

Bury Local Flood Risk Management Strategy



August 2017

Use of Information in this Report

As Lead Local Flood Authority (LLFA), Bury Council has a duty to develop, maintain, apply and monitor a Strategy for local flood risk management. The Local Strategy will complement and support the national flood risk management strategy, published by the Environment Agency.

The LLFA must specify objectives to manage flood risk and suggest measures to achieve these objectives. The LLFA has a responsibility to consider the flood risk management functions that it may exercise to reduce flood risk.

In support of the aim of a general reduction of flood risk across the district, the Council will prioritise investigations and works identified within this Strategy, based on perceived and evidenced risk and within limited resources.

The indication of flood risk in the report is high level and based on incomplete information. A level of subjectivity has been used in assessing relative flood risk and will be used to prioritise future, more robust investigation and assessments which will hopefully lead to reliable measures of risk. Consequently, it is not appropriate to apply some of the information and recommendations in this report at an individual property level.

Contents

Use of Information	1
Contents.....	2
1 – Introduction	3
2 – Flood Risk in Bury	5
3 – Future Influences on Flood Risk	15
4 – Legislative Context.....	18
5 – Roles and Responsibilities	21
6 – Objectives and Measures.....	26
7 – Flood Risk Management Funding	31
8 – Local Partnerships, Governance and Scrutiny	35
9 – Strategy Monitoring and Review.....	37
Appendix 1 – Action Plan	38

1 Introduction

- 1.1 Flooding is a natural process and does not respect political or administrative boundaries. It is principally influenced by natural elements of rainfall, tides, geology, topography, rivers and streams and man made interventions such as flood defences, roads, buildings, sewers and other infrastructure.
- 1.2 In Bury, the presence of major rivers, various other watercourses, impermeable soils and ageing infrastructure means flooding is a real issue and, when it occurs, it can seriously affect people's lives and businesses, as we witnessed in December 2015.
- 1.3 The three main aims of Bury's Local Flood Risk Management Strategy (LFRMS) are to:
 - Increase awareness of local flood risk;
 - Identify how partners can best work together to reduce the risk;
 - Provide an overview of flood risk management in the Borough
- 1.4 The Strategy updates the previous [LFRMS 2014](#) and seeks to improve our understanding of flood risk within the Borough by outlining the levels of risk from all sources. Extreme weather events appear to be on the rise, many of our existing homes and businesses are built in the floodplain and we are under increasing pressure to build more. The refreshed Strategy provides the opportunity to co-ordinate services so that the risk of flooding is reduced.

Structure of the Strategy

- 1.5 In outline the Strategy covers the following:

Chapter 2 provides a summary of flood risk in the Borough. This information helps to understand the varying levels of risk within Bury and prioritise geographical areas for action;

Chapter 3 considers future influences on flood risk;

Chapter 4 provides an over view of the legislation that underpins flood risk management in Bury;

Chapter 5 provides clarification on the various roles and responsibilities of the organisations involved in flood risk management. It also looks at the role residents and businesses can play in helping to manage flood risk, including riparian owners and property owners;

Chapter 6 identifies our objectives and measures for managing flood risk in Bury;

Chapter 7 provides an overview of funding opportunities for flood risk management;

Chapter 8 outlines the governance and scrutiny arrangements;

Chapter 9 discusses monitoring and review of the Strategy; and

Appendix 1 presents the Strategy's Action Plan.

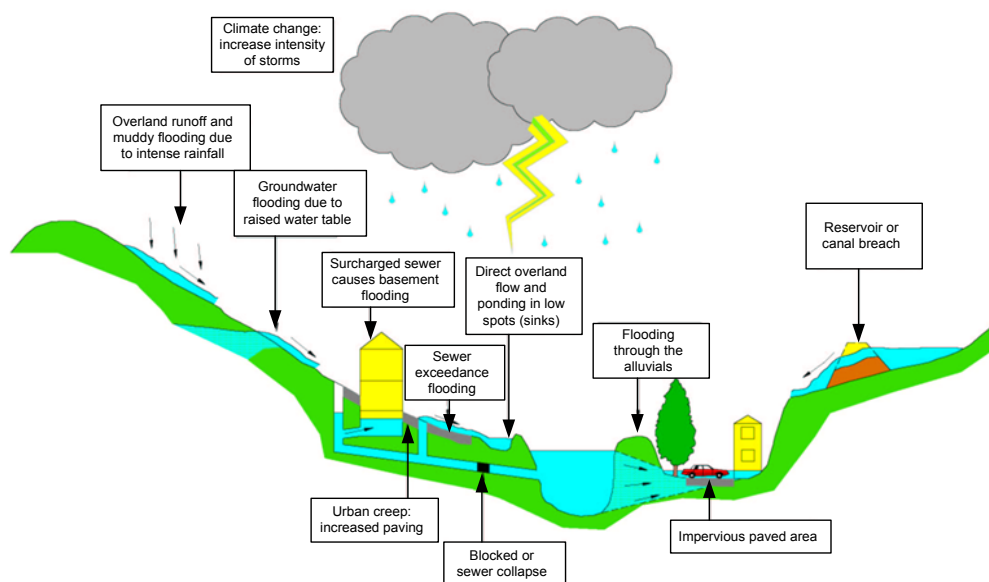
Who is the Strategy aimed at?

- 1.6 The Strategy has been written for all those affected by flood risk. It is also for organisations with flood risk management responsibility and other partners, to ensure that there is a common understanding of the roles, responsibilities and priorities within Bury.

2 Flood Risk in Bury

- 2.1 The flood events on Boxing Day 2015 demonstrated the major impact flooding can have and highlighted many of the planning and emergency response challenges faced by the Council and partners. Over 680 residential and 136 commercial properties were flooded, the tangible cost of which is significant, so too is the emotional cost to both individuals and communities.
- 2.2 The complex nature of flooding experienced in Bury highlights the importance of understanding the risk of flooding in order to ensure that we can be better prepared in the future.
- 2.3 Bury is located within the centre of the wider River Irwell catchment area where the gradient of the Irwell is flatter and surrounded by moorland. Much of the area grew rapidly during the industrial revolution with the development of factories and commercial and residential properties on the floodplain. Today, most of the watercourses are heavily modified and the Borough has a large number of culverts and weirs.
- 2.4 The major watercourses in the Borough are the River Irwell and River Roch which originate outside the administrative boundary. Smaller watercourses such as the Rivers Beal and Spodden, or other tributaries of the River Roch originate within Rochdale and Oldham and flow into the Borough. This highlights the need for the Council to work with neighbouring authorities on flooding issues, particularly where actions could exacerbate flooding in downstream communities.
- 2.5 Flooding can occur from a range of sources as highlighted in Figure 1 below. Often a flood event is caused by a combination of sources.

Figure 1 – Flooding from all sources



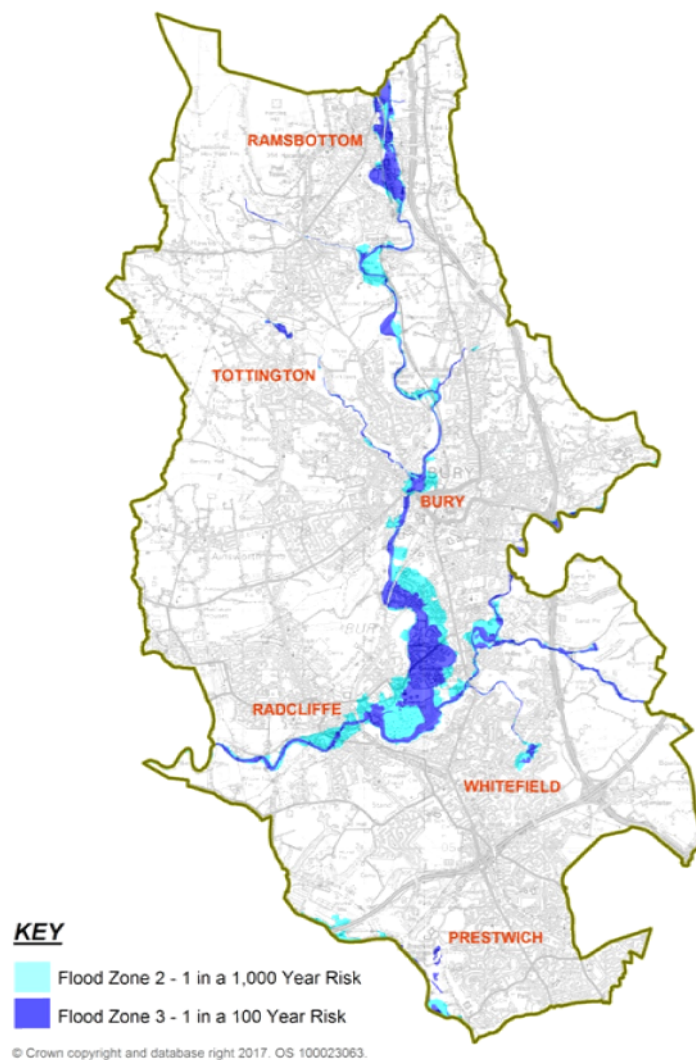
Source: SFRA, 2009

River (Fluvial) Flooding

- 2.6 River flooding occurs when the capacity of the river or stream is reached, causing water to spill out of the channel into nearby areas – for example when heavy rain falls on ground that is already waterlogged and the watercourse cannot cope with the water draining into it from the surrounding land. In some areas the surrounding floodplain of the river may be undeveloped or have flood compatible uses, but in some areas development has occurred within these floodplains.
- 2.7 The main source of fluvial flood risk in the Borough is from the River Irwell and its tributaries, including Holcombe Brook, Pigslee Brook, Kirkless Brook and the River Roch.
- 2.8 Due to the urbanised nature of the Borough, many of the main river channels have been straightened and canalised to accelerate the flow of water and some have been culverted over significant lengths. Many now have a limited hydraulic capacity and are prone to blockages which can lead to flooding. These blockages are often caused by silt deposition from the rural upstream sections of the Borough, vegetation falling into the watercourse and through fly tipping where debris is dumped into the river channels.
- 2.9 The Environment Agency is the overseeing authority for managing the risk of flooding from main rivers. To assist with this, the agency produce a [Flood Map for Planning \(Rivers and Sea\)](#), which identifies flood zones. These zones refer to the probability of river and sea flooding, ignoring the presence of defences¹.

¹ The flood zones on the EA's Flood Map do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.

Figure 2 – Environment Agency Flood Zones



Source, Environment Agency, 2017

2.10 Figure 2 identifies that the following areas are particularly at risk of flooding from the river:

Ramsbottom

- Stubbins Lane, Kenyon Street, Athos Street, Crow Lane;
- Nuttall Park, Ramsbottom Cricket Ground and Football Club

Summerseat

Bury

- Bury Ground
- Bridge Trading Estate

Redvales

- Warth Industrial Park
- Warth Road, Openshaw Fold Road, Bealey Drive, Inglewhite Close, Ribchester Drive

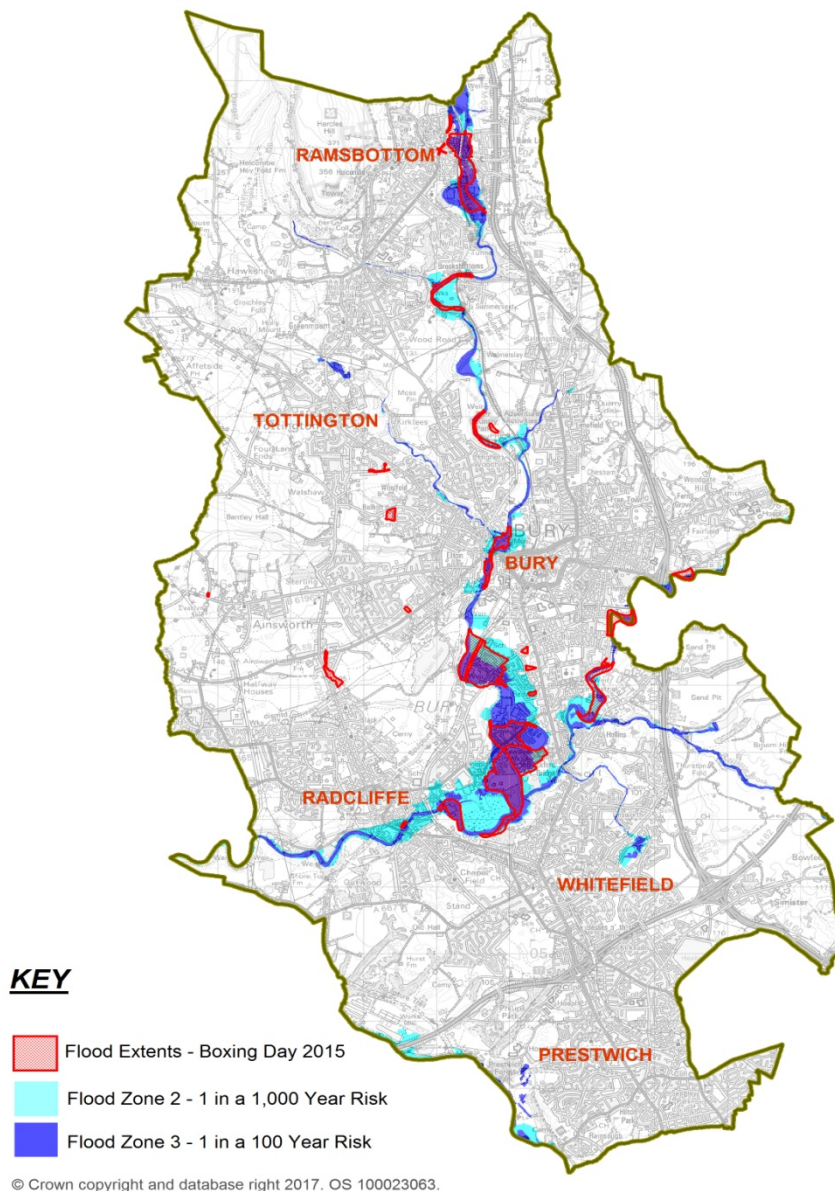
- Radcliffe Road, Central Avenue, Keswick Drive

Radcliffe

- York Street, Ripon Close, Selby Close, Seddon Avenue, Borough Avenue
- Dumers Lane, Morris Street
- Close Park, Parkside Close, Riverside Road, Waterside Close
- United Utilities Sewage Works
- Pioneer Mills

2.11 The severe flooding experienced on Boxing Day 2015 largely followed these predicted flood extents as identified in Figure 3.

Figure 3 – Known Extent of 2015 Boxing Day Floods



Source: Bury Council, 2016

Note: Map 3 only presents those areas where the flood risk was reported to the Council, either during the evening or afterwards.

Surface Water Flooding

2.12 Surface water flooding is caused by overland flow during periods of sustained or heavy rainfall, often involving ponding of water where it becomes obstructed or collects in low lying areas. Local drainage capacity and infiltration is unable to cope with the volume of water experienced. The risk of surface water flooding increases as the amount of built up area and the volume of impermeable hard surfacing increases within the Borough.

2.13 Due to the steep topography of parts of Bury, the Borough has narrow and shallow surface water flow paths. This has the potential to lead to rapid inundation of water with higher velocities and hazards.

2.14 A number of flow paths have been identified in Borough where surface water flows off the hillsides and collects in small drains before flowing to the valley bottom. This is a particular issue in Ramsbottom and often causes flooding to major road networks and individual properties.

2.15 There are many modified small streams and culverts which are hidden below ground and their condition is deteriorating, they have become blocked with debris and are the cause of much localised flooding following heavy rain.

2.16 Highway drains connect the highway gullies to surface water drains. In some instances, the highway drains outfall into a watercourse such as rivers, ponds, soakaways etc. Heavy rainfall can often result in more water on the road than the highway gullies can cope with. During a severe rainfall event, the capacity of the drainage system can be overwhelmed by the amount of water trying to run off from the road and flooding can occur.

2.17 Figure 4 identifies the main areas within the Borough which suffer from surface water flooding. These include:

Ramsbottom

- Crow Lane, Carr Street, Moor Road, Branch Road, Manchester Road/Whitelow Brow, Longsight Road

Summerseat

- Railway Street, Wood Road Lane

Tottington/Greenmount

- Turton Road, Watling Street, Hollymount Lane, Harwood Road, Moorside Road, Scobell Street, Bradshaw Road, Sunnybower Street

Bury

- Ferngrove

Radcliffe

- Higher Ainsworth Road, Close Park, Openshaw Fold

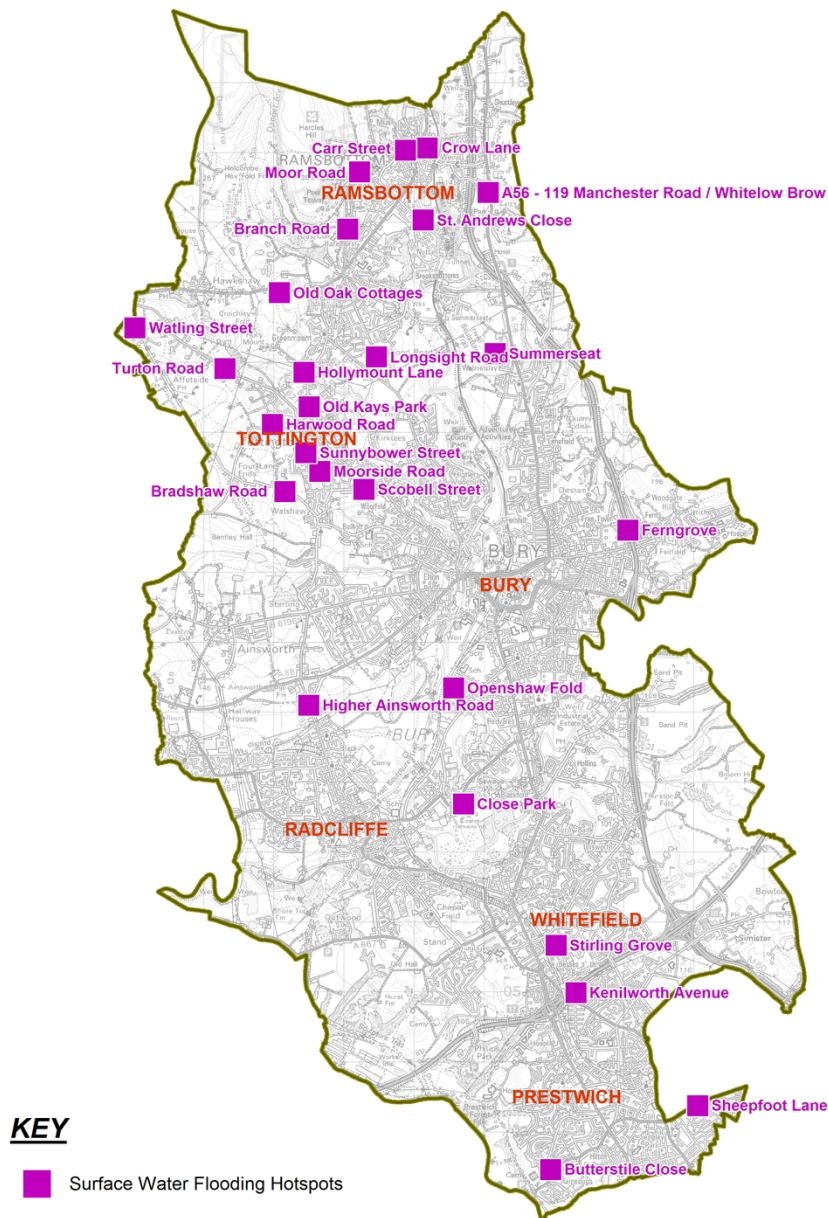
Whitefield

- Kenilworth Avenue, Stirling Grove

Prestwich

- Sheepfoot Lane, Agecroft Road West/Butterstile Close

Figure 4 – Surface Water Flooding



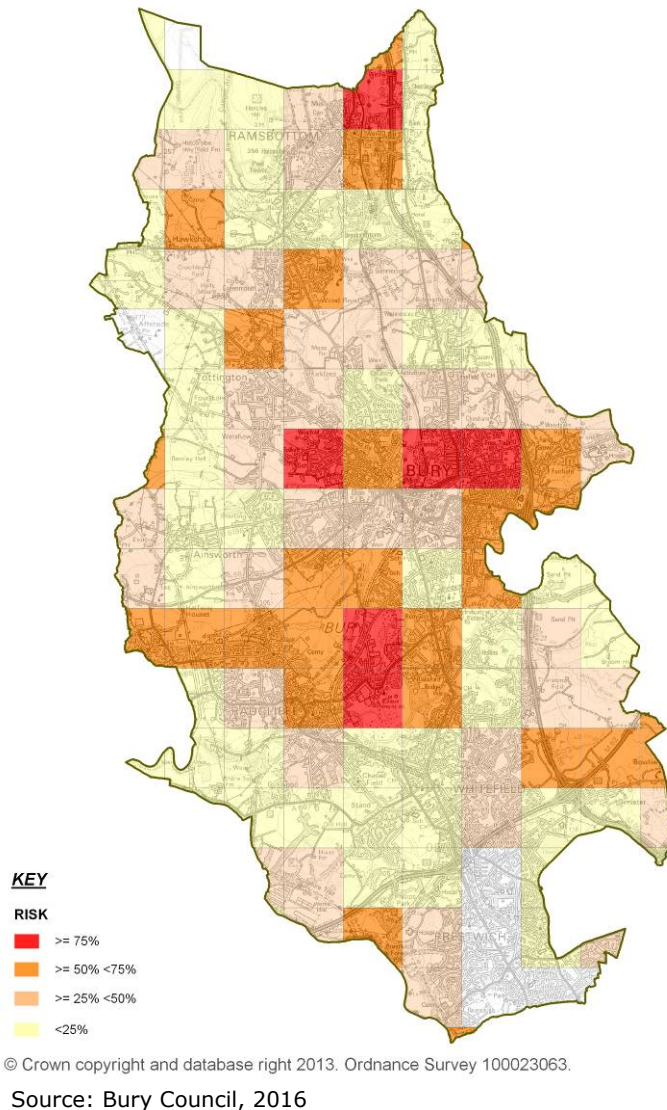
Groundwater Flooding

2.18 Groundwater flooding occurs when the water held underground rises to a level where it breaks the surface in areas away from usual channels and drainage pathways. It is generally as a result of exceptional extended periods of heavy rain, but can also occur as a result of reduced abstraction, underground leaks or the displacement of underground flows. Once groundwater flooding has occurred and particularly if soils are impermeable, the water can be in situ for a lengthy period of time.

2.19 Local understanding of groundwater flooding is limited and often groundwater is not identified as a distinct event. The Environment Agency's national dataset, 'Areas Susceptible to Groundwater

Flooding (AStGWF), provides a limited basis for assessing flood risk from groundwater.

Figure 5 – Groundwater Flooding



2.20 Bury lies over an aquifer with geology consisting predominately of sands and gravels which have high permeability. However, there are areas of clay which have low permeability. There are a number of flood defences along the River Irwell through Ramsbottom which elevate river levels above the flood plain. There is the possibility that alluvial groundwater flooding could occur in these areas. However, there are relatively few reported incidents of groundwater flooding in Bury.

Sewer Flooding

2.21 Sewer flooding is caused by excess surface water entering the sewer network, exceeding available capacity or when a blockage occurs. This generally happens during periods of heavy rainfall when the drainage network becomes overwhelmed. Land and property can be flooded with water containing raw sewage as a result. Sewers that overflow can also pollute rivers.

2.22 United Utilities has provided data on instances of flooding for use in this Strategy. It must be noted that the information is just a 'snap shot' in history at the time it was supplied. The latest data identifies the following:

External Flooding:

- 135 properties are listed, 33 properties have suffered external hydraulic flooding to date in this Asset Management Plan (AMP) period (2015-2020)

Internal Flooding:

- 69 properties are recorded as having internal hydraulic flooding, 16 properties have suffered internal hydraulic flooding to date in this AMP period.

2.23A number of these properties are located in and around Prestwich, Ramsbottom and Tottington.

2.24 More useful indicators of risk are associated with the data generated using hydraulic sewer network models. Parts of Tottington, Gigg, Greenmount and Radcliffe have hydraulic issues.

Canal Flooding

2.25 Canals are rivers or man made channels that have been developed for use in industry. Canal flooding is caused by overtopping or breach of the canal network when the canal cannot cope with the water draining into it from the surrounding land.

2.26 The Manchester, Bury and Bolton Canal started in Bury, running southwards through Radcliffe, before joining the River Irwell in Salford. The canal was closed to navigation in 1961 and surviving sections are discontinuous.

2.27 Bury's Preliminary Flood Risk Assessment (June 2011) identified a historic risk of canal flooding, however there is no modelled flood risk data available. Furthermore a number of factors suggest that the flood risk on the Manchester, Bury and Bolton Canal is low:

- Embankments are generally low and made from clay;
- The canal is discontinuous;
- The last major breach was at Nob End downstream of Radcliffe in 1936. This stretch of the canal was not restored; Previous canal failures were caused by mining subsidence. It is assumed that mining subsidence in the area has now ceased.

2.28 The canal does intercept some surface water from the catchments to the west. No detailed modelling has been undertaken and the risk from this is therefore unknown.

Reservoir Flooding

2.29 Reservoirs hold large volumes of water above ground level and are contained by walls or dams. Reservoir flooding occurs when a reservoir structure is overtopped or fails due to damage or collapse.

2.30 The Environment Agency maintains a Public Register of Large Raised Reservoirs. Table 1 identifies the reservoirs within Bury. The chance of reservoir failure is very unlikely as reservoirs are regularly inspected and there is an extremely good safety record in the UK with no loss of life due to reservoir flooding since 1925.

2.31 Elton Reservoir is considerably bigger than any other reservoir within the Borough.

2.32 The Generic Reservoir Off-Site Plan (reviewed November 2016) outlines the Greater Manchester emergency response to any reservoir failure. In addition, there are Specific Reservoir Off Site Plans for those reservoirs within Greater Manchester which are in the top 100 reservoirs with the most serious consequences in a failure. Bury does not host any of these reservoirs, but a considerable number would impact upon the Borough should they fail. The Generic and Specific plans have been tested at strategic, tactical and operational levels in the Borough and at a Greater Manchester level.

2.33 United Utilities has a programme of pro-active reduction which is reducing the risk of reservoir failure even further, on a year by year basis. The reservoirs operated by UU in Bury are water storage reservoirs which are filled from the water mains. They are therefore not affected by river flooding and are intrinsically lower risk structures than the majority of reservoirs.

Table 1 – Reservoirs in Bury

Reservoir	Physical Status	Construction	Year Built	Capacity	Surface Area
Elton	In Operation	Earthfill	1808	923,000	217,000
Elton Vale Lower	In Operation	Earthfill	1860	56,000	24,000
Lowercroft Lower	In Operation	Earthfill		40,000	16,000
Lowercroft Middle	In Operation	Earthfill	1800	127,000	28,300
Lowercroft Upper	In Operation	Earthfill	1890	183,000	30,000
Pilsworth Reservoir	In Operation	Earthfill		25,000	30,000
Woodgate Hill 1	In Operation	Other	1958	64,000	11,000
Woodgate Hill 2	In Operation	Other	1961	269,000	47,000

Source: Environment Agency, April 2013

3 Future Influences on Flood Risk

- 3.1 Flood risk is not static and there are many factors which could influence it including climate change, new residential and commercial development and changes to the natural environment.

Climate Change

- 3.2 Wetter winters and more intense rainfall may increase river flooding in both rural and urban areas. More intense rainfall causes greater surface runoff, increasing localised flooding and erosion. In turn this may increase pressure on drains and sewers, with a resulting impact on water quality. Storm intensity in summer could increase even in drier summers, so the Borough needs to be prepared for the risks arising from unexpected flash flooding.
- 3.3 It is difficult to predict in detail as much depends on the nature of the rainfall as once the ground is saturated or the intensity of rain exceeds the rate of infiltration, water runs off and 'doesn't filter down to aquifers.
- 3.4 In February 2016, the Environment Agency updated their advice² on climate change allowances for river flow modelling for planning. The new advice states, for the North West, river flows could increase by up to 35% and 70% in the long term. The Environment Agency previously advised that river flows may increase by 20% as a result of climate change.
- 3.5 The Bury, Bolton and Rochdale SFRA (2009) projected the likely extent of the 1 in 100 year fluvial flood risk zone under a climate change scenario (which assumes a 20% increase in the extent of the Environment Agency Flood Zone 3). In this scenario, Radcliffe appeared to be particularly sensitive to climate change for a range of flood events whilst Ramsbottom appeared to be more sensitive during more extreme events.
- 3.6 In the Surface Water Management Plan, an assumption was made that climate change will lead to a 30% increase in rainfall intensities for the 1 in 200 year flood event. The modelling indicated that Ramsbottom, Bury Town Centre and Radcliffe will continue to be locations where future surface water flooding is likely to occur.

² <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowance>

- 3.7 The floods experienced on Boxing Day 2015 confirmed this pattern less than 10 years after these reports were produced.
- 3.8 The focus in meeting these challenges will in future be on flood risk management as opposed to simply providing flood defences. It is now widely recognised that whilst we can't always prevent flooding occurring, we can manage the risks of it happening and reduce the consequences when flooding does happen.

Flood Risk and Future Development

- 3.9 Bury Council, along with the other nine Greater Manchester districts are in the process of producing the Greater Manchester Spatial Framework (GMSF). The GMSF will contain a suite of policies addressing economic, social and environmental issues, for example housing distribution, green infrastructure, flooding, carbon reduction, resilience and air quality.
- 3.10 The draft GMSF (October 2016) proposes that Bury should find sufficient land for 25,000 jobs and 12,500 homes. Critical services will need to be delivered to support these sites and flood risk will need to be fully considered. None of the proposed sites are situated within an Environment Agency flood zone 3. However, all new development sites will need to ensure that flood risk is not increased elsewhere. In addition, all new development should seek to incorporate sustainable drainage systems (SuDS).
- 3.11 The SuDS approach to surface water drainage aims to deliver better management of surface water runoff and promote the sustainable use of water. SuDS seek to mimic natural drainage processes by limiting the rate and volume of surface water runoff, as well as treating water to improve quality.
- 3.12 There are many different types of SuDS components that can fit into a variety of settings. They can be soft (vegetation based) or hard (proprietary devices) and each has a different function. Features of a SuDS system could include: green roofs, infiltration trenches, permeable paving, underground storage, wetlands and ponds.
- 3.13 Sustainable drainage systems can help to manage pollution and also provides opportunities for biodiversity. Sustainable drainage systems provide opportunities to store and re-use water for a range of purposes for which 'grey' water is appropriate.

Natural Environment

- 3.14 The Flood and Water Management Act 2010 provides powers for the Council to manage flooding in the interest of nature conservation, preservation of cultural heritage and people's enjoyment of the environment generally.
- 3.15 Working closely with key partners to ensure careful land use, planning and gradual reinstatement of green open spaces (within existing and new developments) together with the introduction of upland planting could help to reduce flood risk and promote the requirements of the Water Framework Directive.
- 3.16 It is important that opportunities are sought when new development and redevelopment arise and that areas of flood plain reinstatement in conjunction with green and blue infrastructure are identified and realised. This will not only have flood risk benefits, but also ecological, environmental and recreational improvements.

4 Legislative Context

Flood and Water Management Act, 2010

4.1 The [Flood and Water Management Act 2010](#) (FWMA), 2010 designated Bury Council as 'Lead Local Flood Authority' and as such the Council has a responsibility for developing, maintaining and applying a local flood risk strategy in Bury. Bury's Local Flood Risk Management Strategy needs to be consistent with the following guiding principles outlined in the national strategy:

- Community focus and partnership working;
- A catchment based approach;
- Sustainability;
- Proportionate, risk based approach;
- Multiple benefits; and
- Beneficiaries should be allowed and encouraged to invest in risk management.

4.2 The development of the Strategy requires input from the designated 'Flood Management Authorities' (FMA) who have a duty to act consistently with the Strategy. In addition to the Council, the other FMA in Bury are:

- Environment Agency; and
- United Utilities

4.3 Bury's Strategy will clarify roles and responsibilities for local flood risk, and the duties and permissive powers that FMA have. It will build on the existing partnerships developed in Bury and provide a framework for local communities to develop local partnerships and solutions to the flood risks they face and underpin a partnership approach to funding flood resilience projects.

4.4 Although this Strategy's remit under the FWMA 2010 is to address flooding from surface water, ground water and ordinary watercourses, this document will also look to provide guidance on other forms of flooding, such as main rivers, a responsibility of the Environment Agency.

Flood Risk Regulations, 2009

- 4.5 The [Flood Risk Regulations 2009](#) came into force in December 2009 and implement the EU Floods Directive in England. They provide a framework for managing flood risk over a 6 year cycle, comprising:
- Preliminary flood risk assessment (PFRA);
 - Identification of areas of potential significant risk, referred to as flood risk areas;
 - Mapping of flood hazards and risk; and
 - Flood Risk Management Plans (FRMPs), setting out measures and actions to reduce the risk.
- 4.6 The FRR state that each of the above four elements must be reviewed, and updated where necessary, at least every 6 years.
- 4.7 Bury produced a Preliminary Flood Risk Assessment and identified flood risk areas in 2011. A Flood Risk Management Plan was produced in 2016.
- 4.8 A PFRA Self Assessment Form 2017 was submitted to the Environment Agency in June 2017.

National Planning Policy Framework

- 4.9 The [National Planning Policy Framework](#) and [National Planning Policy Guidance](#) were published and came into effect in March 2012. They provide a statement of national planning policy which all planning authorities must take into account when exercising their development management and forward planning functions. Paragraphs 99-108 of the Framework deal with issues of flood risk management in combination with the NPPG.
- 4.10 Meeting the challenge of flood risk is one of the objectives of the NPPF as part of addressing climate change and reducing the vulnerability of communities to climate change. New development should not increase flood risk on site or elsewhere and should include measures where necessary such as green infrastructure to avoid and reduce the risk of flooding. Inappropriate development in areas of high flood risk should be avoided and directed to more appropriate areas where possible or made safe where this is necessary development at that location.
- 4.11 The NPPF requires that local plans should be informed by a Strategic Flood Risk Assessment (SFRA) and include the advice of the Environment Agency. Local Plans should apply a sequential test when needed to guide the location of development and help ensure it is safe. If development is unavoidable it will need to meet the Exception Test where it can be shown that development could not be located elsewhere and would be safe for its lifetime.

4.12 The challenge in terms of flood risk management relates to the NPPFs 'presumption in favour of sustainable development'. Achieving more housing growth is a key driver of the planning system but it needs to be balanced against ensuring flood risk is not increased. If the Council does not meet its annual housing targets, there is concern that it will become vulnerable to applications on the flood plain.

4.13 In addition to the above, Bury Council also has a range of responsibilities in accordance with other pieces of domestic and European Legislation³, including:

- The Reservoirs Act (1975)
- The Ancient Monuments & Archaeological Areas Act (1979)
- The Highways Act (1980)
- The Wildlife & Countryside Act (1981)
- The Building Act (1984)
- The Environmental Protection Act (1990)
- The Land Drainage Act (1991)
- The Water Resources Act (1991)
- The Water Industry Act (1991)
- The Environment Act (1995)
- The Countryside & Rights of Way Act (2000)
- The Water Act (2003)
- The Planning and Compulsory Purchase Act (2004)
- The Civil Contingencies Act (2004)
- The Natural Environment and Rural Communities Act (2006)
- The Climate Change Act (2008)
- The Planning Act (2008)

³ Depending on the approach taken to EU exit, there may be potential to remove some pieces of legislation. However at the time of writing, the UK is still a full member of the EU.

- The Localism Act (2011)
- The EU Environmental Impact Assessment Directive (1985/337/EEC & 1997/11/EC)
- The EU Habitats Directive (1992/43/EEC)
- The EU Strategic Environmental Assessment Directive (2001/42/EC)
- The EU Water Framework Directive (2000/60/EC)
- The EU Floods Directive (2007/60/EC)

5 Roles and Responsibilities

Introduction

5.1 Numerous organisations, agencies and authorities have roles and responsibilities relating to flood risk management. This chapter sets out what these roles and responsibilities are for each of the different organisations, agencies and authorities.

5.2 Part 1, Section 6 (13) of the Flood and Water Management Act defines a flood risk management authority as:

- A lead local flood authority;
- A District Council for an area for which there is no unitary authority;
- The Environment Agency;
- An Internal Drainage Board;
- A Water Company; and
- A Highway Authority

5.3 Under the provisions of the Flood and Water Management Act the following duties are common to all risk management authorities:

- Duty to cooperate with other risk management authorities;
- Duty to act consistently with the national and local strategies;
- Powers to take on flood risk functions from other risk management authorities;
- Duty to contribute towards the achievement of sustainable development; and
- Duty to be subject to scrutiny from the lead local flood authority's democratic processes

Bury Council – Lead Local Flood Authority

5.4 Bury Council is a Lead Local Flood Authority (LLFA) and is responsible for the management of flood risk from surface water, ordinary watercourses and groundwater.

5.5 The functions that the Council, (as LLFA) can exercise under the FWMA 2010 and the FRR (2009) are:

- Production of a Local Flood Risk Management Strategy
- Investigation of flood incidents
- Creation and maintenance of a flood asset register
- Designation of flood features
- Carrying out of flood risk management works
- Powers to request information
- Preparation of a Preliminary Flood Risk Assessment
- Identification of areas of significant flood risk
- Production of a Flood Risk Management Plan

5.6 How these functions are carried out is set out in this Strategy's Action Plan.

Bury Council – Highway Authority

5.7 The Highways Act requires the Council, as Highway's Authority to ensure that highways are drained of surface water and, where necessary, maintains all drainage systems ensuring there are no pollution of the wider environment. In particular the Council is required to carry out regular maintenance of a number of forms of drainage associated with the highway, including the gullies, soakaways, ditches, channels, drains, grilles and outlets.

5.8 Bury Council currently operates a cyclic gully cleansing regime where all gullies within the adopted highway network are checked annually. In addition to this, gullies are attended to on an ad-hoc basis that have either been reported or identified through routine inspections as being blocked.

Bury Council – Emergency Planning

5.9 Bury Council has statutory duties under the Civil Contingencies Act 2004 to ensure that the Council is prepared and able to respond to an emergency within the Borough. The Emergency Planning Team works closely with the Greater Manchester (GM) Civil Contingencies Team and partner organisation, which includes the emergency services, Environment Agency and GM districts.

5.10A Greater Manchester Multi Agency Flood Risk Plan has been prepared and individual Borough plans are to be updated which will

detail how local services will work together to respond to an emergency flood incident within the Borough.

Bury Council – Planning Authority

- 5.11 The Council, as Planning Authority, must prepare, publish and use a Local Plan which directs how land can be used. The Local Plan should consider flood risk from both fluvial (main river) and local sources (surface water) of flooding, utilizing evidence contained in Strategic Flood Risk Assessments, Preliminary Flood Risk Assessments and Surface Water Management Plans.
- 5.12 The Planning Authority should only approve development where it can be demonstrated that the proposal doesn't increase the overall risk of flooding in the area and is adequately protected from flooding itself. A sequential approach should be taken to ensure development sites are chosen which offer the lowest possible flood risk.
- 5.13 The main roles, responsibilities and functions to be exercised by the other risk management authorities are as follows:

Environment Agency

- Strategic overview of all forms of flooding;
- Risk based management of flooding from 'main rivers';
- Regulation of the safety of higher risk reservoirs
- Development of the National Strategy for Flood and Coastal Erosion Risk Management;
- Co-ordination of Regional Flood and Coastal Committees;
- Powers to request a person for any information relating to its flood management responsibilities;
- Powers to designate structures or features relating to 'main rivers';
- A duty to report to ministers on Flood Risk Management;
- Is a competent Authority for the Water Framework Directive.

United Utilities

- 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 effectively 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 10,000m³ 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; and
- A duty to ensure local flood risk management and drainage works are consistent with environmental regulations (including the Water Framework Directive).

Highways England

- 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 relevant to their flood risk management functions; and
- A duty to drain the adopted highway of surface water.

Regional Flood and Coastal Committee

5.14 Regional Flood and Coastal Committees (RFCC) are Environment Agency committees which consist of elected members from the relevant Lead Local Flood Authorities and independent members with relevant experience appointed by the Environment Agency. They have three key purposes:

- To ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risk across catchments and shorelines;
- To promote efficient, targeted and risk-based investment in flood and coastal erosion risk management that optimises value for money and benefits for local communities. This includes managing the spending of both Government Flood Defence Grant in Aid and Local Levy paid by Lead Local Flood Authorities; and
- To provide a link between the Environment Agency, Lead Local Flood Authorities and other relevant bodies to ensure mutual understanding of flood and coastal erosion risks in its area.

5.15 RFCC's are the key decision making bodies for allocating funding including Grant in Aid and local levy which are the key streams of funding for flood alleviations schemes. The RFCC also contribute towards individual property resilience schemes and the river maintenance programme. These committees, therefore, have a hugely important role in deciding which areas receive support for

flood defences. How funding is calculated and allocated is discussed in detail in Chapter 7.

Residents and Businesses

5.16 In addition to the role of RMA's, individual landowners owning land adjacent to watercourse, known as riparian owners, have important rights and responsibilities relating to flood risk management from natural watercourses. They have:

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

6 Objectives and Measures

6.1 The Environment Agency, jointly, with DEFRA developed a national flood strategy which reflects Government policy on flood risk management and related issues. The 2011 strategy, entitled 'National Flood and Coastal Erosion Risk Management Strategy for England' describes what needs to be done by all organisations involved in flood risk management.

6.2 The national strategy objectives are to:

- Manage the risk of flooding to people and their property;
- Help householders, businesses and communities better understand and manage the flood and coastal erosion risk they face;
- Respond better to flood incidents and during recovery;
- Encourage local innovations and solutions;
- Invest in actions that benefit the communities who face the greatest risk; and
- Achieve environmental, social and economic benefits consistent with the principles of sustainable development.

6.3 Reflecting the national guiding principles and strategic objectives at a local level, Bury Council have developed the following objectives and measures for its Local Flood Risk Management Strategy:

Objective 1: To gain a strategic understanding of flood risk from all sources in Bury

- To gather clear information and understanding of the different types of flooding, their potential and impact.

Objective 2: To manage the likelihood of flooding within the Borough

- To identify an evidence-based programme of works and maintenance regimes, which integrate flood management solutions with sustainable development and social and environmental benefits.

Objective 3: To help Bury residents to manage their own risk

- To provide clear information regarding local flood risk to local communities allowing them to make informed decisions for managing their own flood risk;
- To provide clear information about the roles and responsibilities of risk management authorities.

- Local communities will be encouraged to become engaged in the development of flood alleviation schemes, where they are appropriate.

Objective 4: To ensure that new development in Bury reduces rather than increases flood risk

- The Council and other risk management authorities within the Borough will be required to ensure that the principle of 'no new flood risk' is taken into account as part of new development and infrastructure, managing the effects of climate change and further reducing flood risk where possible.

Objective 5: To take a sustainable approach to flood risk management within the Borough, which balances economic, environmental and social benefits with flood risk policies and programmes

- The Council and other risk management authorities within the Borough will be required to adopt a sustainable approach to reducing local flood risk, seeking to lessen the risk of localized flooding using mechanisms that are economically viable, deliver wider environmental benefits and promote the well being of local people.

Objective 6: To improve flood preparation, warning and post flood recovery

- To spread knowledge of flood risk within the Borough to ensure that emergency responders better understand the nature of local flood risk and can use the information to improve preparedness for flood events.
- The Council will undertake investigations into flood events where it is necessary to understand the cause of flooding.
- Communities and individuals will be supported to take part in preparing for flood events, forming local action groups and planning for future flood risks.

Objective 7: To endeavour to direct flood risk funding to areas most at need or where solutions will be most effective.

- Local flood risk information will be used to bid for funding for flood risk management projects and ensure that resources are

directed to areas where it will be most effective.

- 6.4 The Local Flood Risk Action Plan in Appendix 1 outlines actions which we have identified to achieve our objectives and notes current progress. A number are already being delivered. However it will not be possible to deliver all potential flood risk management actions in the short term as resources are simply not available. Therefore the approach taken in Bury will be proportionate and risk based, in line with advice set out in the national strategy.

Operational Measures to Manage Local Flood Risk

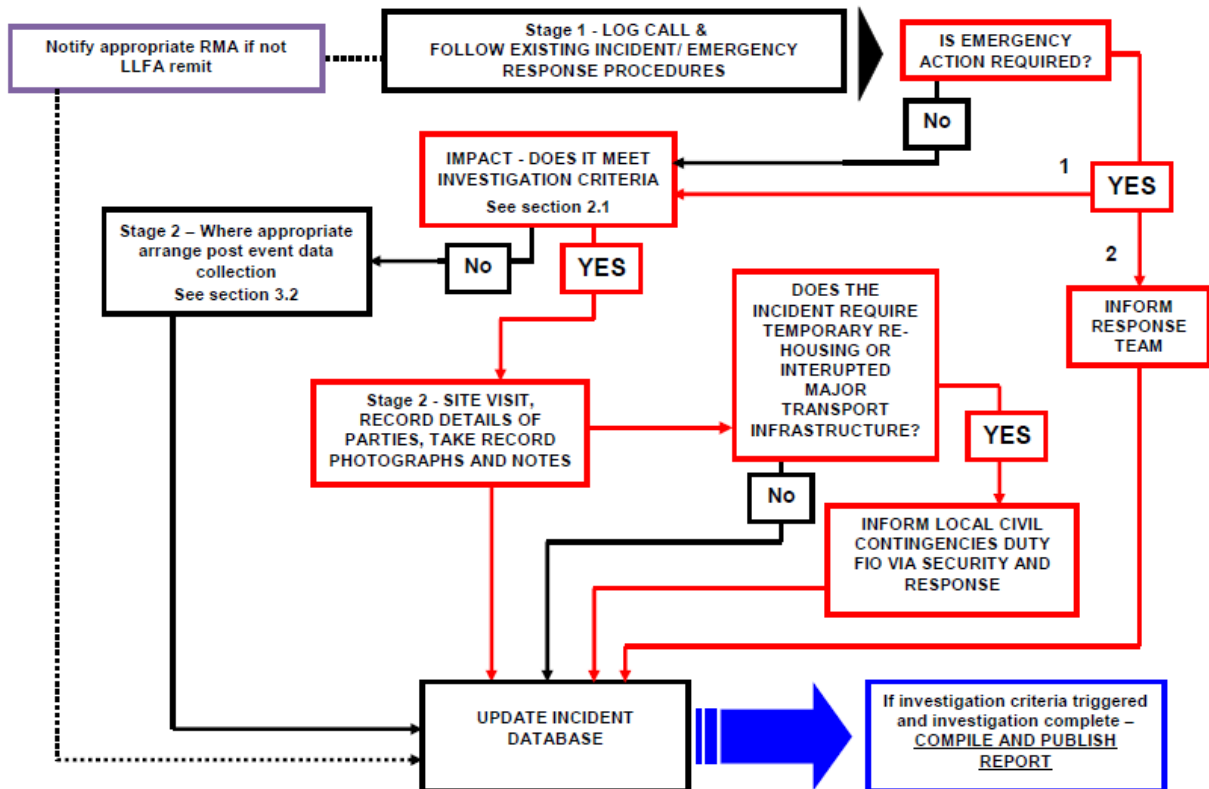
Investigating Flood Incidents

- 6.5 As discussed in Chapter 4, Section 19 of the Flood and Water Management Act introduces a new responsibility for LLFAs with respect to investigating flooding incidents. The Act states that the LLFA, is required to investigate flood incidents that it becomes aware of, to the extent that it considers necessary or appropriate. Where the LLFA investigates such a matter, it will determine:
- Which authority has relevant flood risk management functions;
 - Whether that authority has exercised, or is proposing to exercise, those functions in response to the flood.
- 6.6 Where an authority carries out an investigation, the Act states that it must publish the results of its investigation and notify relevant Risk Management Authorities.
- 6.7 No specific guidance was provided on how to discharge this duty and many elements are open to interpretation. As a result and to avoid inconsistency across the sub region, the 10 Greater Manchester districts agreed in 2013 an Investigations Policy.
- 6.8 The focus of this policy is not solely around the identification of the necessity to instigate an investigation but to ensure that a process is in place to gather supporting evidence. Initially from the information received relating to a flood incident it may be deemed a full investigation is not appropriate but by having a process in place as outlined in this document the supporting evidence is in situ if the incident escalates to one of much greater significance once the impact of flooding is known.
- 6.9 Data gathered can be used to inform and predict the consequences of more serious incidents. Information such as photographs, flow paths and sources should be recorded where possible and even if they are not required as part of an investigation, will become useful evidence especially to support and quantify the identified risk areas.

If it is found that flooding occurs on a frequent basis to a property/area it maybe frequency rather than the scale of the incident that triggers an investigation in the future.

6.10 Figure 6 illustrates the protocol for investigating flooding incidents across Greater Manchester. Figure 7 identifies the triggers for this protocol.

Figure 6 – Protocol for Investigating Flood Incidents



Source: AGMA Flood Investigations Policy, 2013

6.11 A S19 report for the 2015 Boxing Day Floods was produced by the Environment Agency in conjunction with the 10 Greater Manchester Authorities and United Utilities. The report is a factual record of the flooding that happened during the Boxing Day event and how the relevant RMA responded.

6.12 Although the purpose of the report was to provide a factual account of the contributing factors, impacts and responses to flooding, it does also include a number of recommendations on how to manage future flood risk.

Figure 7 – 'Significant Incident Triggers

- Where there is a risk to life;
- Where there is an impact on critical service (schools, hospitals, nursing homes and emergency services);
- Where 5 properties or more were flooded internally;
- Economic disruption; and
- Where local democratic pressures from elected members, committees or other elected bodies, might be considered as a factor in determining whether a formal investigation should be carried out.

S

S

Source: AGMA Flood Investigations Policy, 2013

United Utilities

6.13 United Utilities has undertaken an Integrated Drainage Area Study in Bury. The study identifies risks based on historic incidents (i.e. flooding, blockages, collapses, pollution) and modelling information to enable a holistic view of the drainage area. The study will be used to prioritise investment in areas with most risk and identify opportunities for joint approaches between flood risk management bodies.

6.14 In addition to understanding current risks, the study enables United Utilities and Bury Council to understand the impact of future growth on existing and potential risk areas. This allows a more planned and coordinated approach to enabling local development.

Maintaining a Register of Assets

6.15 Section 21 of the Act states that a 'lead local flood authority must establish and maintain:

- A register of structures or features which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area; and
- A record of the information about each of those structures or features, including information about ownership and state of repair.

6.16 Section 21 also states that this register (asset register) must be available for inspection at all reasonable times. Identifying the location, ownership

and condition of assets will help the Council and other Risk Management Authorities to better understand how the performance of these assets affects local flood risk. It is our intention to build up the asset register using a risk based approach. Therefore, we will initially prioritise our efforts in capturing assets information for the assets which are known to have a significant flood risk. Subject to available resources there will be an ongoing programme to capture information on other assets which have a less significant effect on local flood risk.

- 6.17 It is not our intention to capture and store information for assets associated with main rivers, reservoirs and public sewers. Both the Environment Agency and Untied Utilities already hold asset information and we do not wish to duplicate information held, wherever possible.

Ensuring Effective Maintenance of Assets

- 6.18 Subject to available resources and funding, we need to ensure that we understand the maintenance requirements and conditions of assets, and take action to ensure key flood risk assets are performing effectively. It should be noted that the Council already has a gully clearance programme in place.

7 Flood Risk Management Funding

- 7.1 A key objective of the Strategy is to align stakeholders, particularly those with available funding, with those who would benefit from further investment in flood risk management. It is important to note that this Strategy has been written against a backdrop of diminishing resources.
- 7.2 A partnership approach to Flood Defence Grant in Aid and other relevant bids has been adopted. Each proposed flood risk scheme is accessed separately to identify which partner should be involved and could comprise:
- The Environment Agency;
 - United Utilities;
 - Regional Flood and Coastal Committee; and
 - Beneficiaries and Communities
- 7.3 The Council will consider all forms of funding identified in Table 5 and will ensure that when opportunities arise, compelling bids are submitted.
- 7.4 Although the benefits of individual flood risk management measures are often many times greater than their cost, it is not technically, economically or environmentally possible to prevent all flooding. Therefore this strategy will aim to implement the most sustainably cost effective measures that will help to reduce flood risk and help to manage the impacts felt by communities.
- 7.5 For each potential project or scheme outlined in Appendix 1, the following will be assessed:
- The potential for these projects to receive national FDGiA funding;
 - The potential for these projects to receive contributions from Bury Council;
 - Where schemes are unlikely to be affordable, to suggest where a different approach may be needed such as a reduced standard of protection or property resilience measures; and
 - How any identified funding gaps might be filled, either by drawing up on partners resources or pursuing wider sources of funding.

7.6 Table 5 below sets out a number of different sources of funding for flood and water management works.

Table 3 - Sources of Funding

Source of Funding	Description	Administered by:	Appropriate for:
Flood Defence Grant in Aid (FDGiA)	Central government funding for flood and coastal defence projects. Funding levels for each scheme relate directly to the number of households protected, damage prevented and other benefits such as environmental or business benefits that will be delivered. There is additional emphasis on protecting households in deprived areas	Environment Agency	Medium to large capital FRM projects
Local Levy	The Regional Flood and Coastal Committee can agree a levy to be paid for works which do not attract a sufficiently high priority for funding by national government but are nonetheless cost effective and of local importance. The levy is agreed annually and monies can be carried over. However, any local schemes suggested which use the Levy need to ensure that it is inline with the regional priorities set out by the RFCC. The Local Levy can top up Flood Defence Grant in Aid funding.	Environment Agency	Smaller FRM projects or as a contribution to FDGiA projects.
United Utilities	Investment is heavily regulated by Ofwat for opportunities for contributions to area-wide projects which help to address sewer capacity issues.	United Utilities	Projects which help to remove surface water from combined sewers.
Section 106	Section 106 of the	Bury Council	Larger

Source of Funding	Description	Administered by:	Appropriate for:
funding (developer contributions)	Town and Country Planning Act 1990 allows a planning authority to request payments from developers (linked to specific developments to contribute to the infrastructure required to make developments acceptable in planning terms.		development sites.
Council Capital Funding	Bury Council's Highway Services receives a small annual capital budget for work on the highways drainage network. Work is prioritised according to safety, internal property flooding, social impact and the duration of flood incidents.	Bury Council	Small to medium capital projects.
Requesting local contributions	Contributions from residents and/or businesses that benefit from proposed flood risk mitigation schemes may be explored in specific cases	Bury Council	All projects.

Partnership Funding

- 7.7 In the past, most flood risk management schemes have been built using DEFRA's central government funding (FDGiA), with allocation based on a national prioritisation. Local Levy was allocated towards local priorities, including projects that could not attract FDGiA.
- 7.8 Increasingly however, there is an emphasis on funding from external contributions towards schemes, because FDGiA is allocated based on the benefits on a scheme delivers, which may not cover the full cost.
- 7.9 Work undertaken through this Strategy has highlighted the need to secure a range of sources of funding. Actions have been included within this strategy to continue bidding for funding as well as influencing communities and beneficiaries of potential schemes as and when they are developed. Where it is not possible to fill

funding gaps, it will be necessary to explore alternative solutions to reduce the costs of the schemes.

7.10 The first stage in developing any scheme is to consult with key partners, in order to explore funding options and to assess any environmental implications. For the majority of schemes, further investigation studies are required to reduce the uncertainties to get a clearer understanding of the requirements of the scheme and to allow for FDGiA bids to be submitted.

7.11 The alternative sources of funding identified by this process will need to be investigated in further detail by the relevant partners, co-ordinated by the Environment Agency and the Council to determine their viability. There are a number of triggers which may alter the way in which projects are funded and these could include: changes to funding regimes, availability of funding, changes in political priorities, community pressures, a major flooding incident, new development, regeneration, revised assessments of flood risk and changes in assessment methodology.

8 Local Partnership, Governance and Scrutiny

- 8.1 The Flood and Water Management Act (2010) requires the Council as Lead Local Flood Authority (LLFA) to establish arrangements to bring together all relevant bodies to work as partners in the management of local flood risk. This approach has been further strengthened through the 2011 Localism Act and the 'Duty to Co-operate'. Both Acts recognise the important roles played by Councils, Environment Agency, water companies and other flood risk management authorities.
- 8.2 Although the Act does not stipulate what these local arrangements should look like, it does require the relevant authorities to co-operate with each other in exercising functions under the Act. It also empowers LLFRAs or the Environment Agency to require information from others if needed for their flood risk management functions.

Greater Manchester Combined Authority

- 8.3 The Greater Manchester Combined Authority (GMCA) was established as a top tier administrative body for the local governance of Greater Manchester. The GMCA:
- Is funded by direct government grant and some money collected with local Council tax apportioned between the constituent councils;
 - Consists of an elected mayor, ten indirectly elected members, each a directly elected Councillor from one of the ten GM Boroughs; and
 - Replaces a range of single-purpose joint boards and quangos to provide formal administrative authority for Greater Manchester for the first time since the abolition of the Greater Manchester County Council in 1986.
- 8.4 The governance arrangements for the GMCA build on the Association of Greater Manchester (AGMA) model of voluntary collaboration and it is a statutory body with its functions set out in legislation.

- 8.5 The ten Greater Manchester Authorities work together strategically wherever possible, to ensure the new statutory duties associated with the FWM Act are implemented in the most effective manner.
- 8.6 Appropriate governance arrangements are in place to set GM wide priorities, set the strategic direction and attracts investment through the Regional Flood and Coastal Committee (RFCC) and the GM Flood and Water Management Board.

Regional Flood and Coastal Committee (RFCC)

- 8.7 The RFCC was created by the FWMA and provides democratic input into local decisions and help coordinate flood and coastal erosion risk management. It promotes efficient, targeted and risk-based investment and provides a link between the EA, LLFA's and other RMA's.

Greater Manchester Flood and Water Management Board (FWMB)

- 8.8 The FWMB provides a vehicle for strategic co-operation and joint working between the GM Commissions, EA, UU and the RFCC covering spatial planning, climate change, drainage and flood infrastructure and emergency planning. It provides an effective working interface with the RFCC ensuring that GM maximises the potential to secure resources through Flood Defence Grant in Aid, Local Levy funding, partnership projects and the EA as part of their capital investment programmes.

Flood Risk Officers Group (FROG)

- 8.9 FROG provides a forum for joint working between the ten districts representatives of Greater Manchester LLFRA's and partner organisations to deliver the strategic GM flood risk work programme and support local priorities for flood risk management and delivering new powers and duties.

Community Engagement

- 8.10 Following the 2015 floods, two multi-agency flood action groups have been established in Radcliffe and Ramsbottom⁴. These have

been attended by members of the public, the National Flood Forum (Radcliffe Flood Group) Bury Council, the Environment Agency and United Utilities. The aims of the groups are to provide clear information regarding local flood risk to local communities allowing them to make informed decisions for managing their own flood risk. Public meetings have been held in Summerseat and flooding issues have been included on the agenda. The Council and the Environment Agency have jointly attended these meetings.

8.11 Several drop in sessions have been held in Radcliffe in relation to the Radcliffe and Redvales Flood Mitigation Scheme. These sessions have been jointly ran by the Council and the Environment Agency.

⁴ Dates of these meetings can be found in Appendix 1 - Action Plan.

9 Monitoring and Review

- 9.1 Continued monitoring and review and development of the strategy is essential to ensure that local flood risk management is responsive to changes. This ongoing work will be undertaken through the Council's flood working group.
- 9.2 Although there is no formal deadline for the Strategy to be produced or updated, regular maintenance will ensure that local flood risk management is based on the most up to date knowledge so partners can successfully manage flood risk both now and in the future.
- 9.3 The Strategy will be updated every three years from the date of final approval and the action plan will be updated annually.
- 9.4 Through developing this Strategy there are now clear objectives for managing local flood risk within the Borough as well as an associated action plan for delivering these objectives. This strategy will be the focal document for all flood risk matters and will be informed by, and sign post to, all relevant technical flood risk work undertaken.
- 9.5 In preparing the Strategy there is now a greater understanding of local flood risk issues in Bury. The different roles and responsibilities for managing local flood risk have now been clarified and formally set out to avoid confusion.
- 9.6 The Strategy and Action Plan are 'living documents' and will be regularly reviewed to test effectiveness and updated as necessary.

Appendix 1 – Action Plan

The actions provide an overview of proposed flood risk management activities within the Borough. The Action Plan includes a number of potential flood alleviation schemes which require further investigation to assess their viability, schemes which have been submitted for government funding, schemes recommended within technical documents and potential improvement works.

It has been agreed that the Action Plan will be updated annually. Any new actions will be identified and included within the Plan. Existing actions will be updated where new information is available. Completed actions will remain within the Plan to ensure that a record is kept of all completed works.

A Red-Amber-Green assessment is used on all the actions to provide a simple visual identification of progress.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
1. To gain a strategic understanding of flood risk from all sources in Bury	To model and map areas at risk of river, surface water and reservoir flooding.	Publish on-line mapping	Environment Agency	On-going	Maps available. EA aim to update maps twice a year
		Produce a Greater Manchester Strategic Flood Risk Assessment	GMCA	Dec 17	An update has been commissioned.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		Produce a Preliminary Flood Risk Assessment			Completed, available on-line at http://www.bury.gov.uk/index.aspx?articleid=11124
	Investigate flooding incidents/locations	Produce S19 report on the 2015 Boxing Day floods	Environment Agency	Completed	Report complete and available on-line at: www.greatermanchester-ca.gov.uk/downloads/file/199/boxing_day_flood_report_2015
		Spring Vale/Vernon Drive culvert, Prestwich	Bury Council	TBC	Responsibility of private owners
		Openshaw Fold, Bury	Bury Council	TBC	Investigation required. Not Started
		Ripon Close/Bealey's Goit, Radcliffe	Bury Council	In progress	Being considered as part of R&R flood defence scheme

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		Stirling Grove, Whitefield	Bury Council	TBC	Investigation required. Not Started
		Fern Grove, Bury	Bury Council	TBC	Initial investigations completed. Main problems are on land owned by Highway's England. Negotiations on-going.
		Kenilworth Ave, Whitefield	Bury Council	TBC	Link to motorway drain under investigation in conjunction with Balfour Beattie.
		Laburnum Drive culvert, Unsworth	Bury Council	TBC	Council means of investigation exhausted. Private owners are progressing works.
		Harwood Road culvert	Bury Council	TBC	Owner has rectified initial problem. Further issues still require monitoring.
		Holcombe Tennis Club,	Bury Council	TBC	Works undertaken to clear blockage and improve screen. Requires further monitoring to identify a

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		Longsight Road			long-term solution.
		Sunny Bower Street/Black Brook	Bury Council	TBC	Investigation of surface water flooding from farm land including assessment of the capacity of Black Brook required. Not started but possibly combine investigation with other schemes.
	Understand the risk from sewer flooding	Undertake Integrated Drainage Area Study	United Utilities	January 2018	Provisional risk areas mapped and further investigations being considered.
	Identify structures that affect flood risk.	Produce and maintain a flood risk asset register of structures or features that, in the opinion of the Council, are likely to have a significant effect on flood risk.	Bury Council	Not specified in legislation	Much of needed information has been gathered but resource constraints are preventing completion of register.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
	Request information from individuals	As required. Can enforce if necessary			On-going
	Improve skills and knowledge of flood risk officers.		Bury Council	TBC	Attendance at events, project meetings, etc have increased knowledge.
	Designate features that contribute to the management of flood risk	As required			To date, no features have been designated.
2. To manage the likelihood of flooding within the	Work with partners to identify schemes which will alleviate flood	Stubbins and Ramsbottom flood defence scheme	Environment Agency		Completed in 2015

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
Borough.	risk in the future. In general the Environment Agency will lead on schemes on main rivers, United Utilities on sewers and Bury Council on other water bodies	Radcliffe and Redvales flood defence scheme	Environment Agency	TBC	Design work underway. Preferred option in October 2017. Aimed for completion in 2021. R & R Community Drop In Events – Tuesday 17/1/17; Thursday 19/1/17; Tuesday 25/4/17; Thursday 27/4/17; Wednesday 30/08/2017
		Ainsworth Road/ Water St, Radcliffe	United Utilities	TBC	Investigations carried out. Solution not evident.
		Old Kays Park/Holcombe Road culvert, Greenmount	Bury Council	TBC	Investigations indicated main problem was blockage upstream. On-going monitoring.
		Holly Mount Lane, Greenmount	Bury Council	TBC	Culvert upgrade needed.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		Old Oak Cottages, Ramsbottom	Bury Council	TBC	Culvert upgrade needed.
		Dungeon Pub culvert, Harwood Road, Tottington	Bury Council	TBC	Silt removed downstream. Situation being monitored.
		Turton Road, Tottington	Bury Council	TBC	New highway drainage required.
		Watling Street, Affetside	Bury Council	TBC	Ditch clearance and additional drainage connections completed. On-going monitoring.
		Bradshaw Road, Tottington	Bury Council	TBC	New highway drainage required.
		Scobell Street/Sycamore Road, Tottington	Bury Council	TBC	Investigations revealed problems with the sewer. Work being progressed by UU.
		Moorside Road, Tottington	Bury Council	TBC	Culvert clearance required.
		A58 Culverts	Bury Council	TBC	Two culverts need replacing.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		St Andrews Close, Ramsbottom	Bury Council	TBC	Silt removal needed.
		Agecroft Road West/ Butterstile Close	Bury Council	TBC	Investigations required. Not started.
		Crow Lane, Carr Street, Moor Road	Bury Council	TBC	Investigations required. Not started.
	Maintain flood risk assets, be it cyclical or responsive, based on level of risk.	Highway gulleys and culverts have a cyclical maintenance regime, but reactive maintenance is also carried out.	Bury Council	On-going	Annual inspection aimed for.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
3. To help Bury residents to manage their own risk	Provide clear on-line information on roles and responsibilities.		Bury Council	Updated as required	Information available at bury.gov.uk
	Hold advice sessions		Flood Groups/ EA/ UU/ Bury Council	Complete	As required. Previous events have been held on: Thursday 11/2/2016; Saturday 11/06/2016
	Provide resilience grants.		Bury Council	Complete	Scheme now closed. 432 eligible applications were approved (residential and commercial properties).
4. To ensure that new	Implement government	NPPF paras 93-104 and PPG	Bury Council	On-going	Planning applications determined in line with

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
development in Bury reduces rather than increases flood risk	guidance on development in flood risk areas	on Flood Risk.			guidance.
	Ensure GMSF includes policies on flood risk.		GMCA	In progress	See policy GM18 in the draft GMSF
	Ensure Bury Local Plan includes policies on flood risk.		Bury Council	In progress	Will be included
	Liaise closely with the EA in determining planning applications with flood risk implications.	York Street	Bury Council	Approved	No objection from EA
		Openshaw Fold	Bury Council	Approved	No objection from EA
		Hardy's Gate	Bury Council	Approved	No objection from EA

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
5. To take a sustainable approach to flood risk management within the Borough, which balances economic, environmental and social benefits with flood risk policies and programmes	Ensure local policies are in line with national and regional policies, eg the North West River Basin Management Plan			On-going	On-going
	Produce a Local Flood Risk Management Strategy	This document		2017	First Strategy adopted in 2014
	Produce a Flood Risk Management Plan	Produce a North West River Basin Flood Risk Management	Environment Agency	2016	2015-21 Plan available on gov.uk

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		Plan			
	SEA	Undertake a Strategic Environmental Assessment, Habitats Regulations Assessment and Water Framework Directive Compliance check of the LFRMS	Bury Council	Complete	Available at bury.gov.uk
		Promote natural flood management	EA/ landowners/ Bury Council	On-going	Discussion taking place with landowners in upper Irwell
		Seek opportunities to develop natural	EA/ landowners/ Bury Council	On-going	Sites will be sought through the Local Plan process

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
		flooding areas.			
6. To improve flood preparation, warning and post flood recovery.	Promote property resilience in flood risk areas.	Support for residents and businesses	EA/ Bury Council	On-going	EA publications, grant scheme and advice sessions. Advice sessions held on: Thursday 11/2/2016; Saturday 11/06/2016 Flood Action Groups: Radcliffe (meetings held – 27/07/16, 27/09/2016, 6/12/16); Ramsbottom (meetings held - 17/11/16, 02/02/2017, 13/7/2017); Summersseat Public Meeting (meetings held – 06/12/16, 19/07/17, 21/09/2017)
	Provide warnings of	Text message system	Environment	On-going	Many residents already receive warnings. Others

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
	flood risk events.	available.	Agency		can register to receive them.
	Endeavour to make sure people know how to respond to an event.	Provide on-line advice	Bury Council	On-going	Information available on bury.gov.uk
	Ensure that first responders have a plan and implement it.		Bury Council/ GM Police/ GM Fire and Rescue/ Environment Agency	On-going	A Flood response plan exists but is not a public document.
7. To endeavour to direct	Continually review priorities	Current priority is Radcliffe and		On-going	Consultants have been appointed to design proposals and produce a business case. It is hope construction will start in 2018/9.

Objective	Response	Action/Scheme	Lead Organisation	Timescale	Status
flood risk funding to areas most at need or where solutions will be most effective.		Redvales flood defence scheme.			
		Opportunities to attract funding from the Environment Agency-managed Grant in Aid programme will be sought.		On-going	Staff resources to prepare and submit grant applications are in short supply.