Appendix A - Planning Policy and Flood Risk Management

Final Report

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Prepared for:

Cotswold District Council

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Contents

A Planning Policy and Flood Risk Management

A.1 Introduction

This appendix provides a brief overview of the key planning policy and flood risk management documents that have shaped the current planning framework regarding flood risk, including the Flood Risk Regulations (FRR) 2009 and the Flood and Water Management Act (FWMA) 2010.

Figure 1 illustrates the links between legislation, national policy, statutory documents, and assessment of flood risk. The figure shows that whilst the key pieces of legislation and policy are separate, they are closely related, and their implementation should aim to provide a comprehensive and planned approach to asset record keeping and improving flood risk management within communities.

It is intended that the non-statutory Surface Water Management Plans (SWMPs) and SFRAs can provide much of the base data required to support the delivery of the LLFA's statutory flood risk management tasks as well supporting local authorities in developing capacity, effective working arrangements and informing Local Flood Risk Management Strategies (LFRMS) and Local Plans, which in turn help deliver flood risk management infrastructure and sustainable new development at a local level. This SFRA should be used to support the updating of the Local Plan and to help inform planning decisions.

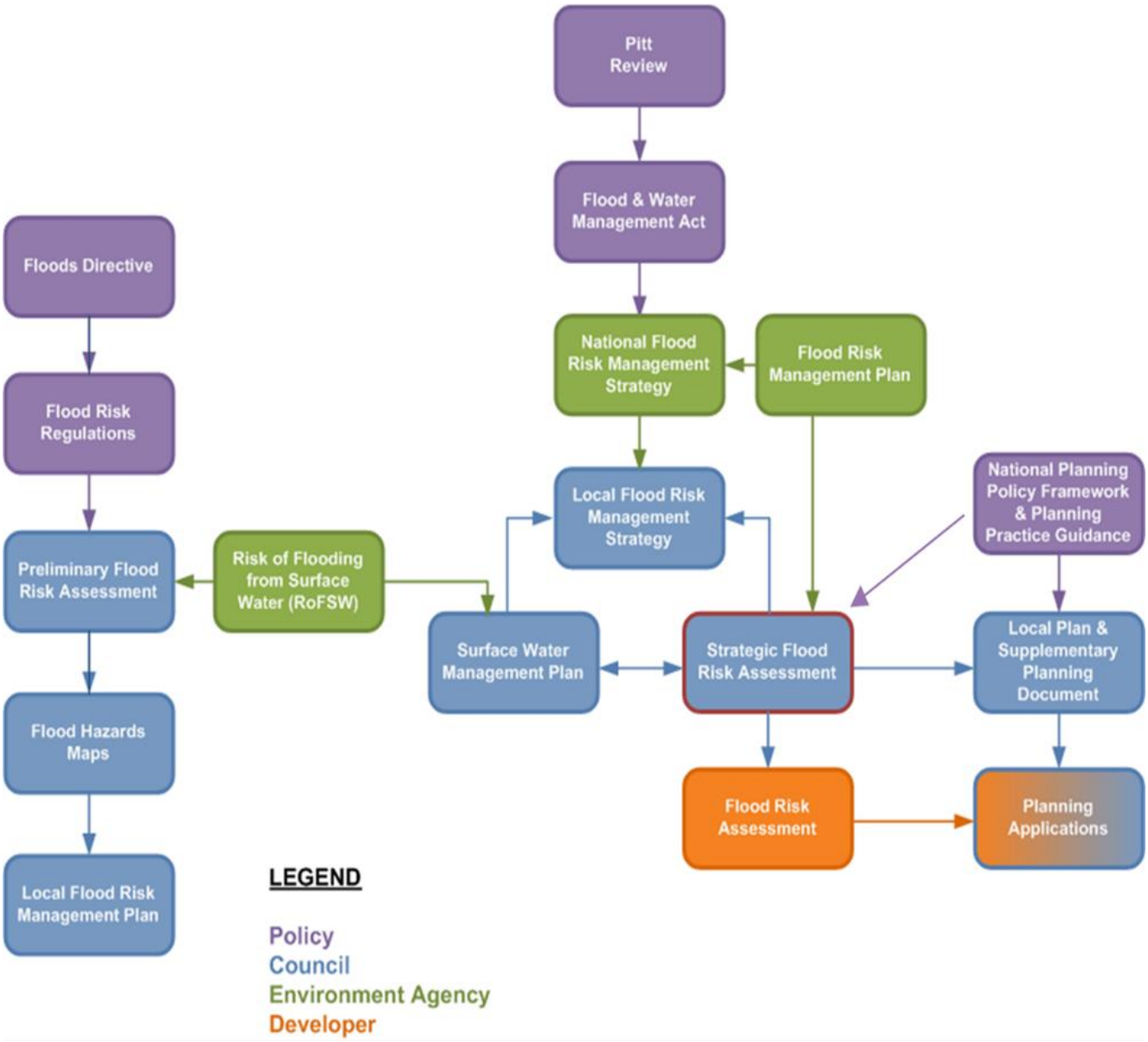


Figure 1: Key documents and strategic planning links with flood risk

A.2 Legislation

A.2.1 Flood Risk Regulations (2009)

The Flood Risk Regulations (FRR) 2009 are the interpretation of the EU Floods Directive 2007 into England's legislation. The FRR set out UK Government's approach to managing flood risk and aim to improve the management of the risks that floods pose to human health, the environment, cultural heritage and economic activity. The FRR require LLFAs and the EA to produce Preliminary Flood Risk Assessments (PFRA) over a repeating 6-year cycle with the aim of identifying significant Flood Risk Areas; preparing flood hazard and risk maps; and subsequent Flood Risk Management

Plans (FRMPs). The second six-year cycle was completed in December 2021 and the third six-year cycle is currently underway at the time of writing. More information can be found on the EA website[1].

At the time of this review (October 2023) it is understood that the UK Government intends to scrap the Flood Risk Regulations 2009 as part of a review into retained EU legislation. It is proposed to scrap this by 31 December 2023, as the Flood Risk Regulations duplicate existing domestic legislation, namely the Flood and Water Management Act 2010.

PFRAs should cover the entire LLFA area for local flood risk accounting for ordinary watercourses, surface water and groundwater flooding. Where the PFRA identifies significant Flood Risk Areas using the national approach (and locally reviewed), the LLFA is then required to undertake flood risk hazard mapping and to produce a FRMP for the significant Flood Risk Area as illustrated in Figure 2.

Figure 2: Flood Risk Regulations

The EA is responsible for producing FRMPs for significant Flood Risk Areas that cover main rivers, the sea and reservoirs. However, the preferred approach is for the EA and LLFAs to work together to produce one FRMP for all sources of flood risk for a river basin district (RBD). This arrangement is agreed between the EA and the LLFAs involved before work starts. FRMPs also meet the aims of the National Flood and Coastal Erosion Strategy for England.

The EA has implemented one of the exceptions for creating PFRAs, etc. for Main Rivers and coastal flooding, as they already have mapping, i.e. Flood Map for Planning (Rivers and Sea), Risk of Flooding from Rivers and Sea Map, flood modelling, and plans i.e. CFMPs, SMPs in place to deal with this. The EA has therefore focused its efforts on assisting LLFAs through this process.

A.2.2 Gloucestershire Preliminary Flood Risk Assessments (PFRAs) 2011 and 2017[2]

The second cycle PFRAs published in 2017 reviewed the 2011 PFRAs and were published as addendums. The 2017 updates used all relevant current flood risk data and information to assess whether any flood events had changed the understanding of significant flood risk in each constituent authority since 2011.

1 Planning stages to manage flood risk, 2022
2 Gloucestershire Preliminary Flood Risk Assessment, 2017

The PFRA methodology, based on the EA's Final PFRA Guidance and DEFRA's Guidance on selecting Flood Risk Areas, did not identify any additional Flood Risk Areas within Gloucestershire. There has been no change to the assessment of risk in the Cotswold District since the first cycle 2011 PFRA and the understanding of past flood risk has not changed. Future flood risk is revised due to the creation of the Annual Implementation Plan in 2014, which is a process for prioritising areas requiring flood alleviation.

A.2.3 Flood Risk Management Plans

FRMPs are designed to help deliver the ambitions of the national Flood and Coastal Erosion Risk Management Strategy for England and Government's 25-year Environment Plan focussing on the more significant areas of flooding from all sources and describing the risk of flooding now and in the future.

The FRMPs will help to:

- Identify actions to reduce flood risk
- Improve resilience of communities to flooding
- Allow communities to adapt to the impacts of climate change

The EA has developed Flood Plan Explorer which presents the objectives and measures for each FRMP for each RBD across England.

FRMPs and River Basin Management Plans (RBMP), last updated December 2022, have been developed by the EA in tandem to ensure that flood defence schemes can provide wider environmental benefits during the same six-year cycle. Both flood risk management and river basin planning form an important part of a collaborative and integrated approach to catchment planning for water. RBMPs are a requirement of The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (see Section A.2.9).

EA guidance on how to prepare FRMPs is available online via: Flood risk management plans (FRMPs): how to prepare them

Cotswold District Council is located mostly within the Thames RBD, with the south west of the district being within the Severn RBD.

Thames River Basin District Flood Risk Management Plan, 2023[3]

CDC is located largely within the Thames RBD which covers an area of approximately 16,000 km^2 and 14.8 million people live in the area, which are largely concentrated to Greater London and surrounding major towns and cities. The Thames RBD extends from its source in the rural limestone hills of the Cotswolds to the Thames estuary; with London at the heart of the RBD. The land use to the west and north of the Thames

3 Thames river basin district flood risk management plan | Environment Agency | April 2023

RBD is mainly arable, with some urban areas. The east is heavily urbanised. Watercourses range from highly modified artificial and straightened channels throughout the urban centres, to natural earth channels with extensive areas of rich flood plain habitat. The river basin district is predominantly urban, with more agricultural land located towards the west.

The Thames RBD comprises 17 river catchments; there are over 227,000 people at high risk of surface water flooding (more than a 1 in 30-year chance of being flooding in any year) and over 107,000 people at high risk of flooding from rivers and sea (more than a 1 in 30-year chance of being flooded in any one year) within the Thames RBD.

Severn River Basin District Flood Risk Management Plan, 2023[4]

CDC is partially located within the Severn RBD which covers an area of 21,500 km^2 and has a population of over 5.75 million people. The population is concentrated to the urban centres within the district, including Bristol, Cardiff and Coventry. The Severn RBD extends from its source in the uplands of Wales; to the mouth of the Bristol Channel to the south and the Midlands towards the east. The land use of the Severn RBD varies from the uplands of Wales, down through valleys and rolling hills of central England, to the lowlands and the Severn Estuary. Watercourses throughout the uplands of Wales are characterised by steep valleys with many reservoirs to regulate flooding; whereas towards the mouth of the Severn, channels are characterised by broader, flatter floodplains. The river basin district is rural, with land managed for agriculture and forestry.

The Severn RBD comprises 10 river catchments; there are about 32,600 people at high risk of flooding from rivers and sea (more than a 1 in 30-year chance of being flooded in any one year) and about 120,000 people are at medium to high risk of surface water flooding within the Severn RBD.

A.2.4 Flood & Water Management Act (2010)

The Flood and Water Management Act (FWMA) was established in April 2010. It aims to improve both flood risk management and the way we manage our water resources.

The FWMA has created clearer roles and responsibilities and helped to define a more risk-based approach to dealing with flooding. This included the creation of a lead role for local authorities as LLFAs, designed to manage local flood risk (from surface water, groundwater and ordinary watercourses) and to provide a strategic overview role of all flood risk for the EA.

The content and implications of the FWMA provide considerable opportunities for improved and integrated land use planning and flood risk management by LAs and other key partners. The integration and synergy of strategies and plans at national,

4 Severn river basin district flood risk management plan | Environment Agency | April 2023

regional and local scales, is increasingly important to protect vulnerable communities and deliver sustainable regeneration and growth.

The FWMA gives RMAs specific powers and duties for local flood risk management. A duty is something the RMA is legally obliged to do; a permissive power can be used at the RMA's discretion. All RMAs have a duty under Section 13 of the FWMA to cooperate with one another when exercising functions relating to flood and coastal erosion risk management.

Table 1 provides an overview of the key LLFA duties and powers under the FWMA.

Table 1 Key LLFA responsibilities under the FWMA

FWMA duty / power	Description of duties and powers	LLFA status
Duty to produce a local strategy for flood risk management	The LLFA must develop, maintain, apply and monitor a local strategy for flood risk management in its area. The local strategy will build on information such as national risk assessments and will use consistent risk-based approaches across different LA areas and catchments. The local strategy should not be secondary to the national strategy; rather it will have distinct objectives to manage local flood risks important to local communities.	Gloucestershire's Local Flood Risk Management Strategy approved in 2014 (see **Section 0**).
Duty to comply with the National Strategy	The LLFA has a duty to comply with national flood and coastal risk management strategy principles and objectives in respects of its flood risk management functions.	Ongoing
Duty to contribute to sustainable development	The LLFA has a duty to contribute towards the achievement of sustainable development.	Ongoing

FWMA duty / power	Description of duties and powers	LLFA status
Investigating flood incidents	The LLFA, on becoming aware of a flood in its area, has (to the extent it considers necessary and appropriate) to investigate and record details of "locally significant" flood events within its area. This duty includes identifying the relevant RMAs and their functions and how they intend to exercise those functions in response to a flood. The responding RMA must publish the results of its investigation and notify any other relevant RMAs.	Ongoing
Asset Register	The LLFA has a duty to maintain a register of structures or features, which it considers to have a significant effect on flood risk, including details on ownership and condition as a minimum. The register must be available for inspection and the Secretary of State will be able to make regulations about the content of the register and records.	Ongoing
Duty to co-operate and Powers to Request Information	The LLFA must co-operate with other relevant authorities in the exercise of their flood and coastal erosion management functions. The LLFA has powers to request information as necessary (e.g., from United Utilities) under the FWMA.	Ongoing
Ordinary Watercourse Consents	The LLFA has a duty to deal with enquiries and determine watercourse consents where the altering, removing or replacing of certain flood risk management structures or features that affect flow on ordinary watercourses is required. It also has provisions or powers relating to the enforcement of unconsented works and non-maintenance by	Ongoing

FWMA duty / power	Description of duties and powers	LLFA status
	riparian owners.	
Works Powers	The FWMA provides the LLFA with powers to undertake works to manage flood risk from surface runoff, groundwater and ordinary watercourses, consistent with the LFRMS for the area.	Ongoing
Designation Powers	The FWMA provides the LLFA with powers to designate structures and features that affect flooding or coastal erosion. The powers are intended to overcome the risk of a person damaging or removing a structure or feature that is on private land and which is relied on for flood or coastal erosion risk management. Once a feature is designated, the owner must seek consent to alter, remove, or replace it.	Ongoing
Emergency Planning	The LLFA is required to play a lead role in emergency planning and recovery after a flood event.	Gloucestershire Resilience Forum (see Section 5.9 of the main report)
Community Involvement	The LLFA should engage local communities in local flood risk management issues. This could include the training of community volunteers, the development of local flood action groups and the preparation of community flood plans, and general awareness raising around roles and responsibilities.	Various ongoing (See Section 5 of the main report)

FWMA duty / power	Description of duties and powers	LLFA status
SuDS	SuDS are a planning requirement for major planning applications of 10 or more residential units or equivalent commercial development schemes with sustainable drainage. The LLFA is a statutory planning consultee and it will be between the LPA and the LLFA to determine the acceptability of these proposed sustainable drainage schemes. Approvals must be given before the developer can commence construction, and sometime before the occupation of dwellings. Planning authorities should use planning conditions or obligations to make sure that arrangements are in place for ongoing maintenance of the SuDS over the lifetime of the development.	National Planning Policy and Defra's non-statutory technical standards should be followed.

A.2.5 National and Local Flood Risk Management Strategies

The FWMA establishes how flood risk will be managed within the framework of National Strategies for England and Local Strategies for each LLFA area. The EA has a statutory duty to develop, maintain, apply, and monitor a strategy for England. The EA adopted the National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England on 25 September 2020 and updated it in June 2022, at the time of writing.

The National Strategy sets out principles for how flood risk should be managed and provides strategic information about different types of flood risk and which organisations are responsible for their effective management. The Strategy sets out the long-term delivery objectives the nation should take over the next 10 to 30 years as well as shorter term, practical measures RMAs should take working with partners and communities.

Gloucestershire Local Flood Risk Management Strategy[5]

Gloucestershire County Council's (GCC) Local Flood Risk Management Strategy (LFRMS) was approved in Summer 2014 and sets out Gloucestershire's strategy for

5 Gloucestershire Local Flood Risk Management Strategy | Summer 2014

managing local flood risk over a 10-year period. The aim of the Local Strategy is to 'work in partnership with local communities, and organisations responsible for managing flood risk, in order to better understand and reduce local flood risk in Gloucestershire where it is economically, technically, socially, and environmentally feasible to do so'.

The LFRMS provides an overall picture of flood risk across Gloucestershire and outlines how the LLFA will coordinate and manage flood risk along with other RMAs. The strategy sets out the policy direction for flood defence consenting, thresholds for formal flood investigations, formal partnership and management arrangements, details regarding the asset register, and a great deal of general advice and guidance relating to flood mitigation and resilience.

GCC have developed the following six strategic objectives to manage and understand flood risk across the county:

- Objective 1 - improve our understanding of flood risk;
- Objective 2 - put in place plans to manage these risks;
- Objective 3 - avoid inappropriate development and ensure new development does not increase flooding elsewhere;
- Objective 4 - increase public awareness of flooding and encourage local communities to take action;
- Objective 5 - ensure close partnership working and co-ordination with other risk management authorities in Gloucestershire; and
- Objective 6 - support response to, and recovery from, flooding incidents.

A.2.6 Thames Regional Flood and Coastal Committee

CDC is a member of the Thames Regional Flood and Coastal Committee (RFCC). The RFCC, established by the EA, brings together relevant members appointed by the LLFAs to:

- Ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risks across catchments and shorelines,
- Encourage efficient, targeted and risk-based investment in flood and coastal erosion risk management that represents value for money and benefits local communities,
- Provide a link between the EA, LLFA, other RMAs, and other relevant bodies to build understanding of flood and coastal erosion risks in its area.

A.2.7 Schedule 3 of the FWMA

Schedule 3 to the Flood and Water Management Act gained Royal Assent in 2020. The schedule, which incorporates recommendations from the 2008 Pitt review, provides a framework for the approval and adoption of drainage systems, an approving body

(SAB), and national standards on the design, construction, operation, and maintenance of Sustainable Drainage Systems (SuDS). It also made the right to connect surface water runoff to public sewers conditional upon the drainage system being approved prior to the commencement of construction work.

In England, Schedule 3 was not commenced due to the changes in planning policy associated with the increased use of SuDS, which was implemented by Government in April 2015. Current planning policy requires SuDS to be included in all new major developments (more than 10 homes) unless in the case of exceptional circumstances. In these instances, clear evidence is required to support the application. This is in addition to the requirement for SuDS to be given priority in new developments in flood risk areas.

An independent review into the implementation of Schedule 3 was commissioned by Government and published in January 2023[6]. The review was asked to identify the benefits and impacts of making SuDS mandatory for new development to ensure that its implementation would help in addressing the pressures of climate change, increasing population and urbanisation whilst achieving multiple benefits, such as reducing surface and sewer flood risk, improving water quality, and harvesting rainwater to meet current and future needs.

The review concluded that the delivery of SuDS should not be made entirely through the planning process and recommended that Schedule 3 be implemented subject to final decisions on scope, threshold, and process. The government has accepted the recommendations. The consultation is scheduled to be completed in 2023 with the implementation of Schedule 3 expected in 2024 at the time of writing.

A.2.8 Water Framework Directive

The purpose of the Water Framework Directive (WFD), which was transposed into English Law by the Water Environment Regulations (2003), is to deliver improvements in the management of water quality and water resources through RBMPs, which were first published in 2015 and updated in 2021. CDC lies within the Thames and Severn RBD's.

6 The review for implementation of Schedule 3 to The Flood and Water Management Act 2010

A.2.9 River Basin Management Plans

CDC is mostly covered by the Thames River Basin Management Plan, managed by the EA. The latest version of the RBMP was published in December 2022[7]. CDC is also partially covered by the Severn River Basin Management Plan8.

Water quality and flood risk can go hand in hand in that flood risk management activities can help to deliver habitat restoration techniques. The Thames RBMP includes such examples whereby land management techniques have been designed to reduce flood risk whilst also reducing sediment loss and improving water quality. The EA is responsible for monitoring and reporting on the objectives of the WFD on behalf of Government. They work with Government, Ofwat, local government, non-governmental organisations (NGOs) and a wide range of other stakeholders including local businesses, water companies, industry and farmers to manage water.

The RBMPs, like the FRMPs, are important documents relevant to the development of the SFRA. This regional SFRA should take into account the wider catchment flood cell aims and objectives and understand how it can potentially contribute to the deliverance of them.

The main responsibilities for the constituent authority LLFAs is to work with the EA to develop links between river basin management planning and the development of local authority plans, policies and assessments.

The general programme of actions (measures) within the Thames and Severn RBMPs, which are relevant to CDC include working with relevant RMAs, wider communities and stakeholders:

- To work in partnership to develop a catchment-scale approach which will complement local place based flood risk schemes in non-tidal River Thames catchment,
- To work in partnership including with Thames Flood Advisors to support all lead local flood authorities to apply for Government funding in Thames River Basin District.

The full list of measures can be accessed via Defra's Flood Plan Explorer[9].

7 Thames River Basin District Flood Risk Management Plan 2021 to 2027, December 2022

8 Severn River Basin District Flood Risk Management Plan 2021 to 2027, December 2022

9 Flood Plan Explorer: Thames River Basin District

A.3 Planning Policy

A.3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published in March 2012 and received a significant revision in July 2018. The latest update took place in July 2021 at the time of writing. The NPPF sets out Government's planning policies for England and describes how these are expected to be applied. The Framework is based on core principles of sustainability and forms the national policy framework in England. It must be considered in the preparation of local plans and is a material consideration in planning decisions. The NPPF is accompanied by several Planning Practice Guidance (PPG) notes.

A.3.2 Flood Risk and Coastal Change Planning Practice Guidance[10]

The Flood Risk and Coastal Change Planning Practice Guidance (FRCC-PPG) was first published in March 2014 and last updated in August 2022 to reflect the most recent updates to the NPPF.

Whilst the NPPF concentrates on high level national policy, the FRCC-PPG is more detailed. The practice guidance advises on how planning can take account of the risks associated with flooding and coastal change in plan making and the development management process. This is in respect of local plans, SFRAs, the sequential and exception tests, permitted development, site-specific flood risk, Neighbourhood Planning, flood resilience and the vulnerability of different developments to help reduce the risk of flooding. The main SFRA report contains more information on the sequential approach to delivering sustainable development and details on the sequential and exception tests.

A.3.3 Local Plans

A Local Plan is a statutory document prepared in consultation with the local community. It is designed to promote and deliver sustainable development. Local Plans must set out a clear vision, be kept up to date and set out a framework for future development of the local area, addressing needs and opportunities in relation to housing, the economy, community facilities and infrastructure as well as safeguarding the environment and adapting to climate change and securing good design.

Local Plans set the context for guiding decisions and development proposals and along with the NPPF, set out a strategic framework for the long-term use of land and

10 Flood Risk and Coastal Change Planning Practice Guidance | Department for Levelling Up, Housing and Communities and Ministry of Housing Communities & Local Government | August 2022

buildings, thus providing a framework for local decision making and the reconciliation of competing development and conservation interests.

The NPPF requires that the evidence base for the Local Plan must clearly set out what is intended over the lifetime of the plan, where and when this will occur and how it will be delivered. The NPPF states that Local Plans should be supported by a SFRA and should take account of advice provided by the EA and other flood risk management bodies. Each constituent authority has its own Local Plan and accompanying SFRA. The Local Plan SFRAs are used to ensure that when allocating land or determining planning applications, development is located in areas at lowest risk of flooding. Policies to manage, mitigate and design appropriately for flood risk should be written into the Local Plans, informed by both the SFRA and the Sustainability Appraisal.

Government guidance on plan making can be found online[11].

A.3.4 Sustainability Appraisals

The Sustainability Appraisal (SA) is a key component of the Local Plan evidence base, ensuring that sustainability issues are addressed during the preparation of local plans. The SA is a technical document which must meet the requirements of the Strategic Environmental Assessment Directive 2001/42/EC which assesses and reports on a plan's potential impact on the environment, economy, and society. The SA carries out an assessment of the draft policies at various stages throughout the preparation of the Local Plan, and does this by testing the potential impacts, and consideration of alternatives are tested against the plan's objectives and policies. This ensures that the potential impacts from the plan on the aim of achieving sustainable development are considered, in terms of the impacts, and that adequate mitigation and monitoring mechanisms are implemented.

In 2020, a Sustainability Appraisal[12] (SA) was undertaken to accompany the partial review of the recently adopted Local Plan. The SA considers and communicates the likely significant effects of an emerging plan, and the reasonable alternatives considered during the plan making process, assessed against key sustainability issues. It also suggests measures to minimise any negative effects of the plan. The partial review of the Local Plan sought to address the Climate Change Emergency, the rapidly transforming nature of the "traditional" high street and the need to maintain a five-year housing supply.

11 Guidance on plan-making, Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, October 2021

12 Cotswold District Local Plan Sustainability Appraisal, January 2017

A.4 Flood Risk Management Policy and Strategies

A.4.1 Catchment Flood Management Plans (2009)

The CFMPs were carried out by the EA in 2009 and were designed to establish flood risk management policies which will deliver sustainable flood risk management for the long term. The CFMPs were used by the EA to help direct resources to where there were areas of greatest risk and helped the EA and its partners to plan and agree the most effective way to manage flood risk in the future.

The FRMPs (Section A.2.3) were designed to replace the CFMPs following the implementation of the Flood Risk Regulations in 2009. However, the CFMPs are still considered a useful reference tool in flood risk management. The CFMPs contain useful information about how the catchments work, previous flooding and the sensitivity of the river systems to increased rainfall. The EA draws on the evidence and previous measures and proposals set out in the CFMPs to help develop the FRMPs for river basin districts.

CFMPs consider all types of inland flooding, from rivers, groundwater, surface water and tidal flooding. CFMPs also include:

- the likely impacts of climate change,
- the effects of how we use and manage the land, and
- how areas could be developed to meet our present day needs without compromising the ability of future generations to meet their own needs.

The CFMPs identify flood risk management policies to assist all key decision makers in the catchment. CFMPs are grouped by river basin district and are split down into further sub-areas. The Cotswold district is covered by the Thames, Bristol Avon and Severn Tidal Tributaries CFMPs.

Thames Catchment Flood Management Plan

The Thames catchment extends over almost 13,000 km^2 covering the majority of the Cotswold District, with a total population of approximately 13 million people. The upper sections of the catchment, including the Cotswold District, is characterised by rural landscapes and flat, wide floodplains. Flood risk within the Thames catchment is generally concentrated towards the more urban areas in major towns and cities; there are between 500 and 1,000 properties at risk from a 1% annual probability river flood in the Cotswold District.

Bristol Avon Catchment Flood Management Plan

The area of the Bristol Avon catchment is approximately 2,220km^2 and covers an area in the south-west of the Cotswold District. The total population of the catchment is around 1 million people, although this is mostly concentrated to the urban area of Bristol. There are less than 25 properties predicted to be at risk from a 1% annual

probability river flood in the section of the Cotswold District that lies within the Bristol Avon catchment.

Severn Tidal Tributaries Catchment Flood Management Plan

The Severn Tidal Tributaries catchment covers around 1,000 km^2 and extends over a small area along the western boundary of the Cotswold District. The population of the catchment is estimated to be around 313,000 people, which are mostly concentrated to the city of Gloucester. There is a relatively low level of fluvial risk to the Cotswold District from the Severn Tidal Tributaries catchment, with less than 10 properties currently at risk of flooding from a 1% annual probability flood event.

A.4.2 National Flood Resilience Review (2016)[13]

The National Flood Resilience Review was established by the Department for Environment Food & Rural Affairs (Defra) in September 2016, following Storm Desmond in 2015, to review how flood risk is assessed, how the likelihood of flooding can be reduced and to try and make the country as resilient as possible to flooding. The review aligns closely with Defra's work on integrated catchment-level management of the water cycle in the Government's 25-year Environment Plan.

A.4.3 25 Year Environment Plan (2018)

This Plan sets out Government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats. It calls for an approach to agriculture, forestry, land use and fishing that puts the environment first. The Plan also sets out how Government will tackle the effects of climate change, considered to perhaps be the most serious long-term risk to the environment given higher land and sea temperatures, rising sea levels, extreme weather patterns and ocean acidification. The Plan aims to show that Government will work with nature to protect communities from flooding, slowing rivers and creating and sustaining more wetlands to reduce flood risk and offer valuable habitats.

Focusing on flood risk, Government has updated the national flood and coastal erosion risk management strategy for England (see Section 0) which looks to strengthen joint delivery across organisations. The Plan states that the EA will use its role in statutory planning consultations to seek to make sure that new developments are flood resilient and do not increase flood risk.

For flood mitigation, Government will focus on using more natural flood management solutions; increasing the uptake of SuDS, especially in new development; and

13 National Flood Resilience Review, September 2016

improving the resilience of properties at risk of flooding and the time it takes them to recover should flooding occur.

A.4.4 Surface Water Management Plans

In June 2007, widespread flooding was experienced in the UK. The Government review of the 2007 flooding, chaired by Sir Michael Pitt, recommended that:

"…Local Surface Water Management Plans (SWMPs) …coordinated by local authorities, should provide the basis for managing all local flood risk."

The Government's SWMP Technical Guidance document[14], 2011, defines a SWMP as:

- *A framework through which key local partners with responsibility for surface water and drainage in their area, work together to understand the causes of surface water flooding and agree the most cost-effective way of managing surface water flood risk.*
- *A tool to facilitate sustainable surface water management decisions that are evidence based, risk based, future proofed and inclusive of stakeholder views and preferences.*
- *A plan for the management of urban water quality through the removal of surface water from combined systems and the promotion of SuDS.*

As a demonstration of its commitment to SWMPs as a structured way forward in managing local flood risk, Defra announced an initiative to provide funding for the highest flood risk authorities to produce SWMPs.

Defra's framework for carrying out a SWMP is illustrated by the SWMP wheel diagram, as shown in Figure 3. The first three phases involve undertaking the SWMP study, whilst the fourth phase involves producing and implementing an action plan which is devised based on the evidence gained from the first three phases.

14 Surface Water Management Plan Technical Guidance

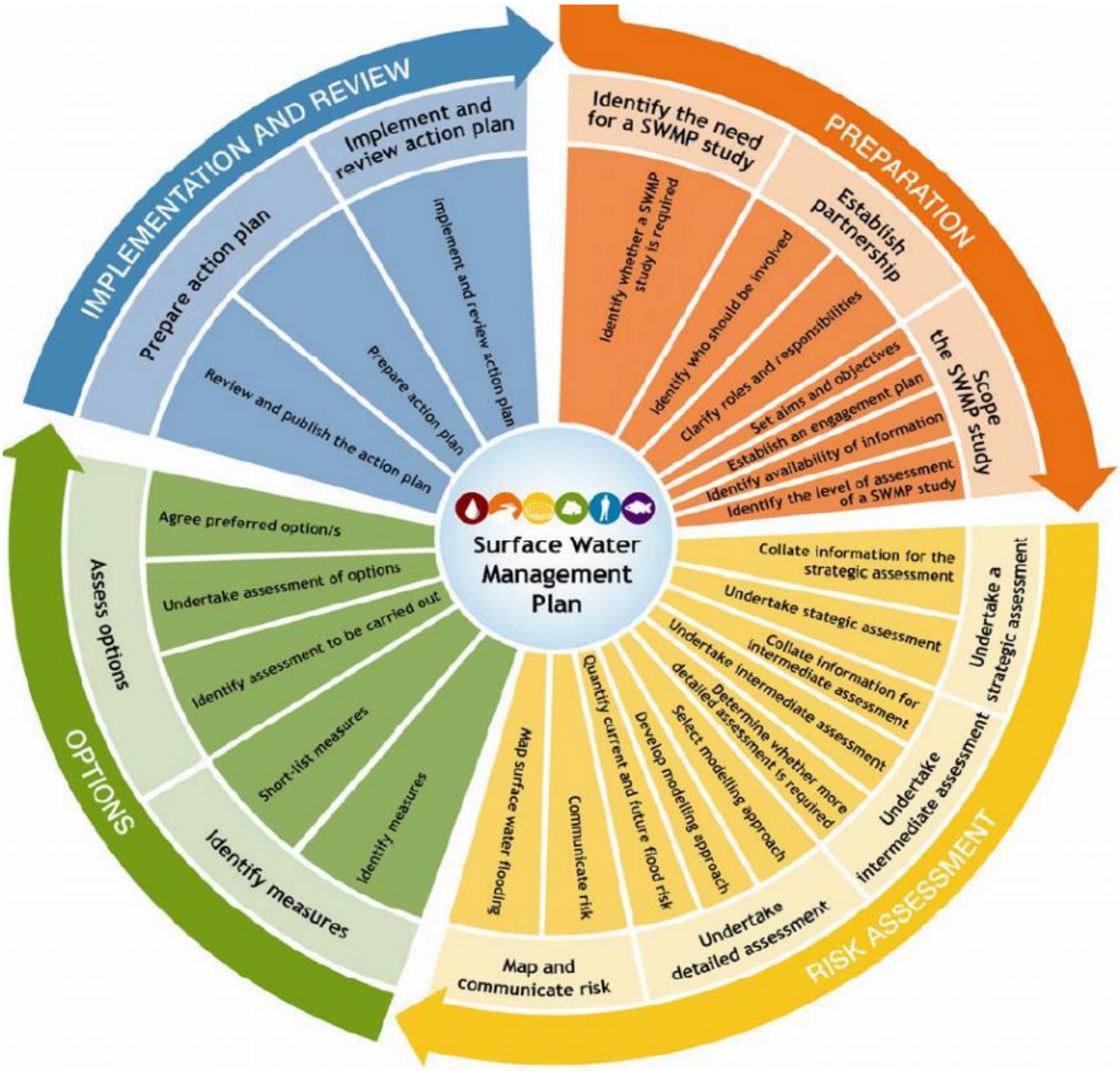


Figure 3: Defra wheel (taken from SWMP Technical Guidance)

There are currently no SWMP's that impact the Cotswold District.

A.4.5 Water Cycle Studies

The purpose of a Water Cycle Study (WCS) is to investigate whether the local water environment has the capacity to support planned levels of growth and provide a comprehensive and robust evidence to support Local Plan production.

To achieve this, the WCS investigates the capability of the water and sewerage suppliers to provide the services to enable housing and economic growth and identify key risks to the timing of housing delivery and impacts on customers and the local

environment. A WCS is certainly useful in the Local Plan Examination, where there is large growth and urban expansion planned within a local authority area.

Cotswold District Council Water Cycle Study[15]

The current 2015 WCS concluded that there were no issues that indicate that the planned scale, location, and timing of planned development is unachievable from the perspective of supplying water and wastewater services. The WCS identified where infrastructure upgrades are expected to be required to accommodate planned growth. Timely planning and provision of infrastructure upgrades will depend upon regular engagement between CDC, water companies, the EA and developers. As discussed, the WCS will be updated to account for the latest planned development.

A.4.6 Green Infrastructure and Open Space assessments

Open space, or Green Infrastructure (GI), should be designed and managed as a multifunctional resource capable of delivering a wide range of environmental and quality of life benefits for local communities and should be provided as an integral part of all new development, alongside other infrastructure such as utilities and transport networks. Open greenspace can be used to mitigate flood risk.

Local Plans should account for increased flood risk, resulting from climate change, through the planning of GI. GI can have an important role to play in reducing the likelihood of flooding by providing space for flood storage, reducing runoff and increasing infiltration, whilst also providing social and economic benefits.

Alongside GI should be the implementation of SuDS (see Section 5.7 of the main report). The suitability of GI and SuDS can be informed by this SFRA through utilisation of open space for water in the areas of greatest flood risk, which would be key to helping deliver sustainable development.

Examples include:

- Restoration of natural character of floodplains;
- Reduction of downstream flood risk;
- Preserving of areas of existing natural floodplain; and
- Introduction of new areas and enhancing existing areas of greenspace whilst incorporating sustainable drainage within new development.

The Town and Country Planning Association together with the Wildlife Trusts produced a guidance document for Green Infrastructure[16]. The guidance states that local plans should identify funding sources for GI and provision should be made for GI to be

15 Cotswold District Council WCS, August 2015

16 Planning for a Healthy Environment - Good Practice Guidance for Green Infrastructure and Biodiversity, Published by the Town and Country Planning Association and The Wildlife Trusts, July 2012

adequately funded as part of a development's core infrastructure. For new developments, GI assets can be secured from a landowner's 'land value uplift' and as part of development agreements. LPAs may include capital for the purchase, design, planning and maintenance of GI within the Community Infrastructure Levy (CIL) programme.

Cotswold District Council Draft Green Infrastructure Strategy[17]

A Green Infrastructure Strategy was produced in March 2021 to cover the Cotswold District. The strategy identifies four strategic GI issues for CDC:

- Wellbeing and Access
- Water
- Wildlife
- Planning

Actions to incorporate GI into development have been considered at both the District and settlement scale, focusing on larger principal settlements where development is most likely to come forward. District level potential infrastructure include the creation of country parks, ensuring SuDS are included in new development and the implementation of biodiversity strategies. Settlement level infrastructure highlighted in the strategy includes the development of new open spaces/parks, small scale habitat improvements, the improvement of public footpaths around the District and flood alleviation schemes.

The Green Infrastructure strategy highlights two main policies of the Cotswold District Local Plan applicable to GI; EN2 and INF7:

- EN2 – Design of the Built and Natural Environment
- INF7 – Green Infrastructure

The implementation of the policies within the Local Plan will help to ensure that local GI requirements are met and that high quality developments are delivered.

A.4.7 Flood risk and catchment partnerships

The Catchment Based Approach (CaBA) embeds collaborative working at a river catchment scale to deliver cross cutting improvements to our water environments. The CaBA partnerships drive cost-effective practical delivery on the ground, resulting in multiple benefits including reduced flood risk and resilience to climate change.

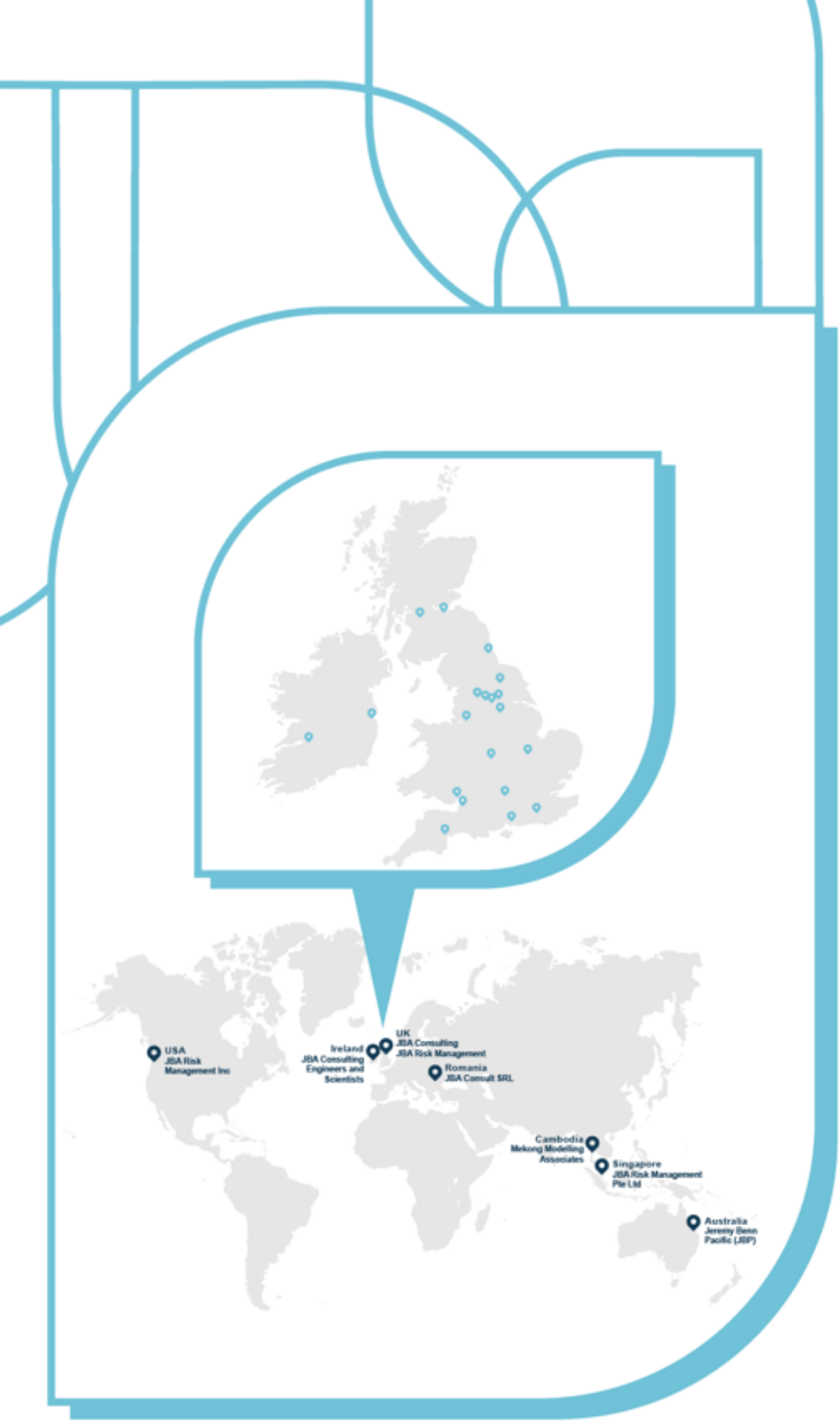
Catchment partnerships are groups of organisations with an interest in improving the environment in the local area and to developing an integrated approach to managing risk within whole catchments. Catchment partnerships are led by catchment host organisations. The partnerships work on a wide range of issues, including the water

17 Cotswold District Council Draft Green Infrastructure Strategy, March 2021

environment but also address other concerns that are not directly related to river basin management planning.

Catchment partnerships relevant to the Liverpool City Region include:

- Cotswold Rivers Trust
- Wiltshire Wildlife Trust
- Cotswold Water Park Trust
- Cotswold Canals Trust
- Ernest Cook Trust
- Gloucestershire Wildlife Trust
- Thames Water
- Farming & Wildlife Advisory Group South West



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