

# **Doncaster M.B.C Local Flood Risk Management Strategy**

**Final Report V1.4**

**July 2014**



## Foreword from The Mayor.....

I am pleased to introduce the Doncaster Local Flood Risk Management Strategy. The flooding events in East Yorkshire in December 2013 and more recently in the south of the country have once again reminded us of the devastating effects that flooding can have on communities and the economy. Indeed Doncaster and its residents were directly affected by large scale flooding in 2007 and I know this event is still very much at the forefront of many people's minds.

The impact of these floods and the fact that they may become more prevalent in the future means that we must remain vigilant. Flood risk management therefore remains a key priority for this authority. This strategy promotes a greater understanding of flood risk and what can be done to mitigate against those risks. It sets out a clear plan for future flood risk management in Doncaster, ensuring people, businesses, communities and other risk management authorities have an active role in how flood risk is managed.

A handwritten signature in cursive script that reads "Ros Jones".

**Ros Jones**

**Mayor of Doncaster, July 2014**

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# 1. Introduction

## 1.1 Overview

Doncaster Metropolitan Borough Council is now designated as Lead Local Flood Authority, and as such is required under Section 9 of the Floods and Water Management Act 2010 to develop, maintain, apply and monitor a strategy for local flood risk management.

Following the catastrophic floods in 2007, where large areas of the UK were flooded including significant flooding in Doncaster, Sir Michael Pitt published his final report in June 2008, Lessons Learnt from the 2007 Floods, which called for urgent and fundamental changes in the way the country needed to adapt to the increased risk of flooding. This led to a new Act of Parliament, The Floods and Water Management Act 2010, which introduced a new national approach in how flood risk is managed in England and Wales.

The purpose of the Local Flood Risk Management Strategy is to set out a clear plan for future flood risk management in Doncaster, ensuring people, businesses, communities and other risk management authorities have an active role in how flood risk is managed.

The scope of the Local Flood Risk Management Strategy is to consider all sources of flooding, but specifically focuses on the **“Local” flood risks** from surface water run-off, groundwater, and ordinary watercourses. The management of flooding from main rivers, such as the (River Don, Ea Beck, Torne and Idle) remains the responsibility of the Environment Agency. This strategy considers the interactions that main river flooding may have with local flood risk and promotes a partnership working philosophy between all risk management authorities, to deliver the effective management of flood risk in Doncaster.

The strategy has been developed with regard to current legislation and guidance. Doncaster MBC have already undertaken an initial high level screening exercise to identify local flood risks, in the form of the “Preliminary Flood Risk Assessment July 2012” which was a requirement of the Flood Risk Regulations 2009. The strategy will build on this work already undertaken.

The strategy is a living document, and as such the timetable for review will be flexible. Implementation of flood mitigation schemes, new development, historical and new flooding are areas that may trigger a review and updating of the strategy. As a minimum the strategy is to be reviewed every 6 years, which ties in with the cycles for reviewing the Preliminary Flood Risk Assessment. The first review is scheduled to be completed by December 2017.

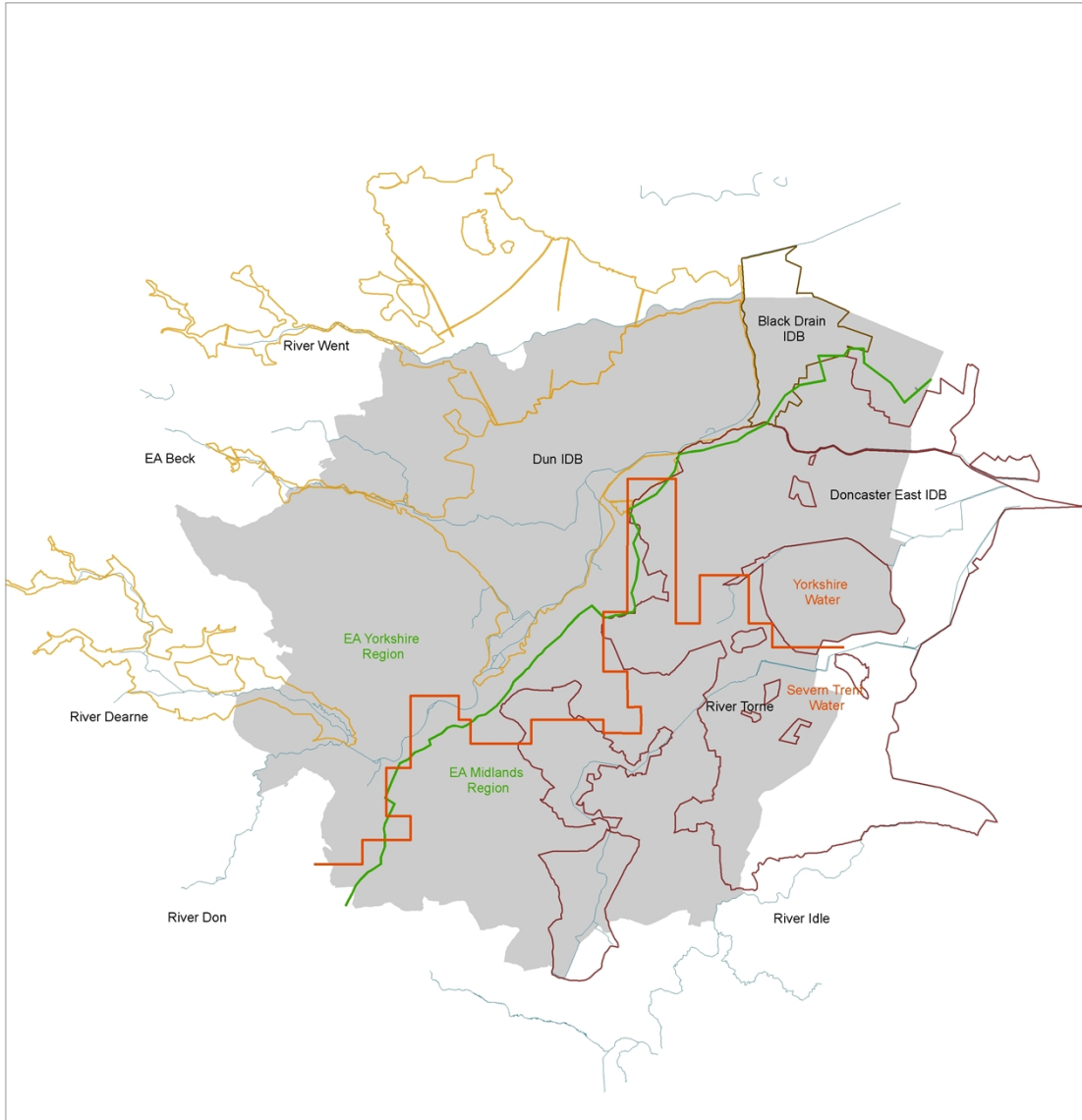
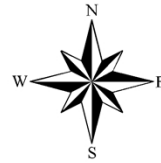
## 1.2 Strategy Area

Doncaster MBC is the largest metropolitan borough in England, covering an area of approximately 568 square kilometres, with a population of 302,400 (2011 census). Doncaster’s topography is predominantly flat (some of it below sea level). It relies heavily on an extensive system of man-made drainage channels, pumps and other control structures to drain the land effectively. The strategy area is covered by 3 Internal Drainage Boards (Danvm, Doncaster East and Black Drain), which cover around 48% of the study area.

There are a number of large rivers which flow through Doncaster, namely the River Don, River Dearne, River Torne, River Went and the Ea Beck, along with several other minor rivers. The strategy area is split hydraulically between the River Don and River Trent catchments (Refer to Fig 1, page 4). It is also served by 2 Environment Agency Areas, Yorkshire and Derbyshire/Nottinghamshire and Leicestershire, which reflects that the borough is hydraulically split along the southern length of the River Don. The borough is split between 3 Water Authorities, Yorkshire, Severn Trent and Anglian (although Anglian only serves a very small area).

Fig 1

# Doncaster MBC Boundaries



| Legend |  |
|--------|--|
|        | Yorkshire Water and Severn Trent Water Boundary  |
|        | Yorkshire Regional Flood & Coastal Committee and Trent Regional Flood & Coastal Committee Boundary |
|        | Black Drain Internal Drainage Board boundary   |
|        | Danum Internal Drainage Board Boundary   |
|        | Main Rivers  |
|        | Doncaster East   |
|        | Main Rivers  |

|   |                                      |   |                                   |                            |
|---|--------------------------------------|---|-----------------------------------|----------------------------|
| (c) Crown copyright. License Number 100019782. 2013.<br>(c) Copyright GeoInformation Group 1997, 2002, 2005 and 2007. | <b>Completed By :</b><br>Adam Porter | <b>Map Reference:</b><br>Doncaster MBC Boundaries | <b>Date :</b><br>14 November 2013 | <b>Scale :</b><br>1:56,000 |
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### 1.3 Understanding Flood Risk

In order to manage flood risk, it is important that we understand the types of flood risk. These are as follows:

#### **River and Stream/Dyke Flooding**

This occurs when a river, stream or dyke cannot cope with the amount of water draining into it from the surrounding land, which may lead to the overtopping of the river causing flooding to adjacent land and properties. This is sometimes referred to as "Fluvial" flooding. The River Don in Doncaster (from Kirk Bramwith downstream) is Tidal, and as such can influence river levels during storm conditions.

#### **Surface Water Flooding**

This occurs when rainwater does not drain away through the normal drainage systems (sewers, highway gullies etc), or soaks into the ground, but lies on top or flows on the surface instead. This is sometimes referred to as "Pluvial" flooding.

#### **Sewer Flooding**

This happens when sewers cannot cope with the amount of water flowing through them during a storm. The sewers become overwhelmed and excess flows spill out onto adjacent land and property.

#### **Groundwater**

Groundwater flooding is usually very local and governed by the local geology. It usually occurs after periods of prolonged or heavy rainfall.

Groundwater flooding can arise from:

- Natural exceptional rises in groundwater level, reactivating springs and short lived watercourses (often referred to as 'Clearwater flooding').
- Rising of groundwater (known as rebound) following reductions in historic abstraction.
- Mine water recovering to natural levels following cessation of pumping.
- Local shallow drainage/flooding problems unrelated to deep groundwater responses.

The solid geology underlying the Doncaster borough is split into three distinct groups. The dominant group is that of Sherwood Sandstone, which occupies the central and eastern areas of the borough. To the west of this group sits the Zechstien group, which are predominantly magnesian limestones which are interbedded with marls. In the far west of the borough is the Upper Pennine Coal Measures. The geological contact between these groups is generally trending in a North-Northwest to South-Southeast direction.

There are several superficial deposits which overlay the bedrock. In the north of the borough is the 25-foot drift of the Vale of York, which comprises of silt and clay with sands. In the East of the Borough there is a deposit of lowland peat. In the central area there is a band of alluvium which is associated with the River Don. To the South of this there are deposits of river gravels and sand and gravel. Boulder clay is interspersed in pockets across the entire borough. The boundaries of these deposits are highly variable. The geological plans show that there is no significant superficial deposits overlying the coal measures or the magnesian limestones.

The Council has limited records of past groundwater flooding. The most significant recent groundwater flooding event was in 2007, where groundwater flooding interacted with other sources of flooding, causing internal flooding to properties. This could be due to the historical pumping of groundwater by the collieries which used to operate in the Doncaster Borough.

Both the Don and Trent Catchment Flood Management Plans (CFMPs) which cover the strategy area do not identify any specific groundwater flooding incidents, however this does not eliminate the risk of groundwater flooding in the study area.

The strategy area is part of the South Yorkshire Mining region. The Coal Authority was consulted with respect to the possibility of flooding from re-emergence of minewaters, following the cessation of mine water pumping. The Doncaster Drainage Act 1929 (including several amendments thereafter) is a specific piece of legislation which requires the Coal Authority to ensure that the land drainage systems affected by mining works are maintained and remediated wherever necessary. There are several pumping stations within the

study area specifically to manage this, which are predominately maintained by the Internal Drainage Boards, although the Environment Agency does maintain 5 within Doncaster itself.

Flooding may occur when the levels of water below the ground rise above the surface. This is most likely to happen in areas where the ground contains aquifers (permeable rocks) that water can soak into or pass through.

### **Historic Flood Events**

The records of past flooding events held by Doncaster MBC are very limited. A historically reactive approach to local flood risk management has resulted in poor records being kept. The only recorded details the council have are since the floods of June 2007, where 3286 properties were flooded, including 2275 of those suffering major (internal flooding to property) damage. There have been numerous flooding incidents prior to 2007, with the most notable being those of Autumn 2000 and Spring 1947.

The implementation of the Floods and Water Management Act, 2010, provided the legislation and impetus for local authorities to manage flood risk more effectively. The improved response to the flood event in July 2012, which saw the internal flooding of 49 properties, was much more co-ordinated. This proved that not only was the management of the flooding event more structured, but the recording and delivery of flood mitigation solutions after the event, proved that the Act was delivering what it originally had set out to do.

### **The Scale of Flood Risk in Doncaster**

To provide detailed facts and figures in relation to Doncaster's flood risk can be complex, as there are a number of different sources of flooding, with some that are a combination of fluvial, pluvial and groundwater.

The figures below do give an indication of the Flood risk to properties in Doncaster based upon Annual Exceedance Probability (1/100 yr etc).

#### **Fluvial Flood Risk**

Significant Risk (AEP >1/75) – 2,365 Properties

Significant Risk in 20% most deprived areas – 648 Properties

Moderate Risk (AEP 1/200 to 1/75) – 5,032 Properties

Low Risk (AEP <1/200) – 21,645 Properties

The figures above places Doncaster at the third highest risk authority (out of 14 Yorkshire Local Authorities), with 10% of Yorkshire's Fluvial/Tidal risk within it's boundary. However, although Doncaster is at a high risk of fluvial flooding, the main rivers which run through Doncaster do have a high standard of protection on them, which are managed and maintained by the Environment Agency.

#### **Surface Water Flood Risk**

1/30yr Storm – 28,500 Properties

1/100yr Storm – 64,000 Properties

1/1000yr Storm – 81,000 Properties

*Note: The figures for the surface water flood risk are based upon the updated flood maps for surface water, and therefore will differ from those published in the Preliminary Flood Risk Assessment published in 2011.*

The scale and level of flood risk post 2007 floods hasn't significantly changed, although there have been some major fluvial flood mitigation schemes undertaken by the Environment Agency to increase or maintain the current level of protection to properties. The Pluvial (surface water) flood risk is more of an unknown

quantity, because Doncaster MBC does not hold much historical flooding data to support the recently published updated flood maps for surface water. However, the new surface water flood maps do provide a more robust platform for identifying surface water flood risk areas. The Floods and Water Management Act has empowered Local Authorities to effectively investigate and record incidents of surface water flooding. The Preliminary Flood Risk Assessment undertaken by Doncaster MBC in 2011 was useful in identifying the historic surface water flood risk areas, which can be used as a baseline for further investigation or flood mitigation.

Both the Surface Water (pluvial) and Main River (fluvial) flood risk maps are available for the public to view, on the Environment Agencies website.

### **Climate Change**

There is significant scientific evidence that suggests that global climate change is happening and this cannot be ignored (UK Climate Projections 2009).

Over the past century around the UK we have seen sea levels rise and more of our winter rain falling in intense wet spells. Seasonal rainfall is highly variable. Recent evidence suggests that it has decreased in summer and increased in winter. Some of the changes reflect natural variation; however the broad trends are in line with projections from climate models.

Greenhouse gas (GHG) levels in the atmosphere are likely to cause higher winter rainfall in future. Past GHG emissions mean that some climate change is inevitable in the next 20-30 years. Lower emissions could reduce the amount of climate change further into the future, but changes are still projected at least as far ahead as the 2080's.

We have enough confidence in large scale climate models to say that we must plan for change. There is more uncertainty at a local scale but model results may help us plan to adapt. For example, we understand that rain storms may become more intense, even if we can't be sure about exactly where or when. By the 2080's, the latest UK climate projections (UK Climate Projections 2009) are that there could be around three more days in winter with heavy rainfall (defined as more than 25mm in a day). It is plausible that the amount of rain in extreme storms (with a 1 in 5 annual chance, or rarer) could increase by 40%.

### **Key Projections for Humber Basin District**

If emissions follow a medium future scenario, UKCP09 projected changes by the 2050's relative to the recent past are:

- Winter precipitation increases of around 12% (very likely to be between 2 and 26%)
- Precipitation on the wettest day in winter up by around 12% (very likely to be more than 24%)
- Relative sea level at Grimsby very likely to be up between 10 and 41cm from 1990 levels (not including extra potential rises from polar ice sheet loss)
- Peak river flows in a typical catchment likely to increase between 8 and 14%

### **Implications for Flood Risk:**

Climate changes can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability.

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

Some of the drainage systems in the district have been artificially modified to manage water levels, and this could help in adapting to some impacts of future climate on flooding, but these may also need to be managed differently. An example of how we could adapt these drainage systems is changing the pumping regime, to reflect variations in seasonal rainfall. Rising sea or river levels may also increase local flood risk inland or away from major rivers, because of interactions with drains, sewers and smaller watercourses. Even small rises in sea level could add to very high tides so as to affect places at a significant distance inland.

Where appropriate, we need local studies to understand climate impacts in detail, including effects from other factors such as land use. Sustainable development and drainage will help us adapt to climate change and manage the risk of damaging floods in future.



### **Shale Gas Extraction (Fracking)**

There is no historical evidence or information/reports at this moment in time, to link the fracking process to causing damage to any flood defences or lagoons/ponds, which in turn could pose a flood risk if compromised. This may be subject to a review in the future, should any definitive evidence or information be made available to prove otherwise.

## 2.0 Context of Strategy

This section provides an overview of:

- The key Plans this Strategy aligns to.
- Current legislation and guidance relating to the management of flood risk.

## 2.1 Borough & Council Plans

### Environment Strategy

Effective flood mitigation is a priority in Doncaster's Environment Strategy:

Promote flood mitigation and further develop local residents' knowledge of flood risks in order to **increase personal flood resilience**

### Borough Strategy

Managing flood risk effectively has economic as well as social and environmental benefits.

The 2007 summer floods cost the UK at least £4 billion<sup>1</sup>, through its impact on travel, infrastructure, business activity and farming. The risk of flooding also affects the attractiveness of place to live in, work in, visit and invest in.

Effectively managing flood risk in Doncaster is essential to achieve the long-term vision for the Borough, as set out in Doncaster's Borough Strategy:

*Doncaster aims to be one of the most successful boroughs in England by being a gateway to opportunity locally, nationally and worldwide.*

*A strong local economy will support progressive, healthy, safe and vibrant communities.*

*All residents will feel valued and should be able to achieve their full potential in employment, education, care and life chances.*

*Pride in Doncaster will have increased further*

### Doncaster's Economic Growth Plan

Doncaster's Economic Growth Plan has three priority themes:

- **Business Growth:** To create the conditions which encourage business investment and innovation - to increase and diversify the business base, leading to a more productive and resilient economy.
- **Place:** To harness Doncaster's asset base to support economic growth, including our urban centre, excellent connectivity, green space and large amount of land available.
- **Skills:** To ensure that the residents of Doncaster have the skills and abilities that our current and future businesses require.

In delivering these priorities, the challenge for Doncaster is to achieve sustainable development by balancing the three interconnected sustainability 'pillars' of the economy, society and the environment. A key objective of Doncaster's Local Development Framework (discussed in more detail below) is to ensure that development land for homes and jobs maximises opportunities for regeneration, whilst avoiding areas vulnerable to flooding where possible.

Successful businesses in Doncaster, whether new, expanding or existing need premises which are operational, safe, affordable and accessible for clients and staff. For some development sites, investment in economic infrastructure such as flood defences can be a catalyst to unlock development by improving the viability of development sites to both end users and developers.

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<sup>1</sup> Environment Agency, *Review of the 2007 floods*, December 2007. Insured costs are estimated at £3 billion with additional costs of £1 billion

## Council Corporate Plan

The need to manage flood risk features prominently in the Council's 2014/15-16/17 Corporate Plan:

Keep household energy costs low, create a fair and safe trading environment, enhance & protect the quality of Doncaster's built and natural environment, whilst minimising waste **and the risk of flooding**.

## 2.2 Floods and Water Management Act 2010 and Flood Risk Regulations 2009

The Act brings together the recommendations of the Pitt report and previous policies, in order to create a more comprehensive and cohesive regime for managing "Local Flood Risk". A key feature of the Act was to introduce the Lead Local Flood Authority (Doncaster MBC), who would co-ordinate and manage the local flood risk in Doncaster. The main roles and responsibilities of the Doncaster MBC LLFA are as follows:

- Leading the co-ordination of local flood risk, bringing together all relevant bodies to assist in managing that risk.
- Investigate "local" flooding incidents in Doncaster (as per guidance note on "Section 19" investigations – Appendix A).
- Maintain a register of structures or features which are considered to significantly affect flood risk and record ownership and state of repair (as per guidance note on "Section 21" Maintain a register of structures – Appendix B).
- Powers to undertake works to manage flood risk from surface water run-off or groundwater.
- Powers to designate structures and features that affect flooding.
- The approval, adoption and maintenance of Sustainable Drainage Systems (SuDS).

The Flood Risk Regulations came into force in 2009. The purpose of the regulations was to transpose the EC Floods Directive (2007/60/EC) into British Law. The main purpose of the regulations was to give responsibility to the Environment Agency and the LLFA to prepare the following deliverables: Preliminary Flood Risk Assessment, Flood Risk and Hazard Maps, and Flood Risk Management Plans for flood risk from the sea, main rivers, surface run-off, groundwater and ordinary watercourses.

Doncaster MBC has already completed the Preliminary Flood Risk Assessment, which was a preliminary high level screening exercise to identify local flood risk (both historic and future flooding) from various sources including surface water, groundwater, and ordinary watercourses. The PFRA is available to view on the Doncaster MBC webpages at :-

[http://www.doncaster.gov.uk/sections/transportstreetsandparking/floodriskmanagement/Published\\_Reports\\_on\\_Flood\\_Risk\\_Management.aspx](http://www.doncaster.gov.uk/sections/transportstreetsandparking/floodriskmanagement/Published_Reports_on_Flood_Risk_Management.aspx)

## 2.3 National Flood and Coastal Erosion Risk Management Strategy

The Environment Agency and DEFRA published their National Flood and Coastal Erosion Strategy (FCERM) in 2011. This sets out a national framework for managing flood risk and coastal erosion. The Local Strategy (LFRMS) must ensure that it is consistent with the overall aims and objectives of the FCERM, and in particular the six 'guiding principles' as follows:

1. Community focus and partnership working:  
*Engagement with communities to ensure they understand the risks and encourage them to have direct involvement in the decision making. Working in partnership enables better sharing of information and expertise.*
2. A catchment and coastal "cell" based approach

LLFA's should ensure that neighbouring LLFA's catchments are involved in the decision making. Strategic plans such as Catchment Flood Management Plans (CFMP's) and Shoreline Management Plans (SMP's) should be used to set strategic priorities for the LFRMS.

3. Sustainability

LLFA's should aim to support communities by managing risks in ways that take account of all impacts of flooding. Where possible, opportunities should be taken to enhance the environment and work with natural processes. Risk management measures should be forward looking taking into account any potential risks that may arise in the future and being adaptable to climate change.

4. Proportionate, risk based approaches

It is not technically, economically or environmentally feasible to prevent all flooding and coastal erosion altogether. All aspects of risk management should be carried out in a proportionate way that reflects the size and complexity of risk. The assessment of risk should identify where the highest risks are and therefore the priorities for taking action.

5. Multiple benefits

The National Strategy can also bring significant economic, environmental and social benefits. Measures such as the use SuDS can deliver benefits for amenity, recreation, pollution reduction and water quality.

6. Beneficiaries should be allowed and encouraged to invest in local risk management

LLFA's should consider opportunities to seek alternative sources of funding for managing local flood risk, rather than relying solely on Government funds.

As previously mentioned, consistency between the National and Local Flood Risk Management Strategy is key, and when referring to the objectives for managing flood risk in Chapter 4, it can be seen how these have been aligned with the "Guiding Principles" above. Figure 2.0 below shows the general relationship between different strategies and plans.

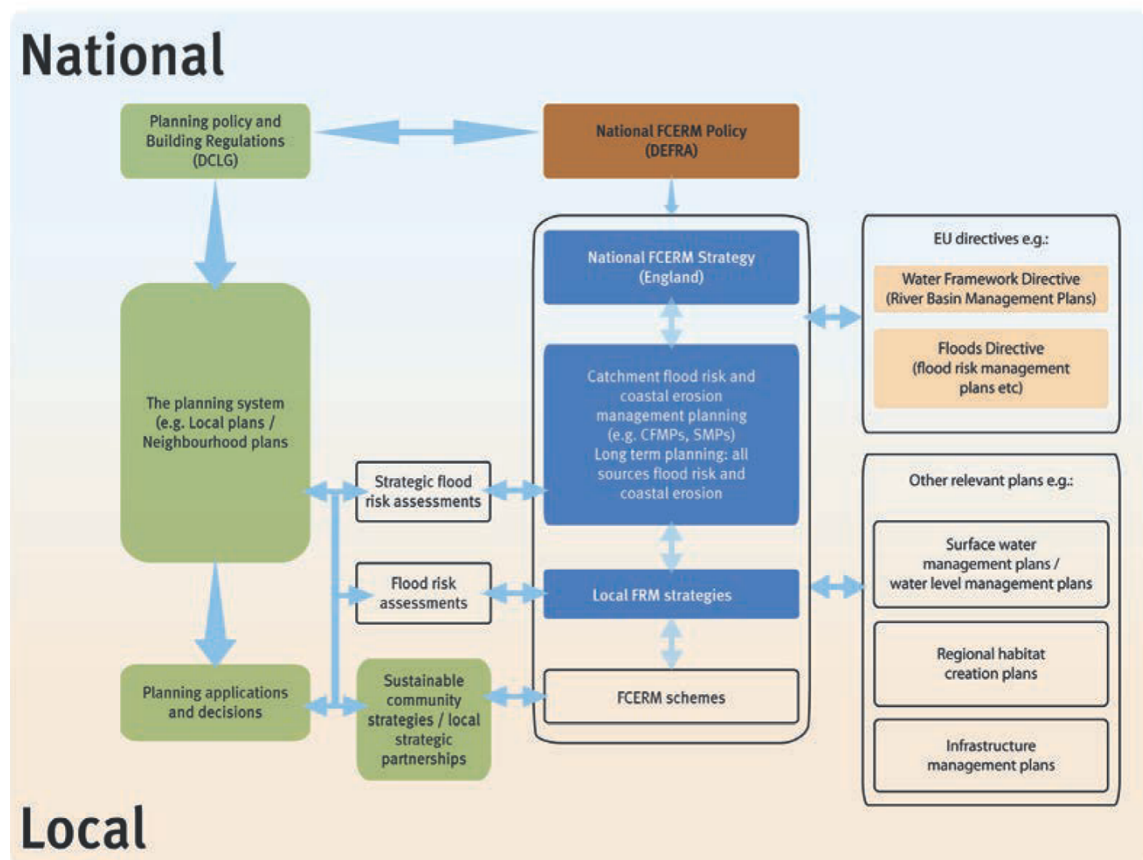


Fig 2.0

## 2.4 Other Relevant Policy, Regulation and Legislation

### Water Framework Directive:

This piece of EC legislation is designed to improve and integrate the way water bodies are managed throughout Europe. The main features of the legislation are as follows:

- To prevent deterioration in the classification status of aquatic ecosystems and protect and improve the ecological condition of waters.
- To aim to achieve at least good status for all waters. Where this is not possible good status should be achieved by 2021 or 2027.
- To promote sustainable use of water as a natural resource.
- To conserve habitats and species that depends directly on water.
- To progressively reduce or phase out releases of individual pollutants or groups of pollutants that presents a significant threat to the aquatic environment.
- To progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants
- To contribute to mitigating the effects of flood and droughts

### National Planning Policy Framework

The LFRMS has been produced with reference to the National Planning Policy Framework (NPPF) which replaced Planning Policy Statement 25 in March 2012. The NPPF ensures that the flood risk for any application is fully assessed, propose measures to mitigate it and demonstrate that any residual risks can be safely managed.

### Local Development Framework

The Local Development Framework is Doncaster's local plan. This sets out the blueprint for growth and development across the borough to the year 2028. The Core Strategy, part of the Local Development Framework (LDF), sets out a spatial vision for the area and key strategic objectives and strategic policies for development. Doncaster's Policy CS4 for Flooding and Drainage within the core strategy is detailed below.

- A) Development will be directed to areas of lowest flood risk (from all sources) within the overall framework of the Growth and Regeneration Strategy and its emphasis on deliverable urban brownfield sites. Where this results in development within flood zones 2 and 3, priority will be given to sites which:
1. Already benefit from an acceptable standard and condition of defences; or
  2. Have existing defences which will be improved as a result of the proposal to an acceptable standard and condition; or
  3. Do not have existing defences, if it can be shown that there are no appropriate sites already benefiting from defences, and the development can be made safe through the creation of new defences which would also benefit existing communities.
- B) Developments within flood risk areas will be supported where they pass the sequential and/or exception tests (if they are required). Proposals which are in accordance with both allocations and any other local development framework policies will normally be deemed to have passed the sequential test.
- C) All development over 1 hectare, and any development within flood risk areas will be supported where it:
1. provides a fit for purpose site specific Flood Risk Assessment
  2. will be safe from all forms of flooding, without increasing the level of flood risk to surrounding properties and/or land for the lifetime of the development;

3. provides adequate means of foul sewage disposal and achieves a reduction in surface water run-off on brownfield sites and no increase from existing rates on green field sites;
4. makes use of Sustainable Drainage Schemes, where appropriate;
5. is designed to be resilient to any flooding which may occur (including making provision for circumstances in which existing flood defences fail);
6. facilitates the maintenance of flooding and drainage infrastructure; and;
7. ensures that mitigation measures (including Sustainable Drainage Schemes) can be maintained over the long term and will not have an adverse impact on the water environment, including ground water aquifers, flood water capacity and nature conservation interests.

### **Strategic Environmental Assessment**

A Strategic Environmental Assessment has been produced, to ensure the strategy meets the requirements of the Strategic Environmental Assessment (SEA) Directive and the Water Framework Directive (WFD).

The objective of the SEA directive is to “provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development”.

The final SEA report can be found in Appendix D.

### **The Climate Change Act (2008)**

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

### **The Conservation of Habitats and Species Regulations (2010)**

These regulations aim to help maintain and enhance biodiversity throughout the EU, by conserving natural habitats, flora and fauna. The main way it does this is by establishing a coherent network of protected areas and strict protection measures for particularly rare and threatened species.

### **The Civil Contingencies Act (2004)**

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

**The Land Drainage Act (1991)** This Act outlines the duties and powers to manage land drainage for a number of bodies, including the Environment Agency, Internal Drainage Boards, Local Authorities, navigation authorities and riparian owners.

### 3.0 Roles and Responsibilities

Managing flood risk within Doncaster MBC's boundary is the responsibility of a number of Risk Management Authorities as defined below:

- Lead Local Flood Authority – Doncaster MBC
- Environment Agency – North East and Trent Regions
- Water and Sewerage Companies – Yorkshire Water, Severn Trent Water and Anglian Water
- Internal Drainage Boards – Danvm, Doncaster East and Black Drain Internal Drainage Board
- Highway Authority – Doncaster MBC, although the Highways Agency do manage the M18, M180 and A1M motorways which run through Doncaster

Each of the organisations above has specific responsibilities in relation to flood risk management, and also duties and responsibilities under the Floods and Water Management Act, which are summarised in Table 1.

LLFA's and the Environment Agency are empowered to require information from others needed for their flood and coastal erosion risk management functions. Relevant authorities must co-operate with each other in exercising functions under the Act, and can delegate functions to each other by local agreement. If a risk management authority fails to exercise a flood risk management function, the Secretary of State can direct another authority to carry out the function.

#### Doncaster MBC

Doncaster MBC is Lead Local Flood Authority and as such is responsible for the management of "Local Flood Risk" (surface-run off, ordinary watercourses and groundwater). Doncaster MBC Highways are also responsible for the provision of highway drainage and roadside ditches under the Highways Act 1980. Doncaster MBC provides guidance and some degree of assistance on flooding issues, and also during a flood event. The authority has a statutory duty under the Civil Contingencies Act 2004 to prepare, implement and manage a Flood Plan.

Under Planning Legislation (National Planning and Policy Framework 2012) the authority is a statutory consultee on development and planning relating to the management of flood risk.

#### Environment Agency

The Environment Agency is an executive, non-departmental public body responsible to the Secretary of State for Environment, food and rural affairs. Its principal aims are to protect and improve the environment, and to promote sustainable development. Its role in Flood and Coastal Erosion Risk Management (FCERM) has two main components: Significant flood and coastal erosion risk management delivery and the strategic overview of all sources of flooding and coastal erosion.

The 2 Environment Agency Areas are Yorkshire and Derbyshire/Nottinghamshire and Leicestershire (Midlands) (refer to Fig 1).

The Agency is also a statutory consultee for providing advice to planning authorities in development and flood risk; providing fluvial and coastal flood warnings; monitoring flood and coastal erosion risks and supporting emergency responders when floods occur.

*Further details on the Environment Agencies key responsibilities can be found in Table 1, Page 14*

#### Danvm, Doncaster East and Black Drain Internal Drainage Boards

All 3 Internal Drainage Boards in the Doncaster MBC district cover an area of 273km<sup>2</sup> ha. The Drainage Boards were set up in areas of special drainage need to sustain both agricultural and developed land use. The principal function of all 3 boards is to manage water levels in their respective areas, to minimise flood risk and supply water (irrigation) to people, property and land. As much of Doncaster's borough is low lying and constantly at risk from flooding, the board's main function to manage water levels within the borough is critical.

The Doncaster Drainage Act 1929 (Amendment) Order 1994 places an obligation on the Coal Authority to maintain the drainage systems of any abandoned coal mines. Doncaster has a large area of mine workings.

The Internal Drainage Boards maintain numerous drainage systems (pumping stations etc) on behalf of the Coal Authority.

Doncaster MBC has seats on all of the 3 boards (both councillors and officers) which provides a valuable input as Lead Local Flood Authority, not only in the boards day to day activities, but also to promote partnership and joint working arrangements between all board members and risk management authorities.

### **Water and Sewerage Companies**

Yorkshire Water, Severn Trent Water and Anglian Water are the 3 water companies that operate within Doncaster's area. These companies are responsible for managing the risks of flooding from water and sewerage systems. This includes the drainage of foul water, the treatment of waste and the protection of water supplies which can be placed at risk in the event of a flood.

Although modern public sewers are now designed to offer some protection to properties from the risk of flooding, older sewers can become overwhelmed and result in flooding during extreme weather events.

### **Other Risk Management Authorities**

Other authorities and stakeholders with no designated role under the Flood and Water Management Act (FWMA) are also have some key responsibilities for flood risk management in their own areas of discipline. These include:

- Canals and River Trust
- Network Rail
- Natural England
- National Farmers Union
- Highways Agency
- Utility Companies
- Met Office
- Association of British Insurers
- Flood warden groups, parish councils, forums and community groups



**Table 1 – Key Responsibilities of Risk Management Authorities**

*Note – A duty is something the Risk Management Authority is legally obliged to do, whereas a power can be used at the RMA’s discretion*

| Risk Management Authority                  | Risk Management Functions   |
|--|---|
| Doncaster MBC – Lead Local Flood Authority | <ul style="list-style-type: none"> <li>• Develop, maintain, apply and monitor a Local Flood Risk Management Strategy.</li> <li>• Duty to co-operate with other risk management authorities.</li> <li>• Duty to exercise flood risk management functions in a manner consistent with the FCERM.</li> <li>• Powers to undertake works to manage flood risk from surface water or groundwater.</li> <li>• Power to request information in connection with its Flood Risk Management functions.</li> <li>• Duty Investigate “local” flooding incidents (as per guidance note on Section 19 investigations – Appendix A.</li> <li>• Duty to maintain a register of assets which have a significant effect on flood risk (as per guidance note on Section 21 register Of assets – Appendix B)</li> <li>• Power to designate structures or features that affect flood risk.</li> <li>• Power to consent works on Ordinary Watercourses (Internal Drainage Boards continue to exercise this power within their areas).</li> <li>• Responsibility as a Sustainable Drainage (SuDS) Approval Body (SAB) with responsibility for approval, adoption and maintenance of new Sustainable Drainage Systems.</li> <li>• Duty to exercise FCERM functions consistently with the national and local strategies.</li> <li>• Duty to contribute to sustainable development in exercising FCERM functions.</li> <li>• Statutory consultee on Planning Applications</li> </ul> |
| Environment Agency                         | <ul style="list-style-type: none"> <li>• Strategic overview for all forms of flooding.</li> <li>• Development of National Strategy for Flood and Coastal Erosion Risk Management (FCERM) to cover all forms of flooding.</li> <li>• Powers to request information in connection with FCERM functions.</li> <li>• Powers to designate structures and features that affect flooding or coastal erosion.</li> <li>• Duty to exercise FCERM consistently with the national and local strategies.</li> <li>• Duty to report to ministers on FCERM including implementation of strategies.</li> <li>• Statutory consultee to the SuDS Approving Body on sustainable drainage.</li> <li>• Responsibility for coastal flooding.</li> <li>• Responsibility for fluvial flooding from main rivers, including implementing flood mitigation schemes and on-going maintenance of existing assets</li> <li>• Duty to contribute to sustainable development in discharging their FCERM functions.</li> <li>• Ability to issue levies to LLFA’s.</li> <li>• Duty to have regard to LLFA scrutiny processes.</li> <li>• Updated provisions for the regulation of reservoirs.</li> </ul>   |

|  |  |
|--|--|
| <p>Internal Drainage Board (Danvm, Doncaster East and Black Drain Internal Drainage Boards within DMBC's area)</p> | <ul style="list-style-type: none"> <li>• Regulation of ordinary watercourses under the Land Drainage Act, including consenting and enforcement.</li> <li>• Power to designate structures and features that affect flooding or coastal erosion.</li> <li>• Duty to act consistently with local and national strategies.</li> <li>• Duty to have regard to LLFA scrutiny processes.</li> <li>• Ability to work in consortia with other drainage boards.</li> <li>• Statutory consultees to the SuDS approving body.</li> <li>• Power to undertake works on ordinary watercourses.</li> </ul> |
| <p>Water and Sewerage Companies (Yorkshire Water, Severn Trent Water and Anglian Water within DMBC's area)</p>     | <ul style="list-style-type: none"> <li>• Collection, treatment and supply clean drinking water.</li> <li>• Collect, treat and dispose of waste water (foul and surface water).</li> <li>• Duty to have regard to national and local strategies.</li> <li>• Duty to have regard to LLFA scrutiny processes.</li> <li>• Adoption of private sewers.</li> </ul>   |

## 4.0 Objectives for Managing Local Flood Risk

In order to have realistic and deliverable objectives (or outcomes) it is essential that the measures to achieve these are pragmatic. The actions to achieve these objectives will provide a clear understanding in how local flood risk will be managed by Doncaster MBC and other risk management authorities. The objectives will deliver the statutory requirements and also objectives from other plans and strategies.

The actions will be prioritised into short (1-5 years), medium (6-15 years) and long (15 year +)

### 4.1 Other Plans and Strategies

Below is a list of plans and strategies which are relevant and provide a sound evidence base not only to inform this strategy, but to also provide direction for local flood risk management as stand-alone documents.

#### **Doncaster MBC Strategic Flood Risk Assessment (Level 1 2009)**

The purpose of this Level 1 Strategic Flood Risk Assessment (SFRA) is to identify and analyse current and future broad scale flooding issues for proposed development allocation sites/areas in the Doncaster Metropolitan Borough Council (MBC) area, and provide support for further assessment and sequential testing of proposed development allocations.

#### **Humber River Basin Management Plan (Dec 2009)**

The plan's main focus is the protection, improvement and sustainable use of the water environment, and is the main delivery mechanism for the water framework objectives. The Cycle 2 plan is currently in development and will be approved and published by 22<sup>nd</sup> December 2015

#### **Don and Trent Catchment Flood Management Plan (July 2010 and Dec 2010 respectively)**

The CFMP considers all types of inland flooding, from rivers, ground water, surface water and tidal flooding. The role of CFMPs is to establish flood risk management policies which will deliver sustainable flood risk management for the long term. These plans will be superseded by the Flood Risk Management Plans to be approved and published by 22<sup>nd</sup> December 2015.

#### **Doncaster Supplementary Planning Document for Development and Flood Risk (Sept 2010)**

This document provides a pragmatic and flexible approach to how flood risk is managed for future developments, and also includes a guide for developers on producing flood risk assessments and drainage strategies.

This document will be reviewed and amended as part of the work being undertaken for the strategy, to ensure it meet the requirements of the new National Planning Policy Framework (March 2012).

[http://www.doncaster.gov.uk/sections/planningandbuildings/localdevelopmentframework/ldfsupplementary/Development\\_and\\_Floodrisk\\_SPD.aspx](http://www.doncaster.gov.uk/sections/planningandbuildings/localdevelopmentframework/ldfsupplementary/Development_and_Floodrisk_SPD.aspx)

#### **Doncaster Multi Agency Flood Plan (Jan 2011)**

This plan sets out how Doncaster MBC, along with all other partners, manages a flooding incident from incident right through to recovery and was developed following the floods of 2007.

#### **Doncaster Preliminary Flood Risk Assessment (Nov 2011)**

A statutory requirement under the Flood Risk Regulations 2009, it was a high level screening exercise to identify local flood risk (both historic and future flooding) from various sources including surface water, groundwater, and ordinary watercourses.

## 4.2 Results from Public Consultation

The Draft Local Flood Risk Management Strategy was published online as part of a consultation exercise with the public and other risk management authorities. These views were taken into account and any amendments deemed necessary which resulted from these views were made to the final strategy document.

### 4.3 Strategy Objectives

The seven objectives below set out a clear vision as to how local flood risk will be delivered and managed by Doncaster MBC as Lead Local Flood Authority (LLFA) in co-operation with other Risk Management Authorities (RMAs):

1. To improve co-operation between LLFA and other RMA's to meet the requirements of the FWMA, and joint working to produce solutions to identified risks and problems. *(National Strategy objective 1)*
2. To improve understanding of local flood risk both within the LLFA and to other partners and stakeholders. *(National Strategy objective 1)*
3. To seek to mitigate local flood risk through measures to alleviate flooding where practicable or funding will allow. *(National Strategy objective 4)*
4. To ensure planning and development control will take account of all forms of flood risk, and minimise development which could increase flood risk, as will inappropriate development in flood risk areas. *(National Strategy objective 1 & 3)*
5. To increase the community awareness of flood risk and the work the LLFA and other RMA's are undertaking, including promoting self-resilience through individual and community actions. *(National Strategy objective 1 and 5)*
6. To ensure a well-co-ordinated and effectively managed approach to maintenance and management of existing flood risks and drainage assets. *(National Strategy objective 1 and 2)*
7. To ensure that all of the objectives above are sustainable, compliant with the Water Framework Directive (WFD), adapt to climate change and consider the wider environment as a whole. *(National Strategy objective 3 and 5)*

The seven objectives above are consistent with the "six guiding principles" as set out in the Environment Agencies National FCERM Strategy listed in 2.2. Any objectives set, need to be realistic and deliverable. The list of actions to achieve these objectives as defined in Chapter 5, we believe can be delivered, both in the Short (1-5yrs), Medium (6-20yrs) and Long Term (20yrs +). It is essential to set medium and long term objectives, as this demonstrates a continued need for Flood Risk Management, including Flood Mitigation Schemes throughout Doncaster.

## 5.0 Actions to Achieve Objectives

The actions detailed in Appendix C have been developed based upon the seven objectives detailed in Chapter 4. The list of actions sets out a broad range of schemes, actions, initiatives, studies and maintenance activities, with the aim of delivering the requirements of the Local Flood Risk Management Strategy (LFRMS) in Doncaster. However, these actions must be realistic and affordable, and the strategy will consider affordability against the flood mitigation needs for Doncaster, which should provide a well balanced approach in the short, medium and long term.

Where appropriate the actions have been assigned a timescale to deliver, the estimated cost to implement and essentially what each action will deliver in terms of flood risk management/flood mitigation for the residents of Doncaster.

Some of the actions which are outlined are well defined day to day activities, which the authority has always undertaken. Other actions relate to the new roles and responsibilities Doncaster MBC now has as the Lead Local Flood Authority, following the implementation of the Floods and Water Management Act 2010.

### 5.1 Funding and Resources to Undertake Flood Risk Management

There are numerous sources of funding to undertake flood risk management activities, which are managed by various public bodies and private companies/individuals. Below is a list of sources of funding available for Flood Risk Management activities. It should be noted that some of the funding streams are only potential sources, and dependent upon the level of flood risk to properties, which will ultimately determine whether Doncaster MBC is successful in being awarded any funding.

- Flood Defence Grant-in-Aid (FDGiA) – Central Government funding available to all LLFA's for Capital Flood Mitigation schemes, which is usually targeted towards larger Flood Risk Management schemes.
- Local Levy – Annual contributions from LLFA's into a regional pot (Yorkshire RFCC for Doncaster). Targeted for smaller FRM projects.
- Private Contributions and beneficiaries – Entirely voluntary, but funding from private individuals or companies could make Local Levy or FDGiA funding more viable.
- Water Companies (Yorkshire Water and Severn Trent Water) – Possible contribution opportunities for FRM schemes, providing it benefits the water companies assets as well.
- Doncaster MBC - The authority has a number of revenue streams, mainly to maintain and improve the highway drainage network and cleansing of highway gullies.
- Section 106 Contributions (Town and Country Planning Act) – Contributions from developers, who are developing sites within Doncaster, to improve drainage infrastructure which will make the developers proposals more acceptable.

The list above is by no means exhaustive, and there are numerous other sources of funding which could be utilised for Flood Risk Management Activities (refer to Chapter 6 for further information).

### 5.2 Actions to be delivered

Each objective has a list of actions along with the activities, policies and procedures to deliver each action, including timescales and cost. All of the actions below are based upon the current level of funding, and may change if the level of future funding changes.

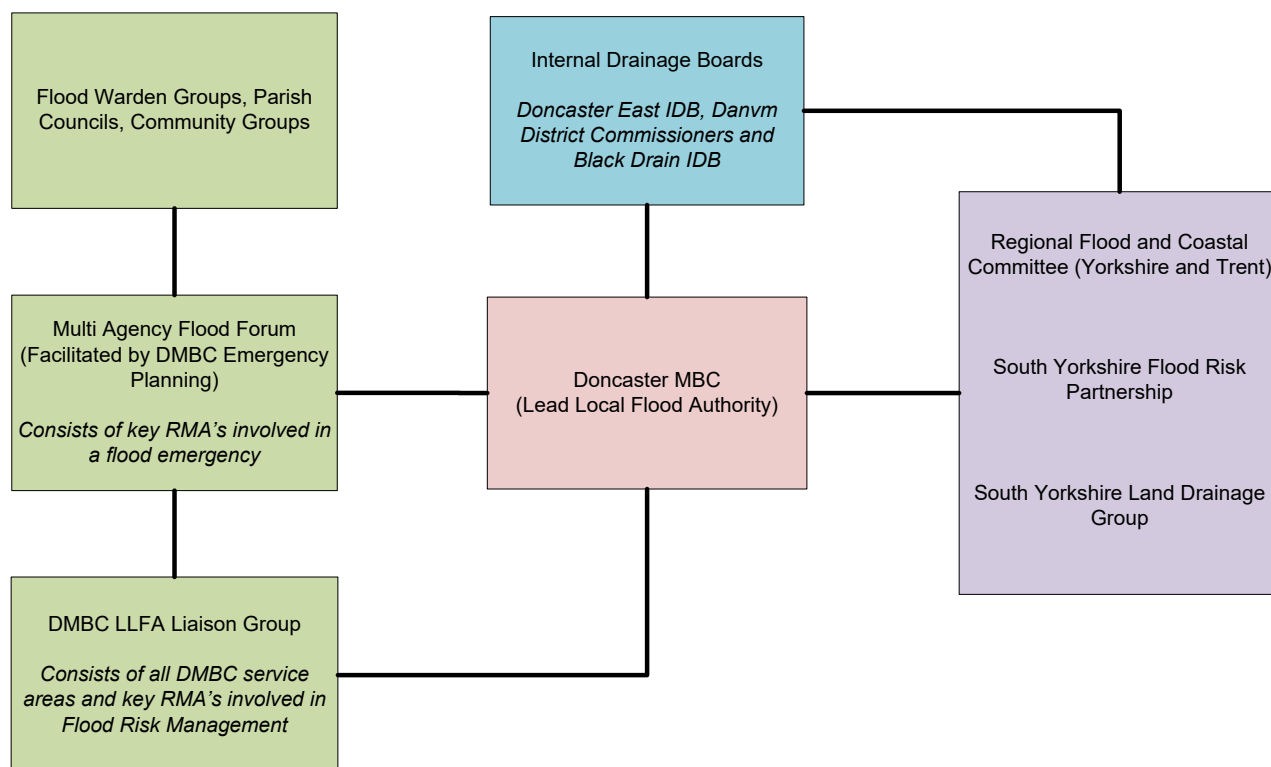
***Objective 1 - To improve co-operation between LLFA and other RMA's to meet the requirements of the FWMA and joint working to produce solutions to identified risks and problems.***

#### 1.1 Continue and develop the partnership and working group arrangements Doncaster MBC currently attends.

The diagram below (Fig 3) shows the partnership in existence between the various Risk Management Authorities.

Figure 3

## Flood Risk Management Structure



RMA = Risk Management Authority

The Floods and Water Management Act 2010 states that a relevant authority (Doncaster MBC), must cooperate with other authorities in exercising its Flood Risk Management Functions. The above diagram demonstrates this, and these groups will continue to develop into the future, although this structure is well established at Doncaster MBC following the floods in 2007.

Doncaster MBC as LLFA also has Officer representation on both Doncaster East and Danvm District Commissioners Internal Drainage Boards, who have experience in Flood Risk Management activities. Not only can they support council members of the board, but also creates a strong link between the boards and Doncaster MBC.

**Objective 2 - To improve understanding of local flood risk both within the LLFA and to other partners and stakeholders.**

## **2.1 Engage local communities and groups in delivering Flood Risk Management Schemes and Initiatives.**

Communities can often feel isolated and detached in any decisions which are made relating to the implementation of any FRM scheme or initiative. Engaging with communities at an early stage can reap the benefits in the long term. Communication is key, so therefore for any FRM scheme or initiative which Doncaster MBC implements, we will publish this information on the council's FRM web pages and also hold local drop in sessions where any scheme or initiative can be communicated locally. Local communities would also have an opportunity to provide an input into the development of any scheme at these drop in sessions.

We will also publish information or provide links to any other scheme another risk management authority is implementing on the councils FRM web pages.

## **2.2 Record all drainage and flood assets**

Identifying the location, condition and type of drainage and flood assets is key to understanding how local flood risk can be managed. Historically this type of information has been held individually by each risk management authority. The FWMA places a duty on all Risk Management Authorities to co-operate and share information. All of the RMA's recorded asset information (pipes, culverts, watercourses, flood defences etc.) has now been made available to Doncaster MBC who retains this information in one central GIS asset database.

Doncaster MBC has also commenced a programme of recording information of their drainage assets (highway drainage, soakaways, trash screens etc.) on a central database. A Library of historic paper drainage plans, surveys etc, will be transferred onto a central GIS asset database, to ensure this information is retained and not lost. Also, any new drainage assets which are constructed will be recorded on this database. It is envisaged that over 75% of the authorities drainage assets will be recorded onto the GIS database by 2019.

As part of the exercise to record all drainage and flood assets, the LLFA also has a duty to establish and maintain the following (under Section 21 of the FWMA 2010):

- a) *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*
- b) *A record of information about each of those structures or features, including information about ownership and state of repair.*

A guidance note (Appendix B) has been produced which outlines the criteria for which structures or features are to be included in the register.

## **2.3 Improve skills and knowledge of all Officers engaged in drainage and flood risk activities**

Hold a series of presentations and workshops for all Officers who may be engaged in drainage and flood risk activities. These workshops will provide an update on the roles and responsibilities Doncaster MBC has as Lead Local Flood Authority and also what the strategy is intended to deliver and how officers may be involved in their day to day activities.

## **2.4 Undertake flood investigations**

Doncaster MBC as LLFA has a duty (under Section 19 of the Floods and Water Management Act 2010) as follows:

1. *On becoming aware of a flood in its area, a Lead Local Flood Authority must, to the extent that it considers it necessary or appropriate, investigate –*
  - a. *Which risk management authorities have relevant flood risk management functions, and*
  - b. *Whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.*

2. *Where an authority carries out an investigation under subsection (1) it must-*
  - a. *publish the results of its investigation, and*
  - b. *notify any relevant risk management authorities.*

A guidance note has been produced (Appendix A) by Doncaster MBC to set out how and when a formal Section 19 investigation will be undertaken. The thresholds to carry out an investigation are as follows:

- 1 or more residential properties (internal flooding) and/or
- 1 or more commercial properties (internal flooding) and/or
- 1 or more critical infrastructure (eg; Hospitals, Health Centres, Clinics, Schools, Nursing Homes, Sub Stations, Emergency Services etc.) and/or
- 1 Transport Infrastructure (main arterial roads, railways, etc)

## **2.5 Improve and maintain Doncaster MBC's Flood Risk Management web pages**

Upon completion and publication of the strategy, the council's web pages will be updated to reflect the measures, outcomes and recommendations of the LFRMS, but also communicating the message on flood risk as effectively as possible.

***Objective 3 - To seek to mitigate local flood risk through measures to alleviate flooding where practicable, or funding will allow.***

### **3.1 Identify and seek to implement schemes to mitigate local flood risk**

Local flood risk areas have been identified both through the PFRA (Preliminary Flood Risk Assessment – carried out in 2011) and subsequent flooding events.

Each flooding location will be prioritized in terms of the potential flood risk to either property or critical infrastructure and also the potential cost for implementing the scheme. Based upon this information a short/medium and long term plan will be produced (List of Actions - Appendix C) which will outline how these schemes may be delivered.

The action plan will need to be realistic in terms of affordability against the level of risk. A sound evidence base will be required in order to inform subsequent funding bids. Potential sources of funding are outlined in Section 5.1.

### **3.2 Adopt a policy on culverting**

Doncaster MBC is generally opposed to culverting of watercourses, because of the adverse ecological, flood risk, human safety and aesthetic impact. The requirements of the Water Framework Directive also generally oppose culverting of watercourses.

However, each application to culvert a watercourse will be considered on its own merits and in accordance with a risk based approach to permitting culverting.

***Objective 4 - To ensure planning and development control will take account of all forms of flood risk, and minimise development which could increase flood risk, as will inappropriate development in flood risk areas.***

### **4.1 Apply local policy and guidance on Flood Risk Management for new development sites.**

The Core Strategy which is (formally adopted by Doncaster MBC in May 2012) part of the Local Development Framework (LDF), sets out a spatial vision for the area, and key strategic objectives and strategic policies for development. Policy CS4: Flooding and Drainage states that a pro-active approach will



be adopted which manages flood risk and supports borough wide regeneration (See Section 2.3 for further details)

Doncaster MBC has already developed and implemented a supplementary planning document for development and flood risk.

[http://www.doncaster.gov.uk/sections/planningandbuildings/planninginformation/Development\\_and\\_Floodrisk.aspx](http://www.doncaster.gov.uk/sections/planningandbuildings/planninginformation/Development_and_Floodrisk.aspx)

The purpose of this guidance is to: -

- Provide a robust and transparent approach to managing flood risk within Doncaster that acknowledges the need to facilitate the regeneration of deprived communities across the Borough, and take account of national policy
- Set out clearly a summary of the planning application assessment process to identify if a proposal would require a Sequential Test
- Clarify the appropriate area of search for alternative sites if a Sequential Test is required

The Supplementary Planning Document 2010 will be reviewed against current and developing legislation and amended accordingly, to give clear and robust advice to developers.

#### **4.2 Establish the SuDS Approval Body (SAB)**

One of the legislative requirements of the Floods and Water Management Act 2010 is to establish a SuDS Approval Body. The SAB will approve, adopt and maintain all SuDS systems for new development. Doncaster MBC's SAB will be fully integrated with all of Doncaster MBC's partners, both internal and external, and will be committed to working effectively with developers to encourage the use of SuDS in line with National and Local guidance.

The 4 South Yorkshire Authorities (Doncaster, Barnsley, Rotherham and Sheffield) are currently creating a South Yorkshire SuDS Design Guide for developers, which will not only provide more detailed guidance to compliment the National Guidance, but also ensure all 4 authorities have a consistent approach when considering a SuDS application.

***Objective 5 - To increase the community awareness of flood risk and the work the LLFA and other RMA's are undertaking, including promoting self-resilience through individual and community actions.***

#### **5.1 Publish and distribute information explaining responsibilities, local flood risk, property protection and self-resilience.**

Information is already available relating to all of the above, on the council's web pages, but these will be updated to reflect the measures, outcomes and recommendations of the LFRMS, but also communicating the message on flood risk as effectively as possible. The pages will also contain helpful advice and links to other web-sites on what to do during and after a flood, and how individuals and communities can protect their homes.

#### **5.2 Involve local communities in local initiatives and schemes**

Engage local communities to fully involve them, in the process to develop affordable schemes, encourage community ownership of the scheme at inception, project development, funding and delivery.

An example of recent initiatives involving the Local Community is the "WeSenseIt" Project: Citizen Observatory of Water.

The project uses Doncaster as a European case study, alongside the Netherlands and Italy, to trial new flood risk technology and encourages communities to participate in flood risk awareness and use social media to share their local knowledge of flood risk.

Doncaster Council is benefiting from trialling new technology including weather stations, water height sensors for bridges and soil moisture sensors. This information is being used to inform Doncaster Council flood response activities and target response resources more effectively.

In the future the project aims to provide residents with direct access to the information provided by the technology and provide a web based information page for them to share local flood risk information.

Further information on the WeSenseIt Project can be found at the following web address

<http://www.wesenseit.com/web/guest/home>

***Objective 6 - To ensure a well-co-ordinated and effectively managed approach to maintenance and management of existing flood risks and drainage assets.***

### **6.1 Identify, record and prioritise all council owned drainage and flood management assets, including formulating maintenance plan**

These assets include highway gullies and drains, watercourses (Riparian Ownership), culverts, bridges, trash screens and pumping stations. As indicated in section 2.3, it is intended to identify and record the majority of drainage and flood assets by 2019. Maintenance budgets are limited and need to be targeted at those areas where the risk of flooding is highest. The extent of flood risk, asset type, condition and vulnerability will all influence the type and frequency of maintenance required, and the maintenance plans produced will reflect all of these. It is intended to review the maintenance plan as and when further assets are identified and recorded, and won't be complete until the majority of drainage and flood assets have been documented.

Note; Initial prioritisation has taken place on known existing assets and this is reflected in the current Maintenance Plan - Appendix D.

### **6.2 Develop and implement a more risk based approach to the cyclical maintenance of Highway Drains and Gullies.**

Historically the cyclical maintenance of the council's highway drainage system has been undertaken on an area by area basis. The authorities critical arterial routes (A Roads, etc.) is the only area specifically targeted for maintenance on an annual basis. Although this methodology has proven to be generally effective, it is felt that the maintenance could be improved upon with a more risk based approach.

It is intended to identify the gullies/drains more susceptible to siltation, blocking, flooding etc, and also take into account the location in terms of flood risk both highway and property flooding. These will be documented on the asset management system This method will ensure the councils resources are utilised in a more cost beneficial way, maximising the effect of maintenance to highway drainage network.

### **6.3 Implement a risk based approach to pro-active and reactive maintenance on council owned drainage and flood management assets, before, during and after a flood event.**

The council cannot afford to check and maintain all of its drainage and flood risk assets either before, during or after a flooding event. Therefore these assets will be prioritised in terms of the flood risk to property and critical infrastructure, to ensure the most critical assets are maintained should a flood event occur or a flood warning received which would trigger these assets to be checked. . (Maintenance Plan - Appendix D)

Wherever possible, the authority will encourage the public to keep a check on some of these assets, to ensure the councils resources are being utilised to the greatest effect.

### **6.4 Encourage pro-active and responsible maintenance of privately owned drainage and flood management assets**

Many of the watercourses around the borough come under "Riparian" ownership. You are known as a riparian owner if you own land or property adjacent to a river or other watercourse. By virtue of being a riparian owner you have certain rights and responsibilities. One of the responsibilities is to keep the watercourse free from obstruction to ensure the water can flow freely. Further information on "Riparian" owner's rights and responsibilities will be made available on the council's flood risk web pages. We will also develop technical advice for land owners on the proactive maintenance measures that can be undertaken to reduce the risk of flooding to themselves and adjacent properties and land.

More often than not, it is the perception that the council is responsible for maintenance on watercourses, but unless the watercourse is running through council owned land, we will actively encourage the landowner to carry out any maintenance work deemed necessary.

***Objective 7 – To ensure that all of the objectives above are sustainable, compliant with the Water Framework Directive (WFD), adapt to climate change and consider the wider environmental as a whole.***

### **7.1 Undertake a Strategic Environmental Assessment of the Local Flood Risk Management Strategy**

The LFRMS requires appraisal under the Strategic Environmental Assessment (SEA) Regulations. Specialist independent advice was sought to ensure a robust assessment of environmental effects were considered as the strategy was developed and implemented. Where possible, opportunities were sought to enhance the river corridor habitats, landscape, access and amenity facilities to support the local planning policy drive to develop green infrastructure and increase access to the river.

### **7.2 Adapting to Climate Change**

Both development and any potential flood mitigation schemes need to account for climate change, given the significant evidence regarding the effects of climate change and its potential effects on how flood risk is managed.

We can prepare for climate change by understanding our current and future flood risk, and developing plans for increased resilience and building in the capacity to adapt. Doncaster's core strategy requires significant development within flood risk areas (namely Thorne, Hatfield, Stainforth and parts of Doncaster's urban area). It is essential that sufficient growth is realised without undermining the effort to combat climate change and flood risk. Where new development is exceptionally necessary in flood risk areas, policy aims to make it safe without increasing flood risk elsewhere and wherever possible, reducing flood risk overall.

Localised measures in terms of increases to rainfall intensities and peak river flows (as per Table 5 in the National Planning Policy Technical Guidance) are currently introduced to account for the effects of climate change, along with other flood mitigation measures built into the development to protect properties and make them more resilient. These measures will be reviewed as climate change or localised conditions change to maintain flexibility and ability to adapt as necessary.

### **7.3 Water Framework Directive (WFD)**

Assess the effect of the WFD on existing policies and practices and develop guidelines for applicants and public. Consents for works on ordinary watercourses will require assessment against the WFD wherever applicable. Ensure that all actions within the strategy are compliant with the Water Framework Directive.

## 6.0 Flood Risk Management Funding

Funding for flood risk management comes from a variety of sources, including national funding from DEFRA via the Environment Agency, Local Authorities, Internal Drainage Boards, Water companies, Private Investment etc. Further information on the funding system structure can be found in the National Flood Risk Strategy at the following website link <https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england>

National Funding that comes into the area via the Environment Agency for maintenance and new works is prioritised and agreed by the Regional Flood and Coastal Committee. This is also true of the Local Levy funds paid into the RFCC by each Lead Local Flood Authority.

National funding called “Grant in Aid” is allocated according to a national formula that uses a range of criteria to establish the relative priority of schemes, and therefore establish how much national funding each scheme can attract. In 2011 DEFRA announced a new approach for funding flood and coastal erosion risk management projects (FCERM) called “Flood and Coastal Erosion Resilience Partnership Funding”. Rather than fully funding some projects and declining others, many more projects may now be able to proceed by building partnerships and securing funding agreements with other parties (e.g. private investors, commercial business, Local Authorities and many other possible sources of funding)

Table 3 below outlines the possible sources of funding available for Flood and Coastal Erosion Risk Management Projects.

**Table 3**

| Source of Funding   | Description  | Indicative Budget in 2012/13                                 | Administered By                        | Appropriate For                                |
|---|--|--|--|--|
| Flood Defence Grant in Aid (FDGiA)                        | Central government funding for flood and coastal projects – recently revised to encourage a partnership approach to maximise match funding, work towards achieving specified outcomes with a requirement to evidence a reduction in flood risk to properties | £32 million (Yorkshire Region)<br>£20 million (Trent Region) | Environment Agency                     | Medium to large capital FRM projects           |
| Local Levy  | Annual contributions from councils to a regional “pot” much smaller than the FDGiA budget but offers more flexibility on the type and size of project it can fund  | £2 million (Yorkshire Region)<br>£3 million (Trent Region)   | Environment Agency                     | Smaller FRM projects, feasibility studies etc. |
| Private Contributions                                     | Voluntary, but funding from beneficiaries of projects could make contributions from national funding viable. Contributions could be financial or “in kind” e.g. land, volunteer labour   | Unknown  | Doncaster MBC                          | All projects                                   |
| Water Company Investment                                  | Investment priorities heavily regulated by Ofwat, but opportunities for contributions to area wide projects which help to address the sewer under capacity problems  | Unknown  | Yorkshire Water and Severn Trent Water | Areas with a history of sewer flooding         |
| Section 106 contributions (Town and Country Planning Act) | Contributions from developers, linked to specific development sites where of site improvements to drainage infrastructure are required to make developers proposals acceptable   | Unknown  | Doncaster MBC                          | Larger Development Sites                       |
| Community   | A local Levy applied by the  | Unknown  | Doncaster                              | Areas where                                    |

|  |  |   |  |  |
|--|--|---|--|--|
| Infrastructure Levy (CIL)  | planning authority on developers to contribute to a general infrastructure fund. Doncaster MBC has not yet implemented a CIL scheme. A bid for CIL would have to be made for flood management/drainage improvements against other competing authorities.   |   | MBC  | there is a large amount of development being carried out by several parties. |
| SuDS Approval Body Income  | Application and inspection fees from developers in support of the approval, inspection and maintenance of new development related SuDS.  | Unknown (Dependent upon the level of implementation and the number of applications per annum) | Doncaster MBC  | Approval, adoption and maintenance of SuDS, which could incorporate FRM      |
| Council Revenue Funding  | The council currently has a number of revenue streams to maintain the councils drainage infrastructure<br><br>Existing revenue budgets include Highway Drainage Maintenance and Highway Gully Maintenance<br><br>DEFRA funding of £248k per annum up to and including 2014/15, to finance the execution of the council's new duties under the Floods and Water Management Act 2010. Funding beyond 2015 will be subject to the government's comprehensive spending review. | Highway Drainage Maintenance £420k<br>Highway Gully maintenance £500k                         | Doncaster MBC  | Flood Risk Management including Officer time and maintenance                 |
| Doncaster MBC Special Levy Payment to Internal Drainage Boards (Doncaster East, Danvm and Black Drain) | All 3 Internal Drainage Boards within Doncaster MBC's boundaries are mainly funded through a special Levy payment from Doncaster MBC   | Danvm £500k<br>Doncaster East £470k<br>Black Drain £50k                                       | Internal Drainage Boards (although Doncaster MBC is represented on each board) | Water Level Management in drainage board areas.                              |

**Note : All budget allocations are subject to an annual review and may change (dependent upon numerous factors, including national and local financial pressures)**

## **7.0 Reviewing and Monitoring the Strategy**

It is proposed that this strategy will be reviewed once every 6 years. This will link the LFRMS review with the cycles for reviewing the PFRA as outlined in the Flood Risk Regulations. The first review is scheduled to be completed by April 2020. The list of actions as outlined in Appendix C, are live and will be reviewed and updated on a more regular basis. It will also be necessary to update parts of the Strategy on a more frequent basis, for example when there are changes in legislation or flooding events.

## **8.0 Governance and Scrutiny**

Doncaster Council is led by an Elected Mayor and Cabinet. The Mayor is the council's political leader and is elected by constituents on a four-year term of office. The Mayor has executive powers and is responsible for the effective implementation of council policy and delivering services. The Mayor has 8 cabinet members to advise and support her. Each Cabinet Member has a specific portfolio responsibility.

Scrutiny committees form an integral part of a modern system of local democracy through their specific work in policy development, reviewing under performance and holding cabinet members to account for their actions. Those members of the council who do not serve on the cabinet have the opportunity to sit on scrutiny committees. They also provide more opportunities for public involvement and are well placed to address issues of local concern, including those relating to services provided by partner organisations. The relevant scrutiny committee for Flood Risk Management is the Regeneration and Environment Overview and Scrutiny Committee.

It is important that the new duties and responsibilities the Floods and Water Management Act brings to the authority are seen to be administered and conducted in an open, honest and accountable way. Transparent and open governance is a policy of Doncaster MBC and it is intended that the administration of this strategy will be in accordance with the fundamental principles of the Code of Corporate Governance. In doing this, Doncaster MBC will exercise its role as Lead Authority providing its strategy for local flood risk management in the Borough, and striving to seek the best use of resources and value for money.

The Floods and Water Management Act ensures that Doncaster MBC consults with the public and its partner organisations on the content of the Local Strategy it produces. The process for continued accountability is already in place with the Act providing for close working co-operation with our partners and a continuing exchange of information. This legislative framework of governance includes arrangements for Overview and Scrutiny Committees to review and scrutinise the exercise by risk management authorities of their flood risk management functions. The authorities must comply with any request by the Overview and Scrutiny Committee for information or a response to a report.

### **8.1 Due Regard – Equality, Diversity and Inclusion**

Whilst there were no specific due regard issues for the strategy itself, any subsequent actions, schemes or measures which come out of the strategy in the future, may have to be assessed in their own right, in terms of ensuring due regard has been taken into consideration.

## 9.0 Glossary

|   |   |
|---|---|
| <b>Annual Exceedance Probability (AEP)</b>                        | The chance of a flood of a given size happening in any one year, eg A flood with a 1% AEP will happen, on average once every 100 years.   |
| <b>Catchment</b>  | A surface water catchment is the total area that drains to a river or other drainage system.  |
| <b>Catchment Flood Management Plan (CFMP)</b>                     | A strategic planning tool through which the Environment Agency works with other risk management authorities within a river catchment to identify and agree policies for sustainable flood risk management. (This document will be superseded by the Flood Risk Management Plans in December 2015)   |
| <b>Climate Change</b>   | A long term change in weather patterns. In terms of flood risk, climate change will produce more frequent and severe rainfall events.   |
| <b>Culvert</b>  | A structure (pipe etc) which allows water to flow under a road, railway or similar obstruction.   |
| <b>Department for Environment, Food and Rural Affairs (DEFRA)</b> | The UK government department responsible for policy and regulations on the environment, food and rural affairs  |
| <b>Environment Agency</b>   | The Environment Agency is a non-departmental public body of DEFRA. The Environment Agency is the leading public body for protecting and improving the environment. The organisation is responsible for a wide range of matters, including the management of flood risk, water resources, water quality, waste regulation, pollution control, inland fisheries, recreation and conservation. |
| <b>FCERM</b>  | Flood, Coastal and Erosion Risk Management  |
| <b>Fluvial Flooding</b>   | Resulting from excess water leaving the channel of a river and flooding adjacent land   |
| <b>Flood Risk Regulations (FRR)</b>                               | Legislation that transposed the European Floods Directive in 2009.  |
| <b>Floods and Water Management Act</b>                            | The Act clarifies the legislative framework for managing the "Local" flood risk in England and Wales.   |
| <b>GIS</b>  | Graphical Information System – Designed to capture, store, manipulate, analyse, manage, and present all types of geographical data in purpose built software. Eg – Flood Risk Zones, Historical Flood Events, watercourses etc.   |
| <b>Internal Drainage Boards (IDB's)</b>                           | Independent body, publicly and privately funded though levy rates to manage water levels in their respective areas and to minimise flood risk and supply water (irrigation) to people, property and land.   |
| <b>Local Development Framework (LDF)</b>                          | Consists of a number of documents which together form the spatial strategy for development and the use of land.   |

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| <b>Lead Local Flood Authority (LLFA)</b>        | Either unitary or county council with the responsibility for local flood risk management in their respective areas, as defined under the Floods and Water Management Act 2010.   |
| <b>Preliminary Flood Risk Assessment (PFRA)</b> | The PFRA is a preliminary high level screening exercise to identify local flood risk (both historic and future flooding) from various sources including surface water, groundwater, and ordinary watercourses.   |
| <b>Pluvial</b>                                  | 'Pluvial' flooding (or surface run-off flooding) is caused by rainfall and flooding which occurs due to ponding or flowing over the surface.   |
| <b>Regional Flood and Coastal Committee</b>     | The RFCC is composed of members of the relevant LLFA's and independent members. The committee main purpose is 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.             |
| <b>Risk Management Authorities (RMA's)</b>      | Organisations that have a key role in flood and coastal erosion risk management as defined in the Floods and Water Management Act 2010. These are the Environment Agency, LLFA's, Internal Drainage Boards, water companies and highway's authorities.   |
| <b>Riparian Ownership</b>                       | If you own land or property next to a river, stream or ditch you are a 'riparian landowner' and therefore have certain rights and responsibilities in respect of that watercourse.   |
| <b>Sustainable Drainage Systems (SuDS)</b>      | SUDS, or Sustainable Drainage Systems are a sequence of water management practices(1) and facilities(2) designed to drain surface water in a manner that will provide a more sustainable approach than what has been the conventional practice of routing run-off through a pipe to a watercourse. |
| <b>Strategic Environmental Assessment</b>       | The SEA objective is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation of the Local Flood Risk Management Strategy.   |



## **10.0 List of Appendices**

Appendix A – Section 19 (Flood Investigation) Guidance Note

Appendix B – Section 21 (Register of Structures) Guidance Note

Appendix C – List of Actions 2014/15

Appendix D – Maintenance Plan

Appendix E – Strategic Environmental Assessment