

Bassetlaw Level 1 Strategic Flood Risk Assessment Update Addendum

Draft Report

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Bassetlaw District Council

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Revision History

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Contract

This report describes work commissioned by Samuel Walker, on behalf of Bassetlaw District Council, by an email dated 9th July 2020. Ed Mumford, and Gwyn Jones of JBA Consulting carried out this work.

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Purpose

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JBA Consulting has no liability regarding the use of this report except to Bassetlaw District Council.

Acknowledgements

We would like to acknowledge the assistance of:

- Bassetlaw District Council
- Environment Agency
- Nottinghamshire County Council
- Severn Trent Water
- The Canals and River Trust; and,
- Planners at the neighbouring authorities

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Executive summary

The Level 1 Strategic Flood Risk Assessment (SFRA) 2019 document was created with the purpose of supporting the production of the Bassetlaw District Council Local Plan. The study area comprises Bassetlaw District. The Level 1 SFRA provides an understanding of the risk from all types of flooding across Bassetlaw District and presents clear and robust evidence and should be consulted for Planning Framework and Flood Risk policy and Planning Policy for Flood Risk Management.

This Level 1 Update Addendum is produced alongside the Bassetlaw Level 2 SFRA and summarises the information in the Level 1 SFRA that has changed since its publication. Information in the 2019 Level 1 SFRA remains relevant and the most up to date information as of the time of writing if it is not mentioned in this Addendum.

The Level 1 Addendum is a supplementary document to be used alongside the previous Level 1 SFRA to ensure that information used is the most up to date.

The Level 2 SFRA document was created with the purpose of supporting the production of the **Bassetlaw Local Plan**. It follows on from the Level 1 SFRA completed in 2019 and assesses sites identified by the Bassetlaw District Council. The Level 2 assessment includes detailed assessments of the proposed site options. These include:

- An assessment of all sources of flooding including fluvial flooding, surface water flooding, groundwater flooding, mapping of the functional floodplain and the potential increase in fluvial flood risk due to climate change.
- Reporting on current conditions of flood defence infrastructure, where applicable.
- An assessment of existing flood warning and emergency planning procedures, including an assessment of safe access and egress during an extreme event.
- Advice and recommendations on the likely applicability of sustainable drainage systems for managing surface water runoff.
- Advice on whether the sites are likely to pass the second part of the Exception Test with regards to flood risk and on the requirements for a site-specific FRA.

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1 Introduction

1.1 Purpose of the Level 1 SFRA Update Addendum

The Level 1 Strategic Flood Risk Assessment (SFRA) 2019 document was created with the purpose of supporting the production of the Bassetlaw District Council Local Plan. The study area comprises Bassetlaw District. The Level 1 SFRA provides an understanding of the risk from all types of flooding across Bassetlaw and presents clear and robust evidence.

This Level 1 Update Addendum is produced alongside the Bassetlaw Level 2 SFRA and summarises the information in the Level 1 SFRA that has changed since its publication. Information in the 2019 Level 1 SFRA remains relevant and the most up to date information as of the time of writing if it is not mentioned in this addendum.

1.2 Strategic Flood Risk Assessment Objectives

The key objectives of the Level 1 Strategic Flood Risk Assessment are to:

- To replace the Council's 2009 Level 1 SFRA, taking into account the most recent policy and legislation in the National Planning Policy Framework (2021).
- To collate and analyse the latest available information and data for current and future (i.e. climate change) flood risk from all sources, and how these may be mitigated.
- To inform decisions in the emerging Local Plan, including the selection of development sites and planning policies.
- To provide evidence to support the application of the Sequential Test for the allocation of new development sites, to support the Council's preparation of the Local Plan.
- To provide a comprehensive set of maps presenting flood risk from all sources that can be used as evidence base for use in the emerging Local Plan.
- To provide advice for applicants carrying out site-specific flood risk assessments and outline specific measures or objectives that are required to manage flood risk.

2 Updates to the Level 1 SFRA Reporting

This section summarises updates to information contained within the Level 1 SFRA Report.

2.1 Relevant Legislation & Key Policy Documents

The majority of the relevant legislation listed in Chapter 2.2 of the Level 1 SFRA remains relevant at the time of this update.

The key policy documents also remain relevant, with some additional notes:

- The review of River Basin Management Plans is currently under way with consultation on the draft River Basin Management Plans to begin in 2021.
- The Climate Change Guidance for Development and Flood Risk has now been updated on 20th July 2021, with new allowances released ([here](#)) and developers should continue to refer to [GOV.UK](#) for guidance on applying these allowances. Bassetlaw lies between the Humber -Lower Trent & Erewash and Humber-Idle and Thorne basin districts. Table 2-1 shows the peak river flow allowances relevant to Bassetlaw.

Table 2-1 Peak river flow climate change allowances by management catchment (based on a 1981 to 2000 baseline)

	2020s central	2020s higher central	2020s upper end	2050s central	2050s higher central	2050s upper end	2080s central	2080s higher central	2080s upper end
Lower Trent and Erewash	13%	18%	29%	17%	23%	38%	29%	39%	62%
Idle and Torne	9%	14%	27%	12%	19%	37%	27%	39%	69%

- The NPPF has been revised with guidance for applying the new climate change allowances. The most up to date guidance remains available on [GOV.UK](#).

2.2 Historic Flooding in the Bassetlaw

Section 6.1 of the Level 1 SFRA summarises the recorded historic flooding incidents within Bassetlaw. Since the publication of the Level 1 report, additional incidences have also been recorded. There were two significant flood events affecting properties within Worksop in November 2019 and January 2020. The November 2019 event caused internal flooding to 128 residential properties and 180 businesses.

2.3 Fluvial (river) flood risk

For the majority of watercourses, the data used in the Level 1 SFRA remains the most up to date modelling. In addition, the Environment Agency's River Idle hydraulic model has recently been updated to a full 1D-2D model with outputs which include the Climate Change allowances based on the previous (pre-July 2021) UK guidance. Bassetlaw District Council has undertaken modelling for the Retford Beck which also includes Climate Change outputs based on the pre-July 2021 guidance.

Additional 1D-2D modelling for the Tidal Trent and River Idle along North Road was undertaken by JBA as part of this study.

2.4 Flooding from sewers

Severn Trent Water (STW) records sewer flooding on their Historic Flooding Incident Register. This database records incidents of flooding relating to public foul, combined

or surface water sewers and displays which properties suffered flooding. For confidentiality reasons, this data has been supplied on a postcode basis. The dataset was resupplied with updated records on 11/08/21. STW are the water company responsible for the management of public sewers in the study area, with historical reports of flooding from the HFRR, tabulated in Figure 2-1 below.

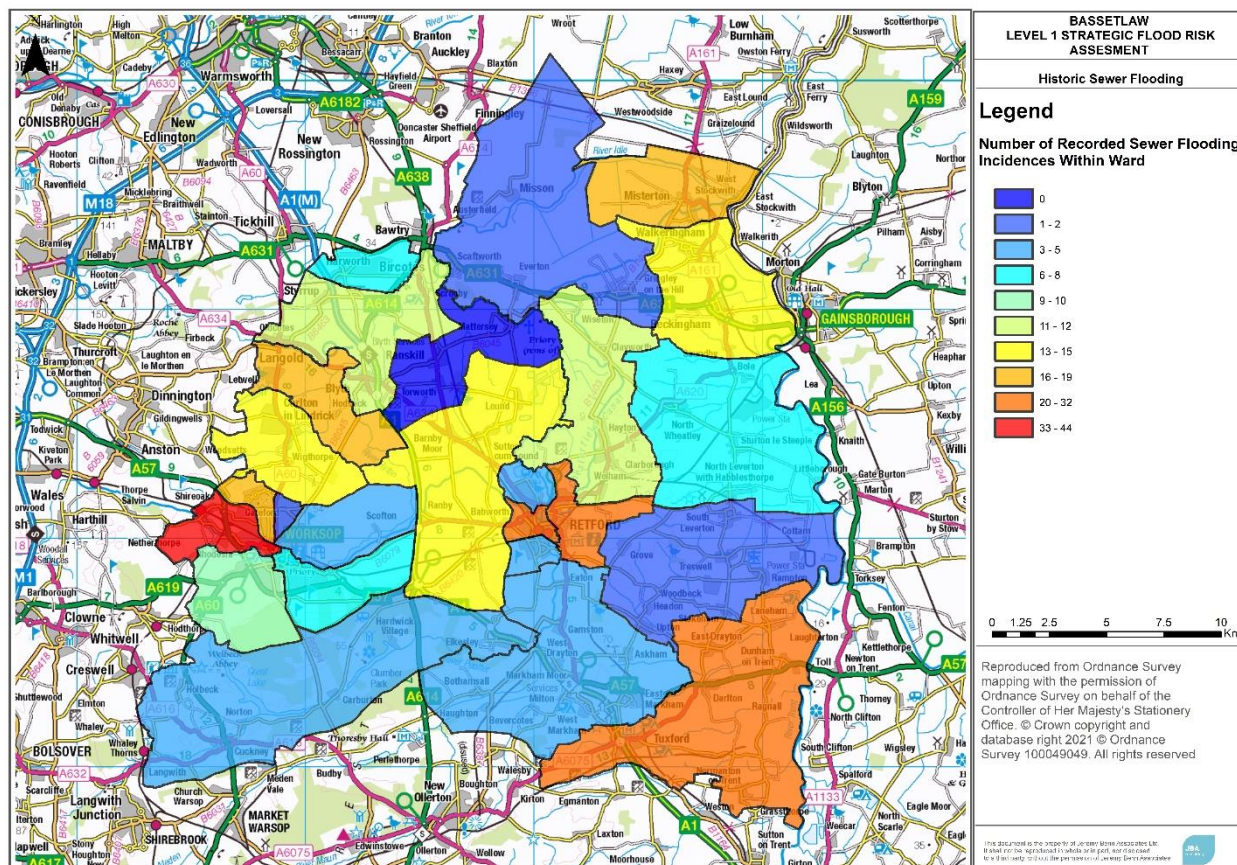


Figure 2-1 Historic Sewer Flooding Incidences within Bassetlaw by Ward

3 Updates to the Level 1 SFRA Mapping

Maps from the Level 1 SFRA have been updated to include the latest available modelling for the River Idle and Retford Beck and are included as Appendix A to this Addendum. The Flood Zones in the Appendix A PDFs are the same as those shown on the Environment Agency's 'Flood Map for Planning'.

The Environment Agency Flood Zones do not cover all catchments or ordinary watercourses if the catchment is $<3\text{km}^2$. As a result, whilst the Environment Agency Flood Zones may show an area is in Flood Zone 1, there may be a flood risk from smaller watercourses not shown in the Flood Zones. Environment Agency Flood Zones are based on undefended outputs, whilst the indicative Flood Zones included are based on defended outputs.

Functional floodplain (Flood Zone 3b) is land which would flood with an annual probability of 1 in 20 years; where detailed modelling exists, the 1 in 20-year flood defended extent has been used to represent Flood Zone 3b (provided by the Environment Agency). For areas outside of the detailed model coverage, this is represented by Flood Zone 3a (indicative Flood Zone 3b) as a conservative indication. Further work should be undertaken as part of a detailed site-specific Flood Risk Assessment to define the extent of Flood Zone 3b where no detailed modelling exists.

Where additional modelling has been undertaken that is not currently included within the Environment Agency's published Flood Zones, this is indicated as "Modelled Flood Zone 2/3", and represents the latest available information. There are areas where Flood Zone 3 appears greater in extent than Flood Zone 2 - these are based on model outputs undertaken and checked by the Environment Agency. In these areas, Modelled Flood Zone 2 should be considered to extend to the Modelled Flood Zone 3 boundary, and the Environment Agency should be contacted for more information.

Appendices

A Updated Level 1 Maps

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