

NOTE TO FILE

JBA Project Code	2014s1688
Contract	Level 2 SFRA for Shipley, Canal Road Corridor and City Centre AAPs
Client	City of Bradford Metropolitan District Council
Day, Date and Time	30 July 2015
Author	Mike Williamson
Subject	Functional Floodplain and Flood Zone 3ai for AAPs



1 Introduction

The functional floodplain (Flood Zone 3b) comprises land where water has to flow or be stored in times of flood. FRCC-PPG states 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. 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.

Flood Zone 3ai is not part of any official policy statement though was introduced for the Level 1 SFRA to show areas of developed land that would be functional floodplain were it not for the existing infrastructure. It will help to guide planners when developing site development options.

The Level 1 and Level 2 reports contain more detail regarding the functional floodplain and Flood Zone 3ai.

2 Delineation of Flood Zone 3b

Methodology of zone delineation carried out chronologically following the steps below:

1. Used the 1 in 20 year flood outline produced from the Bradford Beck 2013 study¹ and the 1 in 25 year flood outline from the Upper Aire FRMS 2005 based on NPPF:

- Land which would naturally flood with an annual probability of 1 in 20 (5%) or greater in any year should provide a starting point for consideration and discussions to identify the functional floodplain. 1 in 25 year outline to be used where 1 in 20 not available.

2. Appended EA Flood Storage Areas (FSA) dataset to the 20 and 25 year outlines based on NPPF:

Land which 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. 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.

Not applicable for this study

3. Appended EA Historic Flood Map (HFM) dataset to the 20 and 25 year outlines based on the fact that an area has flooded previously and could do again.
4. Removed EA Areas Benefitting from Defences (ABD) dataset from the 20 and 25 year outlines based on NPPF:

- Functional floodplain should take into account the effects of defences and other flood risk management infrastructure.

Not applicable for this study

¹ Flood Resilient City, Bradford Beck Flood Modelling, Developing an InfoWorks CS Model, V4.131008 - Final Draft Version. Simon Doncaster, Will Shepherd and John Blanksby. Pennine Water Group, University of Sheffield. October 2013.

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5. Clipped the 20 and 25 year outline to the 1 in 100 year outline if required (for example where HFM may be larger than 20 / 25 year outline)
6. Removed dry islands <math><750\text{ m}^2</math> from result of step 6 based on standard EA flood mapping methodology
7. Removed wet islands <math><250\text{ m}^2</math> from result of step 7 based on standard EA flood mapping methodology
8. The River Aire 25 year outline was trimmed back to the outlet of the culvert under Dockfield Road at the downstream end of the Bradford Beck model
9. Removed existing buildings, road, rail infrastructure based on MasterMap as defined by the NPPF:
 - 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.

Sensibility checks were carried out by eye and reviewed by CBMDC and the Environment Agency.

3 Delineation of Flood Zone 3ai

The developed areas removed from the functional floodplain (Step 9) make up Flood Zone 3ai. Sensibility checks were carried out by eye and reviewed by CBMDC and the Environment Agency.