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# Flood Risk Management Strategy

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Final Version  
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Development, Transport & Public Protection  
Communities & Environment

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**Cover Image:** Ryton Willows by Carl Hodgson

## Revision Table

Version	Date	Amendments
Version 1	13/01/16	Amended for internal consultation
Version 2	22/03/16	Amended following comments from internal consultation and policy advisory group
Version 3	24/03/16	Layout & grammar amendments for public consultation
Version 4	02/02/17	Final strategy adopted as approved by Council

# *1 Summary*

## Introduction

Since the introduction of the Flood and Water Management Act 2010 (FWMA) Gateshead Council as the lead local flood authority (LLFA) has a responsibility for managing flood risk within the borough.

The flood risk management strategy (FRMS) outlines the Council's responsibilities as the LLFA and how these are to be delivered through a number of policies. The document also outlines the responsibilities of other risk management parties including Northumbrian Water, the Environment Agency, the highway authority and landowners.

## Policies and Legislation

The FRMS takes into consideration national legislation such as the FWMA and the Land Drainage Act 1990 in addition to regional and local policies including the council's Vision 2030 and Core Strategy documents.

While national framework outlines legal responsibilities and duties of LLFA's and others, local documents must also be considered to ensure flood risk does not have a detrimental affect on the borough.

## Responsibilities of the LLFA

As the LLFA there are six main duties the council must perform, these are to give a strategic overview of flood risk management and ensure any incidents, or works to reduce the risk of flooding are planned and coordinated between responsible parties:

*a duty to produce a flood risk management strategy;*

*a duty to cooperate with other RMA's;*

*a duty to maintain a register of flood risk assets;*

*a duty to promote sustainable drainage;*

*a duty to investigate flooding incidents;*

*power to consent works in ordinary watercourses.*

In addition to these duties the LLFA are also a statutory consultee of the local planning authority.

## Other Council responsibilities

In addition to the responsibilities the Council has as the LLFA, there are a number of other responsibilities related to flood risk as the highway authority, planning authority and also responsibilities related to emergency planning. These are outlined in the full document and have been taken into consideration when developing the policies within the document.

## Other responsible parties

In addition to the Council there are others with responsibilities related to flood risk management, while other risk management authorities such as the Environment Agency and Northumbrian Water have similar responsibilities as the LLFA, landowners also have rights and responsibilities summarised below.

### Northumbrian Water (NW)

Northumbrian Water is the regional water company responsible for the supply of water and management of

the public sewer network within the region and has a responsibility to manage flood risk relating to these.

### Highway Authority

The highway authority has the responsibility to drain surface water from the highway. While the majority of adopted highway is the responsibility of Gateshead Council, trunk roads such as the A1 and A194(m) are the responsibility of Highways England.

### Environment Agency (EA)

The Environment Agency is the main body for improving and protecting the environment nationally, including the management of flood risk and the strategic overview of all forms of flooding. They are responsible for the management of flood risk from main rivers and coastal flooding.

### Landowners

Landowners are responsible for managing watercourses, surface water and groundwater through their land. They have a duty to accept natural flow of these and must not deliberately discharge water through channeling or hard standing areas.

### Objectives of the Strategy

To meet the responsibilities of the LLFA and Council policies, eight main outcome measures have been identified giving clear direction for the delivery of the strategy and what is required from the Council:

*Work with local communities, stakeholders and developers to deliver sustainable, good value solutions through a variety of funding sources to reduce the risk of flooding.*

*Take a proactive approach to investigating flooding incidents, raise awareness of the risks and responsibilities associated with flooding.*

*Develop and sustain a knowledge base on flood risk and sustainable drainage to provide a point of expert advice for local residents, businesses, stakeholders and developers.*

*Obtain and share information on existing drainage and flood risk assets by developing and maintaining a register of such, ensuring existing infrastructure is correctly maintained and functional.*

*Work with key partners involved in flood risk in the borough and neighboring authorities to develop sustainable and practical medium term plans.*

*Ensure flood risk poses minimal impact on critical infrastructure or potential economic growth opportunities.*

*Ensure Flood Risk poses minimal negative impact on the local and natural environment, encouraging enhancement wherever possible.*

*Ensure new developments do not have a detrimental effect on the drainage network, encourage sustainable drainage systems and further mitigation measures where required*

## Strategy Policies

To deliver these outcomes there are a total of twenty two policies within the strategy, these fall into four main sub categories and summarised below.

### Informing and Investigating

These policies outline how the Council will raise awareness of flood risk and investigate reported flooding incidents. They have strong involvement with the local community and set a standard for the investigation process:

*Develop Council website and explore the use of social media to give good management information, advice and support*

*Develop a flooding investigation protocol with a clear and defined reporting system*

*Undertake work with local communities to raise awareness of flood risk and mitigation methods*

*Promote proactive flood mitigation approaches and offer informal advice through local media, events and Council buildings*

*Work with partners to ensure infrastructure and properties are protected against flooding*

*Raise awareness of flood warning systems, Met Office warning systems and other toolkits available to those potentially at risk from flooding*

*Ensure Council officers, members and other Council services are aware of the responsibilities of the LLFA and processes*

*Develop internal knowledge on flood risk management, mitigation methods and other relevant training to deliver a high level of service*

### Managing Risk, Infrastructure and Assets

The following policies develop a proactive approach to infrastructure related to flooding and critical risk areas. They involve working with other authorities and help to identify areas most at risk from flooding:

*Identify funding opportunities for householders and businesses to prepare their properties against the risk of flooding*

*Share information with other RMAs on flooding incidents to develop and maintain a flood incident register*

*Develop a medium term plan for surface water management and flood mitigation schemes where there is a flooding history*

*Work with other RMAs to identify potential joint working opportunities to reduce flood risk*

*Ensure external funding opportunities are known and applied for where possible*

*Work with neighboring local authorities to take a regional and consistent approach to flood risk*

## Planning and environmental opportunities

These policies support the LLFA's role in the planning process and outline how a proactive approach to reducing flood risk and improving the natural environment will be taken for all sizes of development.

*Integrate sustainable drainage into the new development process to a level which exceeds current standards*

*Work with developers and the Council's planning service to ensure that drainage and flood risk are considered throughout the development process*

*Develop a process to manage and reduce private hard standing areas having a negative impact on drainage systems*

*Investigate opportunities to open up culverts and restore natural banks when changing waterways, providing flood defenses or as part of new development*

## Joint working and medium term mitigation

The following policies look at future opportunities for areas with a flooding history or known flood risk, working with others can give opportunities to fund major flood risk schemes and other initiatives.

*Identify funding opportunities for householders and businesses to prepare their properties against the risk of flooding*

*Share information with other RMAs on flooding incidents to develop and maintain a flood incident register*

*Develop a medium term plan for surface water management and flood mitigation schemes where there is a flooding history*

*Work with other RMAs to identify potential joint working opportunities to reduce flood risk*

*Ensure external funding opportunities are known and applied for where possible*

*Work with neighboring local authorities to take a regional and consistent approach to flood risk*

## Delivering the strategy

Following the implementation of the strategy annual overviews will be published on the Council website, these will provide information on flooding incidents in the borough, completed or proposed mitigation works and how we are delivering our duties as the LLFA.

In addition to this a number of documents will also be produced to support the strategy, these at present include:

*sustainable drainage supplementary planning document;*

*flood investigation protocol;*

*flood asset protocol;*

*customer information on flood risk management.*

## 2 *Glossary*

**CATCHMENT** A surface water catchment is the total area that drains into a river or other drainage system

**CATCHMENT FLOOD MANAGEMENT PLAN (CFMP)** A strategic planning tool through which the Environment Agency works with other key decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.

**CULVERT** A piped watercourse

**CLIMATE CHANGE** A long term change in weather patterns. In the context of flood risk, climate change will produce more frequent and more severe rainfall events.

**CRITICAL INFRASTRUCTURE** Any infrastructure such as transport links, public buildings or services considered vital and where the failure would have significant impact on the local community.

**DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (DEFRA)** The UK government department responsible for policy and regulations on the environment, food and rural affairs

**DGS REGISTER** A Water and Sewerage Company (WaSC) held register of properties which have experienced sewer flooding (either internal or external flooding) due to hydraulic overload, or properties which are „at risk“ of sewer flooding more frequently than once in 20 years.

**EXCEEDANCE FLOWS** Excess flow that appears on the surface once the capacity of the underground drainage system is exceeded

**FLOOD RISK REGULATIONS** Legislation that transposed the European Floods Directive in 2009

**FLOOD AND WATER MANAGEMENT ACT** The Flood and Water Management Act clarifies the legislative framework for managing surface water flood risk in England.

**FLOODS DIRECTIVE** The EU Floods Directive came into force in November 2007 and is designed to help Member States prevent and limit the impact of floods on people, property and the environment. It was transposed into English law in December 2009 by the Flood Risk Regulations.

**FLOOD ZONES** Flood zones on the maps produced by Environment Agency providing an indication of the probability of flooding (from rivers and the coast) within all areas of England and Wales.

**FLUVIAL FLOODING** Resulting from excess water leaving the channel of a river and flooding adjacent land

**LEAD LOCAL FLOOD AUTHORITY (LLFA)** The authority, either the unitary council, or county council, with responsibility for local flood risk management issues in its area, as defined in the Flood and Water Management Act

**LOCAL DEVELOPMENT FRAMEWORK (LDF)** A folder of documents which includes all the local planning authority's Local Development Documents (LDDs). The local development framework will also comprise the statement of community involvement, the local development scheme and the annual monitoring report.

**LOCAL RESILIENCE FORUMS (LRF)** LRFs are multi-agency forums, bringing together all organisations which have a duty to co-operate under the Civil Contingencies Act, and those involved in responding to emergencies. They prepare emergency plans in a co-ordinated manner.

**MAIN RIVER** Main Rivers are watercourses marked as such on a main river map. Generally main rivers are larger streams or rivers, but can be smaller watercourses in critical locations.

**ORDINARY WATERCOURSE** An ordinary watercourse is any river, stream or ditch which is not a Main River. They are the responsibility of riparian owners.

**PITT REVIEW** An independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England

**PLUVIAL FLOODING** Pluvial flooding (or surface runoff flooding) is caused by rainfall and is that flooding which occurs due to water ponding on, or flowing over, the surface before it reaches a drain or watercourse.

**RESILIENCE MEASURES** Resilience measures are designed to reduce the impact of water that enters property and businesses, and could include measures such as raising electrical appliances, concrete floors etc Resistance measures Resistance measures are designed to keep flood water out of properties and businesses, and could include flood guards, air brick covers etc.

**RIPARIAN OWNERS** A riparian owner is someone who owns land or property adjacent to a watercourse. A riparian owner has a duty to maintain the watercourse and allow flow to pass through his land freely.

**RISK** In flood risk management, risk is defined as the probability of a flood occurring x consequence of the flood

**STRATEGIC FLOOD RISK ASSESSMENT (SFRA)** An SFRA provides information on areas at risk from all sources of flooding.

**STORM RETURN PERIOD** The chance of a flood of a given size happening in any one year eg 1 in 100 flood will have a 1% chance of occurring per year

**SURFACE WATER FLOODING** Flooding from water runoff flowing over the surface of the ground from uphill land following a rainfall event.

**SURFACE WATER MANAGEMENT PLAN (SWMP)** A plan to identify, manage and coordinate surface water flood risk between relevant stakeholders

**SUSTAINABLE DRAINAGE SYSTEMS (SUDS)** A sequence of management practices and control measures designed to mimic natural drainage processes by allowing rainfall to infiltrate and by attenuating and conveying surface water runoff slowly compared to conventional drainage.

**URBAN CREEP** The change of permeable areas within the urban environment to impermeable areas. Typical types of urban creep are the creation of patios, paving the front gardens to create hard standing parking areas or house extensions.

**WATER FRAMEWORK** A European Community Directive (2000/60/EC) of the European Parliament Directive (WFD) and Council designed to integrate the way water bodies are managed across Europe. It requires all inland and coastal waters to reach “good status” by 2015 through a catchment-based system of River Basin Management Plans.

## **3 *Introduction***

## Introduction

The risk of flooding in the United Kingdom is ever increasing due to climate change. As we experienced in the summer of 2012 such instances can happen at any time and anywhere. While it is not possible to prevent or predict flooding, there are steps that can be implemented that can reduce the risk and impact from flooding.

This document identifies the strategies, measures and techniques Gateshead Council intends to use to mitigate risks from flooding and ensure the safety and wellbeing of the communities, economy and environment in the borough as much as possible.

### 3.1 Background

Flooding can occur from a number of sources and the roles and responsibilities within flood management are dependent on these, they have been broadly distributed across a number of government agencies and authorities.

While these have now been outlined in the Flood & Water Management Act, in addition to the national and risk management authorities, there are also responsibilities for land and property owners.

With such a wide number of parties involved in flood risk management there has been historically a lack of coherence when planning and reacting to incidents, leading to the need to share information and work together.

There is always risk of flooding, while climate change and weather patterns make the severity and frequency of storms difficult to predict,

development and economic growth provide a demand for new development and infrastructure for a local area to prosper.

Local authorities are faced with meeting these challenges of flood risk and managing growth with development. This must be managed in a way that does not impose a further risk of flooding to either planned or existing communities nor create a framework that is detrimental for sustainable growth to the borough.

Floods over the last decade have been widespread across the United Kingdom, with no pattern or source, leaving a sense of unpredictability to future occurrences. These events are devastating to local communities and highlighted the vulnerability of unprepared areas without adequate plans or infrastructure. Flooding in the UK and Europe has led to a European directive that is transposed into English law by the Flood Risk Regulations (FRR) and requires member states to manage “significant” flood risk.

A government commissioned review by Michael Pitt in 2007 led to the introduction of the Flood & Water Management Act (FWMA) in 2010, which for the first time created a responsibility for local authorities to take the lead in the management and coordination for flood risk.

As the lead local flood authority (LLFA), Gateshead Council must develop a flood risk management strategy (FRMS), which as described by section 9 of the FWMA intends to “develop, maintain, apply and monitor a strategy for local flood risk

management in its area.”

### 3.2 Borough specific considerations

Gateshead is a unitary borough in Tyne & Wear, bordered by Newcastle, South Tyneside, Sunderland, County Durham and Northumberland with the River Tyne, (a main river) acting as the northern extent across the borough.

The borough has an area of 55sq miles and a population of 200,000; it has urban and rural characteristics with employment centres at Team Valley, Gateshead town centre and the MetroCentre.

There are two main transport routes of national importance, firstly the East Coast Mainline and the A1, the main transport link between London and Edinburgh by rail and road respectively. In addition to this the

Tyne & Wear Metro, Newcastle to Carlisle and Newcastle to Sunderland rail lines and strategic roads including the A194(m), A184 and A695 are key network routes for the region.

### 3.3 Flooding Characteristics

Flooding events can be categorised by how the flooding occurred, each form of flooding poses specific threats and dangers and can fall under the management of a number of authorities. These are summarised in table 1.

#### 3.3.1 Coastal / Tidal Flooding

While there is no coastline in Gateshead tidal flooding, does pose a risk to Gateshead. The River Tyne is tidal upstream to Wylam, while the level can fluctuate between up to 5m daily the majority of instances pose no threat.

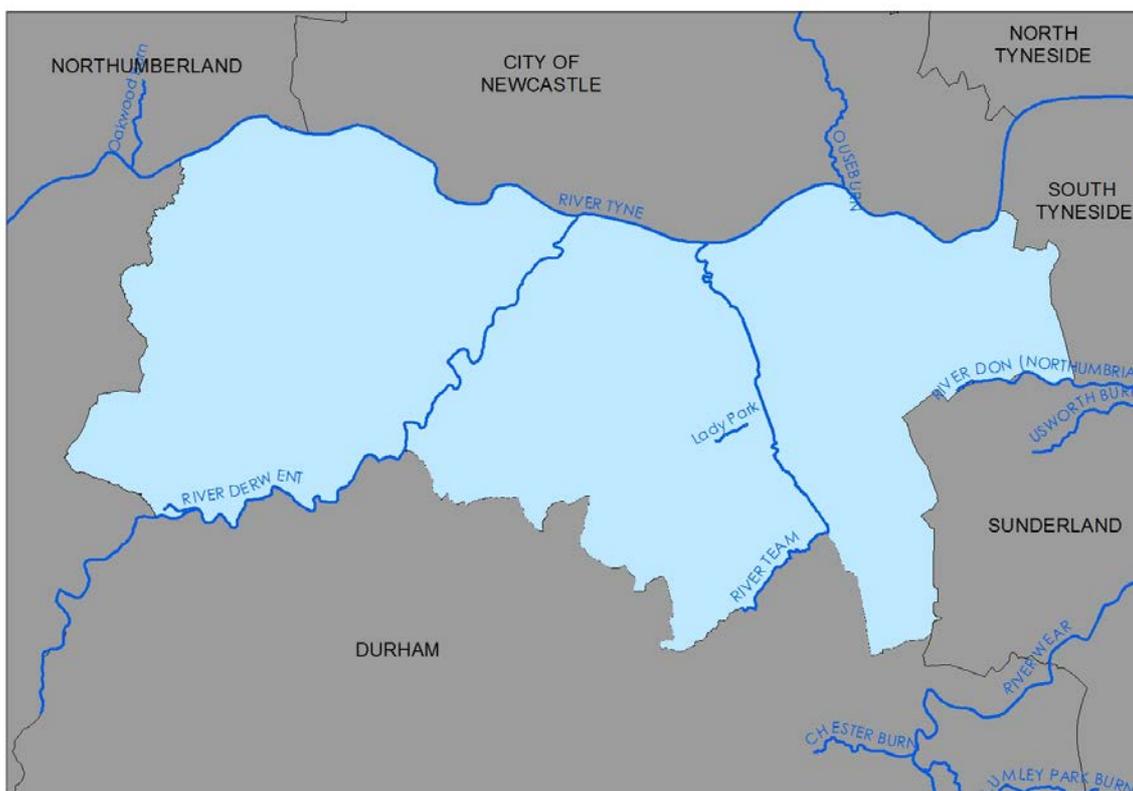


Figure 3.1: Main Rivers in Gateshead

There have been a handful of instances such as a tidal surge in December 2013 where high tides and storms combined have proven to be a source of flooding. It is the responsibility of the Environment Agency to manage the risk of coastal and tidal flooding.

Features such as river walls have provided adequate defence against this form of flooding. The risk of any significant tidal events can be predicted using tide tables and lunar calendars and any significant risks are published by the Environment Agency.

### 3.3.2 Main Rivers

Also referred to as fluvial flooding, this is the inundation of water on floodplains or land from rivers and watercourses. There are three main rivers within Gateshead which are susceptible to fluvial flooding.

The River Tyne forms the northern boundary of Gateshead and a number of its tributaries flow through the borough, while the river is tidal there have been flood defense measures such as river walls developed along the majority of the riverside.

The Environment Agency is responsible for managing the flood risk for main rivers, which also includes the River Derwent and Team, these are indicated on illustration 1 below.

### 3.3.3 Minor Watercourses

There are a substantial amount of ordinary watercourses across the borough, these can be either open or culverted. There has been no historic recording these however the council has a record of known culverts.

Watercourses that are not designated as a main river have Riparian responsibilities, meaning the maintenance and free flow is the responsibility of the landowner.

Culverted watercourses should not be confused with surface water sewers, which are responsible for the removal of surface water from private properties and the responsibility of Northumbrian Water.

### 3.3.4 Surface Water Flooding

Surface water, or pluvial flooding is flooding caused by run off from adjacent land, sometimes referred to as over land flow. The threat of surface water flooding is not as obvious to property owners as problem areas and risks can be harder to identify than watercourse flooding.

Surface water flooding is generally more common in the rural and hillier areas of the borough. Areas such as Kibblesworth, Rowlands Gill, Leam Lane, Sunnyside and Clara Vale have experienced rapid surface water runoff from arable farmland and pastures as water follows its natural course into the watercourses.

The summer floods in 2012 demonstrated the risks from overland surface water flows to rural communities as well as urban areas where existing drainage systems could not cope.

It is the responsibility of the land or property owner to take measures to manage surface water that may pose risk to their property, it is also a duty of the landowner to accept natural flow of surface water runoff from uphill land.

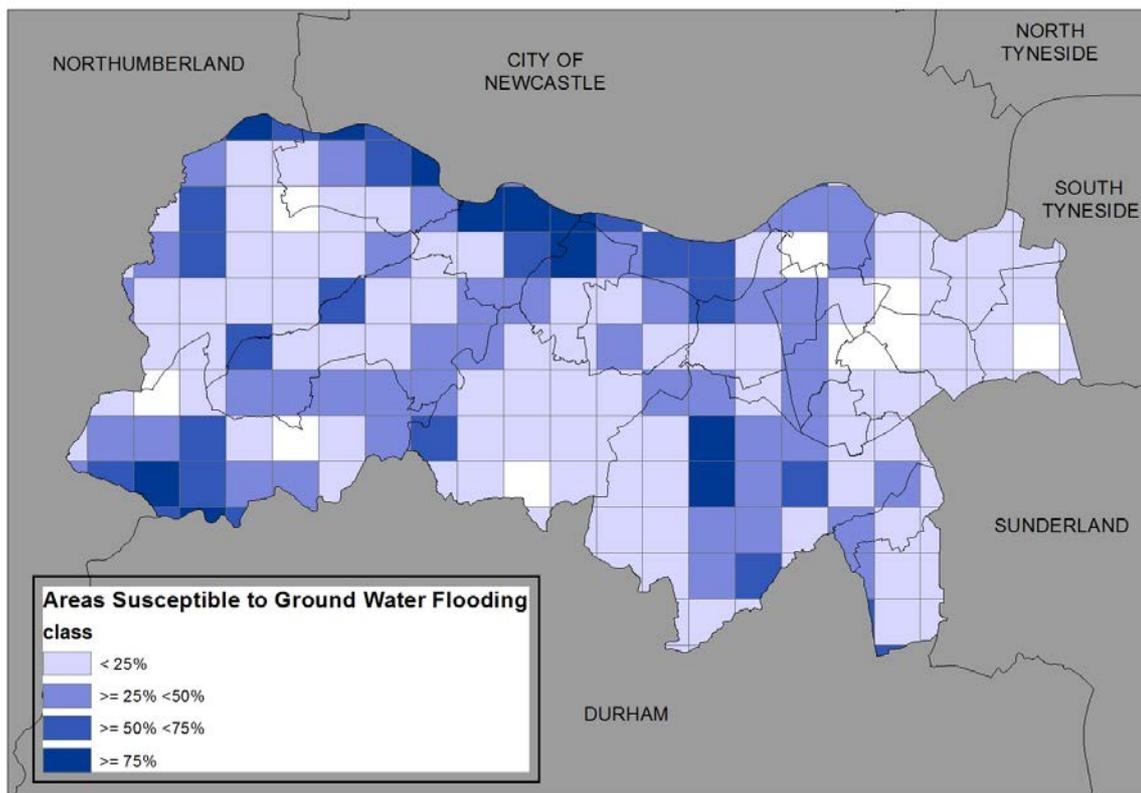


Figure 3.2: Areas susceptible to groundwater flooding

Other common instances of surface water flooding are found on the adopted highway where following a period of heavy rainfall the gullies or highway drainage system is unable to discharge the rainfall at the rate it fell.

Such instances lead to dangerous driving conditions and can lead to temporary closure of highways and roads.

### 3.3.5 Groundwater Flooding

Groundwater flooding occurs as a result of water rising to the surface from underlying ground or abnormal springs, usually as a result of sustained increased rainfall raising natural groundwater levels.

Groundwater issues are slow and prolonged and but very localised, such issues are difficult to manage and the responsibility of managing the issue is that of the landowner. Prolonged

cases of groundwater flooding can result in structural damage to property or infrastructure and in extreme circumstances can result in landslides and sink holes.

Groundwater flooding is usually more prevalent in low-lying areas where normal water tables are high and underground aquifers are present.

As Gateshead has a strong mining history, there is an increased risk of groundwater in areas with colliery heritage.

It is the responsibility of the land or property owner to take measures to mitigate the impact of groundwater on their property.

Older properties, with basements or floor levels lower than street level can also be susceptible to groundwater.

### 3.3.6 Sewer Flooding

Northumbrian Water are responsible for combined, foul and surface water sewers in the borough. Sewer systems are designed to work effectively as possible, however as high magnitude rainfall events and during extremely wet weather, the rainfall may exceed current design criteria.

Such events can result in exceeding capacity of the sewer and increasing the risk of flooding. One of the most recent occurrences of this type of event was the flooding experienced in the 2012 floods. If foul or waste were evident this would indicate a combined sewer-flooding event.

In addition to waste water flooding there is also the risk of mains water flooding from burst pipes or mains, such issues are normally confirmed with a water sample with a presence of fluoride.

## 3.4 The Scale of Flood Risk in Gateshead

As a result of climate change the risk of flooding in Gateshead will increase in the future, while past development and inadequate sewer systems could be held responsible for some issues, a structured programme of improvements is required in areas most susceptible to flooding.

As the Lead Local Flood Authority, Gateshead Council will outline the general principles of the strategy; determine the location and extent of flood risk and implement measures to manage this in a structured and economically viable way:

*Flooding is a natural occurrence, it cannot be prevented or predicted and the strategy can only reduce the risk and impact of flooding*

*A sustainable approach must be taken to manage flood risk, future development and the needs of existing residents*

*The strategy will consider economic constraints of management authorities and ensure responsibilities are still delivered*

*There are responsibilities that lie with land and property owners and a proactive approach to outline these is needed*

*Information shared between stakeholders and other responsible parties can significantly improve how flood risk is delivered*

### 3.4.1 Recent Flood Events

Gateshead, historically has had very few major flooding issues compared to other boroughs nationally, however there have been a number of incidents where damage to property and infrastructure have occurred. Such incidents have predominantly occurred due to heavy periods of rain and historically from the River Team and River Derwent.

However following a period of prolonged rain and the occurrence of a super cell storm on 28th June 2012 the Borough experienced the worst flooding in living memory. Around 400 properties were flooded as well as damage and closure of a number of main highways in the area in addition to community facilities and other local infrastructure including the Tyne and Wear Metro.

While this event was a phenomenon there were additional events to follow, events of heavy rainfall in July, August, September and November caused flooding in a number of other locations and some properties were affected more than once. While these events did not have the intensity of the June Storm, the saturation of the land and damage caused to the drainage infrastructure from that event caused discharge issues leaving water to discharge at a much slower rate.

In addition to this a tidal surge occurred in December 2013 leading to the flooding of infrastructure and properties within the tidal range of the rivers Team, Tyne and Derwent.

#### **3.4.2 Public Perception of Flood Risk**

The events of 2012, led to the disruption of many households and businesses leading to stress and worry for many affected. Although those affected generally understand the risks and responsibilities involved there is still a level of expectation on the various agencies and organisations to manage future risks.

Flood agencies, particularly the newly created LLFAs, have a role to play but an important outcome from this strategy will be to raise awareness of at risk property owners and provide knowledge and advice they may need to take measures to protect themselves.

While authorities all have statutory duties outlined within this document there are times and incidents where flooding is unpreventable and naturally too extreme.

There will always be events that are of such extremity they place people and property beyond economically viable protection where warning and evacuation may be the only solution.

It is ultimately the decision of a property owner as to what level of protection the property has, and the future availability of affordable house insurance against flooding may inevitably drive property owners towards providing their own flood protection and resilience measures to help reduce premiums.

## ***4 Roles & Responsibilities***

Following the publication of the Pitt Review in 2008, it was identified that the quality of response to flooding may have been inadequate due to the unclear responsibilities of agencies and organisations involved in Flood Risk Management.

As a result the FWMA outlines the roles of each organisation and the responsibilities associated with each, in addition to this a new role of Lead Local Flood Authority was created to work with other Risk Management Authorities and coordinate local response to flood management and mitigation.

Gateshead Council is the LLFA for the borough and represents two of four main Risk Management Authorities with legal responsibilities in the borough:

*The Environment Agency*

*The Lead Local Flood Authority (Gateshead Council)*

*The Water Company (Northumbrian Water)*

*The Highway Authority (Gateshead Council)*

## **4.1 Flood Risk Management Partnership**

Initiating, managing and maintaining partnerships are key steps to providing a coordinated approach to flood risk management across Gateshead. While the council frequently works with partners on flood risk, working relationships must be formalised to ensure that communication, co-operation, and data exchange between parties is clearly defined.

This may be done through Service Level Agreements (SLA) or Memorandums of Understanding (MoU). Stakeholders are then made fully aware of the expectations of themselves and of others.

### **4.1.1 Stakeholder Involvement**

As part of an on-going process to meet the requirements set out by the FWMA, partnerships with the following organisations will be formally established:

*Environment Agency*

*Northumbrian Water Limited (NWL)*

*Highways England*

*Northumberland County Council*

*Newcastle City Council*

*South Tyneside Council*

*Durham County Council*

*Sunderland City Council*

### **4.1.2 FRM Internal working group**

In addition to stakeholder involvement, a FRM internal working group will be created comprising of interested council departments, with representation from emergency services and other risk management authorities.

## **4.2 Roles and Responsibilities**

The roles and responsibilities of the RMA's are summarised below.

### **4.2.1 The Environment Agency**

The Environment Agency was established under the Environment Act 1998 and is a Non-Departmental body of the DEFRA. The Environment Agency are the main body for

improving and protecting the environment nationally, including the management of flood risk and the strategic overview of all forms of flooding.

The Environment Agency work with other flood risk management authorities to develop flood defence and surface water management policies and projects. Jointly funded schemes between Gateshead Council and the Environment Agency have been implemented in the borough to reduce the risk of flooding through the Local Levy and Flood Defence Grant in Aid Scheme.

*Strategic overview of all forms of flooding*

*Risk-based management of flooding from “main rivers”*

*Regulation of the safety of higher-risk reservoirs*

*Coordination of Regional Flood and Coastal Committees*

*Development of the National Strategy for Flood and Coastal Erosion Risk Management*

*Powers to request a person for any information relating to its flood management responsibilities*

*Powers to designate structures and features relating to “main rivers”*

*A duty to report to ministers on flood risk management*

*Is a Competent Authority for the Water Framework Directive*

#### **4.2.2 The Lead Local Flood Authority (Gateshead Council)**

As the lead local flood authority, Gateshead Council are responsible for flood risk management issues

including policies, strategies, investigation and education.

While the duties are fully detailed in section 4.3 of this document, in summary the lead local flood authority is responsible for the development of policies, strategies and plans to mitigate flood risk in addition to the investigation of flooding events within the borough and working relevant risk management authorities.

*Development of the strategy for local flood risk management*

*Strategic leadership of local risk management authorities*

*Reducing the risk of flooding from surface water, groundwater and ordinary watercourses*

*Powers to request a person for any information relating to its flood management responsibilities*

*A duty to investigate significant flood incidents and determine and allocate responsibilities*

*A duty to maintain a register of structures or features likely to have a significant effect on flood risk*

*Powers to designate structures and features relating to flood risk, other than from “main river”*

*Advise on land use planning processes to mitigate flood risk resulting from new or re-development of land*

*Responsibility to approve, adopt and maintain SuDS on new development sites*

*A duty to ensure local flood risk management functions are consistent with the national strategy*

### 4.2.3 The Water Company (Northumbrian water)

Northumbrian Water is responsible for providing mains water and sewerage services to the borough. It is a private company but has a number of legal responsibilities regarding flood risk management for these.

Like other risk management authorities the Water Company works with others to deliver investigation and improvement schemes that mitigate the risk of flooding and reduce the impact of surface water on the foul network and treatment works.

*Where appropriate, assist the LLFAs in meeting their duties in line with the national strategy and guidance*

*Where appropriate, assist the LLFAs in meeting their duties in line with local strategies in its area*

*Where appropriate, sharing of information and data with RMAs, relevant to their flood risk management functions.*

*A duty to effectually drain their area, in accordance with section 94 of the Water Industry Act 1991.*

*A duty to register all reservoirs with a capacity greater than 10,000m<sup>3</sup> with the Environment Agency*

*An agreement with Ofwat to maintain a register of properties at risk from hydraulic overloading in the public sewerage system (DG5 register).*

*The appropriate management of surface water in combined systems.*

*Encouraging the use of SuDS*

*Creating a detailed understanding of flood risk from the public sewer system. Explore and implement multi benefit/agency schemes.*

### 4.2.4 The Highway Authority (Gateshead Council)

In addition to the adopted highway maintained by Gateshead Council there are also two main trunk roads in the borough, the A1 and the A194(M) which are the responsibility of Highways England.

The duties of the Highway Authority are stated below:

*A duty to act in a manner which is consistent with the local and national strategies and guidance*

*A duty to share information with other RMA's to help undertake their flood risk management functions*

*A duty to drain the adopted highway of surface water in reasonable conditions*

### 4.2.5 Landowners & Other Parties

In addition to the role of RMAs, individual landowners have a number of legal responsibilities.

Those owning land adjacent to watercourses, known as riparian owners, have important rights and responsibilities relating to flood risk management from natural watercourses:

Landowners also have responsibilities regarding surface runoff, any person owning lower-level ground has to accept natural land drainage water (that is, spring water, ground water or surface water run-off) from adjacent land at a higher level.

An exception to this is where the owner of that adjacent land has installed features where run-off from the land cannot be considered natural such as flow from large hardstanding areas, outlet pipes discharging into neighboring properties, or water from gutter drainpipes.

*A right to receive flow in its natural quantity and quality. Water may only be abstracted from a watercourse with the formal approval of the Environment Agency;*

*A right to protect their land and property from flooding and erosion. Any associated works must be approved by the Environment Agency and/or LLFA;*

*A responsibility to allow water to flow through their land without obstruction, diversion or pollution;*

*A responsibility to receive flood flows through their land;*

*A responsibility to keep the watercourse bed and banks free of litter and debris.*

## 4.3 The Powers and Duties of Gateshead Council (LLFA)

As stated in the FWMA, Gateshead Council, as lead local flood authority has 6 main duties it must perform in order to take a lead on flood risk management, these are outlined below:

### 4.3.1 A duty to produce a local flood risk management strategy

The Council must apply, monitor and publish a local strategy. The strategy will provide a framework to deliver a prioritised programme of works and initiatives to manage flood risk in the

area.

### 4.3.2 A duty to co-operate with other risk management authorities

The Gateshead Flood Risk Management Partnership consists of Gateshead Council, Northumbrian Water and the Environment Agency, at present there are quarterly liaison group meetings held between parties, however we work with other partner members frequently to discuss and resolve issues in the area.

### 4.3.3 A duty to investigate flooding incidents

The Council will coordinate the investigation of flood incidents, determining responsibility for any further action from risk management authorities. The LLFA has local discretion to determine which flood incidents it investigates.

Following the events of Summer 2012 a hierarchy system has been developed to ensure incidents that have the most significant impact are prioritised for investigation. The Council will formally investigate flood incidents which meet the following criteria:

*Category A – 10 or more internal properties flooding or flooding leading to closure of critical infrastructure (Sites indicated in figure 1)*

*Category B – Internal flooding of two or more properties or individual properties with previous internal flooding history*

*Category C – Locations where single properties flooded internally or highway functions were disrupted due to standing water*

The investigation process is to be formalised in the Flooding Investigation Protocol, this will outline formally how investigations are prioritised and investigations are undertaken.

The results of any category A or B investigation will be added to the councils flood register and a report of the investigation will be available on request and may be published on the Councils website and any relevant risk management authorities informed of the results.

The purpose of an investigation is to determine the source of the flood, this may not be the responsibility of any risk management authority, however in these instances advice can be provided to those responsible and affected to mitigate the issue.

Surface water on the highway should also be considered, as the highway authority the Council will investigate any incidents caused by highway surface water or discharge from the highway further.

#### **4.3.4 A duty to maintain a register of drainage assets/features**

The Council must create and manage a register of structures or features which it considers are likely to have a significant effect on local flood risk.

A record of responsible parties, asset condition and a risk assessment will also be made. The register will be available for inspection.

The LLFA has discretion to set a local indication of significance to determine which assets it records on the register.

At present the Council's register of drainage assets include the following known structures or features:

*Culverts*

*Inlet and Outlet structures*

*Pumping stations*

*Ponds and lakes*

*Storage and attenuation features*

*Any future adoptable SuDS features*

*Designated highway drainage features*

The process for the register will be outlined in the Flood Asset Register Protocol, this will outline formally how assets are to be designated, assessed and managed.

The register will be made available on the Council website and allow local residents, communities and businesses to better understand where the significant drainage and flood management features are located.

#### **4.3.5 A power to designate features that affect flood risk**

If a feature or structure that is privately owned is considered to be a risk to flooding by the LLFA it may formally designate the structure or feature as a flood risk asset.

This places legal responsibilities on the owner of the asset to manage it with due regard to its function as a flood risk feature. The owner may not alter, remove or replace a designated structure or feature without the consent of the LLFA.

The process and criteria for designation will be outlined in the Flood Asset Register Protocol. Designated features may include:

*Culverts*

*Highway or storm drains*

*Structural walls*

*Flood banks*

*Any other structure where there is evidence that their location affects flood risk.*

#### **4.3.6 A power to formally consent works within Ordinary Watercourses**

Legal powers regarding the consent of works in ordinary watercourses now lie with the LLFA. Any works related to main rivers require consent from the Environment Agency.

Such works include the construction of new or replacement:

*Culverts*

*Weir structures*

*River walls*

*Any other works (either permanent or temporary) which interfere with the flow of water within the watercourse.*

The Council will actively manage works proposed by riparian owners to ensure that flood risk does not increase as a result of their actions.

#### **4.3.6 A duty to promote and manage Sustainable Drainage**

As of April 2015 the LLFA is now a statutory consultee of the Local Planning Authority and is responsible for the overview of surface water on new development.

The preference for management of surface water is now through sustainable drainage systems (SuDS) which are to be incorporated into the planning process.

A supplementary planning document (SPD) is currently being prepared to outline the requirements for this.

### **4.4 Other responsibilities of Gateshead Council (non LLFA)**

In addition to the responsibilities of the council as the LLFA, there are other responsibilities that are related to flood risk management and the delivery of the strategy:

#### **4.4.1 as a Category 1 Responder (Emergency Planning)**

The council has a number of responsibilities related to emergency planning, these are delivered by the Resilience Planning team, while this involves preparing for a multitude of scenarios flood risk and emergency planning related to major flooding incidents is a key consideration for this strategy.

The responsibilities of the Council as a category 1 responder are outlined below:

*A duty to assess risk of emergencies occurring and use this to inform contingency planning*

*A duty to put in place emergency plans*

*A duty to put in place Business Continuity Management arrangements*

*A duty to put in place arrangements to make information available to the public about civil protection matters and maintain arrangements to warn, inform and advise the public in the event of an emergency*

*A duty to share information with other local responders to enhance co-ordination*

*A duty to Co-operate with other local responders to enhance co-ordination and efficiency*

*A duty to provide advice and assistance to businesses and voluntary organisations about business continuity management*

#### **4.4.2 as the Highway Authority**

The council also has legal responsibilities as the highway authority, while these have been outlined in section 4.2.4 of this document. It is a requirement under the Highways Act 1980 to ensure the highway is drained and any drainage systems are maintained until they connect to the public sewer.

The highway authority has a responsibility to manage culverts that pass under the adopted highway, this can be achieved by clearing the inlet and outlet structures on a relevant frequency.

There is also a duty to adopt and maintain drainage on newly adopted roads, as part of this any new development must have a highway drainage system that is constructed to an adoptable standard. This includes any SuDS on a new development that only drains a newly-constructed road.

#### **4.4.3 as the Local Planning Authority**

The Local Planning Authority (LPA) has a responsibility to consider flood risk in regard to all aspects of planning and development.

From April 2015 the LLFA is now a statutory consultee of the LPA and a Sustainable Drainage supplementary planning document (SPD) is currently being developed to outline how flood risk should be managed through the development process.

#### **4.4.4 as a landowner**

The Council also own land within the borough, the responsibilities related to flood risk are the same as that for any other landowner and are outlined in section 4.2.5 of the document.

It is the responsibility of the Council to manage flood risk as appropriate in these areas.

## **5 Framework**

The primary objective of the flood risk management strategy is to deliver the statutory requirements of the lead local flood authority and other responsible authorities.

While this strategy is written to achieve this, there are national, regional and local framework. These influence the nature, extent and method such outcomes are approached.

There are many of these that could be considered to be relevant to the FRM Strategy, those with the most impact are indicated in figure 1.1 and explained below.

## 5.1 National and European Legislation / Strategies

European and national strategies or legislation are essential to the development of the Flood Risk Management Strategies across the United Kingdom as they provide guidance on what is expected from each LLFA. Such documents can come from either the European Union or the UK government.

The Flood Directive was transposed into English law by the Flood Risk Regulations (FRR) 2009 and outlines the requirement for the Environment Agency and LLFAs to create Preliminary Flood Risk Assessments

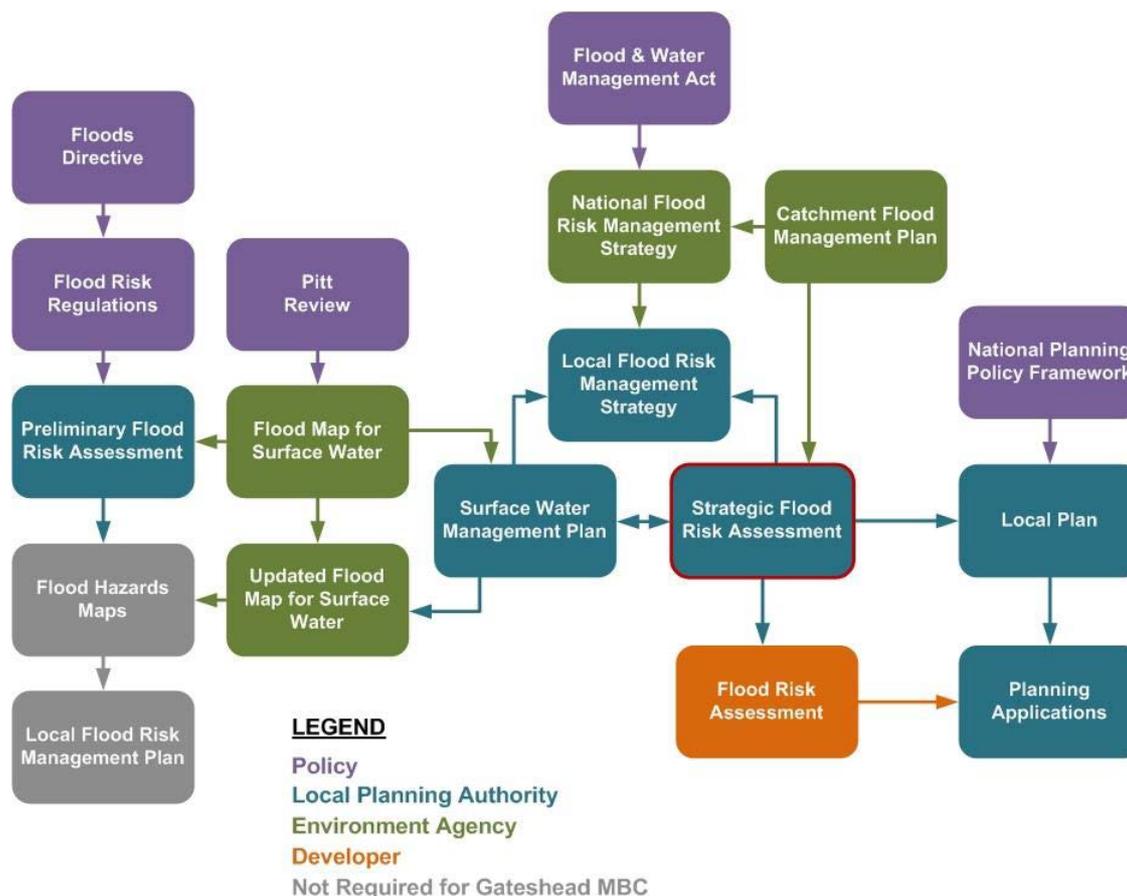


Figure 5.1: Key documents and strategic planning links (from the Gateshead SFRA)

(PFRAs), with the aim of identifying significant flood risk areas.

PFRAs cover the entire area for local flood risk (focusing on ordinary watercourses, surface water and groundwater flooding). Where significant flood risk areas are identified using a national approach (and locally reviewed), the LLFA will then be required to undertake flood risk hazard mapping and Flood Risk Management Plans (FRMPs)

The FRMP must consider objectives for flood risk management (reducing the likelihood and consequences of flooding) and measures to achieve those objectives.

#### **5.1.1 EU Floods Directive & the Flood Risk Regulations**

European Flood Directive (2007) sets out EU's approach to managing flood risk and aims to improve the management of the risk floods pose to human health, the environment, cultural heritage and economic activity.

#### **5.1.2 Flood & Water Management Act**

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

The FWMA creates clearer roles and responsibilities and instills a more risk-based approach. This includes a new lead role for local authorities in managing local flood risk (from surface water, ground water and ordinary watercourses) and a strategic overview role of all flood risk for the Environment Agency.

Section 4 of this document outlines these responsibilities in more detail, it is seen that the content and implications of the FWMA provide considerable opportunities for improved and integrated land use planning and flood risk management by local authorities and other key partners.

The integration and synergy of strategies and plans at national, regional and local scales, is increasingly important to protect vulnerable communities and deliver sustainable regeneration and growth.

#### **5.1.3 The Pitt Review**

The Pitt Review was carried out following the severe floods of summer 2007 and is a key document for local authorities in their consideration of flood risk management. Sir Michael Pitt was asked by ministers to conduct an independent review of events and report on the lessons that should be learned.

The final report released in June 2008 contains detailed findings, conclusions and 92 recommendations for action, covering all aspects of strategic and local flood risk management. These interim conclusions are intended to shape the national approach to flood management and can be accessed via the Defra website.

#### **5.1.4 National Planning Policy Framework and Planning Practice Guidance**

The National Planning Policy Framework was published by the Department for Communities and Local Government (DCLG) in March 2012. It sets out the national planning policy for managing flood risk within

paragraphs 100-104.

Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. Local plans should be supported by a strategic flood risk assessment (SFRA) and policies to manage flood risk from all sources, taking account of advice from the Environment Agency and the LLFA.

Local plans should: apply sequential and exception tests, safeguard land from development that is required for current and future flood management, use opportunities offered by new development to reduce the causes and impacts on flooding and where climate change is expected to increase flood risk consider relocation to more sustainable locations. It also sets out planning policy requirements for planning applications for sequential and exception tests and flood risk assessments (FRA).

Further flood risk guidance is set out in the online NPPF Planning Practice Guidance which was launched in March 2014.

This provides detailed guidance on the preparation of SFRAs and FRAs, the sequential and exception test, how LLFAs should assist LPA's, reducing flood risk, SuDS, making development safe, flood resilience and resistance and managing residual risk, including emergency planning.

The LPA's and developers are advised to refer to and use NPPF and planning practice guidance and the local plan in conjunction with the further advice

and guidance contained within this strategy.

## 5.2 Local Flood Strategies / Plans

While national guidance gives clear information on what is expected from a LLFA, the challenge locally is developing a FRM's which is sympathetic to the local area and meets its specific needs.

There are a number of local and regional policies specific to Gateshead and Tyneside that must be considered to ensure the FRM shows understanding with other authorities regarding flood risk and surface water management.

In addition to the above the strategy must adhere to the longer term goals and aspirations of Gateshead Council in a way which helps in encouraging development, sustainability and economic growth.

### 5.2.1 Tyne Catchment Flood Management Plan (CFMP)

The Tyne CFMP was published in December 2008. It is a high level policy document covering the whole of the River Tyne catchment.

The CFMP is investigating what factors influence flood risk at the catchment scale and will assess the impacts that climate change, land use change and urbanisation may have on flood risk over the next 50 to 100 years.

The CFMP has established a policy framework for flood risk management across the catchment through which future flood defence management strategies and programmes will be formulated.

Recognition of these strategic plans is very important to local authority planners when planning for the future and considering long term land use options for re-generation, inward investment and growth.

### 5.2.2 NewcastleGateshead Surface Water Management Plan (SWMP) January 2012

An evidenced based plan for the reduction of risk from surface water flooding across Gateshead and neighbouring city of Newcastle, this document outlines the surface water management strategy to facilitate future development across both authorities' administrative boundaries.

### 5.2.3 Gateshead Strategic Flood Risk Assessment (SFRA) October 2013

The SFRA provides an assessment of all types of flood risk across Gateshead which forms part of the evidence base for the Council's local plan and will inform future planning decisions in accordance with NPPF. The SFRA enables Gateshead Council to apply the sequential and exception tests when allocating land for development, support flood risk policies and identify opportunities for reducing flood risk.

The Level 1 SFRA identifies flood risk from all sources including: fluvial, tidal, surface water, sewers, groundwater and reservoirs and other artificial sources. It also assesses current flood management measures including the Environment Agency flood warning system and flood defences. It also identifies critical drainage areas and functional floodplain.

The Level 2 SFRA includes further analysis on areas identified at greatest risk. It includes detailed 1D-2D hydraulic modeling of the River Tyne and the lower reaches of the Derwent and Team and climate change scenarios.

### 5.2.4 Other Flood Studies

In addition, to the SFRA other flood studies form the evidence for the local plan:

*MetroGreen flood management plan;*

*Metrogreen detailed surface water management plan;*

*Gateshead Quays Wall Condition Survey and climate change adaptation study;*

*Team Valley Integrated Model;*

*SuDS suitability and viability assessments for strategic land review sites.*

### 5.2.5 Gateshead Unitary Development Plan

In 2007, Gateshead adopted their unitary development plan. The Gateshead UDP has four main functions:

*To state the Council's general policies on development and other use of land in the borough;*

*To allow public involvement in future planning decisions;*

*To define detailed proposals on a proposals map;*

*To provide a basis for development management*

The UDP is underpinned by a number of policies which have been saved, which seek to protect and enhance the environmental, economic and social aspects of the borough. Saved policies discussed under the environment (ENV) are considered to be of relevance. General policies of relevance include:

DC1: Environment	
Criterion J	Has no adverse impacts on the substrata drainage or the quality of the water in watercourse, lakes, ponds or groundwater

### 5.2.6 Gateshead Emerging Local Plan

The local plan and its constituent parts is key in achieving the Council’s overall vision for Gateshead and will help to deliver Vision 2030. The local plan will be made up of a number of development plan documents.

The local development scheme sets out a programme for the preparation of the local plan and its constituent parts. These can allocate land and provide the key spatial principles for the area:

*Planning for the Future Core Strategy*

*Urban Core Plan Gateshead and Newcastle 2010-2030*

*Making Spaces for Growing Places*

*Metro Green emerging Area Action Plan*

Once adopted, the local plan will replace Gateshead’s unitary development plan. As each part of the local plan is adopted it will replace the relevant element of the UDP: for example, once adopted, the One Core Strategy will replace the strategic policies of the UDP.

Other documents that are integral to the local plan process are:

*Statement of Community Involvement - This sets out how the community and other stakeholders are involved in planning decisions.*

*Sustainability Appraisal - This is a process that will ensure that all environmental, social and economic issues are taken into account in the preparation of the Local Plan.*

*Monitoring Report - A document produced each year to track progress in the local plan production and to monitor its implementation.*

### 5.2.6 Core Strategy and Urban Core Plan

Policy CS17 flood risk and water management seeks to ensure that the risk of flooding is managed effectively to ensure that new development is planned to avoid increased vulnerability to flooding. It promotes the use of sustainable drainage systems (SuDS) which offer multifunctional benefits to flood risk, water quality, green space and habitat enhancement.

The policy also encourages the use of measures to separate, minimise and control surface water run-off that will

reduce the risk of surface water flooding and place less pressure on existing drainage infrastructure.

The core strategy and urban core plan also includes a number of area site

specific policies to manage the flood risk and promote the use of SuDS within the urban core, neighbourhood and village growth areas, Metrogreen and south of Follingsby Lane key employment area (Policy KEA2

#### Policy CS17 Flood Risk and Water Management

Development will avoid and manage flood risk from all sources, taking into account the impact of climate change over its lifetime. Development will:

1. Avoid and manage flood risk to people and property by:

1. Locating new development in areas with the lowest risk,
2. Managing flood risk from development to ensure that the risk is not increased on site and/or elsewhere,
3. Ensuring opportunities for development to contribute to the mitigation of flooding elsewhere are taken,
4. Prioritise the use of Sustainable Drainage Systems (SuDS), given the multifunctional benefits to water quality, green space and habitat enhancement,
5. Ensuring development is in accordance with the Council's Strategic Flood Risk Assessment, and
6. Requiring a Flood Risk Assessment for sites over 0.5ha in Critical Drainage Areas as identified in the Council's Strategic Flood Risk Assessments.

2. Ensure water supply and foul and surface water infrastructure are provided with adequate capacity.

3. Not adversely affect water quality and where possible seek to improve water quality.

4. Separate, minimise and control surface water runoff, discharging in order of priority to:

1. Infiltration based Sustainable Drainage Systems,
2. A watercourse,
3. A surface water sewer, and
4. iv. A combined sewer.

## ***6 Moving Gateshead Forward***

Over recent years there have been a number of changes that have affected the approach the council has had to take on Flood Risk, while new legislation such as the Flood & Water Management Act 2010 and the Pitt Review have outlined clearer responsibilities and duties, economic change has led to less financial and labour resources to deliver the duties set.

In 2012 it was made clear exactly how big a risk flooding poses to the borough as there were more recorded incidents of flooding than any other year in the history of the borough. Leading to the closure of critical infrastructure and community buildings such as schools, in addition to residents and local businesses having to vacate their properties for a number of months.

While such events cause physical damage to personal property, increases insurance premiums and places a significant amount emotional stress on those affected, there is also a heavy economic impact to the region leaving some out of work while business premises are repaired and other companies unable to trade due to damage to property or infrastructure.

It is essential such issues are mitigated to ensure flood risk does not impact on the growth of Gateshead.

Working closely with residents, stakeholders and other council services such as The Gateshead Housing Company and Northumbrian Water can provide critical information needed for funding, designing and delivering adequate flood mitigation

projects.

## 6.1 Current challenges

The growth of Gateshead has resulted in a number of issues that increase the flood risk within Gateshead, particularly in the urban areas of the borough. The following are the key problems that are considered in the strategy.

### 6.1.1 Existing Infrastructure

The existing sewer network in many locations across the borough is dated and over capacity, a number of older sewers take a combination of surface and foul water.

While the flow of foul in these is relatively constant, if significant rainfall occurs there is the possibility that sewers will discharge with hazardous effluent causing a danger to properties and public spaces.

In addition to this there is a significant amount of surface water being placed through the sewage treatment process which is also nearing capacity.

Working with Northumbrian Water there is an ongoing programme to remove surface water from such systems, meaning surface water is discharged back into the natural environment directly, without treatment.

### 6.1.2 Urban Creep

More surface water is entering the drainage network due to the increased amount of hardstanding on private property, known as urban creep this can in some instances double the surface area of hard standing area discharging into a drainage system.

Regulations are now in place for monitoring works on private property, works such as drive widening now require approval from the planning authority meaning a more sustainable approach can be taken when constructing property improvements such as permeable paving and the installation of soakaways.

It is now becoming critical, especially on older housing developments that these regulations are enforced.

### 6.1.3 Public perception on flood risk

Flooding investigations from Summer 2012 have indicated that there is a lack of knowledge from residents and businesses on flood risk responsibilities and roles.

It is clear that residents must be made aware of their rights and responsibilities as landowners, tenants or riparian owners of watercourses.

In addition to this it should also be made as simple as possible for residents to report a flooding incident to the relevant authority.

While incidents are reported and investigations are undertaken many refuse to admit to flooding as they fear insurance and property values will be affected, however if risk management authorities have full information it can increase the justification for a major mitigation scheme.

## 6.2 Delivering Future Projects

Following the events in 2012 there have been significant levels of investigation from the lead local flood authority and other risk management

authorities. These have led to a number of schemes, varying in scale and budget that have been funded through a number of funding sources.

While recent funding cuts to local government have led to a more economic approach on flood risk, there are a number of sources where funding can be found when needed to implement schemes. Figure 6.1 indicates the sources of funding which are currently available and examples of how each has been utilised to reduce flood risk in Gateshead.

The recently implemented mitigation scheme at South View, Clara Vale (below) is an example of how applying for external funding and working with other stakeholders, residents and local councillors can deliver a sustainable and beneficial project on time, within budget.

## 6.3 Future Development

Both the Sustainable Community Strategy (Vision 2030) and the Local Development Plan encourage significant and sustainable growth within Gateshead, such future projects if not planned correctly may be subject to flooding or impose an increased risk on to existing flooding locations. It is the responsibility of Gateshead Council, both as the LLFA and Local Planning Authority to ensure this does not happen.

While we have always worked to ensure new development is done in a way that not only reduces flood risk, but also improves the ways in which surface water is managed, new legislation and powers will allow the council to ensure this is done in the most sustainable and effective way.

## 6.4 Sustainable Drainage Systems

Following changes to the development process in April 2015 the surface water adoption process for new developments of ten or more properties has changed.

Any new development must ensure surface water from the site is managed on site through a Sustainable Drainage System (SuDS) to reduce the impact on the already at capacity sewerage network.

These systems retain as much water on site as possible and attempt to simulate that of a greenfield site taking water naturally back into the water table where possible instead of through a sewer system. Examples of such features include storage basins and ponds, soakaways, water butts and green roofs.

While developers have had to implement similar features for a number of years due to the discharge rates set by the Water Company, the new challenge is that the Council are now responsible for the approval, enforcement and subsequent management/ maintenance of these developments.

### 6.4 Integrating SuDS into the planning process

The duty of approving such developments will be the responsibility of the Lead Local Flood authority and the Local Planning Authority and approval will be integrated into the existing planning process to ensure any new developments will actively reduce flood risk in the area.

In addition to the design challenges faced, the council will become responsible for the maintenance and management of the on site surface water system at the expense of the residents of the development.

While initial costs to residents are unclear, a set of SuDS adoption guidelines are to be developed to outline this and other parameters for design and maintenance that will comply with national standards and be in line with other local strategies such as the Highway Adoption Guidelines.

Funding Source	Description	Administered By	Appropriate For	Local Examples
Flood Defence Grant-in-Aid	Central government funding for flood defence projects, encourages a partnership approach to maximise match-funded schemes which reduce risk of flooding	Environment Agency	Medium to large capital projects	Clara Vale flood alleviation scheme
Local Levy	Annual contributions from Councils to a regional fund for smaller and more flexible schemes with less administrative requirements than that of FDGiA	Environment Agency	Smaller projects than FDGiA	Leam Lane storm drainage
Private Contributions	Funding from beneficiaries of projects is voluntary. Contributions could be financial or "in kind" eg land, volunteer labour. May come from other council services or organisations	Gateshead Council	All projects	Property Level Protection
NORTHUMBRIAN WATER Investment	Investment heavily regulated by Ofwat but opportunities for contributions to area-wide projects which help to address sewer under-capacity problems	Northumbrian Water	Removing surface water from sewer	Ravensworth Road, Dunston
SuDS on new developments	Future income through charging to residents of new developments with SuDS features constructed as a condition of the development.	Gateshead Council	Management and maintenance of SuDS features	Post 2015 planning applications
Council Capital Funding	The Councils infrastructure programme of capital improvement projects. This has included funding drainage capacity improvements for a number of years which is targeted at the highway drainage systems	Gateshead Council	Small to medium capital projects	Road gully repairs and replacement
Council Revenue Funding	Revenue streams support technical and admin processes and to maintain council infrastructure. Budgets include maintenance of Highway Drainage, Gully, Watercourse and funding the delivery of LLFA duties by the Council.	Gateshead Council	Engineers / Direct Labour	General maintenance/ investigation

Figure 6.1: Funding sources for the delivery of flood risk management duties

## ***7 Outcomes & Policies***

While previous chapters of this strategy have outlined the duties and responsibilities of Gateshead Council as the Lead Local Flood Authority and other risk management authorities, the following chapter will outline how these responsibilities are to be delivered.

The duties and responsibilities that have been outlined need to be delivered in a manner that meet the ambitions of Gateshead with regard to local policies and strategies.

## 7.1 Strategy Outcomes

To achieve this, eight main outcome measures have been identified, these give a clear direction for the delivery of the strategy and what is required from the council:

- 1 *Work with local communities, stakeholders and developers to deliver sustainable, good value solutions through a variety of funding sources to reduce the risk of flooding.*
- 2 *Take a proactive approach to investigating flooding incidents, raise awareness of the risks and responsibilities associated with flooding.*
- 3 *Develop and sustain a knowledge base on flood risk and sustainable drainage to provide a point of expert advice for local residents, businesses, stakeholders and developers.*
- 4 *Obtain and share information on existing drainage and flood risk assets by developing and maintaining a register of such, ensuring existing infrastructure is correctly maintained and functional.*
- 5 *Work with key partners involved in flood risk in the borough and neighboring authorities to develop sustainable and practical medium term plans.*
- 6 *Ensure flood risk poses minimal impact on critical infrastructure or potential economic growth opportunities.*
- 7 *Ensure Flood Risk poses minimal negative impact on the local and natural environment, encouraging enhancement wherever possible.*
- 8 *Ensure new developments do not have a detrimental effect on the drainage network, encourage sustainable drainage systems and further mitigation measures where required.*

## 7.2 Strategy Policies

To deliver these outcomes there are a total of 22 policies outlined in the table overleaf, these fall into four sub categories and summarised below.

### 7.2.1 Informing and Investigating

These policies outline how the Council will raise awareness of flood risk and investigate reported flooding incidents. They have strong involvement with the local community and set a standard for the investigation process.

### 7.2.2 Managing Risk, Infrastructure and Assets

The following policies develop a proactive approach to infrastructure related to flooding and critical risk areas. They involve working with other authorities and help to identify areas most at risk from flooding.

### 7.2.3 Planning and environmental opportunities

These policies support the LLFA’s role in the planning process and outline how a proactive approach to reducing flood risk and improving the natural environment will be taken for all sizes of development.

### 7.2.4 Joint working and medium term mitigation

The following policies look at future opportunities for areas with a flooding history or known flood risk, working with others can give opportunities to fund major flood risk schemes and other initiatives.

medium or long which indicate if this policy is to be delivered within one, three or five years.

While we are already working on delivering most of these policies there are other policies that require a longer term approach due to the scale of the task or funding and resource implications.

**Who is involved?**

The Highways and Flood Risk Management team within the Council’s Transport Strategy service have the responsibility for the delivery of the LLFA duties.

A number of other council services and stakeholders are also involved in the delivery of the strategy, these are listed below and their involvement is summarised in the policies over the page.

BC	Building Control
CBS	Community Based Services
CO	Communications
DM	Development Management
EA	Environment Agency
RP	Resilience Planning
SP	Spatial Planning
TGHC	The Gateshead Housing Company
TS	Transport Strategy

## 7.3 Timescales

The initial timescales are short,

## Informing an Investigating

Policy Number	Description	Outcomes	Who is involved	Timescale
FRM1	Develop council website and explore the use of social media to give flood management information, advice and support	1,2,	TS, CE	Short
FRM2	Develop a flooding investigation protocol with a clear and defined reporting system	2,4	TS	Short
FRM3	Undertake work with local at risk communities to raise awareness of flood risk and mitigation methods	1,2,4	TS, TGHC, CBS	Medium
FRM4	Promote proactive flood mitigation approaches and offer informal advice through local media, events and council buildings	1,2,3	TS, GC	Short
FRM5	Work with others to ensure infrastructure and properties are protected against flooding	1,4,5	TS, EA, NWL, RP, CS	Medium
FRM6	Raise awareness of flood warning systems, met office warning systems and other toolkits available to those potentially at risk from flooding	1,2,3	TS, CE	Short
FRM7	Ensure council officers, local members and other council services are aware of the responsibilities of the Lead Local Flood Authority and processes	1,3,5,6	TS, CE, DM	Medium
FRM8	Develop internal officer knowledge on flood risk management, mitigation methods and other relevant training to deliver the best possible level of service	3	TS	Medium/ Long

## Managing Risk, Infrastructure and Assets

Policy Number	Description	Outcomes	Who is involved	Timescale
FRM9	Work with resilience and emergency services to integrate flood risk into the emergency planning process	2,5,6,7	TS, RP	Medium
FRM10	Develop a flood asset register, determining the ownership responsibility condition and risk of critical infrastructure	4,5	TS, Residents, Businesses	Medium
FRM11	Work with other risk management authorities, riparian owners and other responsible parties to develop asset management plans and maintenance cycles for critical infrastructure	4,5	TS, CS, NWL, EA, Landowners	Medium/Long
FRM12	Work with other risk management authorities, riparian owners and other responsible parties to develop asset management plans and maintenance cycles for water courses	2,4,5	TS, CS, NWL, EA, Landowners	Medium/Long
FRM13	Develop a reactive sandbag policy which conforms to the needs of the local resilience forum	1,5,6	TS, RP, CS	Short

## Planning and environmental opportunities

Policy Number	Description	Outcomes	Who is involved	Timescale
FRM14	integrate Sustainable drainage into the new development process to a level which exceeds current standards	6,7,8	TS, DM, BC, SP	Short
FRM15	Work with developers and the Council's planning service to ensure that drainage and flood risk are considered throughout the development process	6,7,8	TS, DM, BC, SP	Short
FRM16	Develop a process to manage and reduce private hardstanding areas putting additional flow into drainage networks	6,7,8	TS, DM, BC, SP	Medium
FRM17	Investigate opportunities to open up culverts and restore natural banks when changing waterways, providing flood defences or as part of new development	1,2,6,7,8	TS,EA, DM , SP	Medium/Long

## Joint working and medium term mitigation

Policy Number	Description	Outcomes	Who is involved	Timescale
FRM18	Identify funding opportunities for householders and businesses to prepare their properties against the risk of flooding	1,2,4,5,6	TS, EA, NWL, TGHC, CBS	Medium/Long
FRM19	Share information with other RMA's on flooding incidents to develop and maintain a flood incident register	1,2,4,5	TS, EA, NWL, CS	Medium
FRM20	Develop a medium term plan for surface water management and flood mitigation schemes where there is a flooding history	1,2,5,6,7	TS, EA, NWL	Medium/Long
FRM21	Work with other RMA's to identify potential joint working opportunities to reduce flood risk	1,2,5,6,7,8	TS, EA, NWL, CS	Medium
FRM22	Ensure external funding opportunities are known and applied for where possible	1,5,6,7,8	TS, EA, NWL, CS	Medium
FRM23	Work with neighbouring authorities to take a regional and consistent approach to flood risk	3,5	TS, Other north-east councils	Medium

## **8 *Delivering the Strategy***

The outcomes within this Strategy provide the framework for delivery of the responsibilities of the council as the Lead Local Flood Authority. The strategy will be formally approved by the Council and adopted as a Council strategy.

## 8.1 Related documents to support the strategy

The strategy is a living document that will develop as new information, responsibilities and other factors influence the delivery of the measures outlined in the strategy.

At present there are a number of documents that will be completed following the approval of the FRMS to assist in the delivery of this:

### 8.1.1 Flooding investigation Process

The development of a flooding investigation process outlines the process of what is considered as a flood, how this should be investigated and how investigations should be concluded.

This document is essential for delivering a consistent approach to investigations and gaining the relevant information for a medium term plan.

### 8.1.2 Flood Asset Register Process

In addition to consistent investigations, it is essential that any assets which are critical to flood risk are recorded and monitored.

This document will outline what is considered an asset, how the level of risk is determined and the procedure for designating an asset.

Additional information on cyclical maintenance and advice for owners of assets on management, inspection and necessary works will also be included.

### 8.1.3 Sustainable Drainage Standards / SPD

To meet the responsibilities of the LLFA and LPA a supplementary planning document (SPD) is to be written to integrate these into the existing planning process. The document will provide advice and standards for developers and planning officers on sustainable drainage.

Information within these documents will include SuDS principles, legislation; responsibilities; appropriate design standards for SuDS components; information on the adoption and management process.

It is also expected that the document will develop a process for householder applications and ensure sustainable drainage is considered through all levels of development.

#### 8.1.4 Flood Risk web pages and public information

Information summarising the content of this document is also to be prepared to give residents an understanding of flood risk, responsibilities and how to manage risk. There will be a number of information leaflets that will be produced and available for residents to download or by post. These will include information on:

*Reporting Flooding*

*Flooding Investigation*

*Landowner & Riparian responsibilities*

*Protecting your property from flooding*

*Advice on external works (urban creep)*

*Living on a SuDS development*

It is also proposed that such information is to be available at community buildings such as local libraries and information stands at council or community events.

## 8.2 Progress review

In addition to the subsequent documents from the strategy, further information is to be produced on an annual basis to provide an overview of flood risk.

#### 8.2.1 Overview and Scrutiny committee

The performance of the council is already monitored against the measures assessed by local members through an annual report to the Overview and Scrutiny Committee in its role as the Lead Local Flood Authority.

This outlines the duties of the LLFA and how we are achieving them, it also gives members a formal opportunity to discuss policies or major projects related to flood risk.

#### 8.2.2 Annual Report

The annual progress report summarising the investigative and mitigation works that have been undertaken by the Flood Risk Management team will be produced.

This will also identify how we are working towards delivering the policies within this document, outlining medium term plans, prospective joint working or other mitigation works.

The Strategy has been developed to deliver a medium term improvement plan to establish the council in its role as the Lead Local Flood Authority.

It also intends to develop an internal framework and partnership agreements for to develop a long term approach to FRM measures across the borough.