

NOTE TO FILE

JBA Project Code 2017s6287
Contract Greater Manchester Level 1 SFRA
Lead Client GMCA
Day, Date and Time 15th November 2017
Author Charlotte Lloyd-Randall
Reviewer Mike Williamson
Subject Functional Floodplain Update for Tameside MBC



1 Introduction

The functional floodplain (Flood Zone 3b) has been updated from the previous Greater Manchester 2008 SFRA using the most up-to-date data available. The following methodology note explains how the 2008 functional floodplain has been updated. The LPA, 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 council and EA is therefore crucial in defining the functional floodplain as robustly as possible.

2 Functional Floodplain Definition

2.1 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.

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.

2.2 Flood Risk and Coastal Change PPG – Paragraph 015

The definition of Flood Zone 3b in Table 1 of the FRCC-PPG explains that local planning authorities should

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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 flood defence infrastructure, buildings and major transport infrastructure, 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.

3 2008 Functional Floodplain

Text taken from the 2008 Level 1 SFRA Update:

Zone 3b Functional Floodplain is defined as those areas in which “*water has to flow or be stored in times of flood*”. The definition of functional floodplain remains somewhat open to subjective interpretation. PPS25 states that “*SFRAs should identify this Flood Zone (land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the LPA and the Environment Agency, including water conveyance routes)*.” For the purposes of the Tameside Metropolitan Borough Council SFRA, Zone 3b has been defined in the following manner:

- land where the flow of flood water is not prevented by flood defences or by permanent buildings or other solid barriers from inundation during times of flood;
- land which provides a function of flood conveyance (i.e. free flow) or flood storage, either through natural processes, or by design (e.g. washlands and flood storage areas);
- land subject to flooding in the 5% AEP (20 year) flood event and 4% AEP (25 year) (i.e. relatively frequent inundation expected, on average once every 20/25 years).

Within the Metropolitan Borough of Tameside, this encompasses primarily those low lying areas neighbouring the primary watercourses. Any development within these areas is likely to measurably impact upon the existing flooding regime, increasing the severity and frequency of flooding elsewhere.

Functional floodplain in Tameside was only identified along the rivers within Tameside in the 2008 Level 1 SFRA.

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4 Functional Floodplain Delineation

The following data sets have been interrogated to update the 2008 functional floodplain

- Functional Floodplain from previous SFRA (2008)
- EA modelled flood outlines (MFO) from latest available modelling studies. Defended scenario outlines were used where available. If unavailable, undefended scenario outlines were used
- EA Flood Storage Areas (FSA) – none present
- EA Areas Benefitting from Defences (ABD) – present
- EA Historic Flood Map (HFM) – none present
- Urban areas - OSOpenMapLocal_Raster (to remove developed areas and transport infrastructure from functional floodplain)

4.1 GIS Methodology

- The 2008 functional floodplain provided a starting point and was compared to the current Flood Zone 3 of the Flood Map for Planning (version August 2017). Where the 2008 functional floodplain exceeds Flood Zone 3 the functional floodplain was erased and updated with Flood Zone 3.
- The following MFOs were used to update the 2008 functional floodplain:
 - The 2014 Taunton Brook Model Update 5% undefended AEP outline was used to update the functional floodplain for Taunton Brook as the original 2008 functional floodplain did not include this river (see Table 1 for locations)
 - The 2012 Micklehurst Brook Mapping and Modelling Study undefended 5% AEP outline was used to update the functional floodplain for parts of Micklehurst Brook (see Table 1 for locations)
 - The 2011 Glossop Brook & Tribs Model Study defended 5% AEP outline was used to update the functional floodplain for parts of Glossop Brook & Tribs and River Etherow (see Table 1 for locations)
- The HFM was not added as there were none found in the area of Tameside
- The ABD layer was integrated, as it was sufficiently up to date to aid the removal of areas that coincide with the ABD. The ABD was used to erase parts of the 2008 functional floodplain located in Dukinfield.
- The OS Open Data OSOpenMapLocal_Raster dataset was used to identify urban areas, waterbodies and transport infrastructure to be removed from the functional floodplain
- A geometry check was carried out on the final draft outline to ensure geometric correctness.

Table 1 Functional floodplain data sources

Watercourse	Extent	Data Source
Tauton Brook	West Limehurst to East Limehurst	Tauton Brook Model Update (2014)
Glossop Brook & Tribs/ River Etherow	Located East Mottram in Longdendale	Glossop Brook & Tribs Model Update (2011)
River Tame	East Denton to West Hyde	Flood Zone 3 August (2017)

Table 1 above shows the latest available model flood outlines used to update the previous 2008 functional floodplain. Micklehurst Brook model flood outline was not used for the functional floodplain update due to the outline being located all within the bank. For watercourses where updated MFOs were unavailable, the 2008 functional floodplain outline is still in place.

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.