

NOTE TO FILE



JBA Project Code 2019s0129
Contract Central Lancashire Level 1 SFRA
Client Chorley Borough Council
Date 28 March 2019
Author Hannah Bishop
Reviewer Mike Williamson
Subject Functional Floodplain Delineation

1 Introduction

The functional floodplain (Flood Zone 3b) delineated as part of this 2019 SFRA is uses the most up-to-date data available from the EA. The Central Lancashire Local Plan Team (LPT) was unable to provide any GIS outlines for any existing/previous SFRA functional floodplain outlines for Central Lancashire. The following methodology note explains the delineation process. The LPT, LLFA and EA must all agree on the extent of the functional floodplain outline and the methodology used. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. The local knowledge of the district councils and the EA is therefore crucial in defining the functional floodplain as robustly and realistically as possible.

2 Functional floodplain definition

2.1 Flood Risk and Coastal Change PPG – Paragraph 015

The definition of Flood Zone 3b in Table 1 (see Section 2.2) explains that local planning authorities should identify areas of functional floodplain in their Strategic Flood Risk Assessments in discussion with the Environment Agency and the lead local flood authority. The identification of functional floodplain **should take account of local circumstances and not be defined solely on rigid probability parameters**. However, land which would naturally flood with an annual probability of 1 in 20 (5%) or greater in any year, or is designed to flood (such as a flood attenuation scheme) in an extreme (0.1% annual probability) flood, should provide a starting point for consideration and discussions to identify the functional floodplain.

A functional floodplain is a very important planning tool in making space for flood waters when flooding occurs. Generally, development should be directed away from these areas using the Environment Agency's catchment flood management plans, shoreline management plans and local flood risk management strategies produced by lead local flood authorities.

The area identified as functional floodplain **should take into account the effects of defences** and other flood risk management infrastructure. Areas which would naturally flood, but which are prevented from doing so by existing defences and infrastructure or solid buildings, will not normally be identified as functional floodplain. If an area is intended to flood, e.g. an upstream flood storage area designed to protect communities further downstream, then this should be safeguarded from development and identified as functional floodplain, even though it might not flood very often.

2.2 Flood Risk and Coastal Change PPG – Table 1, Paragraph 065

The Flood Zones, referred to in the table below, show the probability of river and sea flooding, ignoring the presence of defences. Flood zones 1, 2 and 3 are included within the Environment Agency's [Flood Map for Planning \(Rivers and Sea\)](#). Flood Zone 3b is the functional floodplain and is not included in the Flood Map. This zone is for the use of LPAs and developers. Flood Zone 3a is Flood Zone 3 of the Flood Map that isn't functional floodplain.

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Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](#) when considering location and potential future flood risks to developments and land uses.

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3 Functional floodplain update

Based on the above guidance and definitions provided in the FRCC-PPG, the following modelled flood outlines (MFO) were provided by the EA to assist in the production the functional floodplain:

Model/Watercourse	Year	Return period	Defended?
Ribble Tribs (Longton Brook, Mill Brook and RN)	2006	25yr	Undefended
Hall Pool	2008	25yr	Undefended
Higher Walton - River Darwen	2008	25yr	Undefended
Horwich	2008	25yr	Undefended
River Yarrow	2009	25yr	Defended
River Ribble	2010	25yr	Defended
Bannister Brook	2011	20yr	Defended
Black Brook	2011	20yr	Undefended
Chorley	2011	25yr	Undefended
Savick Brook	2011	1000yr	Defended
River Wyre and Tribs	2014	20yr	Defended
Wymott Brook	2015	20yr	Undefended
Croston	2017	20yr	Defended
Hennel Brook	2017	20yr	Undefended
River Lostock	2017	20yr	Defended
BLAS (Blashaw Brook)	2015	20yr	Undefended
BRIS (W/C 1 M6 TO STANSFIELD LANE)	2015	20yr	Undefended
Buckow Brook	Unknown	20yr	Defended
Wade Brook	2015	20yr	Defended

Along with the above MFOs, the following datasets were also interrogated to assist with the delineation:

- EA's Flood Map for Planning Flood Zone 3 (downloaded March 2019);
- Functional floodplain from previous SFRA was unavailable;
- EA Flood Storage Areas (FSA) (downloaded March 2019);
- EA Areas Benefitting from Defences (ABD) (downloaded March 2019);
- EA Historic Flood Map (HFM) (downloaded March 2019);
- EA Recorded Flood Outlines (RFO) (downloaded March 2019);
- Urban areas - OSOpenMapLocal_Raster (to remove currently developed areas and transport infrastructure from functional floodplain).

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3.1 GIS methodology

- The above EA MFOs were merged together to create the first revision of the draft functional floodplain outline.
- The Savick Brook 0.1% AEP outline was used to create the functional floodplain for the area close to the FSA.
- FSA dataset included in the draft outline – one FSA near Eccleston and just south of Fulwood.
- The HFM dataset was included in the draft outline, where historical fluvially flooded areas are recorded.

Note: the draft FZ3b outline has been attributed with the source dataset. Each individual polygon has a source i.e. MFO, FSA, HFM, 2008 FZ3b, 2014 FZ3b. When reviewing the draft outline please refer to the 'Source' field in the attributes.

- The ABD dataset was interrogated for any areas within the FZ3b that may be within an ABD and therefore exempt from FZ3b;
- This outline was then checked for consistency with Flood Zone 3 (downloaded March 2019), i.e. is the Flood Map up to date with the modelled flood outlines.
- OS Open Data OSOpenMapLocal Raster Dataset was used to identify urban areas and transport infrastructure to be removed from the functional floodplain.
- Checks on the geometry of the draft outline were carried out to ensure geometric correctness.

The draft functional floodplain outline should be assessed by the LPT, LLFA and the EA and any comments or questions should be referred back to JBA in order to agree on a final outline. Once the outline is finalised, the site assessments can be carried out.

The extent of the functional floodplain outline produced from this SFRA should always be assessed in greater detail where any more detailed study such as a Level 2 SFRA or site-specific FRA are undertaken.