

Nottingham City Council Delegated Decision



Nottingham
City Council

Reference Number:

4262

Author:

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Department:

Growth and City Development

Contact:

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Subject:

Flood Risk Management Plan Objectives 2021-2027

Total Value:

0 (Type: Nil)

Decision Being Taken:

To approve:-

1. new Nottingham City Council objectives for the next cycle (2021-2027) of the Humber River Basin Flood Risk Management Plan as set out in the 'reasons and circumstances for the decision'; and
2. to approve the accompanying text to be set out in the Flood Risk Management Plan as attached to this Decision.

Reasons for the Decision(s)

Flood risk management plans (FRMPs) explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. FRMPs set out how risk management authorities will work with communities to manage flood risk over the next 6 years. The production of FRMPs is a legal requirement of the EU Floods Directive 2007 and in the UK the production of the FRMP is the responsibility of the Environment Agency in conjunction with the relevant risk management authorities such as the Council .

Nottingham City Council falls under the Humber river basin district flood risk management plan. The previous FRMP cycle which ran from 2015, is due to end in 2021. New objectives need to be established and approved for the next 6 year cycle. FRMPs are a formal document which is made available to the public, and therefore a Portfolio Decision is required.

The Council has worked with the Environment Agency to set out the main objectives for the city in managing flood risk. The objectives requiring approval in this publication are summarised below, but have also been attached:

- Between 2021 and 2027, the Environment Agency and Nottingham City Council will work with stakeholders to produce a River Leen catchment-wide approach to flood risk and the wider environment in Nottingham to reduce flood risk, improve the water environment, and increase amenity value to the local community in the Nottingham, Humber Flood Risk Area.**
- Between 2021 and 2027, Nottingham City Council and the Environment Agency will undertake a flood risk management study in the Tottle Brook Catchment to identify the best approach to better protecting residents at risk of flooding in the Nottingham, Humber Flood Risk Area.**
- Between 2021 and 2027, Nottingham City Council will complete a city wide programme to improve community flood resilience in Nottingham to improve the resilience of communities across the city through property level protection, retrofit of sustainable drainage systems and community engagement in the Nottingham, Humber Flood Risk Area.**

Nottingham City Council is also required to produce accompanying text which gives a high-level overview of flooding in Nottingham, this has also been included in this decision for approval.

Nottingham City Council's logo will also be required in the published document.

Briefing notes documents:

Nottingham FRA (SW) Accompanying Text.docx

Other Options Considered:

This is a statutory requirement therefore no other options have been considered.

Background Papers:

None

Published Works:

**The existing FRMP for the Humber River Basin District Flood Risk Management Plan can be found here:
<https://www.gov.uk/government/publications/humber-river-basin-district-flood-risk-management-plan>**

Affected Wards:

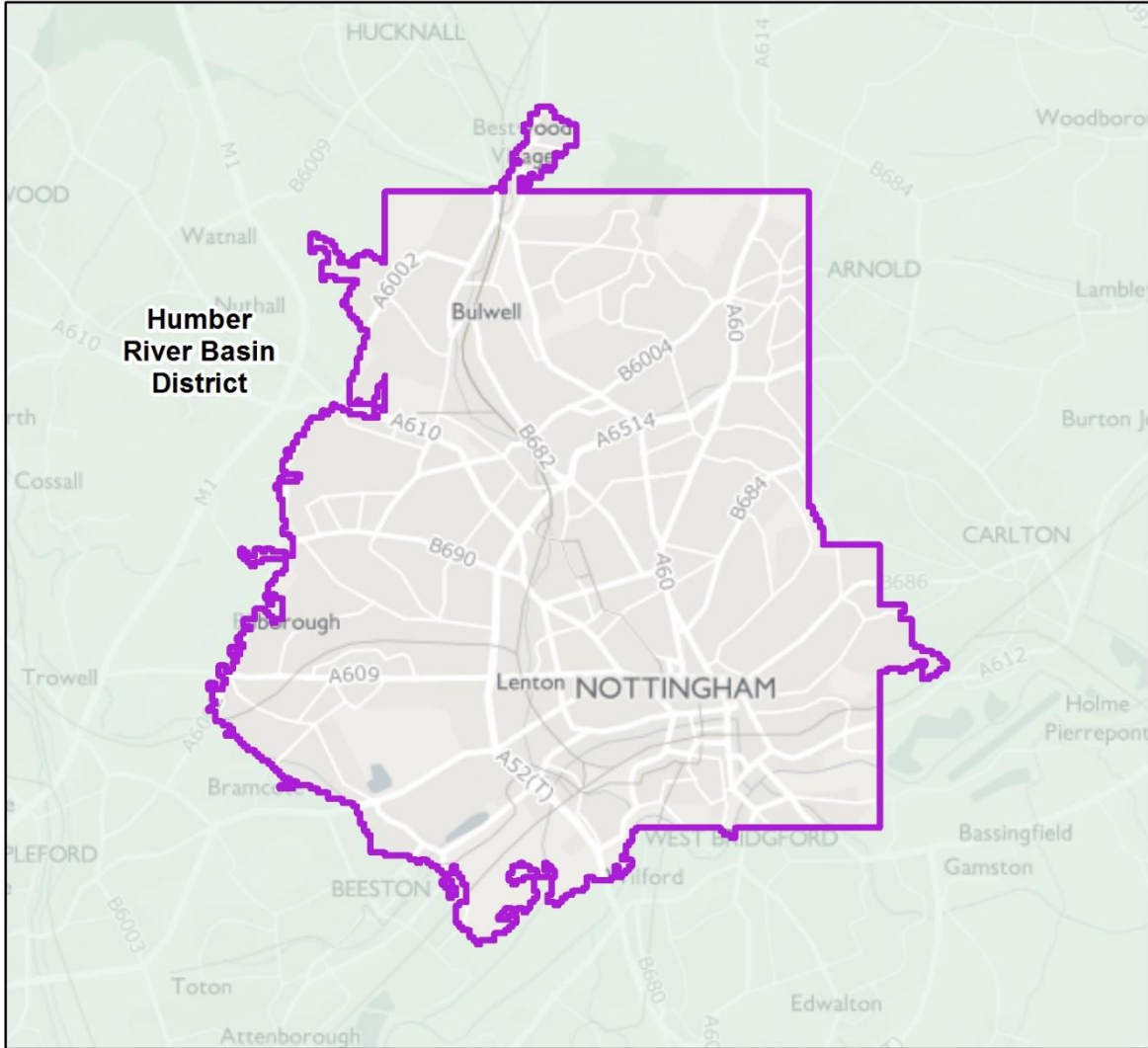
Citywide

Colleague / Councillor Interests:	None
Consultations:	Those not consulted are not directly affected by the decision.
Crime and Disorder Implications:	There are no crime and disorder implications.
Equality:	EIA not required. Reasons: EIA not required as the objectives relate exclusively to flood risk level.
Decision Type:	Portfolio Holder
Subject to Call In:	Yes
Call In Expiry date:	06/07/2021
Advice Sought:	Legal, Finance
Legal Advice:	As set out in the reasons for the decision, the production of Flood Risk Management Plans is a legal requirement under the EU Floods Directive 2007. The Council as a Lead Local Flood Risk Authority is under a duty to work collaboratively with the Environment Agency in the production of such plans and this decision seeks approval for relevant objectives and text to be incorporated into the appropriate Plan for the next 6 year cycle. This is an executive function and is within the portfolio holder's remit. Advice provided by Ann Barrett (Team Leader) on 17/06/2021.
Finance Advice:	The purpose of this decision is to approve objectives for the next 6 year cycle (2021-2027) of the Humber River Basin Flood Risk Management Plan (FRMP) which is required under the floods directive 2007. There are no financial implications with this decision Advice provided by Michelle Pullen (Commercial Business Partner) on 10/06/2021.
Signatures	Sally Longford (PH for Energy, Environment and Waste Services)
	SIGNED and Dated: 25/06/2021
	Michael Wayne Bexton (Interim CD for Growth & City Development)
	SIGNED and Dated: 23/06/2021

Date	Who	Change
22/04/2021	HH	First Draft
29/04/2021	CL	Additions and Comments
06/05/2021	HH	Edits and Comments

The Nottingham (Surface Water) FRA

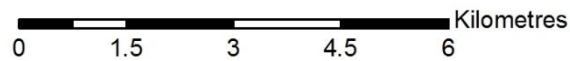
Introduction to the Nottingham (Surface Water) FRA



Flood Risk Area: Nottingham, Humber



- Flood Risk Area: Surface Water
- River Basin Districts



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The Nottingham (Surface Water) Flood Risk Area (FRA) has been designated because the flood risk from surface water is considered nationally significant.

Nottingham City Council and Nottinghamshire County Council lead the development and delivery of the FRMP for the Nottingham (Surface Water) FRA. As Lead Local Flood Authorities they are responsible for managing flood risk from surface water, groundwater and ordinary watercourses.

The Environment Agency's remit covers flood risk from main rivers and the sea. Severn Trent Water is the water company that owns, operates and maintains the sewerage network in the FRA.

The Nottingham (Surface Water) FRA covers the Nottingham City administrative area and extends into areas including Bestwood Village, Arnold and Ladybay. The area is characterised by a compact city centre surrounded by residential suburbs, business and amenity areas with the River Trent (main river) skirting the southern edge of the city centre.

Nottingham is located on an area of low hills in the lower River Trent valley. Day Brook and Tottle Brook are main river tributaries of the River Leen which joins the River Trent in the city. The Nottingham and Beeston Canal is owned and maintained by the Canal and River Trust.

Much of the city is built on Triassic sandstones and mudstones which are relatively permeable. The Trent valley is floodplain alluvium. The steep and urbanised nature of the Daybrook, Tottle Brook and River Leen catchments can result in a rapid response to rainfall events.

Part of Colwick Cutting Site of Special Scientific Interest (SSSI), is located within Nottingham (Surface Water) FRA. There are more than 280 hectares of parks and gardens, as well as several Scheduled Ancient Monuments, including Nottingham Castle, and listed buildings across the FRA.

Nottingham FRA is susceptible to surface water flooding due to the heavily urbanised nature of the river catchments and the increasing area of impermeable surfaces due to urban creep. The flashy nature and short duration of such flooding events makes them difficult to predict and protect against.

Much of the sewer network in Nottingham dates to the Victorian era. The majority of the sewer system has been modelled and information is available for the capacity and condition of the network. Flooding has been recorded at numerous locations in the FRA. This includes both surface water and foul water, and both internal and external flooding.

There has been no reservoir flooding in England resulting in a loss of life since 1870. Reservoir flooding is extremely unlikely to happen. All large reservoirs must be inspected and supervised by specialist reservoir engineers. We enforce the Reservoirs Act (1975) in England and we make sure that reservoirs are inspected regularly and important safety work is done. We have not identified any FRAs for reservoir flooding because the likelihood of reservoir flooding is much lower than for river and sea flooding.

Wollaton Park Lake is the only Reservoir in the Nottingham FRA. The Nottingham and Beeston canal runs through Nottingham and feeds into the River Trent. Nottingham is at risk of flooding from the canal when the river levels are high. Groundwater flood incidents are thought to have occurred in the FRA but it is unclear

whether flooding was as a result of high groundwater levels, water supply and sewer networks, or other local factors.

Current flood risk

Nottingham is at risk of flooding from a variety of sources. The primary sources include flooding from rivers, surface water and sewers. This presents challenges to flood risk management, particularly in areas around river confluences where raised defences could protect property against flood risk from one source but increase flood risk from another source.

There are records of historic flooding in Nottingham.

The most significant events in recent years affecting the Nottingham FRA have been as a result of summer storms. This includes the flooding of the Day Brook in June 2019, which impacted properties internally.

Nottingham was also affected by a significant summer event in June 2020, causing the Tottle Brook to overtop and widespread surface water flooding, affecting an excess of 60 properties across the Wollaton and Clifton area.

The flood hazard and risk maps show that there are approximately 343,235 people living in the Nottingham (Surface Water) FRA, and 2,180 are in the high-risk category. Additionally within the FRA there are:

- 13,791 non-residential properties (including hospitals, schools and colleges, retail parks, community centres);
- 31.3 km of roads;
- 38.6km of railway lines;
- 665.2 ha of agricultural land; and
- Areas of environmental designated sites, scheduled ancient monuments, listed buildings, parks and gardens, and water abstractions

The flood risk and hazard maps provide more detailed information on the likelihood and consequences of flooding for the Nottingham (Surface Water) FRA and can be found here [\[EA to Insert link\]](#)

Based on this information it is concluded that further steps should be taken to reduce the likelihood of flooding and the impact it can have on people, the economy and the environment both for now and the future.

How the risk is currently managed

Nottingham City Council lead on the management of surface water flood risk in collaboration with other Risk Management Authorities (RMAs). Other stakeholders include Nottinghamshire County Council and Severn Trent Water.

The LLFAs and Severn Trent Water maintain assets that perform a flood risk management function on the drainage network. The Environment Agency similarly maintains flood risk management assets for example river channels, flood defence walls or embankments, throughout the FRA. The Canals and Rivers Trust maintains the Nottingham and Beeston Canal as a navigable waterway.

The Nottinghamshire Local Resilience Forum (Nottinghamshire LRF) is a multi-agency partnership made of representatives from local public services, the emergency services, local authorities, the NHS, the Environment Agency and others. Partners are required to respond in the event of emergencies, in their respective roles and jointly, to safeguard the lives, property and wellbeing of residents, communities and businesses and to mitigate the consequential impacts. Flooding is one of the risks addressed through community flood preparation.

The LLFA and Severn Trent Water maintain assets that perform a flood risk management function on the drainage network. The Environment Agency similarly maintains flood risk management assets for example river channels, flood defence walls or embankments, throughout the FRA.

The EA monitor river and rainfall conditions at 4 sites in the FRA. This information is used to inform activities related to Flood Warning Areas that cover the FRA which enable people to receive a warning when flooding could occur along the River Leen, The Day Brook and the River Trent.

The LLFA also monitors rainfall conditions at 4 sites in the FRA using rain gauges. The information is used to inform activities relating to flood risk investigations. A further 6 locations across the FRA have level sensors to monitor flood risk to enable a timely response should blockages or flooding occur.

Flood risk maps are published based on the outputs from the mathematical modelling to inform: -

- the public and business of their flood risk
- potential developers and local planning authorities, and
- the assessment and design of flood risk management works.

The Nottingham Integrated Flood Risk Management Strategy was implemented in 2018. The Environment agency, Nottingham City Council and other RMAs worked together to develop a strategy to:

- further reduce the risk of flooding
- provide environmental and social benefits for local residents and businesses
- continue to support and encourage wildlife
- ensure rivers and streams are an integral part of the urban environment.

Day Brook Blue-Green Infrastructure project was led by Nottingham City Council. The scheme comprised of increasing upstream storage at Jubilee ponds and de-culverting the watercourse through Valley Road Park and Jason Spencer Sports Ground. It was completed in 2020 and reduced flood risk to 160 properties.

The Daron Gardens / Edern Gardens (Top Valley) Flood Risk Management Scheme was led by Nottingham City Council. The scheme comprised of fitting property level protection to properties at risk. It was completed in 2019 and reduced flood risk to 16 properties.

The Woosington Close Flood Risk Management Scheme was led by Nottingham City Council. The scheme comprised of fitting property level protection and the construction of bund to direct water away from properties at risk. It was completed in 2019 and reduced flood risk to 14 properties.

The City-Wide Property Level Protection Scheme (Phase 2) was led by Nottingham City Council, the scheme was completed in 2019 and reduced flood risk to 70 properties through the implementation of Property Level Protection measures.

Nottingham City Council has a pipeline of multiple surface water projects for the next FRMP Cycle. This includes areas of Beechdale, Mapperley Park and Stockhill. Nottingham City Council is working with the Environment Agency to strategically manage flood risk across the River Leen catchment.

The impact of climate change and future flood risk

Rainfall intensity is expected to increase in future and causing higher river flows and levels. As rainfall intensity increases, it means that surface water flooding will become more frequent as higher rainfall totals will be seen more often.

Please refer to section **XX** for more information on what we know are likely to be the implications of climate change in the Humber river basin district.

Objectives and measures for the Nottingham (Surface Water) FRA

Measures have been developed which apply specifically to the Nottingham (Surface Water) FRA. These measures have been developed in addition to measures covering a wider geographic area but which also apply to the Nottingham (Surface Water) FRA. You can find information about all of the measures which apply to the Nottingham (Surface Water) FRA in the interactive mapping tool - flood plan explorer.