



Wiltshire Council & Swindon Borough  
Council

## **Minerals and Waste Local Development Framework**

### **Level 1 Strategic Flood Risk Assessment Update**

Final Report  
July 2010

Prepared for



Working in partnership with



## Revision Schedule

### Minerals and Waste Local Development Framework Level 1 Strategic Flood Risk Assessment Update July 2010

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	June 2010	D131226 – Draft Report	<b>Mark Crussell</b> Assistant Hydrologist  <b>Dr Rob Sweet</b> Senior Flood Risk Specialist	<b>Dr Rob Sweet</b> Senior Flood Risk Specialist	<b>Elizabeth Gent</b> Principal Consultant
02	July 2010	D131226 - Final Report incorporating WC comments	<b>Dr Rob Sweet</b> Senior Flood Risk Specialist	<b>Dr Rob Sweet</b> Senior Flood Risk Specialist	<b>Dr Rob Sweet</b> Senior Flood Risk Specialist

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**Scott Wilson**  
Mayflower House  
Armada Way  
Plymouth  
Devon  
PL1 1LD

Tel: 01752 676 700  
Fax: 0870 238 6023

[www.scottwilson.com](http://www.scottwilson.com)

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# 1 Introduction

## 1.1 Commission

- 1.1.1 Scott Wilson Ltd was commissioned in March 2010 to undertake additional work to update the Minerals and Waste Level 1 Strategic Flood Risk Assessment (SFRA) for Wiltshire Council (WC) and Swindon Borough Council (SBC).

## 1.2 Background

- 1.2.1 WC and SBC are progressing their Minerals and Waste Development Framework (MWDF). The MWDF consists of policies and proposals to guide future minerals and waste planning decisions, the Core Strategies and Development Control Policies DPD (Development Plan Documents) were adopted in 2009<sup>1</sup>. The site allocation documents are currently in preparation.
- 1.2.2 The WC and SBC Level 1 SFRA was completed in April 2008<sup>2</sup> and has been used to inform the MWDF with respect to flood risk across the administrative area. Following the amalgamation of four individual local authorities (Kennet, North Wiltshire, West Wiltshire and Salisbury) to form Wiltshire Council, a high level executive summary was produced in June 2009<sup>3</sup>. Within this summary, Section 3.4 identified that the document and associated Geographical Information System (GIS) layers should be considered as 'live' and regular review and monitoring should be undertaken. This approach ensures that WC and SBC are using the best available data to inform the MWDF evidence base.

## 1.3 Aim and Objectives

- 1.3.1 The aim is to provide a short report that updates the existing evidence base to ensure that WC and SBC are using the best available information. This will be met through the following objectives:
- Review changes in policy and guidance relevant to flood risk and identify where these have implications on the MWDF;
  - Review Environment Agency Flood Zone mapping against existing GIS mapping to identify major and minor changes in Flood Zone extent and the potential implications to the MWDF evidence base.
  - Request and review historical flooding data from the Environment Agency.
  - Review Waste Site Allocations Sequential Test Report undertaken by WC<sup>4</sup> and provide additional information on methodology to include Areas Susceptible to Surface Water Flooding within site profiles.
  - Provide consolidated package of SFRA GIS layers for use by WC.

<sup>1</sup> <http://www.wiltshire.gov.uk/environmentandplanning/planninganddevelopment/planningpolicy/mineralsandwastepolicy.htm>

<sup>2</sup> [http://www.wiltshire.gov.uk/minerals\\_and\\_waste\\_level\\_1\\_sfra\\_final\\_report.pdf](http://www.wiltshire.gov.uk/minerals_and_waste_level_1_sfra_final_report.pdf)

<sup>3</sup> [http://www.wiltshire.gov.uk/wiltshire\\_strategic\\_flood\\_risk\\_assessment\\_high\\_level\\_executive\\_summary\\_june\\_2009.pdf](http://www.wiltshire.gov.uk/wiltshire_strategic_flood_risk_assessment_high_level_executive_summary_june_2009.pdf)

<sup>4</sup> Comments on this report have been provided separately to WC

## 2 Review of Policy and Guidance

### 2.1 Overview

2.1.1 This section provides a review of the existing policy and guidance for flood risk that has been subject to amendment since the production of the WC & SBC Minerals and Waste Level 1 SFRA. In addition, it provides a review of policy and guidance that should be considered within future updates where the requirements are yet to be implemented.

### 2.2 Planning Policy Statement 25 (PPS25): Development and Flood Risk

2.2.1 PPS25 was published in December 2006. The principle aims of PPS25 are to ensure that flood risk is taken into account at all stages in the spatial (town and country) planning process, to avoid inappropriate new development in areas at risk of flooding, and to direct development away from areas at highest flood risk.

2.2.2 Limited amendments have been proposed to clarify how certain aspects of PPS25 are applied to ensure it works effectively. The proposed amendments affect tables D.1 (Flood Zones)<sup>5</sup> and D.2 (Flood Risk Vulnerability Classification)<sup>6</sup> in Annex D to PPS25. A consultation on these amendments was held between August and November 2009.<sup>7</sup>

2.2.3 The revised version of PPS25, incorporating amendments covered by the consultation process was released late March 2010 and a summary of the amendments that affect Minerals and Waste Planning is provided in Table 2-1.

**Table 2-1: Previous and amended text within PPS25.**

Location of Amended Text	Pre-March 2010 text within PPS25 (where available)	Amended Text released post-March 2010 within PPS25
Table D1: Flood Zones – Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. 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).	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their SFRAs areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. But 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, should provide a starting point for consideration and discussions to identify the functional floodplain.
Table D2: Flood Risk Vulnerability Classification – Essential Infrastructure	<ul style="list-style-type: none"> <li>Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk, and strategic utility infrastructure, including</li> </ul>	<ul style="list-style-type: none"> <li>Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.</li> <li>Essential utility infrastructure which has</li> </ul>

<sup>5</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/planningpolicystatement25.pdf#page=28>

<sup>6</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/planningpolicystatement25.pdf#page=31>

<sup>7</sup> <http://www.communities.gov.uk/archived/publications/planningandbuilding/consultationfloodrisk>

	electricity generating power stations and grid and primary substations.	to be located in a flood risk area for critical operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.
Table D2: Flood Risk Vulnerability Classification – Highly Vulnerable	<ul style="list-style-type: none"> <li>Installations requiring hazardous substances consent.<sup>8</sup></li> </ul>	<ul style="list-style-type: none"> <li>Wind turbines.</li> <li>Installations requiring hazardous substances consent.<sup>4</sup> (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure').<sup>9</sup></li> </ul>
Table D2: Flood Risk Vulnerability Classification – Less Vulnerable	n/a	<ul style="list-style-type: none"> <li>Police, ambulance and fire stations which are <b>not</b> required to be operational during flooding.</li> </ul>

2.2.4 In terms of the definition of the Flood Zone 3b Functional Floodplain, this is unlikely to affect existing delineation undertaken by each individual LPA and contained within the WC & SBC Minerals and Waste Level 1 SFRA mapping and associated GIS layers. This is because the Flood Zone 3b Functional Floodplain extent has been agreed between the LPA and Environment Agency during the production of the Level 1 SFRAs.

2.2.5 The revised definitions and explanations within the Flood Risk Vulnerability Classification may have implications for the MWDF related to installations requiring hazardous substances consent and therefore should be taken into consideration for any waste sites requiring such consent.

2.2.6 The other revised definitions are not considered to have implications for the MWDF.

## 2.3 PPS25: Development and Flood Risk Practice Guide

2.3.1 The PPS25 Practice Guide was updated in December 2009 and replaces the version of the guide that was published by Communities and Local Government in June 2008. The main changes are summarised at the start of the Practice Guide (pages v-viii<sup>10</sup>) and are provided in Appendix A for reference.

2.3.2 With respect to taking flood risk into account for minerals and waste planning, the main change in the guidance is the addition of a paragraph regarding the role of the planning authority and is as follows:

- Paragraph 2.30 – *Waste and Minerals Planning Authorities will in many cases also have the 'lead local flood authority' role as set out in the letters of 17 December 2008 sent jointly by*

<sup>8</sup> DETR Circular 04/00, paragraph 18: *Planning controls for hazardous substances*. See <http://www.communities.gov.uk/publications/planningandbuilding/circularplanningcontrols>

<sup>9</sup> In considering any development proposal for such an installation, local planning authorities should have regard to Planning Policy Statement 23, 'Planning and Pollution Control'.

<sup>10</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/pps25guideupdate.pdf#page=6>

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*the Secretary of State for the Environment, Food and Rural Affairs and the Minister for Local Government to Chief Executives, and subsequent Departmental letters of 29<sup>th</sup> April 2009. It is important that their roles as Waste and Minerals Planning Authority and lead local flood authority are complementary here.*

## 2.4 Flood Risk Regulations 2009

- 2.4.1 The Flood Risk Regulations came into force on the 10<sup>th</sup> December 2009 and sets out duties for the Environment Agency and lead local flood authorities in the preparation of a range of reports and mapping outputs.
- 2.4.2 Lead local flood authorities must prepare the following for publication by the Environment Agency before the 22<sup>nd</sup> December 2011:
- A preliminary assessment report for flooding from sources other than that from the sea, main rivers and reservoirs;
  - Determine whether, in the opinion of the lead local authority, there is a significant flood risk in its area and identify the part of the area, if any, where this risk exists (for sources other than that from sea, main rivers and reservoirs);
- 2.4.3 Where lead local flood authorities identify a relevant flood risk area (as above), there is a requirement to prepare flood hazard and flood risk maps for these areas for publication by the Environment Agency before 22<sup>nd</sup> December 2013. In addition, for these areas, a flood risk management plan must be prepared for publication by the Environment Agency by 22<sup>nd</sup> December 2015.
- 2.4.4 Although the outputs of reports and mapping from the requirements of the Flood Risk Regulations 2009 will not be available for the purposes of this update of the minerals and waste evidence base, it is important to use the findings from these when updating the SFRA in the future. These should be available from the Environment Agency who has a duty to publish the required reports and mapping for river basin districts.

### 3 GIS Layer Update and Site Profiles

#### 3.1 Environment Agency Flood Map

- 3.1.1 The Environment Agency updates their Flood Map (Flood Zone 2 and Flood Zone 3) on a quarterly basis to include the results of new flood mapping studies undertaken to improve and refine the flood zones. A review of the Level 1 SFRA Flood Zones 2 and 3a/b GIS layers has been undertaken to identify where changes have been made to ensure the MWDF evidence base is up to date.
- 3.1.2 WC and SBC have provided the most recent version of the Environment Agency Flood Map (dated April 2010) for the purpose of this study. The Flood Map has been overlain with the previous Level 1 SFRA Flood Zones 2 and 3a/b using a GIS to identify where changes have been made.
- 3.1.3 The review indicates that the majority of the flood zones are unchanged, however, where revisions have been noted an indication of whether the revision is considered ‘Minor’ or ‘Major’, together with an indication of whether the revision has resulted in an overall increase or decrease in flood risk at that location is provided in Table 3-1.

**Table 3-1: Summary of Environment Agency Flood Map revisions since 2009**

General Area	Flood Zone 3a/b Updates	Flood Zone 2 Updates	Minor/Major	Area at Risk Increase/decrease
East of Swindon	✓	✓	Major	Increase
South of Swindon	✓	✓	Major	Increase
West of Melksham	✓	✓	Minor	Decrease
West of Westbury	✓	✓	Minor	Decrease

- 3.1.4 Table 3-1 indicates that there have been ‘Major’ changes to Flood Zone 2 and Flood Zone 3 to the east and south of Swindon with ‘Minor’ changes to the west of Melksham and to the west of Westbury. Figure 3.1 and Figure 3.2 illustrate the ‘Major’ changes to the flood zones within the Swindon area.

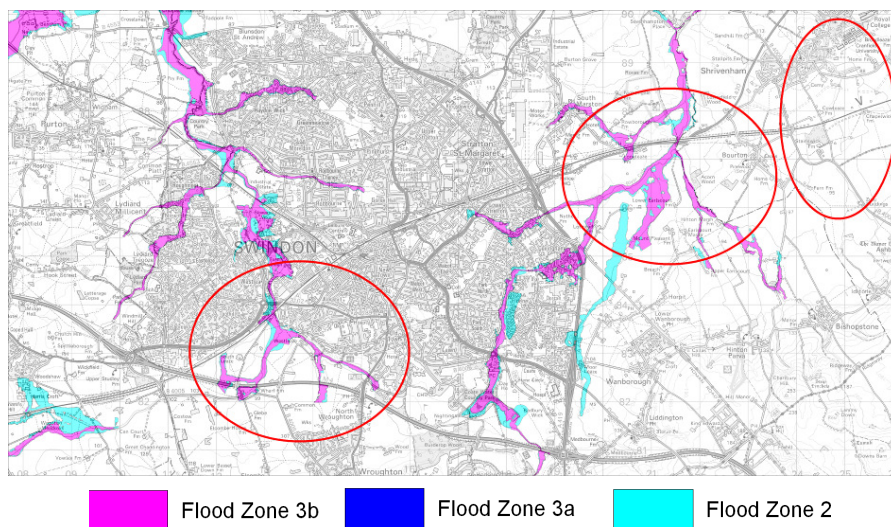


Figure 3.1: WC Level 1 SFRA Flood Zones 2 and 3a/b (June, 2009). Red circles represent areas where flood zone revisions have been identified.



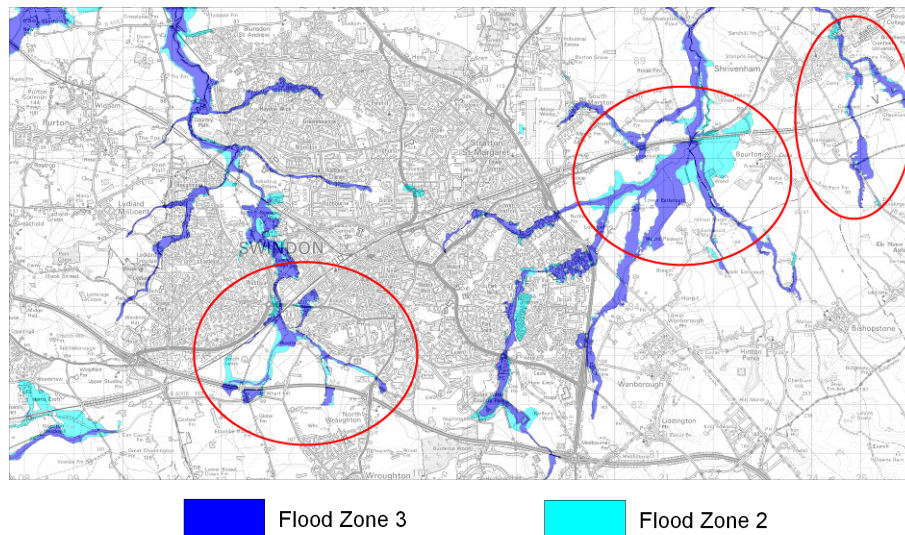


Figure 3.2: Environment Agency Flood Map (Flood Zone 2 and 3) (dated April 2010). Red circles represent areas where flood zone revisions have been identified.

### SFRA Flood Zone GIS Layers

- 3.1.5 As illustrated in Figure 3.2, the Environment Agency Flood Map does not delineate between Flood Zone 3a and Flood Zone 3b (Functional Floodplain), this is the responsibility of the Local Planning Authority (LPA) when undertaking their Level 1 SFRA.
- 3.1.6 The existing Level 1 SFRA considers the whole of Flood Zone 3 as Functional Floodplain (Flood Zone 3b) in areas where detailed hydraulic modelling has not been undertaken and covers the majority of the study area<sup>11</sup>. This approach has been adopted for the purpose of this study and has been used in the production of profiles of flood risk for potential waste sites where identified by WC.
- 3.1.7 Where the extent of Functional Floodplain is disputed it is suggested that a three way discussion between the Developer, Environment Agency and WC is undertaken. Further guidance regarding the delineation of Functional Floodplain is provided within the WC Level 1 SFRA Executive Summary (June, 2009).

## 3.2 Areas Susceptible to Surface Water Flooding

- 3.2.1 The Environment Agency has produced 'Areas Susceptible to Surface Water Flooding' (ASTSWF) maps which are distributed to LPAs in a similar way to the Environment Agency Flood Maps<sup>12</sup>. The map provides three bandings, which indicate whether an area is 'less', 'intermediate' or 'more' susceptible to surface water flooding.

<sup>11</sup> In areas where detailed modelling has been undertaken, Flood Zone 3b (functional floodplain) was delineated within the Level 1 SFRA.

<sup>12</sup> Surface Water Flood Maps are currently being developed by the Environment Agency and due for release in summer/autumn 2010 to Local Planning Authorities. These use improved techniques to identify surface water flooding and early indications suggest that there is a reduction in extent in areas identified to be potentially affected by surface water flooding when compared to the ASTSWF maps.

3.2.2 Environment Agency guidance indicates that the maps should not be used to show the susceptibility of individual properties to surface water flooding, but should be used at a strategic ‘broad brush’ level to identify potential surface water flooding hotspots. Generally the maps represent surface water flooding better in steep catchments compared to areas with flat topography. Given the uncertainties in the ASTSWF maps, the Environment Agency state that they should not be used with a more detailed base map scale than 1:50,000. Therefore, the ASTSWF maps have not been included on the site profiles which use a 1:10,000 base map.

3.2.3 The salient recommendations of the guidance document with regards to the planning process are as follows:

- Maps should indicate where more detailed studies may be appropriate;
- They are not appropriate to act as the sole evidence for any specific planning decision without further evidence;
- Other data such as that collated as part of the SFRA or data from the local drainage engineers should be used to indicate where further assessment may be necessary.

### Settlements Susceptible to Surface Water Flooding

3.2.4 DEFRA published a table<sup>13</sup> which ranks settlements within England by the estimated number of properties susceptible to surface water flooding resulting from severe rainfall. The information was based on a new national methodology and represented the best available information at the time (August 2009).

**Table 3-2: Settlements Susceptible to Surface Water Flooding in Wiltshire and Swindon**

National Rank	Settlement Name	Estimated Number of Properties at Risk
59	Swindon	4800
152	Salisbury	2100
211	Trowbridge	1600
290	Warminster	1200
308	Calne	1100
398	Melksham	790
441	Westbury	690
444	Chippenham	690
488	Pewsey	610
493	Aldbourn	600

\*Table 3-2 shows the 10 highest ranked settlements susceptible to surface water flooding within Wiltshire and Swindon

## 3.3 Historic and Potential Flood Events

3.3.1 Due to variation of historic flood incident data collated during the Level 1 SFRA process, a number of different GIS data sets have been generated using both ‘point’ and ‘polygon’ formats to identify historic and potential flood incidents. These data sets have now been consolidated into a single ‘point’ GIS layer and a single ‘polygon’ GIS layer. This will allow them to be easily

<sup>13</sup> Available online: <http://www.defra.gov.uk/environment/flooding/documents/manage/surfacewater/sw-settlement-order.pdf>

uploaded onto the WC system and reduce the potential for a dataset being misplaced. This will aid in ensuring consistency when undertaking the Sequential Test.

- 3.3.2 To ensure all historic flood incidents up to the present day (May 2010) are considered by WC when undertaking the Sequential Test, additional data have been provided by the Environment Agency. These data have been reviewed and included within the consolidated datasets.

## 3.4 Site Profile Selection

- 3.4.1 Waste sites identified by WC have undergone an initial site selection process to indicate which sites require further analysis to satisfy the Sequential Test and Exception Test (where required). GIS has been used to identify those sites with significant areas within Flood Zones 2 and 3, and those sites with significant areas located within 'less', 'intermediate' or 'more' ASTSWF zones.

- 3.4.2 For each individual site, where one or more of the following statements is true a site profile has been produced to allow further analysis of the site to be undertaken:

- 5% or greater is located within Flood Zones 2;
- 5% or greater is located within Flood Zones 3;
- 10% or greater is located within a 'less' ASTSWF zone;
- 10% or greater is located within a 'intermediate' ASTSWF zone;
- 5% or greater is located within a 'more' ASTSWF zone.

- 3.4.3 Where all of the above statements are false a site should automatically 'pass' the Sequential Test with the 'proviso' that development is sequentially located to areas of lowest risk (i.e. Flood Zone 1). However, where one or more of the statements are true a site profile has been produced (see Appendix B for an example site profile).

- 3.4.4 Where a site is selected due to its location within Flood Zone 2 or 3, the site profile provides an opportunity to clarify the extent of the flood zones onsite and consider whether the site is appropriate for development in accordance with PPS25 Table D3.

- 3.4.5 Where a site is selected on account of its location within an ASTSWF zone, it should be cross referenced with available data sets such as the historic and potential flood event GIS layers, to determine whether further evidence of flooding exists at the location. Where WC decide to progress a site where evidence of a previous flood incident exists further assessment would be required as part of a site specific Flood Risk Assessment (FRA).

## 3.5 Summary of Level 1 SFRA GIS Layers

- 3.5.1 A summary of the Level 1 SFRA GIS Layers used within the site profiles and a brief description of their content is provided in Table 3-3. Table 3-3 also links into the site profile legend to illustrate where each GIS Layer is used within the study.

**Table 3-3: Consolidated Level 1 SFRA GIS Layers**

SFRA GIS Layer	Brief Description
Historic & Potential Flood Event Point Data	Record flood incidents in point data format
Historic & Potential Flood Event Polygon Data	Record flood incidents in polygon data format
Flood Zone 3 (April 2010)	Environment Agency Flood Zone 3 (considered as Flood Zone 3b for the purpose of this study)
Flood Zone 2 (April 2010)	Environment Agency Flood Zone 2
NFCDD Flood Defences	Flood defence information including type, design standard and ownership of defence
Flood Storage Area	Designated flood storage areas
Reservoir	Reservoirs classified under the Reservoirs Act 1975
Other Water Body	Extracted from Ordnance Survey Mastermap topographic layer

**Historic & Potential Flood Events Point & Polygon Data**

- Fluvial
- Surface Water
- Sewer
- Groundwater
- Land/Road Drainage
- Culvert
- Combined
- Artificial
- Unknown

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**Waste Submission Sites**

- Waste Submission Sites

**SFRA Flood Zones**

- Flood Zone 3
- Flood Zone 2

**Flood Defence & Alleviation**

- NFCDD Flood Defence
- Flood Storage Area
- ★ Reservoir
- Other Inland Water Body

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## 4 Summary

### 4.1 Relevant Policy Updates

- 4.1.1 Relevant policy updates have been identified within the document including amendments to PPS25 and the associated Practice Guide. These amendments may have a limited impact on minerals and waste planning but are not likely to cause significant changes to potential site allocation.
- 4.1.2 Reports and mapping required to be produced by the Environment Agency and lead local flood authorities under the Flood Risk Regulations 2009 will provide additional evidence. Review of these documents when published should be added to the evidence base to provide further information in the decision making process.

### 4.2 GIS Layer Updates and Site Profiles

- 4.2.1 In order to update and consolidate the GIS layers, new datasets were collected for review and collation. This included collecting updated Environment Agency Flood Maps, Historical Flood data and Areas Susceptible to Surface Water Flooding maps.
- 4.2.2 The Environment Agency Flood Map updates have been reviewed to identify changes in extent. Major changes were identified within the Swindon area where significant increases in Flood Zone extent were identified. Minor changes around Melksham and Westbury were also noted where Flood Zone extent has decreased.
- 4.2.3 Historical flood data was collected and existing GIS layers were amalgamated to produce two layers that provide point and polygon data. This has reduced the number of existing datasets and allowed a reduction in the attributes for describing the source of flooding.
- 4.2.4 Areas Susceptible to Surface Water Flooding maps have been used to assess the potential for surface water flooding. A simple delineation has been used to identify where surface water may be an issue and where required a site profile has been produced to inform WC and SBC decision process.
- 4.2.5 Site profiles have been produced for sites that are potentially at risk from either fluvial or surface water flooding and also where known incidents have occurred from other sources (e.g. groundwater). These site profiles help inform WC and SBC in the decision making process to identify whether a sequential approach can be used within a site by locating development to lowest risk areas and whether the Exception Test is likely to be required based on the vulnerability of the proposed development.

## Appendix A – Summary of major amendments to PPS25 Practice Guide

# Updating the PPS25 Practice Guide

## Summary of main changes

This update of the practice guide replaces the version of the guide that was published on the Communities and Local Government website in June 2008. It reflects the intention announced at the time of publication to keep the guide fresh and relevant through periodic updates.

Our approach to this update is explained in paragraphs 1.11-14 below. Many of the amendments made are relatively minor and it would not be appropriate or helpful to list every change here. However, **your attention is drawn to the following more substantial changes from the June 2008 version of the guide:**

### **Chapter 2: Taking flood risk into account in the planning process**

Additional advice on applying the sequential approach at the regional level over a longer time frame – see paragraph 2.14.

Reference to the role of waste and mineral planning authorities as ‘lead local flood authority’ paragraph 2.30.

Clarification on the provision of a site-specific flood risk assessment (FRA) with a planning application – see paragraphs 2.35-36, also paragraph 3.82.

Emphasis on the need to consult British Waterways, when appropriate – see paragraph 2.59.

New case studies illustrating planning appeals where a sequential approach has not been properly followed, and new and updated case studies illustrating strategic approaches to managing flood risk.

### **Chapter 3: The assessment of flood risk**

Reference to Environment Agency mapping of areas susceptible to surface water flooding and advice on the use of this map in spatial planning, particularly in flood risk assessment – paragraphs 3.8 & 3.9 & 3.27.

Guidance on the chance of flooding occurring during the lifetime of a development – see paragraph 3.14 and associated footnote.

Clarification that flood risk appraisal/assessments do not have to be supervised by someone with chartered status – see paragraph 3.20.

Further advice on undertaking strategic flood risk assessments (SFRA) – see paragraphs 3.40-3.44, and 3.64.

Further advice on the issues relating to guidance provided within SFRA, including on the role of surface water management plans – see paragraphs 3.70-79.

Further guidance on the need for a proportionate approach to FRAs – see paragraph 3.86.

Updated guidance on climate change impacts – see paragraphs 3.96-3.98. Also paragraph 6.41 in relation to the design of flood risk management measures.

New and updated case studies on regional flood risk appraisal, SFRA and site-specific FRAs.

### **Chapter 4: The Sequential and Exception Tests**

Updated guidance on applying the sequential approach to other sources of flooding, including use of Environment Agency mapping of areas susceptible to surface water flooding – see paragraphs 4.11-4.12.

Further advice on the application of the Sequential Test, including on the availability of alternative sites – paragraph 4.19 & 4.25, and in relation to regeneration areas – paragraph 4.38 and wind farms – paragraph 4.39.

Updated advice on sequential testing of site allocations, informed by a SFRA, when local development documents are reviewed or being finalised – paragraph 4.22.

Clarification on the approach to a proposed change of use of land to a caravan or camping (or similar) site – paragraphs 4.43-4.44.

Additional guidance on the ‘what is safe’ element of the exception test – paragraphs 4.54-4.68.



Clarification of the approach to developments containing different elements of vulnerability to flood risk – paragraph 4.73.

Expansion of advice on the application of the policy to critical infrastructure – paragraph 4.82.

Further clarification on defining functional floodplains – paragraph 4.94.

New case studies on applying the sequential approach/test, including the role of SFRA.

### **Chapter 5: Managing surface water**

Further guidance on sustainable drainage systems (SUDS) – paragraphs 5.14, 5.17-5.24 and on the adoption and maintenance of SUDS – paragraphs 5.28-5.30.

Updated guidance on surface water management plans, integrated urban drainage and water cycle studies – paragraphs 5.37-5.46

Updated advice on the right to connect foul drainage to public sewers – paragraph 5.52.

Updated guidance on permitted development rights and permeable surfaces – paragraphs 5.55-5.57.

New and updated case studies illustrating surface water management and the use of SUDS.

### **Chapter 6: Risk management by design**

Update on changes to UK Climate Change Projections in relation to flood risk management measures – paragraph 6.41.

Updated guidance on insurance issues – paragraph 6.49.

New case studies with examples of upstream flood storage, developer contributions to flood alleviation schemes and innovative design.

### **Chapter 7: Residual risk**

Advice on the need to consult British Waterways, where appropriate – see paragraph 7.6.

Additional factors to be taken into account in assessing residual flood risk associated with overtopping or breaching of a flood defence – paragraph 7.13.

Further and updated guidance on emergency planning and inundation maps for flooding from reservoirs – paragraphs 7.18-7.20.

Updated case study on SFRA and residual flood risk.

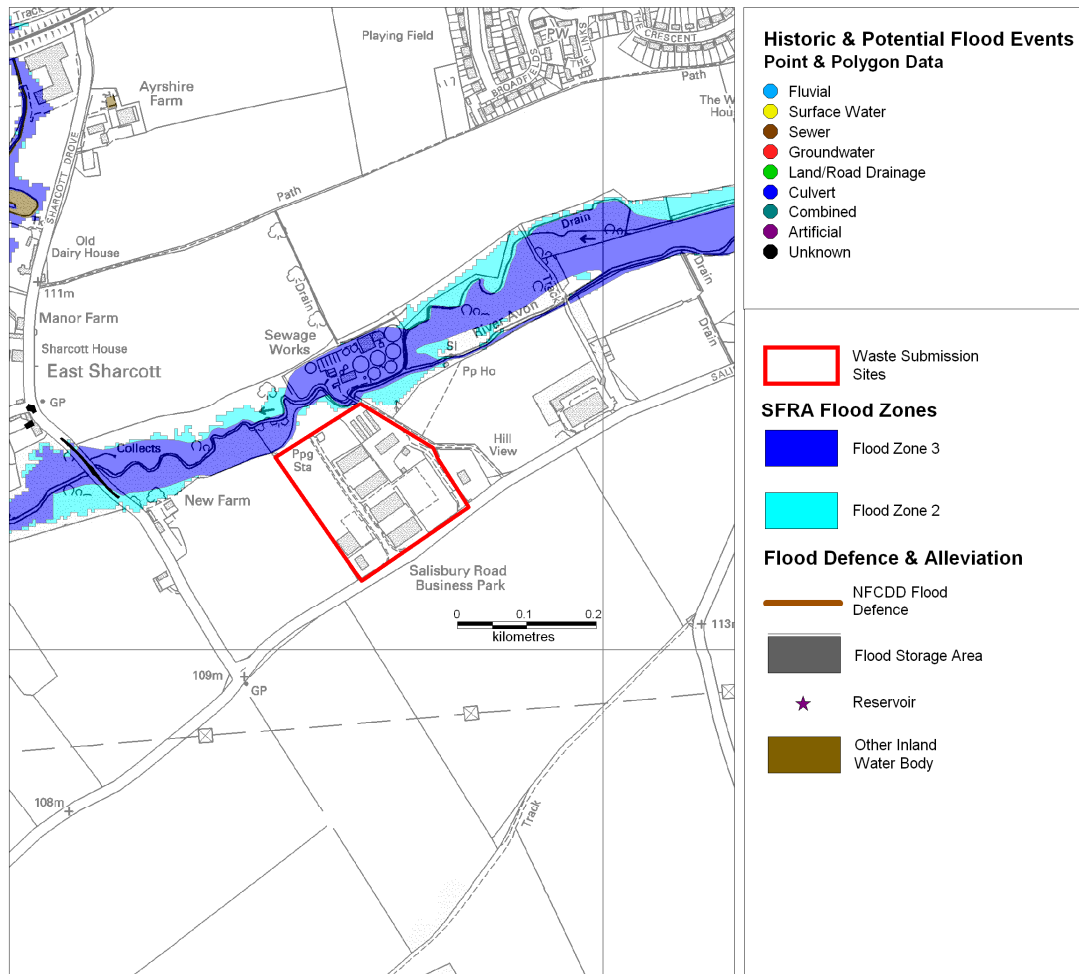
**Appendix A : PPS25 in context with other national planning policy**

Updated in relation to other national planning policy.

**Appendix B: Flood Risk Assessment (FRA) checklist**

Formerly appendix C, providing a FRA pro-forma, now amended to make clear that this form should be used as a checklist (or aide-memoire).

## Appendix B – Example of Site Profile



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### Salisbury Road Business Park, Pewsey

<b>Area</b>	East					
<b>Size</b>	4 ha					
<b>Potential uses</b>						
<b>Flood risk (% of area)</b>	<b>0</b>	<b>0 - 5</b>	<b>5 - 20</b>	<b>20 - 50</b>	<b>50 - 75</b>	<b>75 - 100</b>
<b>Flood Zone 2</b>	✓					
<b>Flood Zone 3 (Flood Zone 3b)</b>	✓					
<b>Site &lt; 20m from Flood Zone 2</b>	Yes					
<b>ASTSWF (% of area)</b>	<b>0</b>	<b>0 - 5</b>	<b>5 - 20</b>	<b>20 - 50</b>	<b>50 - 75</b>	<b>75 - 100</b>
<b>ASTSWF Less</b>			✓			
<b>ASTSWF Intermediate</b>				✓		
<b>ASTSWF More</b>			✓			
<b>Potential or historic flood issues</b>	No flood incidents identified within the vicinity of the site.					
<b>Vulnerability</b>						
<b>Exception Test required?</b>	No					
<b>Consideration of alternatives</b>	Reasonably available alternative site/s in areas of lower flood risk or the same flood risk group? Can development be allocated within the alternative site/s?					
<b>Supporting information (if exception test is required)</b>	Wider sustainability drivers? Is the site on Brownfield land? Will development be safe, without increasing flood risk elsewhere, and, where possible, reduce flood risk overall?					