines the responsibilities of riparian owners to ensure that flow is not obstructed. SBC will continue to encourage and support riparian owners in meeting their responsibility. If in doubt of land ownership and subsequent responsibility, owners should check their individual case on their deeds or with the land registry. SBC may be able to help if an enquiry is put to it but it cannot notify all riparian owners individually of their responsibility.	2
Roles and responsibilities		
Responder requests greater clarity of the different roles of SBC	LFRMS updated to clarify.	1
Responder suggests need to clearly define the responsibilities of partners	The LFRMS lists the responsibilities of the Risk Management Authorities (Section 3.2 and Table 3.1). All Risk Management Authorities are now obliged under the Flood and Water Management Act 2010 to co-operate with SBC and to comply with/consider/support the LFRMS.	2
Table 3.1 It is anomalous that the LLFA has the power "enforcement to maintain a proper flow on ordinary watercourse" but no corresponding duty to maintain the watercourses within its ownership	SBC has a responsibility to ensure that riparian owners undertake their responsibilities, and powers relating to this responsibility under the Land Drainage Act 1991.	1
Stakeholder Liaison & engagement		
Responder requests a single point of contact in SBC for flooding issues.	In the event of a flood emergency calls should be directed to the usual 999 route. The non-emergency contact details for SBC have been added to the LFRMS (Section 1.2).	2
Responder states that SBC out of hours staff should be well informed		1
Responder requests better public communication	The LFRMS is the first step to improving partnership working and local consultation. A key part of the LFRMS process has been bringing partners together to share knowledge and ideas and to work together to develop the future strategy. The Strategic Flood and Water Management Advisory Group will monitor the progress of this LFRMS against its objectives, which include partnership working. SBC has been, and will continue to be, working to improve communication with all flood risk stakeholders.	2
Responder requests better liaison with stakeholders (mentioned in responses are Neighbouring Authorities and Wilts and Berks Canal Trust)		

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Responder requests better liaison with Parish Councils/change in proposed communication routes

Responder suggests that Parish Councils could take a more active role but need support

SBC is aiming to improve engagement with Parish Councils about local flooding and has already started this process through the Pathfinder Resilience Officer.

2

D. Funding Strategy

D.1. Introduction

Successful delivery of LFRM measures will require innovative ways of working and funding, based on teamwork and trust. Collaborative working and joint funding across partner organisations will be key to maximising the return on investment in flood risk management. Defra's introduction in 2011 of the partnership funding approach means that the ability of LLFAs to leverage contributions (both financial and in kind) from local partners could make the difference between locally important projects going ahead or not. Successful fundraising is dependent on relationships, timing and effort. Understanding what types of outputs and outcomes are needed to qualify for various funding sources is critical in order to persuade potential funders to commit to a project. The qualifying benefits for dedicated flood risk funding sources are typically well understood. It may also be possible, with slight modifications or additions to a flood risk project (or even just a different way of 'selling' the benefits), to meet the requirements of funders outside the flood risk industry and access additional funding in this way.

Whilst it may be possible to fund some projects in full using only the mainstream dedicated flood risk funding sources, such as Flood Defence Grant in Aid (FDGiA), there will be others that require a range of funding sources to make up the total sum needed. Some projects may attract only limited funding of any kind and it is important that fundraising opportunities are maximised for more 'attractive' projects: in this way any shortfall on less attractive projects can be compensated by leveraging more than 100% funding on the higher profile ones.

The suitability of potential funding sources depends on a number of factors:

- Total sum required
- Total fund available
- Effort and investment required (for example, number of applications, match funding)
- Qualifying benefits required
- Frequency of availability (for example, annual)
- Longevity
- Level of competition

For Swindon Borough Council's LFRMS, we anticipate that the majority of funding will come from dedicated flood risk management sources. This will be supplemented by contributions from alternative sources, wherever sufficient qualifying outputs and outcomes are identified, to ensure that the benefit-cost ratio of pursuing these is supportable. We will also aim to leverage more than 100% contributions on projects with the highest funding potential (those likely to attract the greatest amount of contributions), in order to help meet any shortfall in funding for the overall programme of measures.

D.2. General principles

D.2.1. Funding over the longer term

It should be borne in mind that, while this strategy supports the current LFRMS programme of measures, there will be an ongoing requirement to fund work identified in future reviews which may require different funding approaches. Funding should, therefore, be seen as a long-term endeavour and any short-term gains should always be considered against the potential for greater returns in the longer term.

This is particularly pertinent in relationships with third sector funders, individuals and corporate supporters as well as those affected by the 'beneficiary pays' concept.

D.2.2. Warm connections

For all types of fundraising, warm connections (people who are known to Swindon Borough Council already or to partners working on the projects and existing supporters) are most likely to lead to success. This principle of developing connections and relationships underpins many areas of the strategy and is a key role of the Partnership. However, in the event that no connections can be found, within a reasonable space of time, then cold-calling will be necessary.

Warm approaches lead to greater results in a shorter time span for less effort; cold approaches conversely take longer, do not guarantee the same level of return and generally require a much greater investment of time and effort.

D.2.3. Delivery Framework

The two main ways in which fundraising can be undertaken are described below. The choice of approach will depend upon the size of projects, level of effort required (number and complexity of applications) and in-house capacity. The benefit-cost ratio (investment versus return) will be a key determining factor.

Structured: Specialist fundraiser appointed to write a funding action plan and deliver the fundraising, thus providing a more flexible and pro-active approach to seeking and responding to funding opportunities. This is the more expensive option but with the potential of greater reward.

Unstructured: Funding action plan written by specialist, with key targets identified. Delivery is then absorbed into a project management role, and promoted on a more reactionary basis.

D.2.4. Fundraising Mix

The areas of fundraising identified for the best mix are partly chosen because they fit together well and so "the whole is greater than the sum of the parts". There will also be

overlap between the various areas of fundraising. During the planning of each fundraising activity, it should be considered whether it would be beneficial for other areas to be promoted at the same time (without compromising either area).

Following our analysis, no one area of fundraising was very strong and so at least initially, our strategy seeks to engage a range of audiences using a number of different fundraising techniques. The fundraising mix is based on our research into what we feel are the maximum likely levels of funding to be gained from each source – with a reasonable amount of effort and return on investment (ROI).

D.2.5. Funding Action Plan

In order to facilitate fundraising efforts, a specific funding action plan should be developed. This will entail research, SWOT (strength, weaknesses, opportunities and threats) analysis, review of contacts and experience, and discussions with partners, funders and others to understand better what potential there is for funding identified projects. SBC aims to be aware of upcoming potential funding opportunities (such as the Defra Pathfinder Project).

The funding action plan should identify warm targets, specify who is best placed to lead the approach or application, and where it will be necessary to seek new, cold, support.

Through the consultation process and using a range of fundraising databases, such as Grant Finder¹⁵, a detailed action plan of key targets should be constructed. This funding action plan will identify:

- Funder details – name, address
- Required approach – application, one-to-one
- Deadlines – when applications are accepted
- Timeframe – anticipated time between initial approach and final decision
- Identified project
- Suggested grant request size
- Any geographical constraints

D.2.6. Reviews

This funding strategy will be realigned against the LFRMS objectives and action plan each time these are reviewed and updated and the suggested mix is not fixed. The funding mix is likely to need adjusting over time to take advantage of new opportunities; building on

¹⁵ www.grantfinder.co.uk

UK based grants and policy database including details of over 7,000 funding opportunities

strong or successful areas and taking unsuccessful areas out of the mix, or reducing time spent on them.

D.2.7. Non-financial gains

The fundraising strategy will have a positive impact on other areas of the LFRMS, in terms of promoting interventions, raising awareness and reaching new audiences. Opportunities should be exploited, wherever possible, to use the fundraising to promote the LFRMS and ways in which local communities can get involved.

D.3. Discussion of potential funding sources

D.3.1. Dedicated flood risk management funding sources

These sources should make up the majority of the funding mix for delivering the LFRMS measures. These will be supported by alternative sources of funding, identified as potentially suitable based on the type of measure, anticipated outputs and outcomes, and the size of the funding gap (the element of a project's cost which cannot be funded through one or more of these dedicated sources).

In relation to flood risk management, capital funding from Government is provided through Flood Defence Grant-in-Aid (FDGiA). This is provided by Defra and administered and managed by the Environment Agency, although funding approvals are also subject to the consent of the relevant Regional Flood and Coastal Committee¹⁶ (RFCC) and overall availability of funding from all potential sources. FDGiA is available to projects relating to all sources of flooding, and has historically been the most important source of funding for flood risk management and coastal erosion schemes. Defined 'outcome measures' (see list below) are used to determine which applications will receive funding, and how much.

To receive an element of FDGiA, projects will need to meet strict criteria and, as a minimum in every case, demonstrate that in present value terms, the expected whole-life benefits exceed the whole-life costs of the scheme. There are four categories under which projects can attract FDGiA. These are:

- All benefits arising as a result of the investment, less those valued under the other outcome measures (outcome measure 1)
- Households moved from one category of flood risk to a lower category (outcome measure 2)
- Households better protected against coastal erosion (outcome measure 3)

¹⁶ Swindon Borough Council is in the Thames RFCC

- Statutory environmental obligations met through flood and coastal erosion risk management (outcome measure 4)

The maximum amount of funding available for each project will be based on the value of qualifying benefits under outcome measures 1, 2 and 3, plus the number of environmental outcomes achieved under outcome measure 4, each multiplied by the relevant payment rate. The total is then divided by the whole-life costs of the project and expressed as a percentage score; the 'raw outcome measure score'. Contributions from other sources¹⁷ can be added into the partnership funding calculator¹⁸ to allow the raw score to be translated into a partnership funding score, representing the percentage of project costs that has been secured (and therefore the size of any funding gap), with all projects requiring a score of at least 100% to qualify for any FDGiA. Each year, the initial priority of projects for national funding is ranked according to their partnership funding scores, to produce an affordable national programme. The minimum score needed to qualify for FDGiA is not fixed because of annual differences in the number and cost of schemes and in the total budget available. In recent years, the amount of national funding available has been significantly lower than the amount needed to fund all the schemes scoring 100% or more. Given the current economic circumstances and the number of cost beneficial schemes in the pipeline, the threshold score is expected to remain significantly above 100% for the foreseeable future.

To secure FDGiA, therefore, projects will need to develop a strong partnership base and investigate all possible benefits to help leverage contributions from alternative sources, looking beyond any capital construction to outcomes that touch on access, health, education, environment and ways of tackling the various forms of deprivation that exist.

Detailed explanatory notes and a spreadsheet calculator tool are available to guide practitioners through the FDGiA application process. Up-to-date information, [the latest calculator spreadsheet](https://www.gov.uk/government/publications/fcrm-partnership-funding-calculator) is available at <https://www.gov.uk/government/publications/fcrm-partnership-funding-calculator>

Local levy is raised by the RFCC by way of a levy (precept) on county and metropolitan councils, unitary authorities and London Boroughs.

Funds raised using this existing RFCC local levy will count as a local contribution in terms of the FDGiA process, even though the levy is supported by funding through the Department of Communities and Local Government. Local levy funding can be used to

¹⁷ Further information on alternative funding sources for flood risk management is available in the following publications:

- Securing alternative sources of funding for flood and coastal erosion risk management (Local Government Association, February 2011)
- Partnership funding and collaborative delivery of local flood risk management: a practical resource for LLFAs (Defra, March 2012)

¹⁸ Available from the Environment Agency's website

support flood risk management projects that do not attract 100% national funding through Flood Defence Grant in Aid (FDGiA), thus enabling locally important projects to be undertaken to reduce the risk of flooding within the RFCC area. Not all locally strategic areas are viewed as regionally strategic. Aligning the outcomes of local schemes to help meet regional priorities, wherever possible, will increase the likelihood of accessing local levy. Sometimes it can take persistence and lateral thinking to make the case for regional prioritisation. Engaging proactively with the RFCC and gaining the support of the local RFCC representative will be key to success.

D.3.2. Lead Local Flood Authority (LLFA) grant for new responsibilities

In December 2010, Defra announced £21million worth of grants to provide additional funding specifically to support councils with LLFA status (in addition to existing formula grant arrangements). This funding is to perform new roles and duties under the Flood and Water Management Act and Flood Risk Regulations. Once allocated, these funds are un-ring-fenced so, in order to access them, it is important to raise awareness of flood risk and keep it near the top of the local political agenda.

D.3.3. Local authority capital and revenue funding

In addition to funding specifically available to local authorities in their flood risk management roles, these authorities have their own funding for capital projects and revenue programmes which may also be used for flood risk management purposes. This is particularly relevant where measures or schemes can be identified which create multiple benefits across a number of council duties. For example SuDS can perform a variety of functions, not only as a means of attenuating water flows and reducing the risk of flooding but can also create benefits in terms of visual amenity, flora and fauna, biodiversity and recreation. Creative use of local authority capital and revenue funding can be used to lever other sources of funding specifically allocated for flood risk management to deliver multiple benefits. An overview of the sources most likely to be applicable for flood risk management measures is provided here.

Subject to limits on overall budgets and the need for investment on other priorities, local authorities (whether an LLFA or not) may choose to invest in local flood alleviation schemes out of income generated from council tax fees. This revenue may fund the capital and operational expenditure required to realise a LFRM scheme. Precepts can be applied at the parish, town, district and/or county level to fund specific requirements, including flood risk management.

Council tax makes up on average only around 25% of a local authority's annual income. Their main income comes from central government in the form of formula grant, a blanket term for the main sources of general Government funding for English local authorities. A portion of the formula grant is allocated to flood risk. However, this is not ring-fenced and local authorities may choose to invest more or less in local flood alleviation schemes out of their total budgets based on their own local prioritisation. Local authorities have a wide

range of responsibilities and funding allocated for other purposes may also be accessible for LFRM, if it can be demonstrated that flood risk management scheme outcomes would help to serve those purposes. One particular example of this is that local authorities have been able to use their *well-being power* (Section 2 of the Local Government Act 2000) to support partnership activity, including local flood risk management, with commercial, private and third sector partners, as well as other public organisations. Flood risk management measures have significant potential to meet many of the criteria needed to justify providing funds under well-being powers, which focus on promoting the economic, social and environmental well-being of an area. Examples could be providing new (or regenerating existing) water-based leisure facilities or improving access to open spaces for residents of a deprived area, as part of a wider flood risk scheme.

Local authorities have a power to levy a local business rate supplement and to retain the proceeds for investment in that area. Proceeds must be spent on projects which contribute to the economic development of the local area so, in areas where businesses are at risk from flooding, this could offer a route to collect contributions toward flood risk management measures to reduce the risk (and hence potential costs) to the local economy.

A business improvement district is a defined area within which businesses pay an additional tax or fee in order to fund improvements within the district's boundaries. Flood risk management schemes could potentially access funding from this source if they could be demonstrated to provide specific benefits to businesses within the area.

Local authorities also have access to a range of loan and finance arrangements which they could potentially use for flood defence measures. These include: Public Works Loan Board, asset backed financing, and potentially in the future tax increment funding (not yet implemented in the UK).

D.3.4. Funding sources relating to development and regeneration

Section 106 agreements can be used to support the provision of services and infrastructure, including flood risk management measures. The agreements provide a means to ensure that a proposed development contributes to the creation of a sustainable environment, particularly by securing contributions towards the provision of infrastructure and facilities. Site viability is key to a developer's willingness to contribute to this type of agreement. The earlier any LFRM costs associated with a site are identified the better, therefore, since developers can then factor these costs into the price of the land and make better informed decisions as to the overall viability of the site.

Community Infrastructure Levy (CIL) is a new 'tariff' style charge which local authorities in England and Wales are empowered, but not required, to charge on all new houses (and other buildings and extensions to buildings of more than 100 m²), to be spent on local and sub-regional infrastructure to support the development of the area. Key to securing potential CIL receipts is early identification of the need for flood risk management

infrastructure so that it can be factored into the setting of the charge. This Strategy will help achieve that.

The New Homes Bonus matches the additional council tax raised for new homes and properties brought back into use, with an additional amount for affordable homes. It is intended to remove the disincentive to development posed by increased strain on public services and reduced amenities by providing local authorities with the means to mitigate the strain the increased population causes. This income is not ring-fenced so its allocation within a local authority will depend on local political priorities. To access this funding source, flood risk management measures would need to demonstrate that they meet a number of local priorities, as demand is likely to be extremely high.

D.3.5. Regional Growth Fund

The Regional Growth Fund (RGF) is a £2.4 billion fund operating across England from 2011 to 2015. It supports projects and programmes that lever private sector investment to create economic growth and sustainable employment. Private sector companies and public and private partnerships are eligible to bid. The minimum threshold for bids is £1 million. Although, in theory, this funding source could be suitable for local flood risk management measures, the first two rounds of RGF bidding were massively oversubscribed and the high level of demand makes it unlikely to offer a realistic source of funding for most LFRM schemes.

D.3.6. Private beneficiary funding

Defra's partnership funding approach emphasises the "beneficiary pays" philosophy for flood risk management. This typically relates to the private individuals or companies who stand to benefit the most from a proposed measure, such as a major landowner whose land or property would be better protected as a result. In addition, some organisations (or philanthropic individuals) may choose to contribute for other reasons.

Corporate bodies may be persuaded to contribute to flood risk management measures. There are a number of ways to approach corporate giving. The guiding rule though is that they do not give away as much money as the public believes; they are a successful business for a reason and all approaches need to be made with this in mind. For every penny, that they provide they need to see a clear commercial benefit be it in terms of marketing, promotion, training, or reduction in flood risk.

- Employee Volunteering: Brings in very little financial support but can provide good public relations and will boost volunteer numbers.
- Sponsorship: Generally provides low level support, averaging around a few thousand pounds. It is normally used to raise the profile of the company in the local community so needs to be high profile.
- Beneficiary Contributions: If the business case can be made, then this can be the most time- and cost-effective way of securing financial support.

D.3.7. Private sector finance (PPP/PFI)

Public private partnerships are alliances between private companies and either public bodies, local authorities or central government, set up to deliver a public project or service and typically involve the joint ownership of a special purpose vehicle established under company law to deliver a particular project. Private Finance Initiatives (PFI) represent a more formal approach to Public Private Partnerships in which the public sector contracts to purchase services on a long-term basis so as to take advantage of private sector management skills (incentivised by having private finance at risk). The private sector partner takes on responsibility for providing a public service, including maintaining, enhancing or constructing the necessary infrastructure and the public sector specifies a level of service in return for an annual payment, called a unitary charge.

These arrangements have some key disadvantages, the most notable of which is the high initial cost of establishing the various alliances. In addition, private sector investors are likely to want to see a return in the short- to medium-term. Investment cycles may also vary for each organisation and business sector involved. The timing and management of investment returns needs to be carefully considered to ensure that the benefits outweigh the costs.

The 20 year Broadland flood alleviation project, which is a £140 million contract that began in 2001, is an excellent example of where a flood alleviation scheme is being successfully delivered using a Public Private Partnership funding approach. This scheme provides a range of flood defence improvement, maintenance and emergency response services in the Norfolk Broads.

D.3.8. Non-government organisations (NGOs) and charitable trusts

Many LFRM projects are on a fairly small, localised scale and may struggle to access, or attract funding from sources outlined here. In these instances, grants or donations from sources such as non-government organisations (NGOs) or charities can provide an additional or alternative route for funding. NGOs are non-profit, voluntary citizens' groups organised on a local, national or international level. They tend to be task-oriented, driven by people with a common interest and may be organised to provide analysis and expertise around specific issues. For example, local citizens with a common interest in protecting their town against flood risk could form an NGO, and potentially establish a trust fund, to undertake necessary works (such as implementation of SuDS measures to reduce surface water flooding, or ongoing maintenance of local flood defences).

There are thousands of grant making trusts. They range from small family-run outfits who give away a few hundred pounds to professional concerns making multi-million pound grants. For every concern or section of society that one can think of, there will be a trust set up to support it. Some trusts exist to support heritage, others wildlife, many are concerned with community level interventions to address poverty, education, access and so on.

Applicants usually need to be a registered charity and there is usually a simple application form or a two-page project summary. Most trusts, but not all, favour outcome-led projects so this needs to be borne in mind when packaging up projects. Trusts are unlikely to fund a bridge, for example, but they may want to fund a programme of education that takes school children out of the classroom and onto site to learn about flooding as part of a wider project looking at increasing the child's awareness of their impact on the environment.

Trusts tend to need a tailored, personal approach. Once made, these relationships can last for years and can be very fruitful but they can be quite labour intensive to start with, requiring some effort for an uncertain reward.

Broadly speaking it takes six months from application to decision; the decision will not necessarily be a straightforward yes or no, and they may part-fund or request certain amendments.

D.3.9. Community fundraising and events

Community fundraising means raising money, via the community, through a series of volunteer run events, sponsorship, and established local groups. It usually requires a specialist community fundraiser who can set up the mechanisms needed and provide support to the community champions leading the events. It is a time-consuming way of raising small sums of money, but a great way to deliver community engagement and ownership which can in itself help a project to qualify for other sources of funding. This mechanism works to great success with emotive causes that potentially touch everyone (for example, MacMillan Cancer Support's coffee mornings, Race for Life and so on). The connection for participant and donor needs to be immediate, obvious and usually altruistic. A lighter touch approach would include setting up a schedule of talks to groups such as the Rotary or Women's Institute to promote engagement and understanding.

D.3.10. Public appeals

Closely allied with community fundraising, public appeals tend to be cost heavy. A well-targeted warm appeal can command a rate of return of around 1 in 4 where one pound is spent to raise four, more typical is the 1 in 2 rate which reflects a more mixed target audience. The best public appeals tap into an established community need or awareness and can be run via the local media and the internet. A 'friends of' scheme is often a good way to get this type of mechanism kick-started.

D.3.11. Lottery

All the major lottery funding providers (Heritage Lottery Fund, Big Lottery, Arts Council) have clear guidelines and funding streams. Each of these operates on slightly different timescales and has various specific requirements. Grants from a few hundred to several million pounds (depending on the type and scale of project) are awarded to sport, heritage and community activities and projects that make a positive contribution towards education,

health and the environment in local communities. Flood risk management projects may be eligible if they can demonstrate that they do this, for example, by improving social cohesion through volunteering to clean up local waterways. One example is Awards for All, which provides grants for projects that will help to improve the lives of individuals, boost creativity or encourage more people to get involved in local communities.

The lottery funding providers accept a range of applicants from registered charities to local authorities and informal partnerships. An online funding search is available (<http://www.lotterygoodcauses.org.uk/funding-finder>) to help applicants identify the types of lottery funding that may be suitable for a specific project.

Application timeframes vary considerably; the smaller applications can take three months from submission to award with larger ones taking up to three years. They usually require matched funding of up to 25%. The application process is quite complex and specialist funding advice may be required.

D.3.12. European Union (EU)

EU funding is a complex and specialist field. Some authorities have invested proactively in this area of fundraising and are experienced in obtaining funds through this route; for example, Cornwall and the Isles of Scilly prepared a detailed evidence base to bid for Convergence status in 2005 and thereby gained access to funding through this European economic regeneration programme.

Funding from the EU generally needs to be for projects which are innovative. Applicants need to be in a partnership that includes at least four other projects spread across the EU and they need to demonstrate the transference of learning across the areas.

Grants tend to be in the region of a few million pounds spread across all participants. The administrative burden on the main applicant can be considerable and needs to be considered when budgeting for EU fundraising.

D.3.13. Defra grants and pilots

Defra occasionally makes funding available through one-off grants and pilot projects. Risk Management Authorities should bear this in mind and be prepared to grasp appropriate opportunities if and when they arise.

D.3.14. Landfill tax

If the project site is within a certain distance of a landfill site funding can be sought from a range of landfill operators. There is a range of criteria that govern these grants but they look at supporting:

- Remediation of polluted land
- Reduction, prevention or mitigation of effects of pollution

- Provision of a public park or amenity
- Conservation of a specific species or habitat
- Repair or maintenance of a place of worship or of historical significance

Each landfill operator then applies its own criteria. Applications are by a published form to set deadlines. Depending on the size of the landfill, operator grants can range from a few thousand to 250 thousand pounds.

D.3.15. Volunteering

Well run, high quality volunteering actually costs money but, by incorporating structured volunteering opportunities, the project increases its community engagement and develops a sense of ownership in both the problem and solution. Volunteering can be used to bring in funding by counting as matched funding. By enhancing a volunteer project with structured training, funding can be obtained from back-to-work schemes and government initiatives to tackle the growing number of people not in education, employment or training (NEETS).

D.4. Proposed approach

At this stage of project development, it is suggested that best funding mix would take in a cross-section of the funding sources outlined above.

Dedicated flood risk funding should be secured first, at least in outline. This is likely to come in a large part from FDGiA and local levy, supplemented by LLFA, local authority and/or development-related sources depending on local circumstances. The amount of FDGiA a project may qualify for can be estimated in advance using Defra's partnership funding calculator, which will enable the likely size of the funding gap to be determined. One of the factors affecting FDGiA eligibility is the amount of other contributions obtained, so it helps to have some understanding of the likely availability of local contributions as early as possible and the process will be iterative.

In order to promote local priorities for FDGiA and local levy funding, it is crucial that Swindon Borough Council engages proactively with all Thames RFCC. The RFCC representative will, therefore, be kept fully informed and up-to-date with the LFRMS and related matters and will ideally attend (or at least read minutes of) flood risk management partnership meetings.

Once the funding gap left by the main dedicated flood risk funding sources has been established, the measures proposed in the LFRMS action plan will be individually assessed according to how they meet a range of funders' requirements. This will include identifying any areas that can be delivered by volunteers, investigating how these would be managed and promoted. Key trust applications will be identified, along with warm funding sources within the local business community. Project outcomes will be compared to the current round of lottery and landfill funding themes and a programme of applications

drawn up. It is not known at this stage what proportion of LFRMS measures might suit community fundraising or a public appeal and the work proposed does not at this stage meet the EU requirement for innovation.

The goal is to strike a balance between spreading the fundraising risk over a range of funders and fund types without burdening the project with hundreds of funders needing updates and reports - proportionality of investment versus return.

There are many things that will lead to the delivery of a successful fundraising plan but at this strategic stage, the three main areas are:

- Partnership working, to identify warm opportunities and to share knowledge
- Early planning to ensure that deadlines are not missed and that projects are designed with the funder's requirements in mind
- The development of a good case for support, including benefits to local businesses and communities that go beyond basic flood management

D.5. Next steps

The next stage will be to develop specific planned interventions, working with the strategic group to explore these and to see how they can best be packaged up to attract financial support.

This will then feed into the fundraising action plan which will layout which applications are recommended, when, for what and for how much.

The matrix of funding sources and benefits in Figure D-1 is designed to help with the initial identification of those funding sources most likely to be suitable based on the anticipated outcomes and outputs of a measure. The top section focuses on the primary benefit of flood risk management measures (to reduce the risk of flooding to various types of receptor). To use the matrix select the receptor(s) that will benefit from a reduction in flood risk, as a result of the measure under consideration, and read along the row to identify the funding sources with the highest potential. Next, read down the funding source column to identify other outputs and outcomes which could increase the likelihood of accessing this funding source.

The matrix is intended as an initial guide to help direct fundraising efforts. If project or area-specific knowledge suggests a funding source may have greater or lesser potential than is suggested by this matrix then such evidence should take precedence.

D.6. Examples of different partnership funding approaches

West Wittering – The existing flood defence is predicted by the Environment Agency to be at risk of regular overtopping within 25 years and requires improvements to maintain protection for residents of West Wittering. Villagers have raised a substantial financial

contribution to help make sure the scheme can be progressed. From various private donations and contributions from West Wittering Estates (a company set up by local residents to preserve the local area) and the Woodger Trust (a local charitable trust), residents have managed to raise in excess of £650,000 towards the scheme. The remainder will be funded by FDGiA. Co-ordination of efforts to raise contributions was carried out by residents through the West Wittering Flood Action Group. Further information is available from the West Wittering Parish Council website (<http://www.westwitteringparishcouncil.gov.uk/>). This is a good example of several different routes by which residents can make a strong contribution to the progression of local schemes, as it includes a charitable trust, a resident-owned private company and a community flood action group. Although the potential for private contributions may not be the same everywhere, residents can get involved through fundraising and volunteering as well. This should be encouraged as it promotes a sense of local ownership and improves social cohesion, as well as being a key factor in qualifying for some of the wider funding sources (for example, EU grants, lottery funding and some forms of local authority funding).

Bridgwater – In September 2009, Sedgemoor District Council formally adopted a supplementary planning document (SPD) that sets out a funding mechanism to deliver strategic flood defences for Bridgwater. Specifically, this sets out the mechanism to seek contributions from new development toward the capital costs of the Parrett Barrier, a tidal surge barrier that is the preferred long-term flood defence solution for the town (estimated cost £25 million). The SPD sets out interim policy enabling contributions to be sought from new development in advance of the implementation of a community infrastructure levy charging schedule, including a tariff (based on development type, flood vulnerability and flood risk) which is now being applied to all planning proposals put forward for Bridgwater. This example shows how planning authorities can play a key role in accessing contributions for flood risk management projects in areas where they are not the LLFA.

Camborne, Pool and Redruth – A strategic plan was needed to enable regeneration to take place without requiring significant infrastructure upgrades (including a major investment at the sewage treatment works). Urban regeneration company CPR Regeneration collaborated with the Homes and Communities Agency (HCA) to apply for European convergence funding. This money provided the necessary up-front investment to progress strategic drainage work, enabling land to be released for development. CPR Regeneration approached Cornwall Council as the most appropriate organisation to manage the drainage project due to its legislative powers, land drainage responsibilities, expertise in asset management of green open spaces and responsibilities under the Flood and Water Management Act. The Council has acted as ‘gatekeeper’ by ensuring that developers comply with the strategy, and the Environment Agency has played a crucial role in driving forward the project and helping Cornwall Council to manage developer compliance through its role as a statutory consultee in the planning process. Cornwall Council provided the additional funding needed to support aspects of the scheme relating to residential development. The buy-in of all these partners was made possible by the

range of benefits offered by this strategic scheme: it included biodiversity, water quality, reduced flood risk, public open space, community transport links and a utilities' corridor.

		Funders	Flood Defence Grant in Aid (FDGIA)	Local Levy funding	Revenue Funding for new LLFA	Council tax (including Levies and Precepts)	Local authority Formula Grant	New Homes Bonus	Business Rate Supplement	Business Improvement Districts	Wellbeing funding	Developer based contributions (S106)	Community Infrastructure Levy (CIL)	Public Works Loan Board (PWLB)	Tax Increment Funding	Asset backed financing	Regional Growth Fund	Private beneficiary funding	Private Sector Finance (PPP/PFI)	NGOs & charitable trusts	European Union funding	Defra one-off grants and pilot projects	Water Framework Directive (WFD) funding	Catchment restoration fund	Lottery funding (various)	Landfill Tax		
Reduced risk of flooding	Existing private homes																											
	Existing social housing																											
	Existing businesses																											
	Highways infrastructure																											
	Railway infrastructure																											
	Water / wastewater infrastructure																											
	Gas utility infrastructure																											
	Electricity utility infrastructure																											
	Public infrastructure & assets (e.g. hospitals, schools)																											
	Development land																											
	Creates, promotes or enhances	Community education																										
		Urban regeneration																										
Economic growth																												
New development																												
Water quality																												
Biodiversity																												
Public amenity																												
Cultural heritage																												
Mental health																												
Physical health																												
Community cohesion																												
Community resilience ⁽¹⁾																												

Key

- Strong potential
- Modest potential
- Low potential

Note: This matrix is intended as an initial guide to help direct fundraising efforts. If project- or area- specific knowledge suggests a funding source may have greater or lesser potential than is suggested by this matrix then such evidence should take precedence.

(1) ⁽¹⁾ Refers to 'soft' measures which improve a community's ability to respond and recover effectively; for example community flood plans, flood wardens, etc. Structural resilience measures such as individual property protection are included in reduced flood risk to existing homes

Figure D-1 Funding opportunities

E. Flood and Water Management Act 2010 Section 19 Flood investigation reporting procedure

E.1. Introduction

The Flood and Water Management Act 2010 (the Act) was established in April 2010 and defined unitary authorities and county councils as Lead Local Flood Authorities (LLFAs). Section 19 of the Act commenced in April 2011 and gives LLFAs the duty to investigate flooding when considered appropriate and publish the results.

E.2. Legislation

Flood and Water Management Act 2010 Section 19 – Local authorities: Investigations

Lead Local Flood Authorities must, under Section 19 of the Flood and Water Management Act 2010:

1) On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate –

- a) which risk management authorities have relevant flood risk management functions, and
- b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.

2) Where an authority carries out an investigation under subsection (1) it must –

- a) publish the results of its investigation, and
- b) notify any relevant risk management authorities.

Flood and Water Management Act (2010), S.19, c.29, London: HMSO

E.3. When an investigation is needed

When considering if it is necessary or appropriate to investigate a flood incident the Council will review the severity against criteria such as the number of properties affected and the frequency of such an occurrence. Currently SBC is working to the following thresholds, which have been agreed with the Lead Local Flood Authorities in the South West of England:

- five or more residential properties flooded internally;
- two or more non-residential properties flooded internally;
- one or more critical service (e.g. hospital) flooded, and/or;
- a key transport link is totally impassable for a significant period.

As no two flood incidents are the same it is not feasible to cover all possible circumstances; therefore there may be circumstances where the Council may choose to carry out an investigation where none of the above criteria is met.

E.4. Recording Flood Incidents

For the LLFA to carry out a flood investigation efficiently, it is necessary to record the flood incidents that occur across Swindon. To help gather intelligence effectively and consistently, our highways asset database is used to capture the data and information. Information is shared between RMAs to ensure a more representative picture is captured. The table below summarises the type of information collected from the report form.

Start date	
Duration	
Main source of flooding	Fluvial (Main river), Fluvial (ordinary watercourse), Surface water runoff (pluvial), Artificial drainage (highway drainage, surface water sewer, combined sewer or foul sewer, Groundwater
Main characteristics	Eg. Natural flood; Flash flood; or Debris flow Clear; Muddy; or Polluted
Extent	Internal or External, Domestic property, commercial property, other property or infrastructure, Depth and area
Historic flooding	How often does this area flood?

E.5. Publication

All flood investigation reports produced under Section 19 will be published at www.swindon.gov.uk/floodrisk.

E.6. Public reporting of incidents

Your safety should be your priority during a flood incident. If you need help in a flooding emergency please contact the emergency services through the 999 service. If SBC needs to provide assistance we will be contacted by the emergency services.

If you wish to report a flooding incident where you are not in danger, please do so by calling the StreetSmart team at Swindon Direct on 01793 445501.

If you wish to report a maintenance issue with drainage or watercourses, please do so by completing the online form at www.swindon.gov.uk/ by navigating to 'report a problem', and then to 'blocked gullies and watercourses', or by calling StreetSmart.

F. Ordinary watercourse regulations

F.1. Regulation

Regulation of ordinary watercourses consists of two elements:

- The issuing of consents for any changes to ordinary watercourses that may obstruct or alter the flow of an ordinary watercourse.
- Enforcement action to rectify unlawful and potentially damaging work to a watercourse.

You must submit your plans to the relevant authority and apply for Flood Defence Consent if you want to do work on, over, under or near a river, flood or sea defence, or make changes to any structure that helps control floods.

You must submit your plans to the **Environment Agency** and apply for Flood Defence Consent if you want to:

- do work on, over, under or near a **main river**, flood or sea defence
- make changes to any structure that helps control floods

For work on, over, under or near all other watercourses that aren't main rivers you need permission from Swindon Borough Council, and you must apply for Ordinary Watercourse Consent. Even if you have planning permission or other consents you may still require consent for works to ordinary watercourses.

Ordinary watercourses include streams, drains and ditches, and passages through which water flows that do not form the network of main rivers.

F.2. Making an application

The application process can take up to two months, so please allow sufficient time in your construction timetable.

There is a charge of £50 for each structure or operation for applications made under the Land Drainage Act 1991.

Consent is not given retrospectively and you will be required to remove any works constructed before consent is granted whether they are compliant or not.

To make an application for consent for works to an ordinary watercourse, please contact StreetSmart at 01793 445501 and state that you need to apply for a consent to works to an ordinary watercourse.

F.3. Enforcement action against unconsented works

If work is carried out without consent and the Council deems consent would have been required, we cannot provide consent retrospectively. In these cases we will normally take action to see the ordinary watercourse is put back to the condition it was in before.

If you have noticed works to an ordinary watercourse in your local area, please contact StreetSmart at 01793 445501 to determine whether the works required consent and whether an application for consent was made or not.