

Medway Council Local Flood Risk Management Strategy

Final report

July 2014

Document overview

Capita Symonds with URS Infrastructure and Environment UK Ltd was commissioned by Medway Council in the preparation of their Local Flood Risk Management Strategy as required under the Flood and Water Management Act 2010.

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Forward

Medway Council was recently made Lead Local Flood Authority with a responsibility to oversee local flood risk. Local flood risk is associated with flooding caused by surface runoff, groundwater and small ditches and streams.

Flooding has a devastating impact on people and communities. Surface water flooding in particular was one of the major causes of widespread flooding experienced across England in 2007 and the events resulted in one of the widest ranging policy reviews of flood risk management.

We know that some of our areas are at risk to local flooding and do suffer from flooding from time to time. The likelihood of similar events to those witnessed across England in 2007 happening is set to increase because of more extreme weather. This also means that some areas are at risk of flooding which may have never flooded previously are now considered to be at risk.

The Governments response to the review resulted in legislation that required all County and Unitary Authorities to take on a role as a 'Lead Local Flood Authority'. Part of that role is to produce a strategy to ensure local flood risk is managed in a more coordinated way, enabling organisations to work better with each other and the public.

Assessing the risk from flooding can be a difficult task. The main focus of this strategy, to set a framework around what needs to be done to manage the flood risk in Medway and reduce the consequences of flooding, where we can, in areas which do suffer flooding and where there is a known risk of flooding.

We're keen to hear your views and would gratefully receive any further information you may have on flood risk in your area.



Councillor Phil Filmer
Portfolio Holder, Front Line Services.



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Executive Summary

Medway Council as a Lead Local Flood Authority is responsible for local flood risk management (defined as flood risk associated with surface water, ground water and ditches/streams). This Local Flood Risk Management Strategy ('the strategy') is a statutory document required by County and Unitary authorities under the Flood and Water Management Act 2010 (FWMA 2010).

The content under the following headings summarises the detail from each of the sections listed within the main report.

Section 1: Introduction

This section outlines why a strategy is required, and summarises the aim and objectives of the strategy.

Section 2: Overview of flooding in Medway

This section provides an overview of the risks associated with surface water, groundwater and watercourses within Medway. Detailed information regarding the surface water (pluvial) modelling and the high level assessment of groundwater modelling are presented in Technical Appendices 1 and 2 respectively.

Section 3: Managing flood risk in Medway

Authorities, organisations and individuals with responsibility for, and interest in, the management of local flood risk are identified in this section. It includes specific reference to the Risk Management Authorities (RMA's) defined in the FWMA 2010 and provides clarity on their roles and responsibilities.

Section 4: Local flood risk management objectives

This section summarises the development of local flood risk management objectives. The objectives, listed overleaf, have been developed to be consistent with the Environment Agency's National Flood and Coastal Erosion Risk Management Strategy.

- Work with stakeholders to develop a collective understanding of local flood risk to enable successful local flood risk management.
- Monitor flood risk.
- Ensure local policy is consistent with wider flood risk management policies and legislation. Promote the use of Sustainable Drainage Systems SuDS in accordance with the forthcoming role as SuDS Advisory Body.
- Take account of the cumulative effect of development and climate change on the risk of flooding throughout Medway.

- Ensure that all development has a positive or nil effect on the risk of flooding to and arising from proposed development.
- Use flood risk information to implement a risk based approach to capital investment decisions and maintenance programmes and activities.
- Consider how future infrastructure improvements (e.g. highways/rail/public realm works) and/or changes could be used to deliver local flood risk benefits.
- Share flood risk information in Medway with all Risk Management Authorities and the public.
- Increase public awareness with respect to flood risk and responsibility for flood risk management.
- Use information on flood risk as a tool for flood prediction and warning.

Section 5: Measures for managing flood risk

This section defines specific measures to achieve the objectives listed above. Due to the lack of good quality datasets, the strategy has focused on non-structural measures to increase understanding of local flood risks in Medway. This information will then be used to inform structural options / measures and to prioritise flood risk management in the future.

Section 6: Funding options

This section identifies available forms of funding. An overview of the following funding sources is provided including Area Based Grants, public funding from Flood Defence Grant in Aid (FDGiA), funding through Section 106 agreements, local levy, local fundraising and other sources.

Section 7: Wider environmental objectives

This section presents the assessment undertaken to consider how the strategy contributes to the achievement of wider environmental objectives in Medway. This has included a review of the environmental objectives contained within policy documents specific to the area. It also appraises the need for a Strategic Environmental Assessment (SEA) under the European Directive 2001/42/EC and associated Environmental Assessment of Plans and Programmes Regulations 2004.

Section 8: Review and update

This section considers the requirement to review and update the strategy, and summarises the democratic committees whom will be involved with that process.

1. Introduction

1.1 Why has a strategy been produced?

- 1.1.1 In 2008, Sir Michael Pitt published a report entitled 'Learning Lessons from the 2007 Floods'¹. This report outlined the need for changes in the way the UK is adapting to the increased risk of flooding.
- 1.1.2 The Flood and Water Management Act² (FWMA) 2010, is an important part of the Government's response to Sir Michael Pitt's report. Through the FWMA, local authorities have a duty to take the lead in the management of local flood risk. Medway Council, as a designated Lead Local Flood Authority (LLFA), must 'develop, maintain and apply a Local Flood Risk Management Strategy which will clarify who is responsible for local flood risk management and enable effective partnerships to be formed between relevant Risk Management Authorities (RMAs).
- 1.1.3 It is not possible to prevent all flooding; however, over time, Medway Council will use the strategy to increase the level of understanding of local flood risk posed to the community and take the lead in effectively implementing measures to manage the risk where appropriate.

1.2 Aim

- 1.2.1 The aim of this strategy is to outline the approach Medway Council, as LLFA will take to manage local flood risk (which is defined as the risk of flooding from surface water runoff, groundwater and ordinary watercourses³). The strategy will be used to influence future capital investment, maintenance, public engagement and understanding, land-use planning, emergency planning and future developments across Medway.

¹ Cabinet Office (2008) Pitt Review – Learning Lessons from the 2007 Floods

² HMSO and the Queen's Printer of Acts of Parliament (2010) Flood and Water Management Act

³ Strategies for the management of flood risk from main rivers and tidal flooding are managed by the Environment Agency (EA) communicated in their National Strategy, Catchment Flood Management Plans (CFMP) and Shoreline Management Plans (SMP).

1.3 Objectives

1.3.1 The objectives of the strategy are informed by Part 1, Article 2, Section 9 Sub-section 1 of the Flood Water Management Act which states that a strategy must specify:

- a) The Risk Management Authorities in the authority's area.
- b) The flood and coastal erosion risk management functions that may be exercised by those authorities in relation to the area.
- c) The objectives for managing local flood risk.
- d) The measures proposed to achieve those objectives.
- e) How and when the measures will be implemented.
- f) The costs and benefits of those measures, and how they are to be paid for.
- g) The assessment of local flood risk for the purpose of the strategy.
- h) How and when the strategy will be reviewed.
- i) How the strategy contributes to the achievement of wider environmental objectives.

1.3.2 The FWMA must also be considered in the context of the EU Floods Directive 2007/60/EC, which was transposed into UK law by the Flood Risk Regulations 2009. The regulations required Lead Local Flood Authorities to undertake a Preliminary Flood Risk Assessment (PRFA).

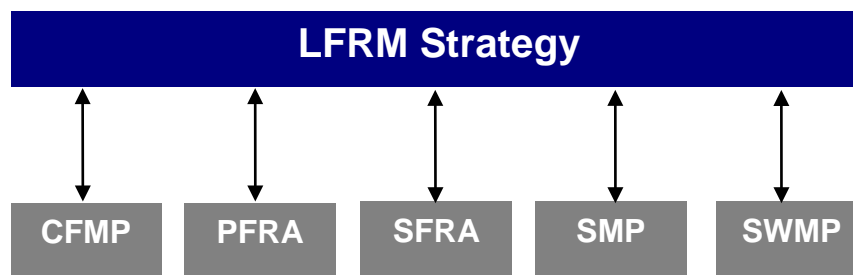
1.3.3 PRFA's are the first of four stages in a six-year planning cycle to manage flood risk and provide an assessment of floods that have taken place in the past, and floods that could take place in the future. It also considers flooding from surface water runoff, groundwater and ordinary watercourses and used to identify areas that are at risk of significant flooding (known as Flood Risk Areas). Medway Council completed a PFRA⁴ report in 2011 which indicated that one of ten national Flood Risk Areas is located within Medway.

1.3.4 Lead Local Flood Authorities are required to produce Flood Risk Management Plans for Flood Risk Areas identified in the PFRA process by June 2015. This strategy will inform the Flood Risk Management Plan.

⁴ Medway Council (2011) Preliminary Flood Risk Assessment Report

1.4 Existing assessments, plans and strategies

- 1.4.1 The increased focus on flood risk over recent years is an important element of adaptation to climate change. It is important that this strategy is not viewed as an isolated document, but one which links into a number of regional and local flood risk assessments, plans and strategies which are discussed in more detail below.



North Kent Rivers Catchment Flood Management Plan (CFMP) (December 2009)

- 1.4.2 The North Kent Rivers CFMP was published by the Environment Agency in 2009 and sets out policies for the sustainable management of flood risk over the long term (50 to 100 years) taking climate change into account. More detailed flood risk management strategies for individual rivers or sections of river sit under specific sub areas and policy units.
- 1.4.3 The CFMP emphasises the role of the floodplain as an important asset for the management of flood risk, the opportunities provided by new development and regeneration to manage risk, and the need to re-create river corridors so that rivers can flow and flood more naturally.
- 1.4.4 The CFMP will be periodically reviewed, approximately five years from when it was published, to ensure that it continues to reflect any changes in the catchment.

Medway Council Preliminary Flood Risk Assessment (PFRA) (September 2011)

- 1.4.5 In accordance with the requirements of the FRR 2009, Medway Council prepared a Preliminary Flood Risk Assessment (PFRA) in 2011. The PFRA contains information regarding past and future (potential) floods from local sources of flooding, which principally includes surface water, groundwater and ordinary watercourses. Historic flood records held by the Council as well as those included within the PFRA report have been used to verify the results of the surface water modelling carried out to support this strategy.

Medway Council Strategic Flood Risk Assessment (SFRA) (August 2006)

1.4.6 A Strategic Flood Risk Assessment⁵ (SFRA) for Medway was prepared in August 2006 by Mott Macdonald consultants. The SFRA included hydraulic modelling of tidal flood defence overtopping throughout the study area. Detailed mapping was provided presenting the flood depth and hazard ratings associated with different tidal flooding scenarios.

1.4.7 The SFRA provides a detailed assessment of the risk associated with tidal flooding, however there is little consideration of local sources of flooding which are of importance to this strategy.

Medway Council Strategic Flood Risk Assessment Addendum (February 2011)

1.4.8 The original SFRA was completed prior to the issue of Planning Policy Statement 25 (PPS25; CLG December 2006) and as a result some of the policy implications required revision.

1.4.9 In addition, following the completion of the original SFRA, Mott Macdonald undertook a revised 2D tidal modelling exercise of the Lower Medway on behalf of the Environment Agency. This study was completed in 2007 and included the updated extreme water level information including climate change increases as set out in PPS25.

1.4.10 An addendum⁶ to the original SFRA was prepared by Scott Wilson in 2011 to take account of updated hydraulic modelling information and the publication of PPS25.

Medway Flood Defence Strategy: High Level Appraisal of Potential Solutions (February 2011)

1.4.11 This study was commissioned to determine the standard of protection and condition of the existing flood defence infrastructure in Medway to inform development and investment decisions. This included an economic analysis to estimate the likely damage costs attributed to flood events on a flood cell basis. Potential flood defence options were appraised in order to raise the standard of defence throughout Medway.

Medway Estuary and Swale Shoreline Management Plan (SMP) (August 2010)

1.4.12 The SMP was published in 2010 by the Environment Agency. It provides a large-scale assessment of the risks associated with coastal evolution and presents a policy framework to address the risks in a sustainable manner with respect to people and to the developed, historic and natural environment.

⁵ Mott Macdonald (August 2006) Medway Council Strategic Flood Risk Assessment

⁶ Scott Wilson (2011) Addendum to the Medway Council Strategic Flood Risk Assessment

Medway Council Surface Water Management Plan (SWMP) – forthcoming.

- 1.4.13 A SWMP is a plan, which outlines the preferred surface water management strategy in a given location. Medway Council will develop their SWMP in conjunction with other Risk Management Authorities who are responsible for surface water management and drainage in their area. Partners will work together to understand the causes and effects of surface water flooding and agree the most cost effective way of managing surface water flood risk for the long term. A key output to the SWMP will be an action plan which will influence future capital investment, drainage maintenance, public engagement and understanding, land use planning, emergency planning and future developments.

2. Overview of local flood risk in Medway

2.1 Overview

2.1.1 This section provides an overview of local flood risk across Medway based upon previously completed studies and new flood risk information generated specifically to inform the strategy.

2.2 Historical records

2.2.1 Over the last few years, Medway Council has maintained records of flooding events. These are typically based on reports of flooding made by members of the public or identified by the responsive maintenance wardens in the Highways department. To date, the type of information captured typically includes the following fields:

- Date
- Address
- Incident type (burst water main, highway flooding, sewer flooding)
- Damage caused / clean up time
- Other relevant information from the informant

2.2.2 The FWMA places a duty on LLFAs to investigate and record significant flood events. As a result, it will be necessary for Medway Council to establish a formal method of flood incident recording within the council and make arrangements for the records to be captured and reviewed to enable identification of significant flood events. This is addressed further in Section 2.7.

2.2.3 In addition to records held by Medway Council, Southern Water also hold records of sewer flooding. These have been supplied to Medway Council based on postcode areas (the first 5 characters of a postcode) rather than individual property location and therefore the spatial resolution is quite coarse.

2.2.4 Both these historic flooding datasets have been mapped in Figure 3.1.

2.3 Surface water flooding

- 2.3.1 Detailed surface water modelling was undertaken to inform this strategy to provide a greater understanding of the risk of surface water flooding in Medway.
- 2.3.2 Rainfall profiles were estimated using the industry standard ReFH (Revitalised Flood Hydrograph) approach for the following annual probability rainfall events:
- 3.3% AEP (1 in 30 year).
 - 1% AEP (1 in 100 year) plus climate change (+30%).
 - 0.5% AEP (1 in 200 year).
- 2.3.3 The full methodology and outputs for the surface water (pluvial) modelling are presented in Technical Appendix 1: Pluvial Modelling Methodology. Maximum flood depth mapping from the modelling is presented in Figures 3.1 to 3.3.
- 2.3.4 The 0.5% Annual Exceedance Probability (AEP) event illustrated in Figure 3.3 represents a worst case scenario to enable the council to ensure preparedness should such an event occur and to better understand the extent of those risks across the administrative area.
- 2.3.5 The Preliminary Flood Risk Assessment undertaken in 2011 estimated that 41,000 properties (of which approximately 35,700 are residential properties) would be at risk of surface water flooding. The surface water modelling undertaken estimated that 24,300 properties are at risk (of which 14,200 are residential), representing a significant reduction due to the model refinements. Both of these estimates are based on the 0.5 % AEP worst-case scenario.
- 2.3.6 Prior to approving the outputs of the hydraulic modelling, the results were verified against historic records of flooding. These provided a good correlation and a useful comparison from which to measure surface water flood risk in Medway. The historic records indicate that on average there have been three counts of internal flooding affecting separate properties per year in Medway.
- 2.3.7 It is recognised that there is uncertainty associated with the derivation of the estimates. To improve our understanding of surface water flood risks (and other sources of flooding), a Surface Water Management Plan (SWMP) will be undertaken in those areas in order to establish more accurate estimates. This is included as one of the objectives to deliver the strategy.
- 2.3.8 Areas for inclusion within the SWMP will include those identified as high risk by the modelling and areas where there are records of historic flooding. This includes but is not necessarily limited to the urban centres of Chatham, Rochester and Strood, as well as rural areas such as Stoke where there is a known problem associated with surface water flooding.

Figure 3.1 Pluvial Flooding Maximum Flood Depth 3.3% AEP (extract from Technical Appendix 1)

(This figure has been provided as a separate file:

Medway Council LocalFloodRiskManagementStrategy_Fig3.1_DepthMap_0030yr_001.pdf)

Figure 3.2 Pluvial Flooding Maximum Flood Depth 1% AEP including climate change (extract from Technical Appendix 1)

(This figure has been provided as a separate file:

MedwayCouncil-LocalFloodRiskManagementStrategy_Fig3.2_DepthMap_0100yrCC_001.pdf)

Figure 3.3 Pluvial Flooding Maximum Flood Depth 0.5% AEP (extract from Technical Appendix 1)

(This figure has been provided as a separate file:

MedwayCouncil-LocalFloodRiskManagementStrategy_Fig3.3_DepthMap_0200yr_001.pdf)

Figure 3.4 Areas susceptible to groundwater flooding (extract from Technical Appendix 2)

(This figure has been provided as a separate file:

MedwayCouncil-LocalFloodRiskManagementStrategy_Fig3.4_GroundwaterFlooding_001.pdf)

2.4 Groundwater flooding

- 2.4.1 Groundwater flooding occurs as a result of water rising up from an underlying aquifer. This tends to occur after much longer periods of sustained rainfall, and the areas at most risk are often low-lying where the water table is likely to be at shallow depth.
- 2.4.2 It is also important to consider the impact of groundwater level conditions on other types of flooding e.g. fluvial, surface water and sewer. High groundwater level conditions may not lead to widespread groundwater flooding. However, they have the potential to exacerbate the risk of surface water and fluvial (river) flooding by reducing rainfall infiltration capacity, and to increase the risk of sewer flooding through sewer / groundwater interactions.
- 2.4.3 The need to improve the management of groundwater flood risk in the UK was identified through Defra's Making Space for Water strategy⁷. In order to develop local understanding of the nature of flood risk across the study area an assessment of the susceptibility of the area to groundwater flooding was undertaken⁸. This was a desk study based assessment using widely available sources of information as outlined in Technical Appendix 2 Groundwater Assessment.
- 2.4.4 This process, in tandem with a review of British Geological Survey mapping on groundwater flooding susceptibility enabled identification of those areas within Medway susceptible to groundwater flooding.
- 2.4.5 The conclusion of the assessment is the identification of the southern half of Medway's administrative area as having a degree of susceptibility to groundwater flooding due to the presence of the Chalk and Thanet Sands formations. This is illustrated in Figure 3.4. The assessment also concludes that areas of Hoo St Werburgh and Allhallows may also be at risk.

2.5 Ordinary watercourse flooding

- 2.5.1 Rivers are divided into two categories known as 'main rivers' and 'ordinary watercourses'. The Environment Agency has permissive powers to manage flood risk from main rivers, which are defined as rivers that can cause significant disruption if they flood and need special management to reduce the risks of flooding.
- 2.5.2 Ordinary watercourse flood risk is associated with localised flooding from small open channels, ditches, streams, brooks and culverted watercourses. In the southern half of Medway, there are few known ordinary watercourses; it is likely that some previously open channel watercourses have been entirely culverted (i.e piped) and are now incorporated into the

⁷ Defra (February 2005) Making Space for Water

⁸ Capita Symonds / URS (August 2012) Medway Council Technical Appendix 2 Assessment of Susceptibility to Groundwater Flooding.

Southern Water sewer network as storm relief sewers. However, in the northern portion of the borough, there are extensive networks of small channels and ditches that cover the low-lying areas and drain to the tidal estuary.

2.5.3 The capacity and condition of ordinary watercourses is essential to the operation of the local drainage system and culverted watercourses are especially vulnerable to future flood risk. The responsibility for maintenance of ordinary watercourses rests with Medway Internal Drainage Board (where they operate) and riparian owners who own land where a watercourse flows through or adjacent to.

2.5.4 Changes to ordinary watercourse consenting have been made by the FWMA. In particular paragraph 32 (principally) of Schedule 2 of the FWMA amends section 23 of the Land Drainage Act 1991⁹ to transfer some powers from the Environment Agency. Local Authorities will now lead on ordinary watercourse consenting and enforcement unless it is in an Internal Drainage District where Internal Drainage Boards (IDBs) will retain their existing powers.

2.6 Climate Change

2.6.1 The latest UK climate projections (UKCP09) suggest a shift towards generally wetter winters and increase in intense summer rainfall events. The UK has a long-term framework for building the UK's ability to adapt to a changing climate as outlined in the Climate Change Act 2008.

2.6.2 New development and the increasing density of our settlements could increase flooding, as there may be fewer areas available to absorb rainfall and store flood water. These factors are particularly important for local flooding. Planning policies already require new development to manage runoff sustainably. However, this does not mitigate all the effects of new development on runoff and they do not necessarily apply to permitted developments, which can increase the density of existing urban areas and increase the burden on local drainage infrastructure.

2.6.3 In order to provide a robust evidence base, an allowance for climate change over the next 100 years has been added to rainfall boundaries included in the surface water modelling. This is based on the guidance contained within National Planning Policy Guidance (an increase of 30%). These projections need to be taken into account when designing surface water infrastructure on new developments and flood infrastructure.

⁹ HMSO and the Queen's Printer of Acts of Parliament (1991) Land Drainage Act

2.7 Flood incident reporting

- 2.7.1 The FWMA places a duty on LLFAs to investigate flood incidents from surface water, groundwater and ordinary watercourses, where it considers it 'necessary and appropriate'. The purpose of the investigation is to determine which Risk Management Authorities have relevant flood risk management functions and whether those Risk Management Authorities have exercised those functions in response to a flood. Having carried out an investigation Medway Council must publish the results and notify the relevant Risk Management Authorities.
- 2.7.2 A flood incident does not always necessitate a thorough investigation of the flood and its mechanisms, however, there may be instances where a more detailed investigation is undertaken in order to better deliver the objectives of this strategy, for instance to improve the understanding of flood risk.
- 2.7.3 Medway Council will establish a formal method of flood incident recording and make arrangements for the records to be captured and reviewed to enable identification of significant flood events.

3. Managing flood risk in Medway

3.1 Risk Management Authorities (RMAs)

3.1.1 In accordance with the Flood and Water Management Act, a RMA may include the Environment Agency, LLFA, District Council for an area for which there is no Unitary Authority, an internal drainage board, a water company and a highway authority. The following RMAs have therefore been identified across Medway Council's administrative area:

- Medway Council (LLFA).
- Environment Agency.
- Medway Council as the Highways Authority.
- Lower Medway Internal Drainage Board (IDB).
- Southern Water.

3.1.2 Though not formally designated as RMAs by the FWMA, the following groups or organisations have roles and functions in flood risk management and have therefore been identified within the strategy:

- Regional Flood and Coastal Committee (RFCC).
- SE7 Regional Consortium.
- 11 Parish Councils.
- Network Rail.
- Kent Resilience Forum.
- Kent Fire and Rescue Service.
- Land owners and land managers.
- South East Water.
- Rochester Bridge Trust.
- The public.

3.2 Roles and responsibilities

3.2.1 Information included in Appendix 3 sets out some of the key duties, powers, roles and responsibilities of each of the RMAs. It should be noted that these tables are not exhaustive, and the source documents and legislation should always be referred back to for further information and clarification.

3.3 Information and skill sharing

- 3.3.1 It is essential that RMAs work together to achieve the functions set out in recent legislation. Effective sharing of information between RMAs can go a long way towards this aim. Section 14 of the FWMA gives Medway Council, as the LLFA, the power to request information in connection with its flood risk management functions. It also states that information requested must be provided in the manner and within the period specified in the request.
- 3.3.2 'Information' can cover any data, documents or facts recorded in any form and includes paper files, notes, reports, databases, spreadsheets, drawings and plans, photographs and videos, electronic documents, emails, etc. There is a vast amount of data, in these different forms, held by a number of different RMAs; the challenge will be identifying what information exists and where it is held. This process was initiated during the preparation of the Preliminary Flood Risk Assessment when data was collected from different RMAs. This data has provided the overall evidence base of flood risk information which will inform future flood risk management work.

3.4 Role of the public and businesses

- 3.4.1 Members of the public have an important role to play in the context of local flood risk management. In many cases, the council and other Risk Management Authorities will be reliant on information from local residents and business owners in order to be able identify the mechanisms and impacts of flood events. It is important that this information is directed to the council and acted upon where appropriate to fulfil the requirements of the Flood Water Management Act and thereby continue to assist in the management of local flood risk.
- 3.4.2 As well as informing the council of areas experiencing flooding, the public also have a role to play in finding out whether they are at risk, and if so, implementing flood risk management measures where they are responsible for protecting their properties. These may include good housekeeping measures such as the careful management of surface water from their gardens and hard standing surfaces, the maintenance of open watercourses and ditches associated with their properties or the installation of flood protection measures during flood warnings. The Environment Agency's website (<https://www.gov.uk/government/organisations/environment-agency>) provides a comprehensive resource on preparing for flooding.
- 3.4.3 In order for local residents to fulfil their responsibilities of reporting flood incidents to the council and undertaking management measures for their own properties and local areas, local groups of residents or property owners may consider establishing local partnerships or flood working groups to tackle flood risk issues together.

3.5 Role of developers

3.5.1 Developers have a vital role to play in delivering the outcomes of the strategy, particularly with regards to the provision of sustainable drainage infrastructure within new developments. Developers should take note of the information contained within the strategy and work collaboratively with other Risk Management Authorities in Medway to assist the delivery of local flood risk management for the benefit of all who live or work in Medway.

3.6 Role of the Local Planning Authority

3.6.1 The National Planning Policy Framework¹⁰ (NPPF) set out the Government's planning policies for England and how these will be applied. Section 10 of the NPPF sets out the approach for meeting the challenge of climate change, flooding and coastal change and highlights the role that Local Planning Authorities have to ensure that inappropriate development in areas at risk of flooding is avoided by directing development away from areas at highest risk.

3.6.2 Planning Policy Guidance (PPG) accompanies NPPF. Flood Risk and Coastal Change PPG advises on how planning can specifically take account of the risks associated with flooding and coastal change in plan making and the application process.

3.6.3 Paragraph 100 of NPPF states that Local Planning Authorities should work with LLLA's to secure Local Plan Policies compatible with the Local Flood Risk Management Strategy in consultation with the Environment Agency, Lead Local Flood Authority, emergency responders and internal drainage boards where appropriate.

¹⁰ CLG (March 2012) National Planning Policy Framework

4. Local flood risk management objectives

4.1 National flood and coastal erosion risk management strategy

- 4.1.1 The FWMA states that the Environment Agency must ‘develop, maintain, apply and monitor a strategy for flood and coastal erosion risk management in England’ as part of its strategic overview role for flood and coastal erosion risk management. In response to this, the Environment Agency has developed the National Strategy jointly with Defra to ensure that it reflects government policy.
- 4.1.2 The National Strategy¹¹ was published in 2011 and sets out strategic aims and objectives for managing flood and coastal erosion risks and the measures proposed to achieve them. As required by the FWMA, Medway Council has sought to ensure that this strategy is consistent with the approach and guiding principles that have been set out in the National Strategy.

4.2 Flood risk management objectives

- 4.2.1 A review of the objectives set out in the overarching National Strategy for flood and coastal erosion risk management for the whole of England (Defra, Environment Agency 2011) has been undertaken. In addition to the national objectives, the National Strategy also sets out six high-level principles by which it suggests that decisions relating to flood risk management and the processes by which they are taken should be guided. These guiding principles are as follows:
- Community focus and partnership working
 - A catchment and coastal “cell” based approach
 - Sustainability
 - Proportionate, risk-based approaches
 - Multiple benefits
 - Beneficiaries should be encouraged to invest in risk management
- 4.2.2 The objectives for the strategy have been developed in line with the five strategic objectives and the six guiding principles set out in the National Strategy. This is illustrated alongside the objectives in Table 5.1.

¹¹ Environment Agency, Defra (2011) Understanding the risks, empowering communities, building resilience. The national flood and coastal erosion risk management strategy for England.

Table 4.1 Flood risk management objectives

		Adherence of objectives to the National Strategy Guiding Principles					
		GP1	GP2	GP3	GP4	GP5	GP6
		1	2	3	4	5	6
National Strategy Objective 1: Understand the risks							
<i>Understanding the risks of flooding and coastal erosion, working together to put in place long-term plans to manage these risks and making sure that other plans take account of them.</i>							
1a	Medway Council will work with stakeholders to develop a collective understanding of local flood risk.	■					
1b	Medway Council will monitor flood risk.		■				
National Strategy Objective 2: Prevent inappropriate development							
<i>Avoiding inappropriate development in areas of flood and coastal erosion risk and being careful to manage land elsewhere to avoid increasing risks.</i>							
2a	Medway Council will ensure local policy is consistent with wider flood risk management policies and legislation and provide clear advice on how to achieve those policies within Medway.			■			
2b	Medway Council will promote the use of SuDS.			■		■	
2c	Medway Council will take account of the cumulative effect of developments and climate change on the risk of flooding throughout Medway.			■			

Adherence of objectives to the National Strategy Guiding Principles

		GP1 Community focus and partnership working	GP2 A catchment and coastal "cell" based approach	GP3 Sustainability	GP4 Proportionate, risk-based approaches	GP5 Multiple benefits	GP6 Beneficiaries should be encouraged to invest in risk management
		1	2	3	4	5	6
2d	Medway Council will seek to ensure that development has a positive or nil effect on the risk of flooding to and arising from proposed development.						
National Strategy Objective 3: Manage the likelihood of flooding							
<i>Building, maintaining and improving flood and coastal erosion management infrastructure and systems to reduce the likelihood of harm to people and damage to the economy, environment and society.</i>							
3a	Medway Council will consider how future infrastructure improvements (e.g. highways, rail, public realm works) and/or changes could be used to deliver local flood risk reduction/benefits.						
3b	Medway Council will use flood risk information to implement a risk-based approach to capital investment decisions and maintenance programmes and activities.						

Adherence of objectives to the National Strategy Guiding Principles

		GP1 Community focus and partnership working	GP2 A catchment and coastal "cell" based approach	GP3 Sustainability	GP4 Proportionate, risk-based approaches	GP5 Multiple benefits	GP6 Beneficiaries should be encouraged to invest in risk management
		1	2	3	4	5	6
National Strategy Objective 4: Help people manage their own risk							
<i>Increasing public awareness of the risk that remains and engaging with people at risk to encourage them to take action to manage the risks that they face and to make their property more resilient.</i>							
4a	Medway Council will share information with respect to flood risk across Medway with all Risk Management Authorities and the public.						
4b	Medway Council will increase public awareness (property owners, developers) with respect to flood risk and responsibility for flood risk management.						
National Strategy Objective 5: Improve flood prediction, warning and post-flood recovery							
<i>Improving the detection, forecasting and issue of warnings of flooding, planning for and co-ordinating a rapid response to flood emergencies and promoting faster recovery from flooding.</i>							
5a	Medway Council will use information on flood risk as a tool for flood prediction and warning.						

5. Measures for managing flood risk

5.1 Flood risk management measures

5.1.1 Medway Council are not yet in a position to confidently identify significant flood risk/Critical Drainage Areas within the administrative area due to the quality of their flood record datasets. As a result, it is considered that identification of structural measures for flood risk areas would be inappropriate at this stage. An assessment of structural measures will be included at a later date in the proposed Surface Water Management Plan. The strategy instead focuses on non-structural measures that can be implemented, which can help to build upon the understanding of flood risk in the area.

5.1.2 Table 6.1 provides an overview of the flood risk management measures that have been identified by Medway Council and includes an indication of the timeframe by which the measures are will be carried out and/or reviewed. These have been defined as:

- Short (1-2 years).
- Medium (2-5 years), i.e. within the lifetime of the strategy, and
- Long term (>5 years, to be carried forward for review in the next iteration of the strategy.

Table 5.1 Flood risk management measures

National objectives	Local objectives	Measures	Responsibility authority	Supporting authorities	Funding	Timeframe for implementation
1. Understand the risks.	A. Work with stakeholders to develop a collective understanding of local flood risk.	<ul style="list-style-type: none"> Establish an internal flood group. Establish an external flood group. Provide internal training to teams and individuals who can contribute towards flood risk management. Undertake a Surface Water Management Plan. 	MC	EA, IDB, Southern Water	Defra	Short term (<2 years)
	B. Monitor flood risk.	<ul style="list-style-type: none"> Improved flood incident record collection to establish a record of flood incidents. Establish a record of structures and features. 				
2. Prevent inappropriate development.	A. Ensure local planning policy is consistent with wider flood risk management policies and legislation and provide clear advice on how to achieve those policies within Medway.	<ul style="list-style-type: none"> Undertake a review of current council planning policies relevant to local flood risk management to ensure consistency with national policy and legislation. 	MC	EA, IDB, Southern Water	Defra	Short term (<2 years)
	B. Promote the use of Sustainable Drainage Systems (SuDs).	<ul style="list-style-type: none"> Establish a SuDS Approval Body within the council in accordance with the Flood and Water Management Act 2010. Develop local guidance and standards for the adoption of SuDS within the Medway area. Identify opportunities to retrofit SuDS into existing developments. 	Defra, MC	Defra, EA	Defra	Short to medium term (<2 years up to < 5 years)
	C. Take account of the cumulative effects of developments and climate change on the risk of flooding throughout Medway.	<ul style="list-style-type: none"> Work with other Risk Management Authorities via the planning process to achieve common goals to reduce flood risk. 	MC	EA	Defra	Short term (<2 years)
3. Manage the likelihood of flooding.	A. Ensure development has a positive or nil effect on risk of local flooding to and arising from new development.	<ul style="list-style-type: none"> Development of processes to enable a risk based review of drainage proposals for planning applications. 	MC	EA, IDB, Southern Water	Defra	Short term (<2 years)
	B. Consider how future infrastructure improvements (e.g. highways, rail, public realm) could be used to deliver local flood risk reduction/benefits.	<ul style="list-style-type: none"> Development of processes to enable review of infrastructure proposals. 	MC	EA	Defra	Short term (<2 years).
	C. Use flood risk information to implement a risk-based approach to capital investment decisions and maintenance programmes and activities.	<ul style="list-style-type: none"> Use an Asset Register Management Database as a basis for informing a risk based approach to capital investment decisions and maintenance programmes and activities led risk/conditions surveys against asset valuation. 	MC		Defra	Short term (<2 years)

4. Help people to manage their own risk.	A. Share flood risk information with Risk Management Authorities and the public.	<ul style="list-style-type: none"> • Web development to improve accessibility to flood risk information. • Consultation and engagement with the public. 	MC	EA, IDB, Southern Water	Defra	Short term (<2 years)
	B. Increase public awareness with respect to flood risk and responsibility for flood risk management.	<ul style="list-style-type: none"> • Engage with local communities regarding responsibilities for flood risk management (particularly land drainage consenting). 				
5. Improve flood prediction warning and post flood recovery.	A. Use information on local flood risk as a tool for flood prediction and warning.	<ul style="list-style-type: none"> • Maintain / improve local risk mapping using outputs from SWMP. 	MC	EA, IDB, Southern Water	Defra	Short term (<2 years)

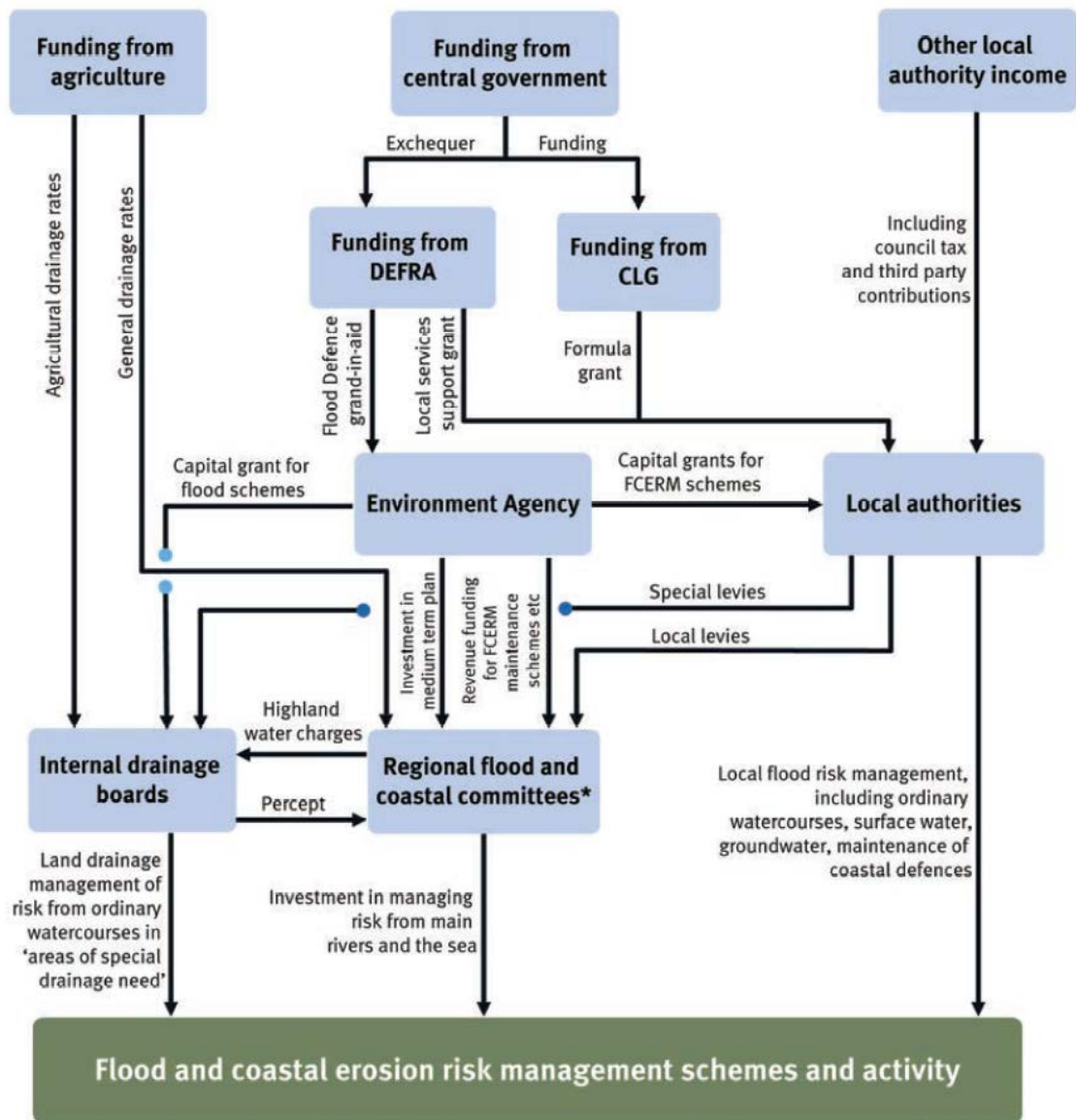
6. Funding Options

6.1 Funding

- 6.1.1 The effective practical implementation of flood risk management measures requires adequate resources both for the management and response activities of the LLFA as well as for capital projects. This section provides a summary of available forms of funding and seeks to assist with identifying any further actions that will be needed to ensure that particular funding alternatives are feasible.
- 6.1.2 Figure 7.1 illustrates the various streams of funding open to Risk Management Authorities which are discussed in turn in the following sections.

Funding to LLFAs through Area Based Grants

- 6.1.3 Funding for LLFAs to meet their new responsibilities has been allocated through Area Based Grants or local services support grants. The money is not ring fenced so individual LLFAs must decide how much of this grant to spend, subject to limits on overall budgets and the need for investment on other priorities.
- 6.1.4 The amount of money allocated to individual LLFAs varies based on the overall risk within the relevant area. This money has been made available to support Medway Council with its ongoing local flood risk management activities.



* Note the Environment Agency delivers flood risk management schemes and maintenance as approved by RFCCs

Figure 6.1 Funding for Risk Management Authorities (Environment Agency, 2011)

Public funding through 'Payment for Outcomes' and 'Flood Defence Grant in Aid' Schemes

- 6.1.5 Recommendation 24 of the Pitt Review stated that the “Government should develop a scheme that allows and encourages local communities to invest in flood risk management measures”. This recommendation is delivered by using the new ‘Payment for Outcomes’ approach which came into force in April 2012. All schemes are now offered a fixed subsidy based on the benefits delivered when the outcomes are achieved with the aim to encourage communities to take more responsibility for the flood risk that they face.
- 6.1.6 The new approach will see funding levels for each scheme (provided by Defra through Flood Defence Grant in Aid) relating directly to benefits, in terms of the number of households protected, the damages being prevented plus other scheme benefits such as environmental benefits, amenity improvement, agricultural productivity and benefits to business. In addition to these elements, payment rates for protecting households in deprived areas will be higher so that schemes in these areas are more likely to be fully funded by the Government¹².
- 6.1.7 Under this system some schemes will receive complete funding if the benefits significantly outweigh the costs. For other schemes partial funding would be available. It is hoped that this approach would encourage people to find cheaper ways to achieve positive outcomes and/or find other funding mechanisms to pay the remaining cost of the scheme. Any shortfall in the amount of grant in aid required to construct the scheme will need to be found from elsewhere. This could be from local levy funding from the local levy, from local businesses or other parties who will benefit from the scheme.

Local levy

- 6.1.8 The local levy is administered by the Southern Region Regional Flood and Coastal Committee (RFCC). The local levy can be distributed to flood defence schemes at the discretion of the RFCC. It is often used to fund locally important schemes which would otherwise not receive funding or to provide partnership contributions for grant in aid funding. Figure 7.2 illustrates the ‘Payment for Outcomes’ approach and the importance of the local levy in fully funding flood defence and maintenance schemes.

¹² For further information on how levels of deprivation will be assessed, refer to the Index of Multiple Deprivation commissioned by the Department for Communities and Local Government (www.imd.communities.gov.uk)

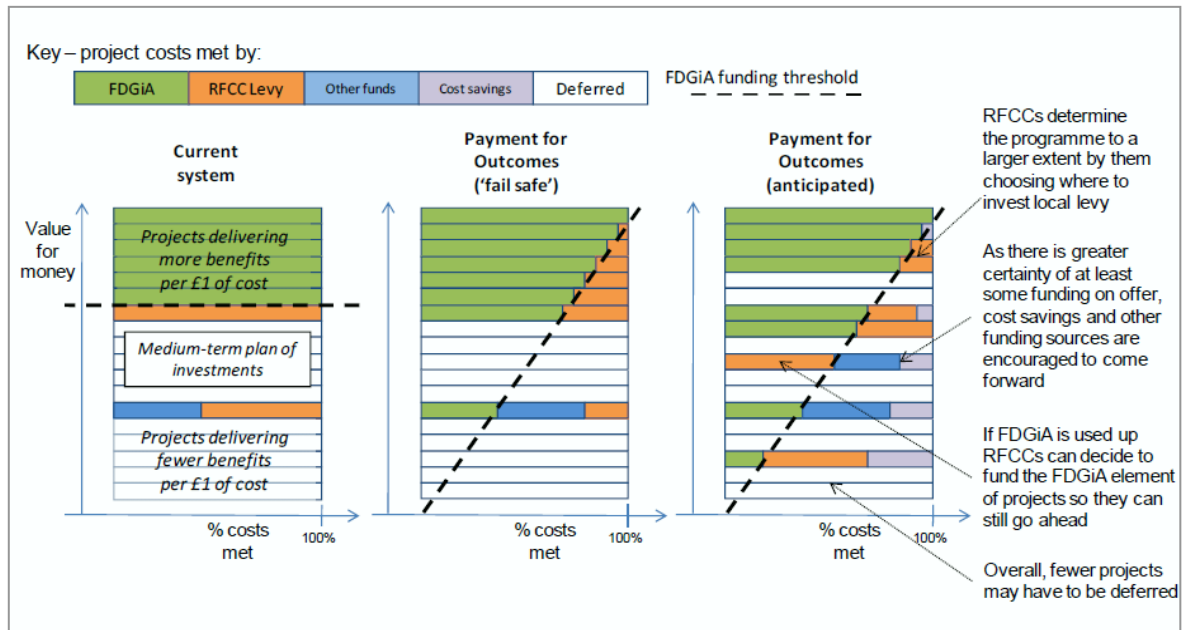


Figure 7.2 The Payment for Outcomes Approach
Source: Defra Consultation Document (page 19)

Funding through the European Union

6.1.9 European Union funding is available through the European Regional Development Fund (ERDF).

Developer Contributions

6.1.10 Section 106 of the Town and Country Planning Act 1990 allows a Local Planning Authority to enter into an agreement with a landowner or developer in association with the granting of planning permission. A Section 106 agreement is used to address issues that are necessary to make a development acceptable, such as supporting the provision of services and infrastructure.

6.1.11 One of the recommendations of 'Making Space for Water' was that LPAs should make more use of Section 106 agreements to ensure that there is a strong planning policy to manage flood risk. This means that any flood risk, which is caused by, or increased by, new development, should be resolved and funded by the developer. Medway Council will review the consideration of flood risk within Section 106 agreements during further iterations of the Guide to Developer Contributions.

Local Fundraising

- 6.1.12 In addition to contributions from developers, another important funding mechanism will come from local fundraising from the local communities and businesses that stand to benefit from the proposed flood defence schemes.

Other sources of funding

- 6.1.13 Defra is currently producing a good practice guide to support LPAs called 'Solutions for Joint Funding of Surface Water Schemes'. This project will explain the funding mechanisms and time cycles, approval processes of key partners and benefits of joint funding of local flood risk management.

7. Wider environmental objectives

7.1 Overview

- 7.1.1 In order to address this requirement, a review of relevant policy documents has been undertaken to identify environmental objectives of relevance to the study area. Subsequently, an assessment of which of Medway Council's flood risk management objectives (if any) contribute to each of these environmental objectives has been undertaken and justification provided. This process is presented in Table 8.1.
- 7.1.2 The European Directive 2001/42/EC was adopted in 2001 and transposed into English legislation by the Environment Assessment of Plans and Programmes Regulations in 2004. The purpose of the Directive is to increase the level of protection for the environment. It integrates environmental considerations into the preparation and adoption of plans and programmes with the view of promoting sustainable development.
- 7.1.3 The Directive requires a Strategic Environmental Assessment (SEA) to be carried out for all plans and programmes, which are subject to preparation and/or adoption, by an authority at national level, regional or local level. A SEA screening report concluded that it is unlikely that there will be any significant environmental effects arising from the objectives and measures included within the strategy and as such does not require a full SEA to be undertaken.

Table 7.1 Contribution of objectives to the achievement of wider environmental objectives

Source Document	Wider Environmental Objectives	Flood Risk Management Objectives											Comments		
		1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a		5b	
Regeneration, Communities and Culture Overview and Scrutiny Committee	1 Manage, protect, conserve and invest in our open spaces to create parks that can be enjoyed by all														2c. Ensuring that new development does not increase current flood risk will help to protect open spaces from flood damage in the future; 3b. The use of non structural methods and/or SUDS can reduce the environmental impacts of flood risk measures, helping to conserve existing open spaces
	2 Reduce the carbon footprint and foster sustainable development in Medway														2a. The implementation of sustainable drainage techniques is a large part of wider policies such as the WFD and the FWMA and will help towards fostering sustainability in Medway; 3b. Sustainability goals could be reached by the use of SUDS that have both environmental and social benefits (e.g. Improved biodiversity and increased amenity etc) and also potential economic benefits (e.g. tourism)
Southern Water: Final Water Resources Management Plan	3 To protect and enhance terrestrial biodiversity including designated and other important habitats and species														2c. Ensuring that new development does not increase current flood risk will help to protect important habitats from flood damage in the future; 3b. Flood risk management measures could both benefit and damage habitats/ecosystems. It is important that these factors are weighed up against each other to ensure the overall protection of the environment
	4 To protect and enhance aquatic biodiversity including designated and important habitats and species														2c. Ensuring that new development does not increase current flood risk will help to protect important habitats from flood damage in the future; 3b. Flood risk management measures could both benefit and damage habitats/ecosystems. It is important that these factors are weighed up against each other to ensure the overall protection of the environment
	5 To minimise negative effects on local communities resulting from construction and operation of options														2c. Ensuring that new development does not increase current flood risk will help to protect local communities from flood damage in the future; 3b. Detrimental social effects of a flood management strategy should be considered before any development is implemented. It should be noted that economic and environmental impacts are likely to have social impacts on the community as well
	6 To protect and enhance geological and geomorphological diversity														3b. Flood risk management measures could both benefit and damage habitats/ecosystems. It is important that these factors are weighed up against each other to ensure the overall protection of the environment
	7 To maintain and enhance landscape character														2c. Ensuring that new development does not increase current flood risk will help to protect landscape character from flood damage in the future; 3b. Flood risk management measures could both benefit and damage landscape character. It is important that these factors are weighed up against each other to ensure the overall protection of the environment
	8 To maintain and enhance salmonid and freshwater fisheries														2c. Ensuring that new development does not increase current flood risk will help to protect fisheries from flood damage in the future; 3b. The safeguarding of fisheries through flood management is important to maintain local economic activity as well as reducing environmental impacts related to over fishing of other areas. Damage to fisheries resulting in economic losses would also have a social impact
	9 To reduce contamination and safeguard soil quality and quantity														3b. Consideration must be given to the environmental (and economic in agricultural areas) impacts on soil quality to ensure any proposed flood mitigation measures do not contribute to contamination or other negative soil properties.
	10 To protect and enhance groundwater quantity and quality														3b. Consideration must be given to the environmental and economic impacts on groundwater sources to ensure any proposed flood mitigation measures do not contribute negatively to water quality and quantity.
	11 To protect and enhance coastal water quality														3b. Consideration must be given to the environmental, social and economic impacts on coastal waters to ensure any proposed flood mitigation measures do not contribute negatively to water quality.
	12 To protect and enhance transitional surface water flows and quality														3b. Consideration must be given to the environmental, social and economic impacts on transitional surface waters to ensure any proposed flood mitigation measures do not contribute negatively to water quality.
	13 To protect and enhance surface water flows and quality														3b. Consideration must be given to the environmental, social and economic impacts on surface waters to ensure any proposed flood mitigation measures do not contribute negatively to water quality.

Source Document	Wider Environmental Objectives	Flood Risk Management Objectives											Comments		
		1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a		5b	
	14 To minimise the risk of flooding taking account of climate change														1a. To be able to minimise the risk of flooding, it is first necessary to fully understand this risk so that it can be planned for and managed effectively; 1b. Climate change will increase the likelihood of flood events and must be considered when devising management strategies; 2a. A reduction in flood risk is a part of a number of wider policies (RBMPs, SMPs, RFRA's etc). Flood risk strategies should be consistent across all policies to ensure efficient risk management; 2c. Any development must not increase flood risk. In the case of flood risk management developments, they must not just simply transfer risk to other areas; 3b. The council must consider the environmental impacts of any flood risk measures and also any economic losses related to flooding if no management strategy is implemented; 3c. Development of infrastructure to double up as flood management features could mean reduction in flood risk could be achieved efficiently
	15 To maintain and enhance local air quality														3b. Flood mitigation measures that enhance green areas such as SUDS could help to maintain local air quality as a by-product
	16 To reduce greenhouse gas emissions														3b. Flood mitigation measures that enhance green areas such as SUDS could help to reduce or offset greenhouse gas emissions in Medway
	17 To reduce the generation of waste and encourage re-use and recycling of waste and use sustainably produced and local products														3b. Efficient use of raw materials in the implementation of flood management measures will have environmental benefits by reducing waste going to landfill. There is also potential for using recycled and/or locally sourced materials
	18 To protect and enhance sites and features of archaeological, historical and architectural interest														2c. Ensuring that new development does not increase current flood risk will help to protect archaeological and historic features from flood damage in the future; 3b. Consideration must be given to the social and economic impacts on archaeological or historic features to ensure any proposed flood mitigation measures do not contribute negatively towards their preservation.
	19 To minimise adverse effects to other abstractors, rights of navigation and other commercial users of water bodies														1a. Cooperation with all stakeholders on flood risk management will help to minimise negative impacts upon all relevant parties 2c. Ensuring that new development does not increase current flood risk will help to minimise effects to other water users from flood damage in the future; 3b. Consideration should be given to the social and economic impacts that flood mitigation measures may have on other water users.
Medway Strategic Flood Risk Assessment	20 Quantity: minimise impermeable surfaces by good planning of development layout														2c. Positive effects on flooding can be achieved by reducing areas of impermeable surfaces to minimise runoff; 3b. Permeable surfaces allow for increased groundwater recharge and improve water quality by filtration resulting in reduced treatment costs. Permeable surfaces also reduce runoff that can wash pollutants from urban surfaces into watercourses; 3c. Future infrastructure improvements could be designed to incorporate permeable surfaces that can be used in place of non permeable materials such as paving in car parks etc to improve infiltration capacity and thus improve flood attenuation capabilities
	21 Quantity: control at source to reduce extra runoff														2c. New or re-developments can be designed to have more control over excess runoff so that overall flood risk decreases (or at least does not increase); 3b. Environmental benefits are offered by reduced runoff such as decreased erosion as well as less potential for pollutants to be washed into watercourses; 3c. infrastructure can be designed specifically to incorporate ways of attenuating flows such as increasing infiltration or temporary storage
	22 Quantity: limit peak discharge to an agreed allowable runoff rate														2c. New or re-developments can be designed to have more control over excess runoff so that overall flood risk decreases (or at least does not increase); 3b. Environmental benefits are offered by reduced runoff such as decreased erosion as well as less potential for pollutants to be washed into watercourses; 3c. infrastructure can be designed specifically to incorporate ways of attenuating flows such as increasing infiltration or temporary storage
	23 Quantity: attenuate excess water to an agreed storm return period (normally 1 in 100 year with allowances for climate change)														1b. Allowing for climate change ensures that any flood mitigation measures are sufficient for predicted future scenarios; 2c. New or re-developments can be designed to have more control over excess runoff so that overall flood risk decreases (or at least does not increase); 3b. Environmental benefits are offered by reduced runoff such as decreased erosion as well as less potential for pollutants to be washed into watercourses; 3c. infrastructure can be designed specifically to incorporate ways of attenuating flows such as increasing infiltration or temporary storage

Source Document	Wider Environmental Objectives	Flood Risk Management Objectives											Comments			
		1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a		5b		
	24	Quantity: low flow routes for frequent storms and first part of volume of rare storms through treatment stage														2b. Flow routes are rarely confined to a single development site and therefore need to be examined across a larger area; 2c. New or re-developments can be designed to have more control over runoff so that overall flood risk decreases (or at least does not increase); 3b. Environmental benefits are offered by reduced runoff such as decreased erosion as well as less potential for pollutants to be washed into watercourses; 3c. infrastructure can be designed specifically to incorporate ways of routing flows away from important areas or features
	25	Quantity: high flow routes for extreme events with overland flood routes														2b. Flow routes are rarely confined to a single development site and therefore need to be examined across a larger area; 2c. New or re-developments can be designed to have more control over excess runoff so that overall flood risk decreases (or at least does not increase); 3b. Environmental benefits are offered by reduced runoff such as decreased erosion as well as less potential for pollutants to be washed into watercourses; 3c. infrastructure can be designed specifically to incorporate ways of routing flows away from important areas or features
	26	Quality: prevent pollution by good planning of development layout and site management														3b. Flood mitigation measures that reduce pollution (such as SUDS) will have obvious environmental benefits. There is also potential for economic gains as water treatment does not need to be as rigorous
	27	Quality: treatment stages, usually a minimum of one for housing														
	28	Quality: appropriate technique to treat runoff from roads and pavements														3b. Flood mitigation measures such as SUDS that can be used to treat runoff will have obvious environmental benefits. There is also potential for economic gains as water treatment does not need to be as rigorous
	29	Quality: 'source control' preferred to control silt and pollution														3b. Consideration should be given to certain flood mitigation measures that are designed to offer environmental benefits by filtering the water of silt and pollutants to improve water quality. There is also potential for economic gains as water treatment does not need to be as rigorous
	30	Quality: 'first flush' treatment for all roads and pavements														3b. Consideration should be given to flood mitigation measures that are designed to offer environmental benefits by isolating the first flush from cleaner runoff which will help to reduce the majority of pollutants reaching watercourses untreated
	31	Amenity: Techniques should maximise opportunities for amenity including environmental and bio-diversity where possible														3b. Flood mitigation measures can be used to increase the amenity value of land and thus have social and environmental benefits (as well as potential economic benefits)
Sustainable Community Strategy 2010-26	32	Amenity: Techniques should protect amenity													3b. Consideration should be given to those flood mitigation measures that can be used in tandem with existing amenity features without having to remove them, therefore avoiding a loss of amenity that could lead to social, environmental and economic losses	
	33	Medway to have a safe and high quality environment by 2026													3b. Consideration should be given to those flood mitigation measures that can have beneficial environment and social impacts by increasing biodiversity and amenity	
	34	Increase user access through promoting the Hoo Peninsula and North Kent Marshes as a sustainable tourism initiative													3b. Consideration should be given to those flood mitigation measures that are able to increase amenity and environmental value of the area. This will help to attract tourism which in turn, will have economic benefits	
Medway Estuary and Swale Shoreline Management Plan	35	Increase user access through promoting greater awareness of the Medway and Thames estuary resources													3b. Social benefits derived from flood risk managements schemes (e.g. Improved amenity) can help to improve user access which should in turn help to raise awareness of the area	
	36	Prevent degradation of landscape quality and visual amenity from flooding and flood risk management works													2c. Ensuring that new development does not increase current flood risk will help to protect landscapes from flood damage in the future; 3b. Consideration should be given to potential environmental and economic losses that could occur from degradation of the landscape as well as social impacts from a loss of amenity as a result of any proposed flood management strategies.	
	37	Promote biodiversity opportunities and prevent loss/damage to habitats and associated species at various SSSIs, SNCLs, SPAs and UK BAP priority habitats from flooding and flood risk management works													2c. Ensuring that new development does not increase current flood risk will help to protect important habitats and conservation sites from flood damage in the future; 3b. Consideration should be given to those flood mitigation measures that can offer environmental benefits (e.g. enhanced biodiversity through improved water quality etc) while also protecting the fragile habitats from flood events. Any potential negative impacts of a flood mitigation scheme also need to be considered in the planning stages	

Source Document	Wider Environmental Objectives	Flood Risk Management Objectives											Comments			
		1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a		5b		
	38	Promote biodiversity opportunities and avoid net loss of coastal grazing marshes and intertidal habitat and associated species from coastal squeeze and flood risk management works														2c. Ensuring that new development does not increase current flood risk will help to protect important habitats from flood damage in the future; 3b. Consideration should be given to those flood mitigation measures that can offer environmental benefits (e.g. enhanced biodiversity through improved water quality etc) while also protecting the fragile habitats from flood events. Any potential negative impacts of a flood mitigation scheme also need to be considered in the planning stages
	39	Prevent loss/damage to heritage from flooding and flood risk management works or implement appropriate mitigation measures, including preservation of evidence by record. Seek opportunities to enhance features where appropriate														2c. Ensuring that new development does not increase current flood risk will help to protect heritage sites and features from flood damage in the future; 3b. Consideration should be given to the social and economic impacts on heritage sites to ensure any proposed flood mitigation measures do not contribute negatively towards their preservation.
	40	Prevent loss/damage to Conservation Areas and SAMs from flooding and flood risk management works. Seek opportunities to enhance features where appropriate														2c. Ensuring that new development does not increase current flood risk will help to prevent damage to conservation areas and SAMs in the future; 3b. Consideration should be given to the environmental, social and economic impacts on conservation and SAM sites to ensure any proposed flood mitigation measures do not contribute negatively towards their preservation.
	41	Prevent loss/damage to shell fishery at Queensborough from flooding or flood risk management works														2c. Ensuring that new development does not increase current flood risk will help to prevent damage to the fishery in the future; 3b. Consideration should be given to the environmental, social and economic impacts of flood defences on the shell fishery. Negative impacts (e.g. cost to protect the fishery from floods) should be weighed up against positive impacts such as avoiding the need for over fishing in other areas and economic and social gains from employment opportunities
	42	Prevent loss/damage/disruption to recreation and associated business from flooding and flood risk management works														2c. Ensuring that new development does not increase current flood risk will help to prevent damage to recreation facilities in the future; 3b. Consideration should be given to the environmental, social and economic impacts of flood defences on recreation and associated businesses. Negative impacts (e.g. cost to protect recreation sites from floods) should be weighed up against positive impacts such as economic and social gains from maintaining access to recreation facilities
Medway Flood Defence Strategy: High Level Appraisal of Potential Solutions to Manage Flood Risk in the Urban Medway	43	To effectively realise Medway's role within the Thames Gateway and associated growth requirements primarily through effective physical regeneration, the reuse of previously developed land and the protection and enhancement of the area's many natural and heritage assets.														2b. Flood risk management strategies that are able to offer benefits across regeneration areas rather than just individual sites will help to achieve Medway's goal of effective physical regeneration; 3b. Consideration should be given to the use of brownfield sites for flood mitigation measures which will benefit the environment by reducing the need for development of Greenfield sites as well as aiding the physical regeneration of the area. Flood risk management strategy may also make it possible to develop sites that were previously non viable development options due to flood risk, helping to meet growth requirements
	44	To develop Chatham as a city centre of regional significance with its role complemented by thriving and attractive traditional town centres in Strood, Rochester, Gillingham and Rainham together with a network of strong neighbourhood centres serving local communities														3b. Consideration should be given to those flood mitigation measures that have the potential to improve local amenity, resulting in both social and economic benefits and thus helping Chatham and surrounding towns to develop. There may also be opportunities for environmental benefits depending on measures implemented
	45	To radically improve the quality of the townscape and public realm within the central urban area and along the urban waterfront														3b. Consideration should be given to those flood mitigation measures that have the potential to improve local amenity, resulting in both social and economic benefits and thus helping to enhance the townscape. There may also be opportunities for environmental benefits depending on measures implemented
	46	To enhance the quality of life of local people through the promotion of healthier lifestyles and the provision of improved cultural, leisure and tourism facilities, including along the river Medway.														3b. Consideration should be given to the provision of green space by the use of SUDS as a flood mitigation measure which would benefit local amenity and the environment, making outdoor space more attractive and therefore helping to promote healthier, more active lifestyles. It could also attract economic benefits from increased tourism

Source Document	Wider Environmental Objectives	Flood Risk Management Objectives											Comments				
		1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a		5b			
Environment and Front Line Services Overview and Scrutiny Committee	47	To ensure prudent use of land and other resources															3b. Consideration should be given to the impacts of flood mitigation strategies upon land usage. Where possible, non-structural methods (e.g. improved planning and forecasting etc) should be implemented to reach flood management targets without the need for construction. Where structural measures are required, SUDS could be used to control flooding while maintaining the green nature of the land. They also require minimal raw materials in comparison to 'harder' more engineered techniques
	48	To reduce greenhouse gas emissions															1a. Certain flood mitigation measures will have varying effects on the volumes of greenhouse gases produced (mainly from the construction phase) and as such, varying contributions towards climate change. This should be considered when producing a flood management policy; 3b. Climate change has a marked effect on the environment and any contributions to greenhouse gases from flood management schemes should be considered before implementation
	49	To minimise air quality impacts															3b. The implementation of SUDS over 'harder' flood mitigation methods could help to maintain levels of green space in the area that would contribute towards improved air quality
	50	To conserve landscapes and townscapes															2c. Ensuring that new development does not increase current flood risk will ensure that land/townscapes will remain protected in the future; 3b. Flood management measures can help to protect town and landscapes from flood damage and at the same time add extra social and environmental benefits by improving amenity and green space. Non-structural methods that do not impact on the land/townscape should also be considered (however this maybe a missed opportunity to make improvements rather than just avoiding degradation).
	51	To protect local amenity															1a. Cooperation with all stakeholders will help to assess the views of what contributes to local amenity so that it can be effectively protected; 2c. Ensuring that new development does not increase current flood risk will ensure that amenity sites in Medway will remain protected in the future; 3b. Flood mitigation measures can be used to maintain the green nature of areas that add amenity value. Using the correct measures can not only protect local amenity but may also be able to improve it
	52	To minimise adverse effects on water quality															3b. The use of SUDS can lead to environmental benefits from improved water quality by acting as a filtration treatment stage. This also has an economic benefit as water will not require as much treatment by water companies
	53	To minimise local transport impacts															3b. Flood mitigation measures can be used to protect transport infrastructure leading to economic benefits derived from less damage and also from a reduction in loss of economic activity from people unable to travel due to flood waters; 3c. Reducing flood effects on transport networks could be realised by implementing flood measures as part of general infrastructure improvements works that could also benefit the wider area
	54	To provide employment opportunities															3b. Social benefits could be derived from the creation of employment opportunities in the process of designing, constructing and maintaining flood mitigation measures
	55	To provide opportunities for public involvement / education															1a. Engaging with all stakeholders including the public is key to ensuring the flood risk situation in the area is fully understood which is vital when designing a management strategy; 3b. During the planning stages, consultation with the public should be offered to help to assess the social impacts of flood management schemes on residents as well as any economic impacts to local businesses; 4a. Sharing of information between the council and the public is important for ensuring that the public feel involved and fully understand the proposals so that consultation is effective and efficient; 4b. Increasing public awareness of flood risk will help to educate the public so that they can take steps to better protect themselves in the event of a flood
	56	To minimise costs of waste management															
57	To ensure reliability of delivery																
58	To conform with waste policy																

8. Review and Update

8.1 Overview

8.1.1 It is proposed that at a minimum, a review of the strategy should take place every six years to coincide with the requirement under the Flood Risk Regulations 2009 to revise the Preliminary Flood Risk Assessment and flood risk and hazard maps.

8.1.2 As a result of recent legislation and new roles and responsibilities of LLFA's, there are likely to be many changes to the way flood risk is managed. The strategy should be viewed as a dynamic strategy and some updates may need to be produced to recognise those changes.

8.1.3 Potential triggers include:

- Occurrence of a significant and widespread surface water flood event.
- Additional data or modelling becoming available which may alter the understanding of risk within the study area.
- If the outcome of investment decisions by partners is different to the preferred option which may require a revision to the action plan.

8.1.4 To complement the strategy, annual action plans will be produced in conjunction with other Risk Management Authorities and will include;

- A report of any changes and amendments deemed necessary
- An overview of the newest information available about local flood risk.
- Actions required to satisfy legislation within the forthcoming year
- Actions from Surface Water Management Plans
- Other flood risk management activities, which will be undertaken by Medway Risk Management Authorities in the current year.

8.2 Democratic input

Regeneration, Community and Culture

- 8.2.1 The Regeneration, Community and Culture Overview and Scrutiny Committee are the relevant scrutiny committee for flood and coastal erosion risk management. The committee plays a key role in developing and reviewing policy and holding the cabinet to account through a facility to call-in cabinet decisions for review or undertaking pre-decision scrutiny. It represents one of the most important ways in which Councillors can influence council policy and champion their constituents.
- 8.2.2 The FWMA 2010 amends the Local Government Act 2000 to include arrangements to review and scrutinise the flood management and coastal erosion risk management functions of Risk Management Authorities which may affect the Local Authorities area. The strategy will therefore be reviewed via that democratic process.

Regional Flood and Coastal Committees (Southern Regional Flood and Coastal Committee)

- 8.2.3 Regional Flood and Coastal Committees scrutinise the Environment Agency's work. Medway is within the Southern Region Regional Flood and Coastal Committee and has one Member on the committee from a total membership of 14. The committee is also responsible for administering the local levy, which is a fund paid into each authority in the region according to the number of Band D properties in the authority. The local levy is described in 7.2.6.

9. References

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Glossary

Annual Exceedance Probability (AEP)

The average probability of a rainfall event occurring in any given year.

Catchment Flood Management Plan

A high-level planning strategy through which the EA works with their key decision makers within a river catchment to identify and agree policies to secure the long-term sustainable management of flood risk.

Civil Contingencies Act

This Act delivers a single framework for civil protection in the UK. As part of the Act, Local Resilience Forums must put into place emergency plans for a range of circumstances including flooding.

Climate Change

When included as part of a flood event return period scenario, it means that that scenario includes the anticipated affects of climate change. For rainfall events, it incorporates a 30% increase. These climate change values are based upon information within the NPPF and PPS25 Practice Guide.

FCERM

Flood and Coastal Erosion Risk Management

Flood and Water Management Act (FWMA)

Part of the UK Government's response to Sir Michael Pitt's Report on the Summer 2007 floods, the aim of which is to clarify the legislative framework for managing surface water flood risk in England.

Flood Hazard

The derivation of flood hazard is based on the methodology in Flood Risks to people FD2320 using and is a function of flood depth, flow velocity and a debris factor.

Flood Map for Surface Water (FMfSW)

National surface water flood risk mapping published by the EA. This dataset provides an indication of the broad areas likely to be at risk of surface water flooding during the 0.5% and 3.3% AEP rainfall events.

Flood Risk Regulations 2009 (FRR 2009)

Transposition of the EU Floods Directive into UK law. The EU Floods Directive is a piece of European Community (EC) legislation to specifically address flood risk by prescribing a common framework for its measurement and management.

IDB

Internal Drainage Board

Lead Local Flood Authority (LLFA)

Lead Local Flood Authority in relation to an area in England means the unitary authority for the area, or if there is no unitary authority, the county council for the area (as defined by the FWMA).

LiDAR

Light Detection and Ranging data is obtained from an airborne survey technique that uses a laser to measure the distance between an aircraft and the ground surface.

Local Flood Risk Management Strategy (LFRMS)

A strategy for the management of local flood risk (that from surface water, groundwater and ordinary watercourses), to be developed, maintained, applied and monitored by the LLFA, as a duty under the FWMA.

Local Resilience Forum

A multi-agency forum, bringing together all the organisations that have a duty to cooperate under the Civil Contingencies Act, and those involved in responding to emergencies. They prepare emergency plans in a co-ordinated manner.

National Receptor Database (NRD)

A collection of risk receptors produced by the EA.

Ordinary Watercourse

All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, IDBs

Ordnance Survey Master Map (OSMM)

OS Master Map is highly detailed mapping including individual buildings, roads and areas of land according to land use categories. The data is presented in GIS as polygon and line data.

Pitt Review

Comprehensive independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England.

Pluvial modelling

Flooding from water flowing over the surface of the ground; often occurs when the soil is saturated and natural drainage channels or artificial drainage systems have insufficient capacity to cope with additional flow.

Preliminary Flood Risk Assessment (PFRA)

A report required under the FRR 2009 for each LLFA administrative area, detailing information on past and future (potential) floods, and identifying Flood Risk Areas. LLFAs are only required to undertake a PFRA for local sources of flooding, which principally includes surface water, groundwater and ordinary watercourses.

Risk Management Authority (RMA)

Organisation that has a key role in flood and coastal erosion risk management as defined by the Flood and Water Management Act 2010. These include the EA, lead local flood authorities, district councils where there is no unitary authority, internal drainage boards, water companies and highways authorities.

Regional Flood and Coastal Committee (RFCC)

Established by the EA under the FWMA and takes the place of the Southern Regional Flood Defence Committee (RFDC). It brings together members appointed by LLFAs and independent members with relevant experience for the purpose of effective flood risk management.

Risk

In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.

SEA

Strategic Environmental Assessment

Stakeholder

A person or organisation affected by the problem or solution, or interested in the problem or solution. They can be individuals or organisations, includes the public and communities.

Surface Water

Rainwater (including snow and other precipitation) that is on the surface of the ground (whether or not it is moving), and has not entered a watercourse, drainage system or public sewer.

TuFLOW

TuFLOW is a modelling package for simulating depth averaged 2D free-surface flows and is in widespread use in the UK and elsewhere for 2D inundation modelling.

Appendix 1 – Pluvial Modelling Methodology

Appendix 2 – Groundwater Assessment

Appendix 3 – Flood risk management roles and responsibilities

Roles and responsibilities of Medway Council

	Medway Council Flood Risk Management functions
Flood and Water Management Act 2010	Medway Council has a duty to lead on local flood risk management, including establishing effective partnerships within their local authority as well as with other Risk Management Authorities such as the EA, Southern Water, Internal Drainage Boards, Highways Authority and neighbouring Local Authorities.
	Medway Council have a duty to investigate and record details of significant flood events within their area. This duty includes identifying which authorities have flood risk management functions and what they have done or intend to do with respect to the incident, notifying Risk Management Authorities where necessary and publishing the results of any investigations carried out. (FWMA Part 1 Section 19).
	Medway Council has a duty to develop, maintain, apply and monitor a strategy for local flood risk management in their area. The LLFA must publish a summary of its strategy (including guidance about the availability of relevant information). It may also issue guidance about the application of the strategy in its area. The LLFA must consult other Risk Management Authorities and the public who may be affected by the strategy. (FMWA Part 1 Section 9).
	Medway Council has a duty to maintain a register of structures or features which are likely to have a significant effect on flood risk in its area, including details on ownership and condition as a minimum. The register must be available for inspection. (FWMA Part 1 Section 21).
	Medway Council must aim to make a contribution towards the achievement of sustainable development when exercising a flood risk management function. (FWMA Part 1 Section 27).

Medway Council Flood Risk Management functions	
	Medway Council has a duty to act as a Sustainable Drainage Systems (SuDS) Approving Body (SAB) for any new drainage system affecting more than one property. The SAB must approve, adopt and maintain any new SuDS within their area, which confirm to the National SuDS standards. (FWMA Part 1 Section This responsibility is not anticipated to commence before April 2013. (FWMA Schedule 3).
	Medway Council has a consenting and enforcement responsibility for ordinary watercourse regulation for those ordinary watercourses that are not maintained by the Internal Drainage Board.
	Medway Council has powers to request a person to provide information in connection with the authority's flood and coastal erosion risk management functions. (FWMA Part 1 Section 14).
	Medway Council has powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it. (FWMA Schedule 1 Section 1).
	Medway Council have powers to undertake works to manage flood risk from surface water or groundwater, consistent with the strategy for their area. (FWMA Schedule 2 Section 29).
FRR 2009	Medway Council must revise the Preliminary Flood Risk Assessment (PFRA) at least every 6 years. The first review must be published by 22 nd June 2017. (FRR Part 2 Section 10).
	Medway Council must prepare flood hazard and flood risk maps of relevant flood risk areas by 22 nd June 2013 and revise these at least every 6 years. (FRR Part 3 Section 19).
	Medway Council must prepare a flood risk management plans for each flood risk area by 22 nd June 2015 and revise these plans at least every 6 years. (FRR Part 4 Section 26).
	Medway Council has a duty to cooperate with other authorities exercising their functions under the FRR. (FRR Part 6 Section 35).

Medway Council Flood Risk Management functions	
	Medway Council has powers to require information reasonably required in connection with their responsibilities as LLFA under the FRR from the authorities listed in Part 6 Section 36 Sub-section 3 of the FRR. (FRR Part 6 Sections 36).
Civil Contingencies Act 2004 ¹³	<p>Medway Council has a duty to:</p> <ul style="list-style-type: none"> • assess the risk of an emergency occurring; • maintain plans for the purpose of ensuring that if an emergency occurs the person or body is able to continue to perform its functions; • arrange for the publication of all or part of assessments made and plans maintained for the purposes of preventing an emergency, reducing, controlling or mitigating the effects of an emergency, or enabling other action to be taken in connection with an emergency; and, • maintain arrangements to warn the public, and to provide information and advice to the public, if an emergency is likely to occur or has occurred. (Civil Contingencies Act 2004 Part 1 Section 2).
NPPF 2012	Medway Council, as LPA, should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations. (NPPF Paragraph 94).
	Medway Council's Local Plans should be supported by Strategic Flood Risk Assessment and should develop policies to manage flood risk from all sources, taking account of advice from the EA and other relevant flood risk management bodies. (NPPF Paragraph 100).

¹³ HMSO and the Queen's Printer of Acts of Parliament (2004) Civil Contingencies Act

Roles and responsibilities of the Environment Agency

Environment Agency Flood Risk Management functions	
Flood and Water Management Act 2010	The EA has a duty to develop, maintain, apply and monitor a strategy for flood and coastal erosion risk management in England. The EA must publish a summary of its Strategy. It may also issue guidance about the application of the Strategy in its area. The EA must consult Risk Management Authorities and public on the National Strategy. (FMWA Part 1 Section 7).
	The EA must cooperate with other RMAs in the exercise of their flood risk management function and may share information with other RMAs for the purpose of discharging this duty. (FWMA Part 1 Section 13).
	The EA has powers to request a person to provide information in connection with the authority's flood and coastal erosion risk management functions. (FWMA Part 1 Section 14).
	The EA has powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it. (FWMA Schedule 1 Section 1).
FRR 2009	The EA has a duty to prepare preliminary assessment maps and reports in relation to each river basin district with respect to flooding from the sea, main rivers and reservoirs. (FRR Part 2 Sections 9).
	The EA has a duty to determine in relation to each river basin district whether there is a significant flood risk from the sea, main rivers or reservoirs. (FRR Part 2 Sections 13).
	The EA has a duty to prepare in relation to each flood risk area, flood hazard and flood risk maps relating to flooding from the sea, main rivers and reservoirs. (FRR Part 3 Sections 19).
	The EA has a duty to prepare flood risk management plans in relation to each flood risk area identified under Section 13. (FRR Part 4 Sections 25).
	The EA has a duty to cooperate with other authorities exercising their functions under the FRR. (FRR Part 6 Sections 35).

	Environment Agency Flood Risk Management functions
	The EA must comply with a request of Medway Council to provide information reasonably required in connection with their responsibilities as LLFA under the FRR. (FRR Part 6 Sections 36).
Civil Contingencies Act 2004	<p>As a Category 1 Responder, the EA has a duty to:</p> <ul style="list-style-type: none"> • assess the risk of an emergency occurring; • maintain plans for the purpose of ensuring that if an emergency occurs the person or body is able to continue to perform its functions; • arrange for the publication of all or part of assessments made and plans maintained for the purposes of preventing an emergency, reducing, controlling or mitigating the effects of an emergency, or enabling other action to be taken in connection with an emergency; and, • maintain arrangements to warn the public, and to provide information and advice to the public, if an emergency is likely to occur or has occurred. (Civil Contingencies Act 2004 Part 1 Section 2).

Roles and responsibilities of Southern Water

	Southern Water Flood Risk Management functions
Water Industry Act 1991 ¹⁴	<p>Southern Water has a duty to develop and maintain an efficient and economical system of water supply within its area and to ensure that all such arrangements have been made —</p> <ul style="list-style-type: none"> • for providing supplies of water to premises in that area and for making such supplies available to persons who demand them; and • for maintaining, improving and extending the water undertaker's water mains and other pipes (Water Industry Act, 1991) <p>Southern Water has a duty to provide and maintain a system of public sewers so that the areas for which they are responsible are effectually drained (Water Industry Act, 1991).</p>

¹⁴ HMSO and the Queen's Printer of Acts of Parliament (1991) Water Industry Act

	Southern Water Flood Risk Management functions
	<p>Southern Water must prepare, consult, publish and maintain a Water Resources Management Plan consisting of:</p> <ul style="list-style-type: none"> • the water undertaker's estimate of the quantities of water required to meet their obligations; • the measures which the water undertaker intends to take or continue to manage and develop water resources so as to be able, and continue to be able, to meet its obligations; • the likely sequence and timing for implementing those measures; and • such other matters as the Secretary of State may specify in directions • A new plan must be produced every 5 years (Water Industry Act, 1991)
FWMA 2010	Southern Water must cooperate with other RMAs in the exercise of their flood risk management function and may share information with other RMAs for the purpose of discharging this duty. (FWMA Part 1 Section 13).
FRR 2009	<p>Southern Water has a duty to cooperate with other authorities exercising their functions under the FRR. (FRR Part 6 Sections 35).</p> <p>Southern Water must comply with a request of Medway Council to provide information reasonably required in connection with their responsibilities as LLFA under the FRR. (FRR Part 6 Section 36).</p>

Roles and responsibilities of Lower Medway Internal Drainage Board

	Lower Medway IDB Flood Risk Management functions
Land Drainage Act 1991	<p>Medway IDB has a duty to exercise a general supervision over all matters relating to the drainage of land within their district.</p> <p>Medway IDB has powers to maintain existing works, that is to say, to cleanse, repair or otherwise maintain in a due state of efficiency any existing watercourse or drainage work.</p>

Lower Medway IDB Flood Risk Management functions	
Flood and Water Management Act 2010	Medway IDB has powers to improve any existing works, that is to say, to deepen, widen, straighten or otherwise improve any existing watercourse or remove or alter mill dams, weirs or other obstructions to watercourses, or raise, widen or otherwise improve any existing drainage work.
	Medway IDB has powers to construct new works, that is to say, to make any new watercourse or drainage work or erect any machinery or do any other act required for the drainage of any land.
	If any person is liable to do any work in relation to any watercourse, bridge or drainage work (whether by way of repair, maintenance or otherwise); and fails to do the work, the drainage board concerned may serve a notice on that person requiring him to do the necessary work with all reasonable and proper despatch.
	Medway IDB may control development which affects watercourses within the Internal Drainage District by the use of application based consenting. <ul style="list-style-type: none"> • No person shall erect any mill dam, weir or other like obstruction to the flow of any ordinary watercourse or raise or otherwise alter any such obstruction; or erect any culvert that would be likely to affect the flow of any ordinary watercourse or alter any culvert in a manner that would be likely to affect any such flow, without the consent in writing of the drainage board concerned. • Where any ordinary watercourse is in such a condition that the proper flow of water is impeded, then, unless the condition is attributable to subsidence due to mining operations (including brine pumping), the drainage board or local authority concerned may require that the land or waterway owner remedy's that condition.
	Medway IDB must cooperate with other RMAs in the exercise of their flood risk management function and may share information with other RMAs for the purpose of discharging this duty. (FWMA Part 1 Section 13).
Medway IDB must aim to make a contribution towards the achievement of sustainable development when exercising a flood risk management function. (FWMA Part 1 Section 27).	

Lower Medway IDB Flood Risk Management functions	
	Medway IDB has powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it. (FWMA Schedule 1 Section 1).
	Medway IDB has powers to undertake works to manage flood risk from surface water or groundwater, consistent with the LFRMS for their area. (FWMA Schedule 2 Sections 29).
FRR 2009	Medway IDB has a duty to cooperate with other authorities exercising their functions under the FRR. (FRR Part 6 Sections 35).
	Medway IDB must comply with a request of Medway Council to provide information reasonably required in connection with their responsibilities as LLFA under the FRR. (FRR Part 6 Section 36).