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ABBREVIATIONS

LIST OF ABBREVIATIONS	
Abbreviation	Description
AMR	Annual Monitoring Review
AStGWF	Areas Susceptible to Groundwater Flooding
DPD	Development Plan Document
EU	European Union
FCERM	Flood and Coastal Erosion Risk Management
FMfSW	Flood Map for Surface Water
FRA	Flood Risk Assessment
FWMA	Flood and Water Management Act 2010
GEP	Good Ecological Potential
GES	Good Ecological Status
GIS	Geographical Information System
HLES	High Level Executive Summary
HMWB	Heavily Modified Water Body
LDA	Land Drainage Act 1991
LLFA	Lead Local Flood Authority
MPA	Minerals Planning Authority
NGR	National Grid Reference
NPPF	National Planning Policy Framework
PFRA	Preliminary Flood Risk Assessment
PPS25	Planning Policy Statement 25: Development and Flood Risk
RBMP	River Basin Management Plan
SAB	SuDS Approval Body
SFRA	Strategic Flood Risk Assessment
SuDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
WFD	Water Framework Directive

1 INTRODUCTION

1.1 Background

Wiltshire Council previously commissioned a Countywide Level 1 Strategic Flood Risk Assessment (SFRA) for Minerals and Waste (covering the Wiltshire Council and Swindon Borough Council administrative areas) and four District (West Wiltshire, North Wiltshire, Kennet and Salisbury¹) Level 1 SFRAs in 2007/2008 prior to the formation of Wiltshire Council.

In preparation for the amalgamation of the former districts into a single unitary authority, Wiltshire Council commissioned a Level 1 SFRA 'High Level Executive Summary' (HLES). This HLES draws together and summarises information from the four District SFRAs, creating a single document to encompass the new administrative area.

In 2010 Wiltshire Council commissioned a Countywide (covering the Wiltshire Council and Swindon Borough Council administrative areas) Minerals and Waste Level 1 SFRA Update document to include new data and reflect changes to policy and flood risk guidance.

Following the changes in Planning Policy with the introduction of the National Planning Policy Framework (NPPF) in 2012, the introduction of new legislation (Flood Risk Regulations 2009, Flood and Water Management Act 2010) and additional responsibilities of Wiltshire Council as 'Lead Local Flood Authority' (LLFA), Wiltshire Council commissioned the Level 1 SFRA 2013 update to highlight these changes.

This 2013 SFRA update report is relevant to both minerals and waste and 'general' development planning matters and provides an update to the existing Level 1 SFRAs (including Minerals and Waste Level 1 SFRA documents), but does not completely replace them, instead this 2013 SFRA report should be read in conjunction with these existing documents.

A timeline highlighting the publication of the SFRA documents commissioned by Wiltshire Council is shown in Figure 1-1.

¹ The Level 1 SFRA for Salisbury was a joint commission with four other local councils (Bournemouth Borough Council, Christchurch Borough Council, East Dorset District Council and North Dorset District Council) and was published in February 2008.

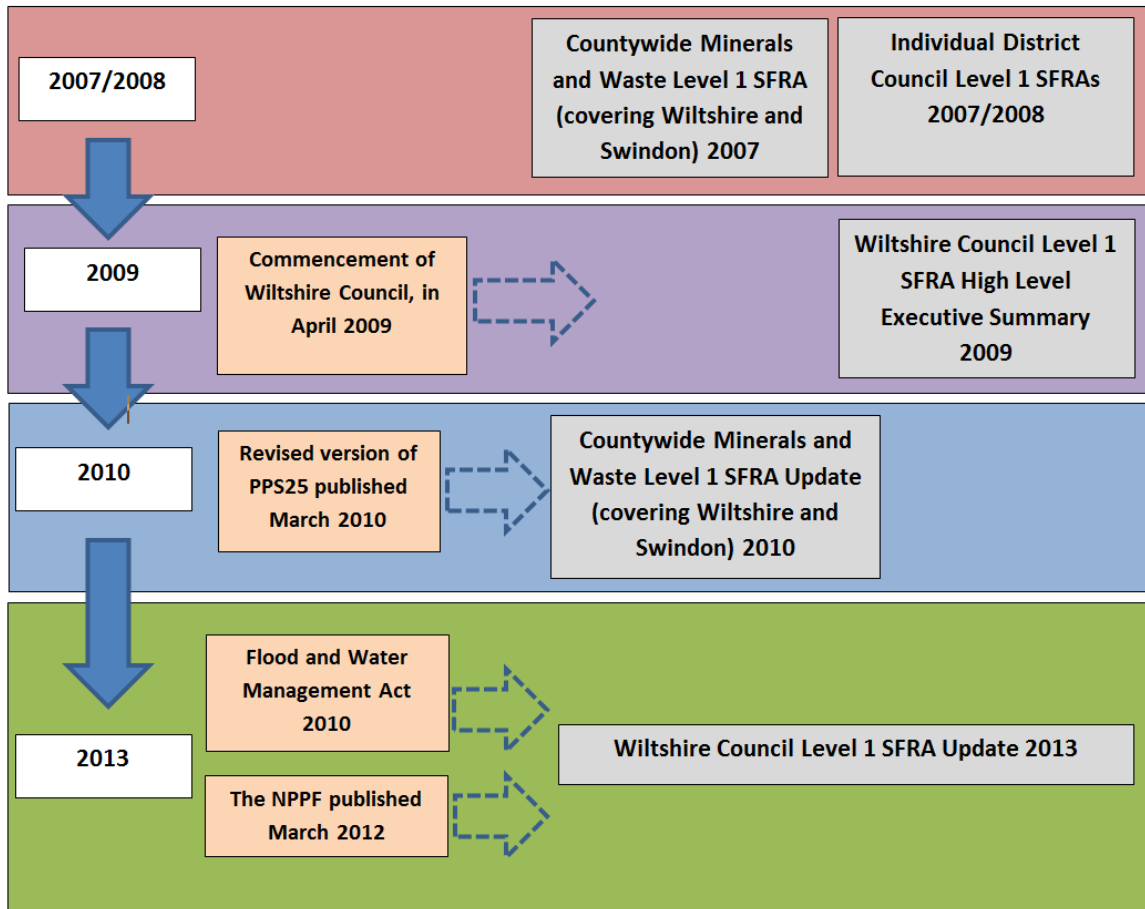


Figure 1-1: Wiltshire Council Level 1 SFRA Document Timeline

1.2 Aim and Objectives

The aim of this report is to provide an update to the existing Level 1 SFRA and is to be achieved through the following objectives:

- Refresh and tie together the scope of the 'Wiltshire SFRA' (i.e. the scope to cover all aspects of advice in relation to the minerals, waste and 'general' planning matters);
- Refresh the SFRA guidance to reflect current legislation / national policy;
- Refresh the guidance in relation to the application of the Sequential Test and Exception Test and the application of Flood Risk Assessments (FRAs);
- Update the position in terms of the relationship between the various tiers of flood risk advice (including Preliminary Flood Risk Assessments (PFRAs); LLFA role; SuDS Approval Body (SAB) functions when enacted);
- Provide a simple guide on Water Framework Directive (WFD) Assessments;
- Refresh the guidance on 'flood zone challenges';

- Provide a clear and simple guide for potential SFRA users (i.e. spatial planning, development management and developers);
- Review the latest flood zone mapping data to update the current SFRA;
- Review the latest data on historic flood incidents (sewer, drainage – link to PFRA, Operational Flood Working Group, Environment Agency and water company data).

To improve accessibility, Table 1-1 provides a quick reference guide indicating where sections of this 2013 SFRA Update, either ‘supersede’, ‘update’, ‘build on’ or provide a new section (or subject matter) to the existing Wiltshire Council SFRA documents.

Table 1-1: Legend

Supersedes	Updates	New Section	‘Builds on’
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TABLE 1-1: SFRA UPDATE QUICK REFERENCE GUIDE	
2013 SFRA Update Report	Update to Previous SFRA
Chapter 2: Legislation and Policy Context	<ul style="list-style-type: none"> • Supersedes Policy Context Chapters of the 2007/2008 District Level SFRA • Supersedes Policy and Guidance Chapter of the 2010 Minerals and Waste Level 1 SFRA Update
Chapter 3: Sequential and Exception Test	<ul style="list-style-type: none"> • Provides NPPF update to Sequential and Exception Test Chapters of the 2007/2008 District Level SFRA • Provides NPPF update to Sequential and Exception Test Chapters of the 2009 High Level Executive Summary SFRA
Chapter 4: Roles and Responsibilities	New section – no update to previous SFRA required
Chapter 5: Flood Zone Challenge Guidance	New section – no update to previous SFRA required
Chapter 6: Water Framework Assessment Guidance	New section – no update to previous SFRA required
Chapter 7: SFRA User Guide	<ul style="list-style-type: none"> • Builds on guidance provided within the Sequential and Exception Test Chapters and the Site Specific Flood Risk Assessment Guidance of the 2007/2008 District Level SFRA • Builds on guidance provided within the Sequential and Exception Test Chapters and the Site Specific Flood Risk Assessment Guidance of the 2009 High Level Executive Summary SFRA
Chapter 8: Data Updates and Review	<ul style="list-style-type: none"> • Builds on Data Collection & Review Chapters and SFRA Mapping Chapters of the 2007/2008 District Level SFRA • Builds on Collation and Review Datasets Chapter of the 2009 High Level Executive Summary SFRA • Builds on GIS Layer Update and Site Profiles Chapter of the 2010 Minerals and Waste Level 1 SFRA Update

2 LEGISLATION AND POLICY CONTEXT

2.1 Introduction

The following sections provide an update of European, national, regional and local policies concerning flood and water management of relevance and importance to Wiltshire Council.

2.2 European

2.2.1 *Water Framework Directive (December 2000)*

The WFD is a substantial piece of EU legislation which came into force on 22nd December 2000, and establishes a new integrated approach to the protection, improvement and sustainable use of Europe's rivers, lakes, estuaries, coastal waters and groundwater. The directive requires that all member states manage their inland and coastal water bodies so that a 'good status' is achieved by 2015 (or 2027 where measures will take longer to implement). This aims to provide substantial long term benefits for sustainable management of water. The Environment Agency is the 'Competent Authority' responsible for implementing the WFD in England and Wales.

The Directive introduces two key changes to the way the water environment must be managed across the European Community:

- **Environmental & Ecological Objectives:** The WFD provides for Protected Areas and Priority Substances to safeguard uses of the water environment from the effects of pollution and dangerous chemicals. In addition, important ecological goals are set out to protect, enhance and restore aquatic ecosystems.
- **River Basin Management Plans:** RBMPs (produced by the Environment Agency) are the key mechanism to ensure that the integrated management of rivers, canals, lakes, reservoirs and groundwater is successful and sustainable. RBMPs aim to provide a framework in which costs and benefits can be properly taken into account when setting environmental and water management objectives.

Each RBMP must apply to a 'River Basin District' (RBD) (a geographical area which is defined based on hydrology – see Annex 1, Defra & WAG (Welsh Assembly Government) River Basin Planning Guidance)². The Wiltshire Council administrative area falls into three main RBDs; the 'South West RBD' covers southern areas of the county (including Salisbury), the 'Severn RBD' covers western areas of the county (including Chippenham and Trowbridge) and the 'Thames RBD' covers northern and eastern areas of the county (including Swindon). Predominantly rural areas in the far south east of the county are located within the 'South East RBD'.

The river basin planning process involves setting environmental objectives for all groundwater and surface water within the RBD, and designing steps and timetables to meet these objectives. According to the Defra and WAG River Basin Planning Guidance, a RBMP should be a strategic plan that gives all stakeholders within a RBD some confidence about future water management in their District. It should also set the policy framework within which future regulatory decisions affecting the water environment will be made.

Although RBMPs specifically address sustainable water management issues, the WFD also requires that other environmental considerations and socio-economic issues are taken into account. This ensures that the policy priorities between different stakeholders are balanced to ensure that sustainable development within RBDs is achieved.

² Defra, WAG (August 2006) River basin Planning Guidance

RBMPs Influencing Spatial Plans

The following sections are extracted from the Defra and WAG River Basin Planning Guidance:

'The river basin planning process should produce the type of strategic, regional policy information which is necessary to feed into the spatial planning processes. These should feed through into local plans and frameworks. Where RBMPs have a direct effect on the use and development of land they will be material considerations in the preparation of statutory development plans for the areas they cover. It will also be necessary for planning authorities to consider WFD objectives at the detailed development control stage (not least to consider the requirements of Article 4(7) of the WFD in relation to new physical modifications).

The Environment Agency should liaise with the Welsh Assembly Government, Government Offices in England, Regional Planning Bodies and local authorities and provide them with the necessary information to enable effective integration of RBMPs with statutory development plans. As the plans will have different planning cycles, they will need to ensure that RBMP policies that affect the development and use of land are considered in the monitoring and review of statutory spatial plans.

In addition, some of the measures necessary to achieve WFD objectives will be delivered through land use planning mechanisms. For example spatial planners can make major contributions to WFD objectives by including appropriate planning conditions and planning obligations in relevant planning permissions for new developments, or by restricting some forms of development. Delivery of these measures is more likely to take place if they are included in Local Development Frameworks/Plans by land use planners'.

In addition Mineral Plans being prepared by individual authorities should include policies and recommendations relating to flood risk management and development within catchments.

2.2.2 *Floods Directive (November 2007)*

The aim of the European Union (EU) Floods Directive is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive required member states to carry out a preliminary assessment by 2011 to identify the river basins and associated coastal areas at risk of flooding.

For such zones, they would then need to produce flood risk maps by 2013 and establish flood risk management plans focused on prevention, protection and preparedness by 2015. The Directive applies to inland and coastal waters across the whole territory of the EU.

It is intended that the Directive shall be carried out in coordination with the WFD, in particular by flood risk management plans and river basin management plans, and through public participation in the preparation of these plans. It is intended that all assessments, maps and plans prepared shall be made available to the public.

The Flood Risk Regulations 2009 transpose the EU Floods Directive 2007 into legislation for England and Wales and are described further in Section 2.3.1.

2.3 National

2.3.1 *Flood Risk Regulations 2009 (December 2009)*

The Flood Risk Regulations 2009³ came into force in December 2009 and transpose the EU Floods Directive into law for England and Wales. The Flood Risk Regulations 2009 require three main types of assessment or plan:

³ HMSO (November 2009) Flood Risk Regulations 2009

- Preliminary Flood Risk Assessments (PFRAs) by 22 December 2011;
- Hazard and risk maps by 22 December 2013;
- Flood risk management plans by 22 December 2015.

Wiltshire Council has prepared a PFRA as part of its responsibilities under the Flood Risk Regulations 2009. Hazard and risk maps and flood risk management plans are only required where 'Flood Risk Areas' are identified. This is discussed further in Section 4.2.

2.3.2 *Flood and Water Management Act (April 2010)*

During July 2007, heavy rainfall resulted in extensive surface water flooding throughout parts of the UK including Gloucestershire, Sheffield and Hull causing considerable damage and disruption. The Pitt Review⁴ examined the flooding and published a range of recommendations for future flood management, most of which have been enacted through the Flood and Water Management Act⁵ (FWMA) which came into force in April 2010.

The FWMA reinforces the need to manage flooding holistically and in a sustainable manner and designates County and Unitary Authority Councils, such as Wiltshire Council, as Lead Local Flood Authorities (LLFA). Wiltshire Council's role and responsibilities as LLFA and the responsibilities of other Risk Management Authorities are discussed in Chapter 4.

2.3.3 *Draft National Standards for Sustainable Drainage Systems (SuDS) – Designing, constructing, operating and maintaining drainage for surface runoff (December 2011)*

Schedule 3 (Sustainable Drainage) of the Flood and Water Management Act 2010 contains new regulations which have implications on the design, approval and adoption of sustainable drainage. The Draft National Standards for SuDS were published for consultation⁶ in December 2011. Further to the consultation, the Government plans to implement the sustainable drainage provisions i.e. publish the National Standards for SuDS and associated guidance with a commencement of the statutory instruments by the end of 2014.

Future developments will have to comply with new measures with a requirement for the submission of a separate drainage application to the LLFA who also act as the SuDS Approval Body (SAB). It is the intention that where SuDS systems serve more than 1 property and are designed to new national standards, the LLFA will adopt the approved drainage system provided that three conditions are met, these are:

- The drainage system is constructed in pursuance of approval;
- The drainage system is constructed and functions in accordance with approval; and
- The drainage system is a sustainable drainage system.

The draft National Standards define SuDS for adoption as those parts of a drainage system that are not vested in a sewage undertaker pursuant to an agreement under section 104 of the Water Industry Act 1991. A developer can therefore request that the SAB adopts drainage systems which serve more than one property and cannot be adopted by the sewage undertaker. It should also be noted that the draft proposal still require the Highways Authorities to adopt drainage associated with publically maintained roads.

⁴ Cabinet Office (2008) The Pitt Review – Learning Lessons from the 2007 Floods

⁵ HMSO (April 2010) Flood and Water Management Act

⁶ The consultation on the *Implementation of the Sustainable Drainage Systems provisions in Schedule 3 – Flood and Water Management Act 2010* closed on 13th March 2012.

The principle strategy for the management of surface water runoff contained within the draft National Standards for SuDS follows existing legislation (such as Building Regulations Part H3)

2.3.4 *National Planning Policy Framework (NPPF)*

The NPPF was published on 27th March 2012 together with accompanying Technical Guidance. The NPPF revokes most of the previous Planning Policy Statements (PPS) and Planning Policy Guidance, including PPS25: Development and Flood Risk. However, NPPF does not revoke the PPS25 Practice Guide.

A review of the NPPF and comparison with the former flood risk policy PPS25 shows that the technical approach to flood risk management and flood risk assessment effectively remains unchanged. Flood risk takes a prominent role within the NPPF.

Section 10 of the NPPF provides national policy for development and flood risk. The overall approach to flood risk is broadly summarised in NPPF Paragraph 103:

'When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test, it can be demonstrated that:

- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and*
- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.'*

The NPPF requires Local Plans to be supported by an SFRA and to develop policies to manage flood risk from all sources of flooding. The advice of the Environment Agency and the local authority's own internal drainage and emergency planning functions should be sought when developing an SFRA.

In developing policies, Local Plans should apply a sequential, risk-based approach to the location of development in order to avoid flood risk to people and property, to manage any residual risk, and to take account of the impacts of climate change.

In general, these requirements will be met by:

- Applying the Sequential Test and where necessary the Exception Test;
- Safeguarding land required for current and future flood risk management;
- Using opportunities offered by new development to reduce flood risk;
- Seeking opportunities to relocate development, including housing, to more sustainable locations where climate change is expected to increase flood risk.

Minerals and Waste Policy

The majority of Minerals Planning Guidance Notes and Minerals Policy Statements were cancelled with the publication of the NPPF. In addition the NPPF indicated that detailed waste policies will form part of the National Waste Management Plan (expected to be published by end of 2013). The following documents remain in force until they are cancelled or replaced:

- PPS10 Planning for Sustainable Waste Management;
- MPG4 Revocation, modification, discontinuance, prohibition and suspension orders;
- MPG8 Planning and Compensation Act 1991 – Interim Development Order Permissions: Statutory Provisions and Procedures;
- Minerals Planning Guidance 9: Planning and Compensation Act 1991 – Interim development order permissions (IDOS): conditions;
- Minerals Planning Guidance 14: Environment Act 1995 - Review of Mineral Planning Permissions;
- National and regional guidelines for aggregates provision in England 2005-2020;
- Letter to Chief Planning Officers: National and regional guidelines for aggregates provision in England - 2005-2020.

To assist Mineral Planning Authorities (MPAs) in their strategic land use planning, SFRA should present sufficient information to enable them to apply the sequential approach where possible to the allocation of sites mineral extraction and processing.

It is acknowledged within the NPPF that minerals have to be extracted and processed where the minerals are located but that the operational workings ‘should not increase flood risk elsewhere and need to be designed, worked and restored accordingly’.

2.4 Local

2.4.1 *Local Development Plan*

Wiltshire Council has inherited the local plans produced by the former individual district councils, prior to Wiltshire becoming a unitary authority.

The saved policies contained within these local plan documents currently form part of the local development plan for Wiltshire, until replaced by policies in new Development Plan Documents (DPDs), particularly the Wiltshire Core Strategy, which is timetabled for adoption late 2013.

Core Strategy policies relevant to flood and water management:

- **Core Policy 67 (Flood Risk)** – *‘Development proposed in Flood Zones 2 and 3 as identified within the SFRA will need to refer to the Strategic Housing Land Availability Assessment when providing evidence to the local planning authority in order to apply the Sequential Test in line with the requirements of national policy and established best practice.*

All new development will include measures to reduce the rate of rainwater run-off and improve rainwater infiltration to soil and ground (sustainable urban drainage) unless site or environmental conditions make these measures unsuitable’.

- **Core Policy 68 (Water Resources)** – *‘Development must not prejudice the delivery of the actions and targets of the relevant River Basin Management Plan, and should contribute towards their delivery where possible. Non-residential development will be required to incorporate water efficiency measures. Developers will be expected to submit details of how water efficiency has been taken into account during the design of proposals’.*

Development proposals within a Source Protection Zone, Safeguard Zone or Water Protection Zone must assess any risk to groundwater resources and demonstrate that

these would be protected throughout the construction and operational phases of development’.

- **Core Policy 69 (Protection of the River Avon SAC)** – *‘In order to avoid and reduce potential environmental effects on the River Avon SAC, development will need to incorporate measures during construction and operation to avoid and prevent pollution and mitigate potential disturbance effects; appropriate schemes of mitigation may include consideration of suitable buffer zones along watercourses, habitat enhancements and river access management measures. All development within 20m of the river banks should submit a Construction Management Plan to the Local Planning Authority to ensure measures proposed during construction are satisfactory.*

Where additional sewage discharges to a STW cannot be accommodated without measures to offset phosphate loading, development will be required to undertake proportionate mitigation measures to demonstrate that the proposals would have no likely significant effects upon the SAC’.

A comprehensive list of current and emerging planning policies, plans and strategies is available on the Wiltshire Council website⁷.

2.4.2 ***Minerals and Waste Plans***

The Wiltshire Council and Swindon Borough Council Minerals Core Strategy (adopted June 2009) and Waste Core Strategy (adopted July 2009) set out the spatial vision, key objectives and overall principles for development covering minerals and waste provision up to 2026.

Mineral Core Strategy policy relevant to flood and water management:

- **MCS 7 (Flooding)** – *‘Development proposals must avoid or mitigate any aspect of the development that could potentially lead to an increase in a likelihood of flooding, and where appropriate provide additional flood storage capacity to increase protection for vulnerable land uses, taking into account the impacts of climate change where an opportunity / need is identified through the SFRA / FRA process’.*

The Core Strategies are supported by individual Minerals and Waste Development Control Policies Development Plan Documents (DPDs) (both adopted September 2009).

The Minerals DPDs provide further policy relevant to flood and water management:

- **MDC3 (Managing the impact on surface water and groundwater resources)** – *‘Proposals for minerals development will only be permitted where it can be demonstrated that appropriate controls will be made available to protect and, where appropriate, enhance the water environment. This includes making provisions to ensure the protection and maintenance of:*
 - *The quality of groundwater, water courses and other surface water; and*
 - *The volume / levels of groundwater, water courses and other surface water*

Flood Risk Assessments (FRA) will be required for minerals development proposals in areas at risk of flooding or likely to contribute to flooding elsewhere, as appropriate to the nature and scale of the development, and must take into account cumulative effects with other existing or proposed development. Where a risk of flooding is

⁷ Wiltshire Council Planning Policy webpage (accessed 23rd May 2013)
<http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy.htm>

identified through FRA, proposals must include measures to ensure the avoidance of and / or mitigation of that risk.

Where appropriate, development proposals will also be required to include provisions for the efficient use of water resources on site and the use of Sustainable Drainage Systems (SUDS)'.

The Waste DPDs provide further policy relevant to flood and water management:

- **WDC3 (Water Environment)** – *'Proposals for waste management development will be permitted where it can be demonstrated that provision has been made to protect and where appropriate, enhance the local water environment, including the protection of groundwater resources, watercourses and other surface water bodies in terms of both quality and quantity, and the avoidance of flood risk.*

FRA's will be required for waste management development proposals in areas at risk of flooding or likely to cause flooding elsewhere – appropriate to the nature and scale of the development. Proposals will also be required to include appropriate provisions for the efficient use of water resources on site'.

3 SEQUENTIAL AND EXCEPTION TESTS

3.1 Overview

The NPPF states that Local Plans should be supported by an SFRA, and that LPAs should use SFRA's to steer development towards low flood vulnerability areas by applying the Sequential Test and where necessary the Exception Test.

The NPPF and its Technical Guidance document retain key elements of PPS25 in relation to the application of the Sequential Test, but makes slight amendments to the Exception Test, by removing the requirement to pass 'part b' of the test, referring to previously developed land.

The sections below provide an overview of the Sequential Test and Exception Test as detailed within the NPPF. It has been highlighted within the text where elements of this decision-making tool differ from those previously published in PPS25.

3.2 Sequential Test

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. The flood zones remain the starting point for this sequential approach. These are set out in Table 1 of the NPPF Technical Guidance (reproduced in Table 3-1 of this report). **The flood zone definitions, appropriate types of development, FRA requirements and policy aims for each flood zone remain the same as those previously stated in PPS25.**

Flood Zone 2 and Flood Zone 3 are shown on the Environment Agency Flood Map⁸ with Flood Zone 1 being all the land falling outside Flood Zones 2 and 3. These flood zones refer to the probability of sea and river flooding, ignoring the presence of existing defences.

TABLE 3-1: NPPF FLOOD ZONE DEFINITIONS FOR TIDAL AND RIVER FLOODING (FROM NPPF TECHNICAL GUIDE, TABLE 1)

Flood Zone	Definition
Flood Zone 1	Low probability – Defined as zone where there is a less than 0.1% (1 in 1000 year) annual probability of flooding in any year.
Flood Zone 2	Medium probability – Defined as having between 0.1% and 1% (between 1 in 1000 and 1 in 100 year) annual probability of fluvial flooding in any year and between 0.1% and 0.5% (between 1 in 1000 and 1 in 200 year) annual probability of tidal flooding in any year.
Flood Zone 3a	High probability – Defined as having a 1% (1 in 100 year) annual probability of fluvial flooding in any year and/or a 0.5% (1 in 200 year) annual probability of tidal flooding in any year.
Flood Zone 3b	Functional floodplain – Defined as land where water has to flow or be stored in times of flood. Defined as the 5% (1 in 20 year) annual probability floodplain or an area designed to flood in an extreme (0.1%) flood, or another probability agreed between the LPA and the Environment Agency. (The Environment Agency do not currently produce Flood Zone 3b mapping for England and Wales).

(Note: 1. These flood zones refer to the probability of river and sea flooding, ignoring the presence of defences. 2. The NPPF and its Technical Guidance do not provide Flood Zone definitions for groundwater, sewer, surface water or artificial sources of flooding).

⁸ Available on Environment Agency website at: <http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx>

The aim of the Sequential Test, set out in the NPPF, is to steer new development to the areas with lowest probability of flooding (i.e. Flood Zone 1). Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding.

The Sequential Test can be applied at all levels and scales of the planning process, both between and within flood zones. All opportunities to locate new developments in reasonably available areas of little or no flood risk should be explored, prior to any decision to locate them in areas of higher risk.

Where there are no reasonably available sites in Flood Zone 1, the flood risk vulnerability (see Table 3-2) of the proposed development should be taken into account in locating development in Flood Zone 2, applying the Exception Test if required (see Table 3-3) and then Flood Zone 3 (applying the Exception Test if required (see Table 3-3)).

The NPPF makes it clear that the Level 1 SFRA documents prepared by Wiltshire Council will continue to provide the basis for applying the Sequential Test. SFRAs will continue to refine the probability of flooding (e.g. delineation of Flood Zone 3a and Flood Zone 3b) and take into account other sources of flooding and the impacts of climate change.

Within each flood zone new development should be directed to sites with lower flood risk (towards the adjacent zone of lower probability of flooding) from all sources as indicated by the SFRA. Other sources of flooding (not considered within the flood zones), which require consideration when considering the location of new development allocations include:

- Flooding from the surface water;
- Flooding from groundwater;
- Flooding from sewers; and,
- Flooding from artificial sources.

TABLE 3-2: NPPF FLOOD RISK VULNERABILITY CLASSIFICATION (FROM NPPF TECHNICAL GUIDE, TABLE 2)

Vulnerability	Development Type
Essential Infrastructure	<ul style="list-style-type: none"> • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for 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. • Wind turbines.
Highly Vulnerable	<ul style="list-style-type: none"> • Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent. (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”).
More Vulnerable	<ul style="list-style-type: none"> • Hospitals. • Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non–residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable	<ul style="list-style-type: none"> • Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops, financial, professional and other services, restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non–residential institutions not included in “more vulnerable”, and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities).

	<ul style="list-style-type: none"> • Minerals working and processing (except for sand and gravel working). • Water treatment works which do not need to remain operational during times of flood. • Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place).
Water Compatible Development	<ul style="list-style-type: none"> • Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Sand and gravel working. • Docks, marinas and wharves. • Navigation facilities. • Ministry of Defence defence installations. • Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. • Water-based recreation (excluding sleeping accommodation). • Lifeguard and coastguard stations. • Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

TABLE 3-3: NPPF FLOOD RISK VULNERABILITY AND FLOOD ZONE ‘COMPATIBILITY’ (FROM NPPF TECHNICAL GUIDE, TABLE 3)

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	✓	Exception Test Required	✓	✓
Flood Zone 3a	Exception Test Required	✓	x	Exception Test Required	✓
Flood Zone 3b	Exception Test Required	✓	x	x	x

3.3 Exception Test

The NPPF states that following the application of the Sequential Test, if it is not possible for the development to be located in zones with a lower probability of flooding, the Exception Test should be applied. It should only be applied if appropriate to the type of development and flood zone (see Table 3-3) and if consistent with wider sustainability objectives.

In PPS25 there were three elements to the Exception Test, the NPPF has refined this to two elements, which both need to be passed for development to be allocated or permitted:

- *it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and*
- *a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*

It will be necessary to increase the scope of the SFRA to provide the information necessary for application of the Exception Test. The increased scope of the SFRA should consider the risk posed to the site based on the following aspects of flood risk management and mapping to allow a more detailed comparison of sites located within the same flood zones:

- Flood risk management measures;
- The rate of flooding;
- Flood water depth; or,
- Flood water velocity.

Where the development type is highly vulnerable, more vulnerable, less vulnerable or essential infrastructure and a site is found to be impacted by a recurrent flood source (other than tidal or fluvial), the site and flood sources should be investigated further as part of an SFRA or site specific FRA, regardless of any requirement for the Exception Test.

3.4 Site Specific Flood Risk Assessment

The requirement to undertake a site specific FRA to support applications for development proposed in flood risk areas or where proposed development may increase flood risk to third parties still applies under the NPPF.

The NPPF states that site-specific FRAs are required to accompany planning applications for sites:

- within Flood Zones 2 or 3;
- or where the site lies within Flood Zone 1 and is greater than 1 hectare in area,
- or is in an area in Flood Zone 1 which has critical drainage problems (as notified to the LPA by the Environment Agency).

The NPPF states that site-specific FRAs should be carried out to the appropriate degree, at all levels of the planning process and to inform the application of the sequential approach. They should assess the risks of all forms of flooding to and from development, taking climate change into account.

It is the responsibility of applicants to consider the flood risk to a site, as early as possible. Applicants should refer to the SFRA at the start of the pre-application stage, or if this is not carried out, at the earliest stage in the preparation of development proposals and a planning application.

The preparation of the Wiltshire Council SFRA documents does not remove the need for site-specific FRAs to be undertaken to support planning applications. A site-specific FRA will need to demonstrate that flood risk to the development can be managed now and over the lifetime of the development for all sources of flooding. It should show that the development is safe.

A site-specific FRA should demonstrate also that the development does not increase the risk of flooding to third parties from all sources and that the proposals are compliant with local planning policy. Where possible the development should aim to reduce flood risk overall, and the site-specific FRA should demonstrate this where it is the case.

The Environment Agency website⁹ provides 'standing advice' on flood risk. Applicants for planning permission will find this advice helpful when preparing a site-specific FRA. The Agency also provides standing advice to enable LPAs to clearly identify the type of planning applications on which they should consult the Environment Agency.

⁹ Available online: <http://www.environment-agency.gov.uk/research/planning/82584.aspx>

4 ROLES AND RESPONSIBILITIES

4.1 Overview

The FWMA designates Wiltshire Council as the LLFA for areas located within the Wiltshire Council administrative area.

The LLFA has the 'lead' role in managing flood risk from surface water, groundwater and ordinary watercourses within their area. This involves close working with partners involved in flood and water management, known as Risk Management Authorities.

The Environment Agency has a strategic overview of all sources of flooding and coastal erosion in England. The Environment Agency is responsible for flood and coastal erosion risk management activities on main rivers and the coast, regulating reservoir safety, and working in partnership with the Met Office to provide flood forecasts and warnings.

The following sub-sections provide a summary of Wiltshire Council's main responsibilities required by the various levels of flood risk legislation and policy. The main responsibilities of the other main Risk Management Authorities (i.e. Environment Agency and Water and Sewage Companies) are also provided.

4.2 Flood Risk Regulations 2009

The PFRA has been prepared by Wiltshire Council as part of its requirements under the Flood Risk Regulations 2009 and is publically available via the Wiltshire Council website¹⁰.

The PFRA provides a high level view of flood risk from local sources which include groundwater, surface water, ordinary watercourses and canals. Wiltshire Council submitted their PFRA to the Environment Agency in June 2011.

Based on Environment Agency and Defra guidance ten indicative 'Flood Risk Areas' have been identified nationally. The regulations require two subsequent key stages within an identified 'Flood Risk Area', which are to prepare flood risk hazard maps and flood risk maps, and then to prepare flood risk management plans.

Wiltshire has no significant 'Flood Risk Areas' as defined in accordance with the regulations and published guidance, and therefore the subsequent stages will not be required.

4.3 Flood and Water Management Act 2010

4.3.1 *Wiltshire Council*

The council's implementation of the FWMA is subject to a commencement timetable, which currently runs to 2015. The LLFAs main duties and powers include:

- Cooperate with other 'risk management authorities', which includes the Environment Agency and water companies (i.e. Wessex Water and Thames Water);
- Fulfilling the requirements of the EU Flood Directive, (transposed into legislation by the Flood Risk Regulations (2009)) by completing a PFRA;
- Preparing Surface Water Management Plans (SWMPs) in areas of greatest risk to develop and coordinate a strategic approach to managing surface water drainage and flood risk;

¹⁰ Available online: <http://cms.wiltshire.gov.uk/documents/s17582/Flood%20Risk%20Assessment%20-%20Appendix%201.pdf>

- Develop, maintain and monitor a local flood risk management strategy for their area. This will be guided by the Environment Agency's National Flood and Coastal Erosion Risk Management (FCERM) strategy;
- Powers to undertake works to manage flood risk from surface runoff and groundwater, consistent with the local flood risk management strategy for the area;
- A duty to maintain an asset register of structures or features which are considered to have a significant effect on flood risk, including details on ownership and condition;
- A duty to investigate significant flood events within their area, notifying relevant risk management authorities where necessary and publishing the results of investigations;
- Issue of flood defence consents on ordinary watercourses. This responsibility transferred from the Environment Agency to the LLFA in April 2012;
- Act as the SuDS Approval Body (SAB). The Council will need to review and approve drainage plans and strategies for new developments before construction can start. This requirement is expected to be introduced in April 2014;
- Powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it.

Local Flood Risk Management Strategy

Wiltshire Council is required to develop, maintain, apply and monitor a local flood risk management strategy. This strategy will build upon information such as national risk assessments and will use consistent risk based approaches across different catchments.

The FWMA notes that it should be a strategy covering:

- An assessment of local flood risk;
- Objectives and measures for managing flood risk;
- How and when measures will be implemented;
- The cost of the measures, and how they will be paid for;

The council must consult Risk Management Authorities and the public about its strategy.

Register of local structures

As LLFA, Wiltshire Council is required to establish and maintain a register of structures and features, which are considered to have a significant impact on flood risk in its area.

This could include structures as small as a wall or underground rainwater storage tank. This register will take the form of a live database, and new structures/ features will be added as information becomes available.

Investigating floods

On becoming aware of a flood in its area, a LLFA must, to the extent that it considers necessary or appropriate, investigate which risk management authorities have relevant flood risk management functions and whether the risk management authority has exercised, or is proposing to exercise, those functions in response to the flood.

The authority which carries out an investigation must publish the results of its investigation and notify any relevant risk management authorities.

Sustainable Drainage Approving Body

As the LLFA, Wiltshire Council will be the designated SAB responsible for review and approval of drainage plans and strategies for developments sites before construction can start. All new surface water drainage systems serving more than one property would be 'adopted' by the SAB as a public asset.

This requirement is expected to be introduced in April 2014 for new development and will be completely separate from the requirement to gain planning permission.

Ordinary watercourse consents

The responsibility for issuing and enforcing flood defence consents on ordinary watercourses, under sections 23 and 24 of the Land Drainage Act 1991, has been transferred from the Environment Agency to Wiltshire Council as the LLFA.

This covers works (including temporary works) that affect water flow within the channel of an ordinary watercourse. The Flood and Water Management Act 2010 also amended the Land Drainage Act 1991 so that all culverts now require consent before the work is carried out.

Figure 4-1 provides a guide to consentable activities on ordinary watercourse.

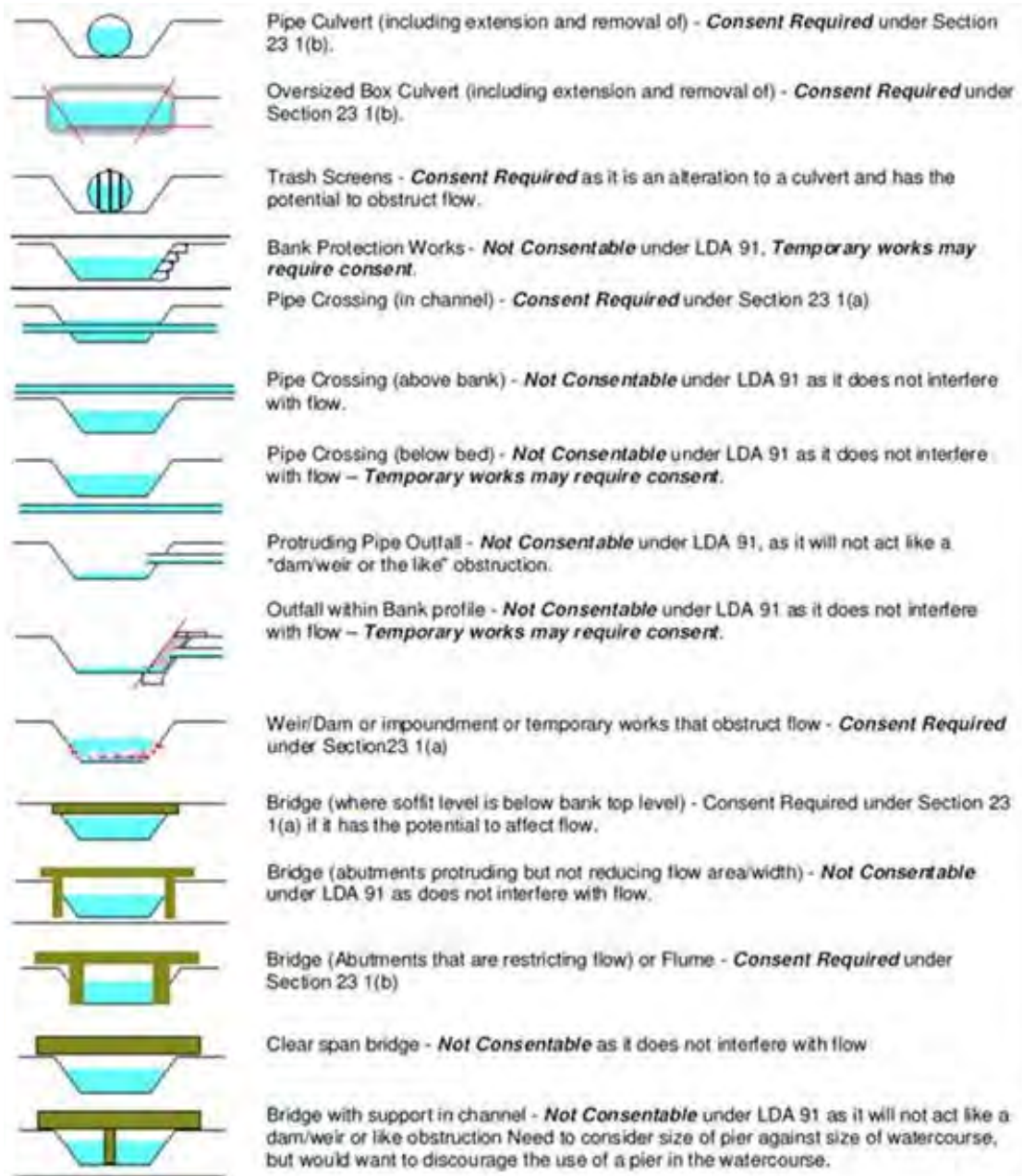


Figure 4-1: Cross Sections of Consentable Activities¹¹

Note: LDA 91' refers to the Land Drainage 1991 and 'Section 23' refers to Schedule 2 of the Flood and Water Management Act 2010, which amends Section 23 of the Land Drainage Act 1991.

¹¹ Extract from Environment Agency Appendix to Advice Note on Ordinary Watercourse Regulation, February 2012

4.3.2 *Environment Agency*

The Environment Agency has a strategic overview of all sources of flooding and coastal erosion in England (as defined in the Flood and Water Management Act 2010).

The Environment Agency is also responsible for flood and coastal erosion risk management activities on main rivers and the coast, regulating reservoir safety, and working in partnership with the Met Office to provide flood forecasts and warnings.

National Flood and Coastal Erosion Risk Management (FCERM) Strategy

In accordance with the FWMA the Environment Agency has developed a National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in England¹². This strategy provides a framework for all flood and coastal erosion risk management authorities, such as Wiltshire Council.

The National FCERM Strategy sets out the long-term objectives for managing flood and coastal erosion risks and the measures proposed to achieve them. It sets the context for, and informs the production of, local flood risk management strategies by LLFAs, which will in turn provide the framework to deliver local improvements needed to help communities manage local flood risk. It also aims to encourage more effective risk management by enabling people, communities, business and the public sector to work together to:

- Establish aims and principles for others to be consistent with;
- Ensure a clear understanding of the risks of flooding and coastal erosion, nationally and locally, so that investment in risk management can be prioritised more effectively;
- Set out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the remaining risks;
- Encourage innovative management of risks taking account of the needs of communities and the environment;
- Ensure that emergency responses to flood incidents are effective and that communities are able to respond properly to flood warnings; and,
- Ensure informed decisions are made on land use planning.

4.3.3 *Wessex Water / Thames Water / Southern Water*

Water and sewage companies are responsible for managing the risk of flooding from their water supply and sewage infrastructure. Their main roles are outlined below:

- Ensuring their systems have the appropriate level of resilience to flooding, and maintain essential services during emergencies;
- Provide advice to LLFAs on how the water and sewage infrastructure may impact on local flood risk;
- Liaison with developers, landowners and LLFAs to understand and manage risks (e.g. manage the amount of rainfall that enters sewage systems);

¹² Defra, Environment Agency (2011) The National Flood and Coastal Erosion Risk Management Strategy for England.

- Liaison with the risk management authorities to coordinate the management of water supply and sewage systems with other flood risk management work.
- Have regard to FCERM plans in their own plans and work.

Where there is frequent and severe sewer flooding, (sites included on the DG5 Register) sewage undertakers are required to address this through their capital investment plans.

4.4 Spatial Planning

Wiltshire Council completed Phase I (Preparation) and Phase II (Risk Assessment) of their Surface Water Management Plan (SWMP) in 2011 and is publicly available via the Wiltshire Council website¹³.

The SWMP is a strategy document and forms part of the planning policy evidence base. LLFAs are also required to prepare SWMP as part of their responsibilities to help coordinate a strategic approach to managing surface water drainage and flood risk.

The Phase II element of the SWMP focused on the settlements of Chippenham, Trowbridge and Salisbury and identifies 'Potential Problem Areas' within each settlement that are likely to be at greater risk of surface water flooding.

Wiltshire Council has also undertaken the Phase III (Options) element of the SWMP, which was finalised in May 2013. The Phase III (Options) report has prioritised 'Potential Problem Areas' within each settlement using outputs from Phase II, additional data analysis and community liaison. For priority 'Potential Problem Areas' a number of mitigation measures/options were identified at both the local and wider settlement level.

¹³ Available online:

<http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy/planningpolicyevidencebase/planningpolicysurfacewatermanagementplan.htm>

5 FLOOD ZONE CHALLENGE GUIDANCE

5.1 Introduction

In some areas developers or private individuals may believe that a particular location or development site is not at risk of flooding or that the flood zone designation does not reflect the risk posed to the land. Under these circumstances the flood zone designation may be challenged.

The challenge may be based on detailed studies undertaken for the site, or personal knowledge/observations of the area and/or anecdotal evidence from a third party.

To ensure a standard procedure is followed when flood zone challenges occur Wiltshire Council has developed a methodology to provide clear step by step guidance for both the challenger and Wiltshire Council staff involved in the flood zone challenge process.

There are two main types of SFRA flood zone challenge:

- **SFRA Flood Map Outline Challenge** – This is a challenge to the flood outline of Flood Zone 2 and 3. As these are effectively Flood Map challenges, the primary lead is the Environment Agency in conjunction with the LPA SFRA Project Manager;
- **SFRA Flood Zone Challenge** – This is a challenge to the Flood Zone 3a/3b category extent but NOT the outlines of the overall Flood Zone 3 or Flood Zone 2. The primary lead is the LPA SFRA Project Manager in conjunction with EA. Initial consideration should be given to whether the Flood Zone 3b extents are in accordance with PPS25 Practice Guide (Para 4.87-4.95, p.104-105);

For both types of challenges the onus is on the challenger to provide the necessary evidence to support their challenge.

5.2 Challenge Process

The flood zone challenge process is principally for the Level 1 SFRA as Level 2 SFRA outputs are defined by detailed hydrological/hydraulic studies that will be less prone to challenge. In the event of a challenger querying Level 2 SFRA map outputs Wiltshire Council will consult with the Environment Agency on the nature of the challenge.

It is important to note that all SFRA challenges should be submitted and approved by both Wiltshire Council and the Environment Agency prior to the application of the NPPF Sequential Test. As it can take time to update the SFRA maps the challenger must provide a revised map showing the approved flood map or flood zone.

The flood zone challenge process for both the SFRA Flood Map Outline Challenge and the SFRA Flood Zone Challenge are outline in Table 5-1 and Figure 5-1.

TABLE 5-1: FLOOD ZONE CHALLENGE PROCESS

	SFRA Flood Map Outline Challenge	SFRA Flood Zone Challenge
1	The challenger is recommended to contact the relevant Environment Agency Mapping officer and initiate the National Flood Map Change protocol. The challenger will be required to provide evidence to support their challenge. This may be based on hydrological and hydraulic modelling, which has been approved by the Environment Agency.	The challenger is recommended to contact the SFRA Project Manager with all technical evidence to demonstrate that a viable challenge to the flood zone delineation is feasible.
2	The LPA is not actively involved in this technical part of the process but will be informed of the outcome of the technical audit by the Environment Agency.	The challenger must demonstrate that the Flood Zone 3 is either 3a or 3b by referring to the functional floodplain definitions stated in PPS25 (Annex D Table D1) and Practice Guide 4.87-4.95.
3	If accepted, this will be included in the next quarterly Environment Agency Flood Map update and returned to the LPA in the usual CD format. This should then be fed back into the SFRA flood map as part of the annual monitoring update, or at the earliest opportunity.	The LPA consults the Environment Agency case officer on the adequacy of the technical information to ensure that the challenge is sound.
4	If rejected the Environment Agency Flood Map and LPA SFRA map will remain as they currently stand.	If accepted by Environment Agency/LPA, the revised map will be included in annual monitoring update of the SFRA maps by the LPA, or at the earliest convenience. If rejected by Environment Agency/LPA, the SFRA map will remain as it currently stands.
5	The NPPF Sequential Test should follow the outcome of the challenge. Where a challenge is in progress the LPA is advised to withhold the determination of the planning application if possible otherwise refuse planning permission.	The NPPF Sequential Test should follow the outcome of the challenge. Where a challenge is in progress the LPA is advised to withhold the determination of the application if possible otherwise refuse planning permission.

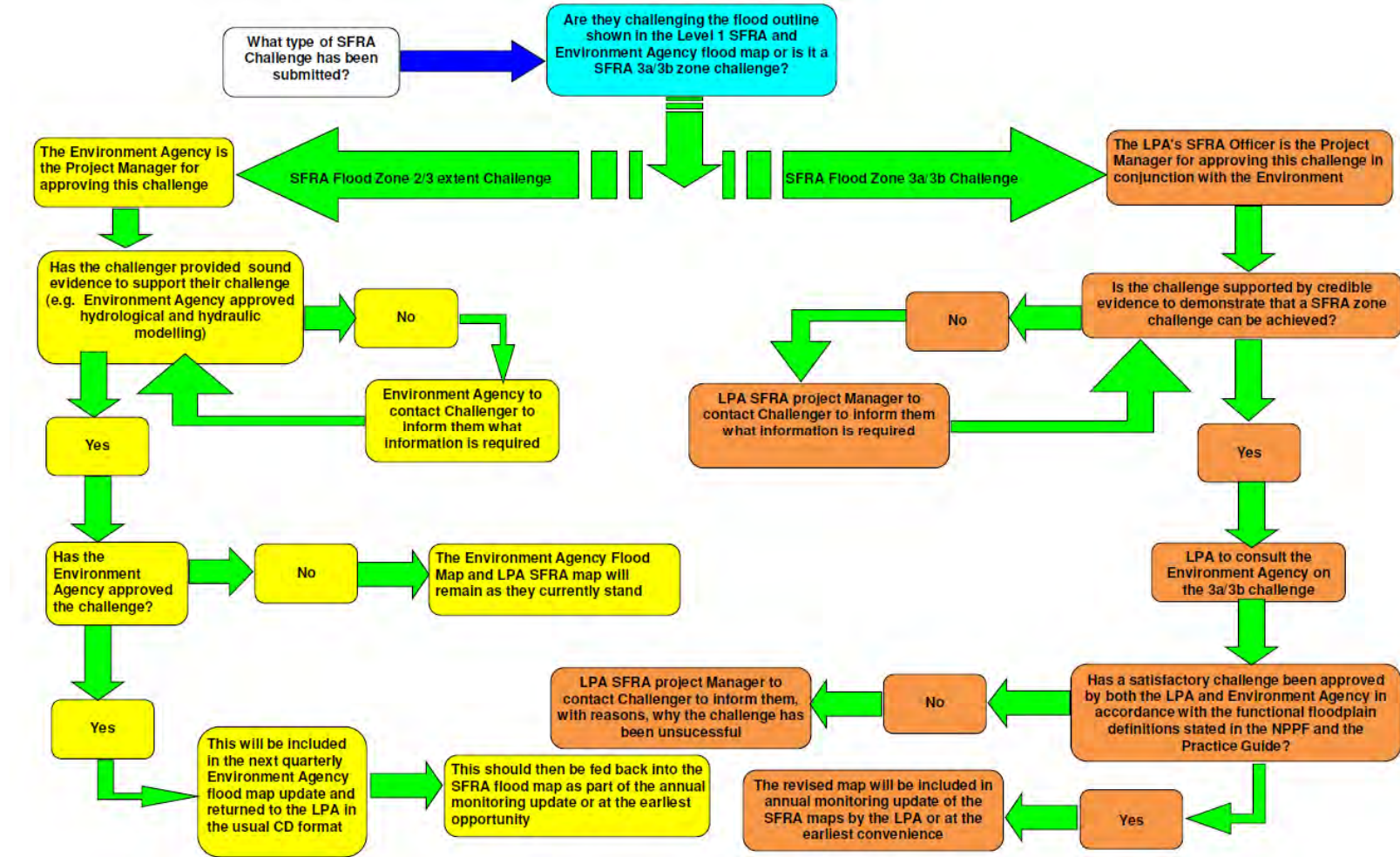


Figure 5-1: SFRA Flood Map and Flood Zone Challenge Flow Chart

5.3 Environment Agency Flood Map Updates

The Environment Agency undertakes quarterly updates of the Flood Map. These updates are a result of new mapping projects and developer challenges.

To ensure Wiltshire Council is aware of any Flood Map updates the Environment Agency will inform the Council's SFRA Project Manager and accurately state where changes to the Flood Map have occurred within their administrative area. This will be supported by an extract of the revised Flood Map with the relevant GIS layers.

The SFRA should be reviewed as part of the Wiltshire Council Annual Monitoring Regime (AMR). Actual Flood Map changes can be made 'live' as they happen if the LPA chooses to do so, or collated and changed 'in bulk' as part of the AMR process.

6 WATER FRAMEWORK ASSESSMENT GUIDANCE

6.1 Overview

The WFD is a European Union Directive (2000/60/EU) that sets out a legislative framework for the analysis, planning and management of water resources and the protection of aquatic ecosystems. EU member states are required to classify the current 'status' (or potential) of waterbodies and set a series of objectives for maintaining or improving waterbodies so that they maintain or reach 'good status' or 'good potential'.

Wiltshire Council is responsible for consenting activities associated with works on and development in the vicinity of "ordinary watercourses" within their administrative area. An ordinary watercourse is defined as a watercourse which does not form part of a "main river". A main river is a statutory type of watercourse, as shown on the Environment Agency Flood Map¹⁴.

Ordinary watercourses include rivers, streams, canals, ditches, drains, cuts, culverts, dikes, sluices, sewers and other passages through which water flow but may not hold water all the time. Developers proposing activities that could affect ordinary watercourses in Wiltshire therefore need to contact Wiltshire Council for advice early on in the planning process.

In line with the European Directive, consented schemes that do not uphold the objectives of the WFD can be reported to the European Union. LPAs can ultimately be fined for issuing consents for schemes that cause waterbodies to deteriorate or prevent the objectives of the WFD from being met.

To ensure that the principles of the WFD are upheld, a WFD Assessment is required for any planned development or activity that could have a detrimental effect on a waterbody. A WFD Assessment is required to form part of a planning application in the same way as a FRA and other standard planning support documents.

6.2 Ecological Status or Potential

Waters must achieve good ecological and chemical status, to protect human health, water supply, natural ecosystems and biodiversity. The status and objectives of waters are defined according to inter-linked biological, chemical and physical (morphological) parameters. Waterbodies should be protected or improved to **good ecological status (GES)** or better.

Ecological Status is defined by the biological condition or health of a watercourse, in combination with water quality and physical conditions that underpin biological conditions. The classification of ecological status considers the abundance of aquatic flora and fauna, physical habitat availability (hydromorphology), and water quality factors such as the availability of nutrients, salinity, temperature and pollution by chemical pollutants.

The WFD recognises that some waterbodies have been physically altered, for example for navigation or flood defence, and allows for these water bodies to be designated as Heavily Modified Water Bodies (HMWB) or Artificial Water Bodies (AWB). These waterbodies are required to achieve good 'potential' rather than good 'status'. Ecological potential means that the waterbody is managed according to the ecology and biodiversity that can realistically be achieved given the need to maintain the modified condition for which the waterbody is used.

6.3 WFD Objectives

The Environment Agency is the competent authority for implementing the WFD in England and has reported waterbody status and objectives via a series of River Basin Management Plans (RBMPs). As part of its role, the Environment Agency must consider whether proposals for

¹⁴ Available online: <http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx>

new development have the potential to affect the objectives of the WFD in protecting the water environment as set out in the RBMPs. These four key specific objectives of the WFD are:

- WFD objective 1: Prevent deterioration of the status of all bodies of surface water and groundwater;
- WFD objective 2: Protect, enhance and restore all bodies of surface water and groundwater, with the aim of achieving good status by 2015 (or 2027 where measures will take longer to implement);
- WFD objective 3: Protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential (GEP) and good chemical status of all water bodies by 2015 (or 2027 where measures will take longer to implement);
- WFD objective 4: Reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances.

Planning for any new development that has the potential to impact waterbodies should therefore ensure that proposals are assessed for compliance against WFD objectives. The Environment Agency is a statutory consultee on the WFD, and can mandate that WFD Assessments are undertaken for any development activities that could potentially affect waterbodies.

Wiltshire Council have a duty to “have regard to” the RBMPs, and to assist the Environment Agency in the delivery of WFD objectives. In turn, Wiltshire Council would need developers to undertake WFD Assessments as part of planning applications, in the same way as flood risk assessments and other statutory planning documents.

Ultimately, it is up to the company, public body, individual, or group of individuals that is proposing development activities that could affect waterbodies to undertake appropriate assessment and mitigation of activities in line with the WFD. Wiltshire Council therefore have a duty of care to advise developers and riparian landowners of their responsibilities.

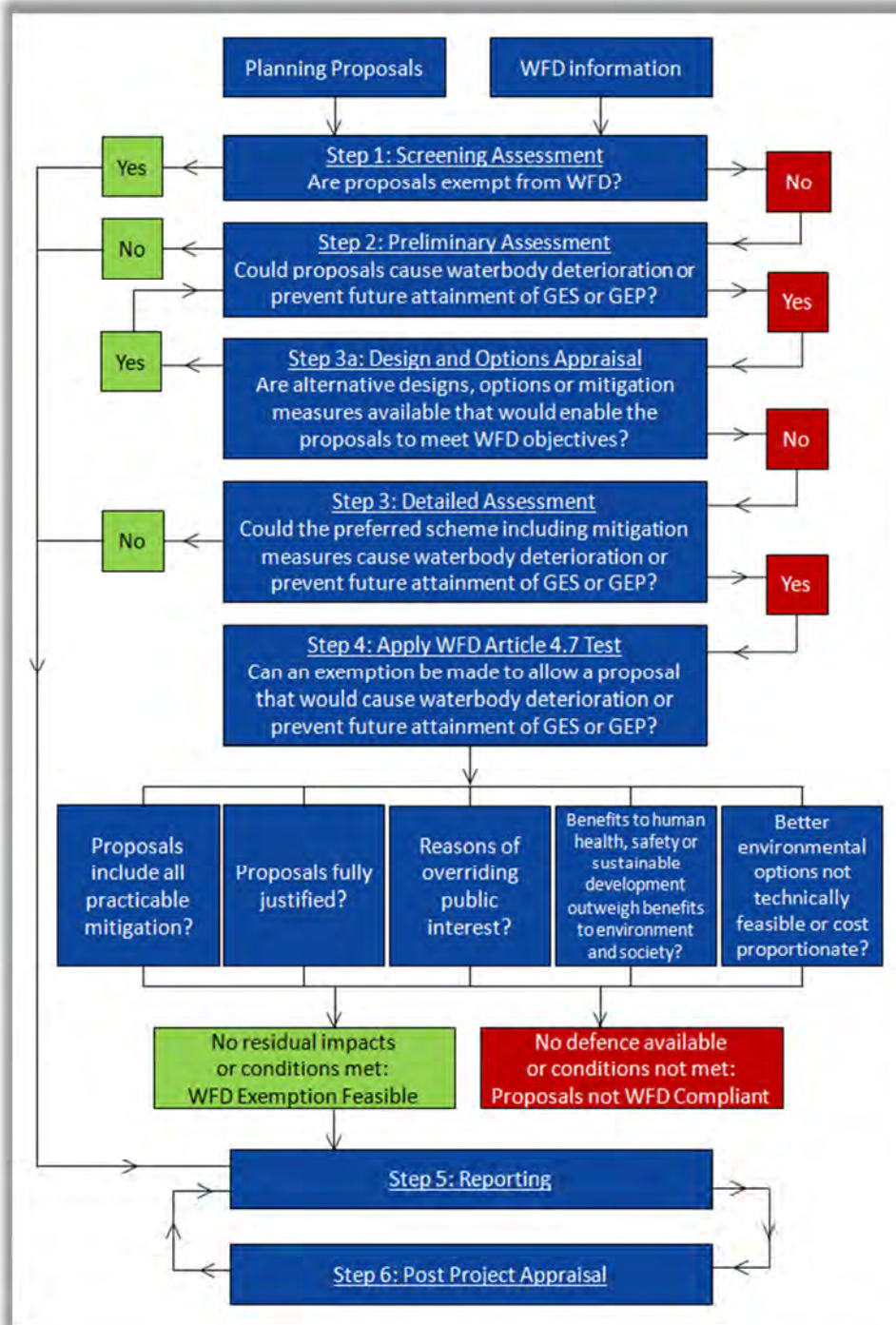
6.4 WFD Assessment Process

There is currently no published guidance on the undertaking of a WFD Assessment; however, the following provides a three stage process as an outline:

- A **screening phase** is used to consider all possible WFD-related impacts of all proposed activities in order to determine whether a WFD Assessment is required;
- A **preliminary assessment**, if required, is used to determine the waterbodies that could be affected, gather WFD-related information about the waterbodies and determine which supporting elements of WFD status or potential could be affected;
- A **detailed assessment**, if required, is used to analyse how project elements that cannot be screened out as not having an impact on WFD objectives would affect waterbodies, appraise other designs and options that could uphold the objectives of the WFD, and if necessary, analyse mitigation measures to compensate for impacts of the proposed activities.

A WFD Assessment needs to adequately demonstrate that all obligations of the WFD will be met for any proposed scheme that could affect the water environment. Specialist information and experienced judgement may be required to undertake a WFD Assessment comprehensively and to provide timely support to planning applications.

Where personal or in-house expertise do not include assessments of waterbody biological, chemical and physical conditions, it may be necessary to consult ecologists, water quality specialists and hydromorphologists / geomorphologists who are qualified to provide guidance, undertake surveys, and advise on design options and mitigation measures that could compensate for any potential negative impacts on the water environment associated with proposed developments.



6.5 Mitigation Measures

It is acknowledged in the WFD that historic development has affected the present day water environment, and that sustainable development needs to continue in the future. This does not mean that development cannot be allowed because of the WFD. However, all practicable steps must be taken to implement mitigation measures for historic and future impacts on the water environment.

Mitigation measures need to be tailored to specific schemes, so detailed guidance on how to identify and implement specific measures cannot be provided here. Specialist advice may be needed from an early stage of planning to ensure that the impacts of proposed activities can be prohibited or minimised through design and options appraisal, or failing that, by provision of compensatory measures within affected waterbodies, so that proposed schemes will ensure that the overall status of waterbodies does not deteriorate, or are not prevented from reaching good ecological potential.

It is emphasised that mitigation of impacts is less preferable than prevention, and a wide range of mitigation or compensation options should be assessed for any proposed development. These should include the use of development opportunities to implement cost effective measures to enhance the local environment. This would greatly enhance development proposals and the likely success of planning applications.

A wide range of guidance is available from many different sources, but a good starting point for planning mitigation measures is the Environment Agency online Mitigation Measures Manual¹⁵. The manual is intended to:

- Introduce mitigation measures for a wide range of flood risk management and land drainage activities.
- Give detailed information on the different measures.
- Explain how to apply mitigation measures in practical solutions.

¹⁵ Available online: <http://evidence.environment-agency.gov.uk/FCERM/en/SC060065.aspx>

7 SFRA USER GUIDE

7.1 Guidance for Spatial Planners

Figure 7-1 provides a simple SFRA user guide for Spatial Planning. Spatial Planners should also refer to the Sequential and Exception Test guidance provided in Chapter 3 of this SFRA update report, together with the information provided within the previous SFRA documents available on the Wiltshire Council website¹⁶.

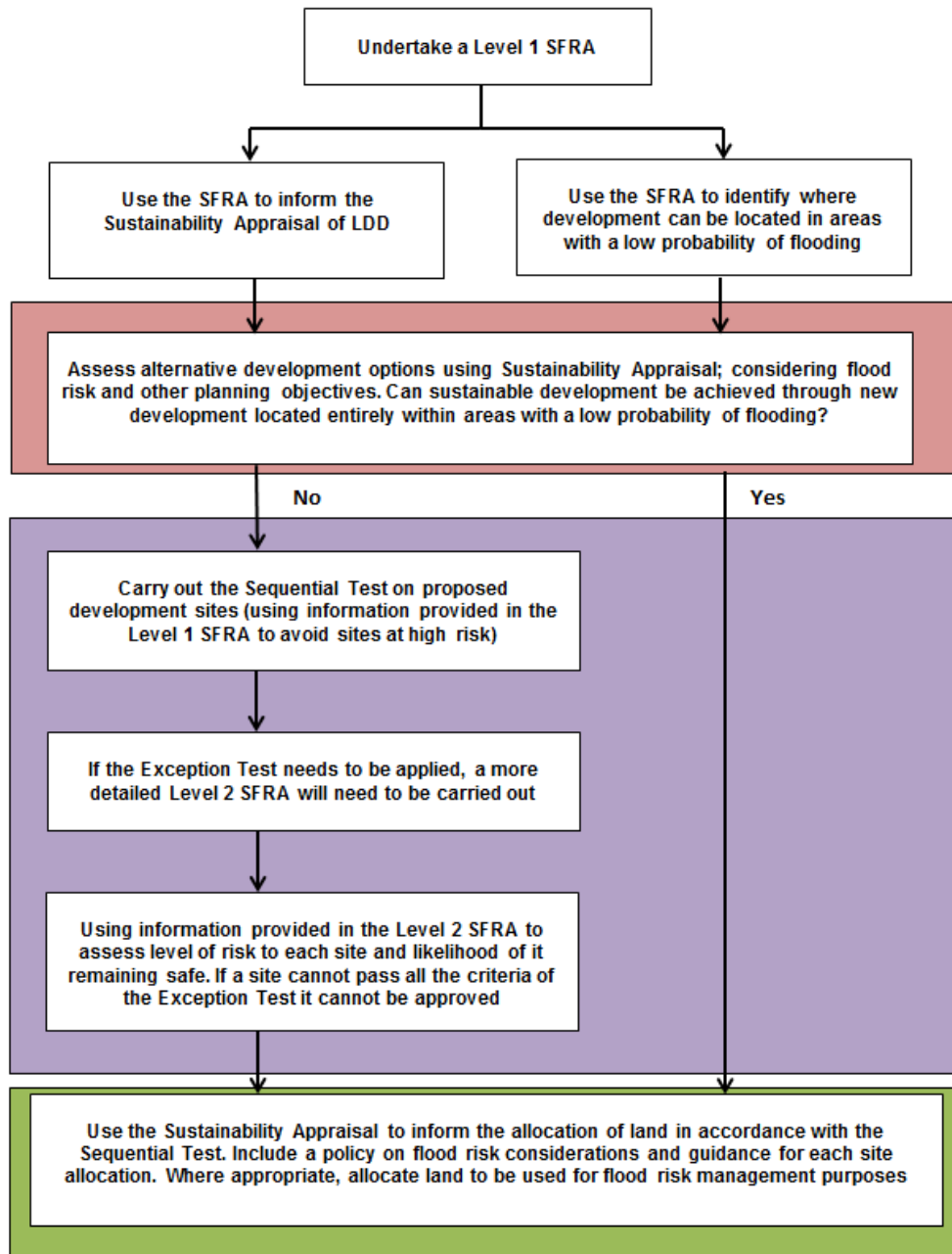


Figure 7-1: SFRA User Guide for Spatial Planning

¹⁶ Available online: <http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy/planningpolicyevidencebase/strategicfloodriskassessment.htm>

7.2 Guidance for Development Management

Figure 7-2 provides a simple SFRA user guide for Development Management. For individual planning applications Planners should also refer to the Sequential and Exception Test guidance provided in Chapter 3 of this report, together with the information provided in the previous SFRA documents available on the Wiltshire Council website¹⁷.

The NPPF (including NPPF Technical Guidance) and the PPS25 Practice Guide should also be used as reference documents for individual planning applications.

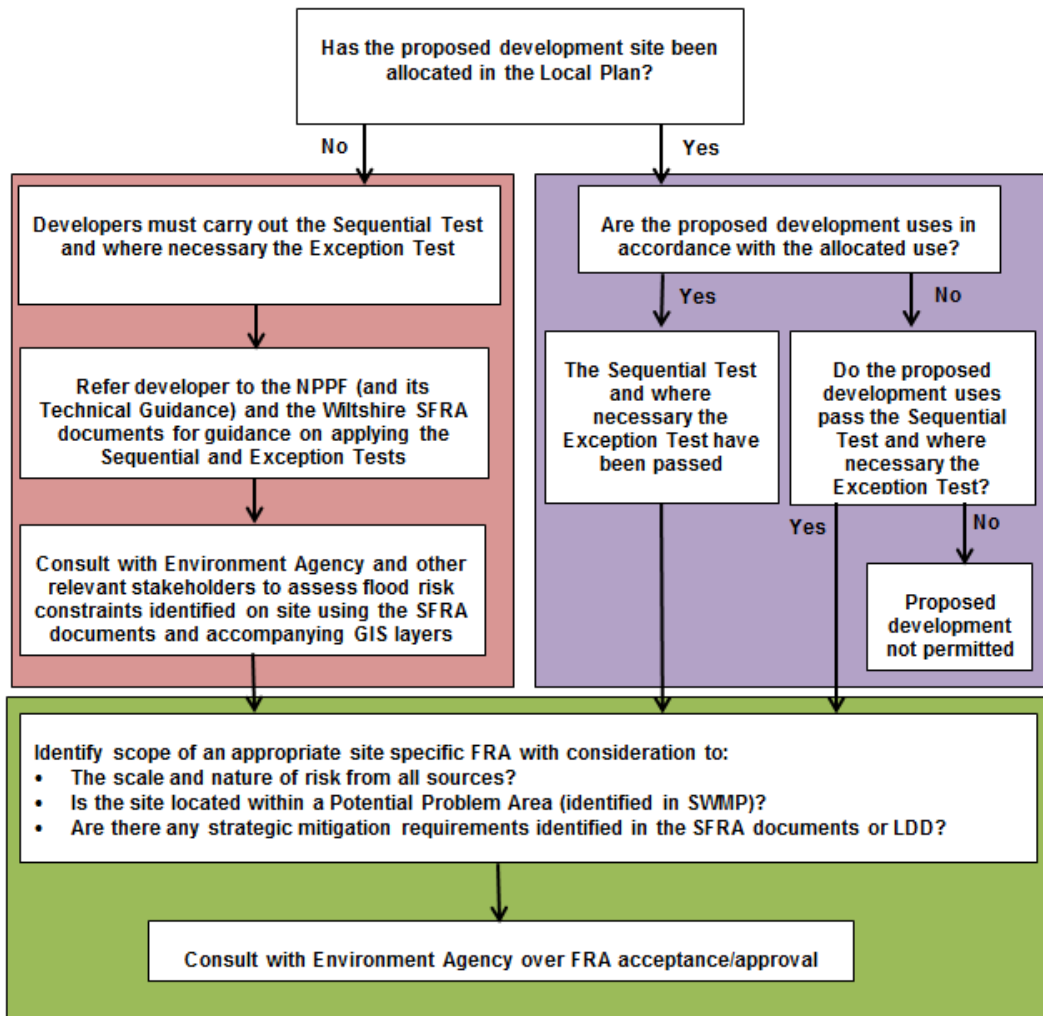


Figure 7-2: SFRA User Guide for Development Management

¹⁷ Available online: <http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy/planningpolicyevidencebase/strategicfloodriskassessment.htm>

7.3 Guidance for Developers

Figure 7-3 provides a simple SFRA user guide for Developers. To inform planning applications Developers should refer to the Sequential and Exception Test guidance provided in Chapter 3 of this report, together with the information provided in the previous SFRA documents available on the Wiltshire Council website¹⁸.

The NPPF (including NPPF Technical Guidance) and the PPS25 Practice Guide should also be used as reference documents for individual planning applications.

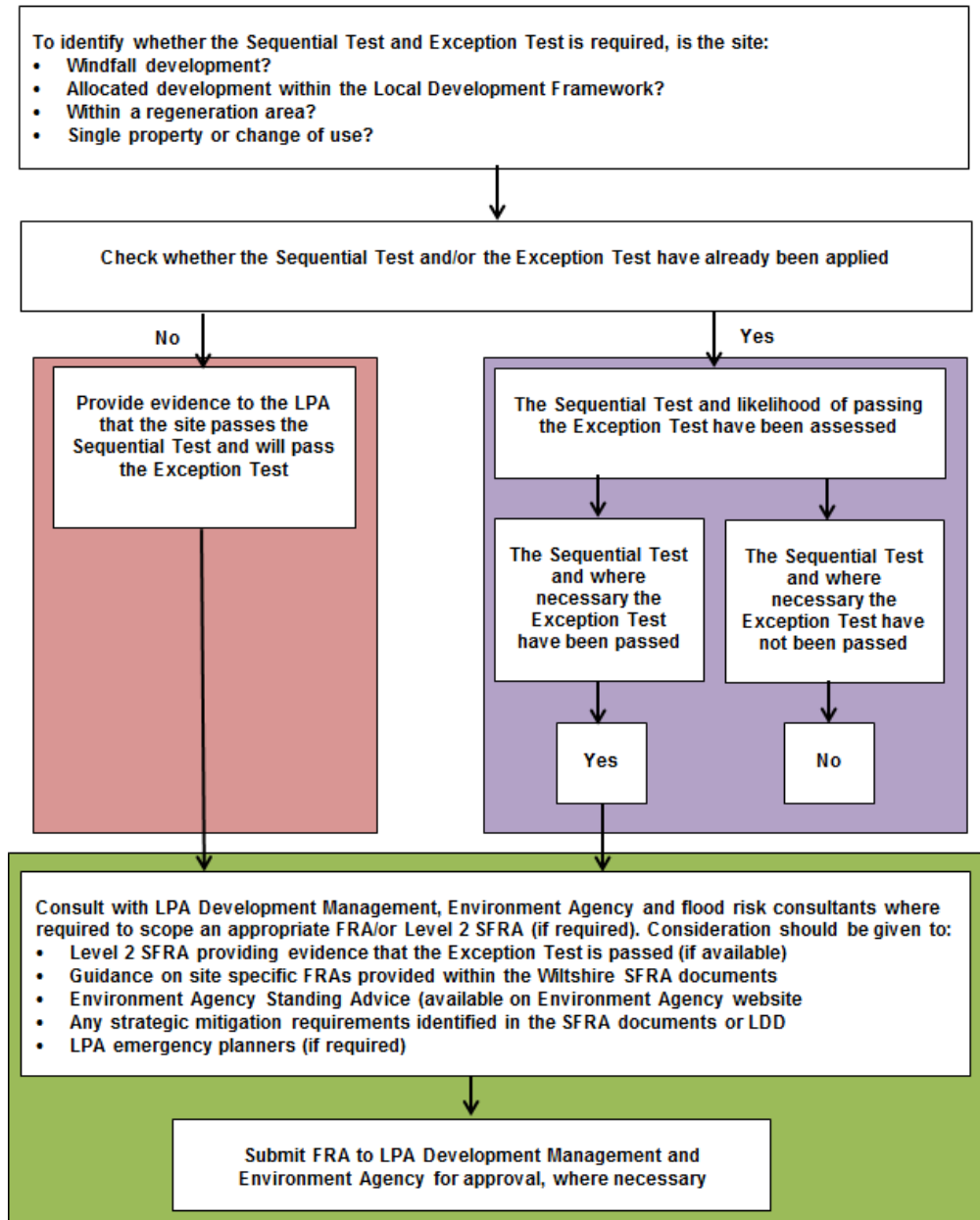


Figure 7-3: SFRA User Guide for Developers

¹⁸ Available online: <http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy/planningpolicyevidencebase/strategicfloodriskassessment.htm>

8 DATA UPDATES AND REVIEW

8.1 Environment Agency Flood Map

The Environment Agency updates their Flood Map (Flood Zones 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 Flood Zones 2 and 3 GIS layers used within the Level 1 SFRA update has been undertaken to identify where changes have been made to ensure the evidence base is up to date.

The most recent versions of the Flood Zones (February 2013), provided by Wiltshire Council, were overlain with the Flood Zones (April 2010) included within the Minerals and Waste Level 1 SFRA 2010 update to identify where changes have occurred.

The review indicates that the majority of the flood zones are unchanged however where changes have been noted, an indication of whether the change 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 8.1.

TABLE 8.1: SUMMARY OF FLOOD MAP REVISIONS SINCE 2010

General Area	Flood Zone 3 Updates	Flood Zone 2 Updates	Minor / Major	Area at Risk Increase / Decrease
Centre of Swindon	✓	✓	Major	Flood Zone 3 – Decrease Flood Zone 2 - Increase
East of Swindon	✓	✓	Major	Flood Zone 3 – Decrease Flood Zone 2 - Increase
West of Salisbury	✓	✓	Major	Flood Zone 3 – Increase Flood Zone 2 - Increase
East of Salisbury	✓	✓	Minor	Flood Zone 3 – Increase Flood Zone 2 – Increase
South of Trowbridge	✓	✗	Major	Flood Zone 3 – Increase
East of Devizes*	✓	✓	Minor	Flood Zone 3 – Decrease Flood Zone 2 – Decrease
West of Chippenham*	✓	✗	Minor	Flood Zone 3 – Decrease

*Rural areas

Table 8.1 shows that there has been a ‘Major’ change within the Swindon area, with the Flood Zone 3 extent decreasing and Flood Zone 2 extent increasing. There is also a ‘Major’ increase in the extent of Flood Zone 2 and 3 to the west of Salisbury and an increase in Flood Zone 3 extent just south of Trowbridge.

Figures focused on Swindon, Salisbury and Trowbridge are provided in Appendix A to illustrate the changes to flood zones within these areas since 2010.

8.2 Flood Map for Surface Water

The Environment Agency Flood Map for Surface Water (FMfSW) gives an indication of the broad areas across Wiltshire that are likely to be at risk of surface water flooding. The document entitled 'Using Surface Water Flood Risk Information' explains how Environment Agency surface water flood risk information can be used by planning authorities to help fulfil their planning role as well as local resilience forums (LRFs) and regional resilience teams (RRTs) to help plan their emergency response to surface water flooding; and LLFAs to help fulfil their local flood risk management role.

The FMfSW maps are not suitable for identifying whether an individual property will flood, neither is the intended to be definitive. Rather the FMfSW provides information to support local flood risk management in the absence of any better information.

The Wiltshire Council PFRA states that the FMfSW is considered to be the best surface water information for Wiltshire and that future studies, including the developing SWMPs will allow some refinement or confirmation of the information.

More detailed surface water flood maps for Salisbury, Chippenham and Trowbridge were produced as part of the Wiltshire Council SWMP. These surface water flood maps should be used to identify areas at risk from surface water flooding within these three settlements.

8.2.1 *Mapping*

The FMfSW has been prepared for two return periods. The 0.5% AEP (1 in 200 year annual probability) and the 3.3% AEP (1 in 30 year annual probability). Two categories are provided for each return period: shallow which relates to flood depths between 0.1m and 0.3m; and deep which refers to depths which are greater than 0.3m.

Appendix B includes an extract from the FMfSW dataset focussed on the Warminster area for both the 0.5% AEP and 3.3% AEP return periods.

8.2.2 *Limitations*

When using the FMfSW, the EA have stated that planning authorities should not:

- Use the EA surface water flood maps as the sole evidence for any specific planning decisions at any scale without further supporting studies or evidence;
- Use the EA surface water flood maps to identify individual properties at risk of surface water flooding;
- Rely on the EA surface water flood maps alone to show expected areas of surface water flooding;
- Interpret the EA surface water flood maps as defining the flood extent for a specific probability;
- Use the EA surface water flood maps for screening planning applications for consulting with the EA;
- With respect to mapping, the FMfSW layers should not be published or provided externally with an Ordnance Datum base map scale of 1:25,000 or smaller (i.e. 1:50,000 is ok, 1:10,000 is not) and with a zoom scale of 1:10,000 or smaller (i.e. 1:50,000 is ok, 1:5,000 is not).

Due to the way they have been produced and the fact that the extents are indicative, the EA surface water flood maps are not appropriate to act as the sole evidence for any specific planning decision at any scale without further supporting evidence.

8.3 Areas Susceptible to Groundwater Flooding

As part of the SFRA, an assessment of the risk of groundwater flooding needs to be considered, however, on a strategic scale, a quantified assessment of risk from groundwater flooding is difficult. This is mainly due to lack of groundwater level records, the variability in geological conditions and the lack of predictive tools (such as modelling) that can be used to make assessments of groundwater flow and risk of groundwater flooding following rainfall events.

The Environment Agency Areas Susceptible to Groundwater Flooding (AStGWF) dataset is a strategic scale map showing groundwater flood areas on a 1 km square grid. The figure produced within the PFRA shows that large areas of Wiltshire are susceptible to groundwater flooding, especially areas around Swindon, Trowbridge and Salisbury. Summarised below, is the guidance on how to deal with the data, provided by the Environment Agency.

The AStGWF dataset has been prepared primarily as part of the PFRA process, to allow LLFAs across England and Wales to obtain a broad feel for the wider areas which might be at risk from groundwater flooding.

The Wiltshire Council Phase I (Preparation) and Phase II (Risk Assessment) completed in 2011 includes a groundwater assessment for Trowbridge, Chippenham and Salisbury, which should be used when considering the risk from groundwater flooding within these settlements.

The data has used the top two susceptibility bands of the BGS 1:50,000 Groundwater Flood Susceptibility Map and therefore covers consolidated aquifers and superficial deposits. It does not take account of the chance of flooding from groundwater rebound. It shows the proportion of each 1 m square where geological and hydrogeological conditions show that groundwater might emerge. The susceptible areas are represented by one of four areas categories showing the proportion of each 1 km square that is susceptible to groundwater emergence. It does not show the likelihood of groundwater flooding occurring.

The dataset covers a large area of land, and only isolated locations within the overall susceptible area are actually likely to suffer the consequences of groundwater flooding.

8.3.1 *Limitations*

The AStGWF dataset has not been formally assessed as appropriate for any other use than the PFRA. The data should not be interpreted as identifying areas where groundwater is actually likely to flow or pond, thus causing flooding, but may be of use to LLFAs in identifying where, for example, further studies may be useful.

The AStGWF should not be used as the sole evidence for any specific flood risk management, land use planning or other decision at any scale. The data may however help to identify areas for assessment at a local scale where finer resolution datasets exist.

8.4 Historical Flood Incidents

Wiltshire Council has provided a dataset containing all flood incidents reported to the Council during 2012. These results can be useful to indicate where potential flooding 'hot spots' are located and indicates the type of flooding most predominant in each area.

It should be noted that data provided by Wiltshire Council does not include historical flood incidents for Swindon as this settlement falls outside of Wiltshire Council's LLFA area. Swindon Borough Council is the LLFA for Swindon.

Figure 8.1 indicates the type of flood incidents reported to Wiltshire Council in 2012. It can be seen that road flooding is the most common with a considerably lower number of incidents relating to actual property flooding. It should be noted that out of the 622 incidents reported to Wiltshire Council in 2012, 138 were classified as 'other'. The 'other' column represents those situations where insufficient information was available to establish an exact type.

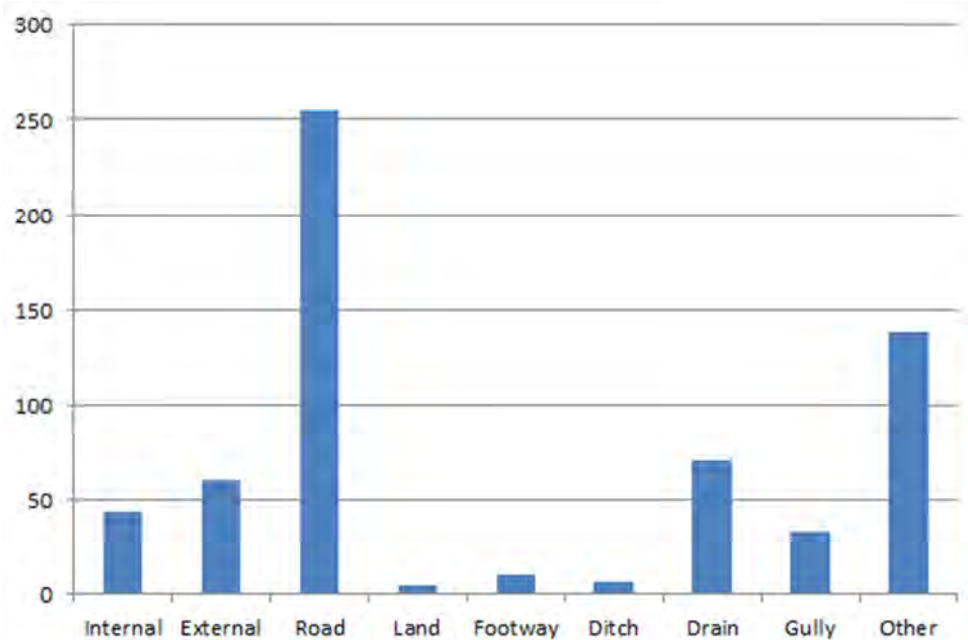


Figure 8.1: Type of Flood Incidents Reported in 2012 within major area centres

A further review of the data indicates that approximately two thirds (426) of the flood incidents reported occurred during a single week in the month of November, where higher than average rainfall was experienced across the country.

The majority of flood incidents reported to Wiltshire Council during 2012 occurred in smaller rural settlements (78%) outside of the major area centres. The remaining 22% of flood incidents occurred within the major area centres. Figure 8.2 illustrates the percentage split between the major area centres.

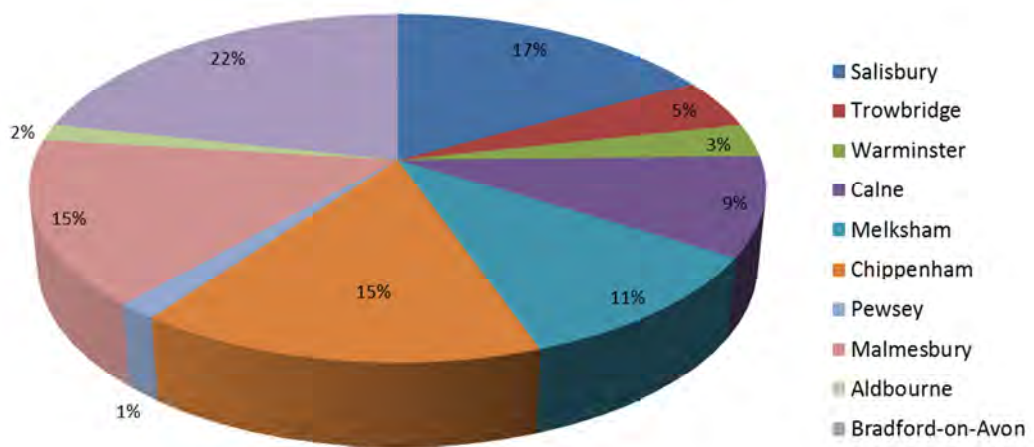


Figure 8.2: Percentage of Flood Incidents Reported in 2012 in Major Area Centres

Figure 8.2 indicates that within these major area centres Bradford-on-Avon had the most recorded incidents with 21%, whilst Chippenham, Malmesbury and Salisbury had at least 15% of the recorded flood incidents.

8.4.1 *Limitations*

When a flood incident is reported to Wiltshire Council It is recommended that a National Grid Reference (NGR) for the area affected by flooding is included in the database. This will allow them to be incorporated into the SFRA GIS dataset and allow all reported flood incidents to be stored in a single location.

Identifying an individual flood source (type) can be problematic, as more often the flood incident may occur as a result of a number of contributing factors (e.g. surface water entering sewer exceeds sewer capacity, which results in sewer flooding).

However, out of the 622 incidents recorded throughout Wiltshire in 2012, 138 were classified as 'other'. If more specific information regarding the type of flooding can be recorded within the dataset a greater understating of flooding within each settlement can be achieved.

For each incident it would also be beneficial to record an approximate flood depth, where safe to do so, as this can help emphasise the magnitude and importance of each incident.

The above data management recommendations will improve the understanding of flood risk within the Council's administrative area and can help inform where issues with future development may arise and also identify where future development may provide opportunities through planning to provide improvements on the existing situation.

9 SUMMARY

9.1 Relevant Policy and Legislation Updates

Relevant policy changes and updates have been identified within the document including the NPPF and its Technical Guidance (which has replaced PPS25). The PPS25 Practice Guide is still current and remains a useful flood risk and development guidance document.

The NPPF and its Technical Guidance document retain key elements of the Sequential Test (compared to PPS25), but makes slight amendments to the Exception Test, by removing the requirement to pass 'part b' of the test, referring to previously developed land.

Wiltshire Council published their PFRA in June 2011, as part of its requirement under the Flood Risk Regulations (2009). As no 'Flood Risk Areas' have been identified within the Wiltshire Council area (based on the Environment Agency and Defra guidance), the subsequent stages outlined in the Flood Risk Regulations 2009 are not required.

The enactment of the Flood and Water Management Act 2010 places new responsibilities on Wiltshire Council, as the designated LLFA. These new responsibilities focus on the requirement of Wiltshire Council to coordinate the management and investigation of local flood risk issues in conjunction with other risk management authorities.

Wiltshire Council will also act as the SAB, which will require the review and approval of drainage plans and strategies for new developments. This requirement is expected to be introduced in April 2014.

9.2 Additional Guidance

To ensure a standard procedure is provided for challenging flood zone designation, Wiltshire Council has developed a methodology to provide clear step by step guidance for both the challenger and Wiltshire Council staff involved in the flood zone challenge process. The step by step guidance is separated into 'SFRA Flood Map Outline Challenge' (applicable to Flood Zone 2 and 3) and 'SFRA Flood Zone Challenge' (applicable to Flood Zone 3a/3b).

Guidance on undertaking WFD Assessments is also provided. Wiltshire Council is responsible for issuing Flood Defence Consents for works affecting ordinary watercourses (including culverting). As part of the consenting process, works that may cause detriment to an ordinary watercourse require the WFD to be considered. Depending on the nature and scale of the work, an initial WFD screening assessment will be required to identify if further information is required or appropriate mitigation can be put in place to mitigate the risks.

To ensure that the SFRA documents are used by the intended users, this 2013 Level 1 SFRA update report includes a simple SFRA user guide for Spatial Planners, Development Manager and Developers. The users guides are provided in flow diagram format for easy reference.

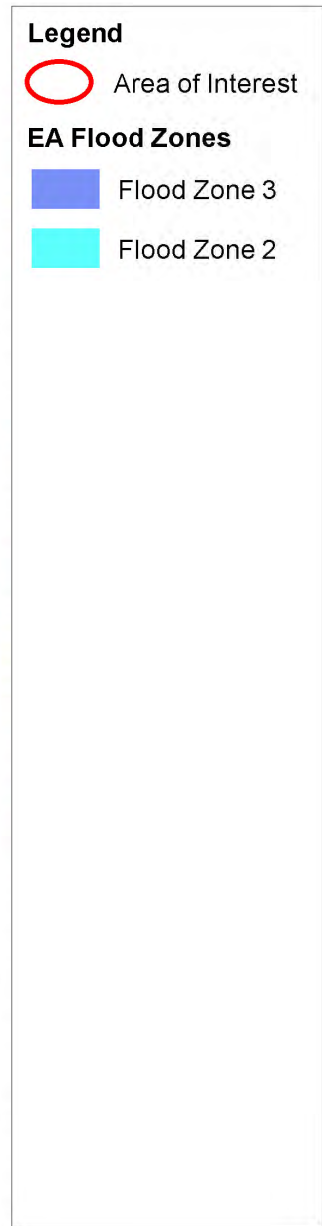
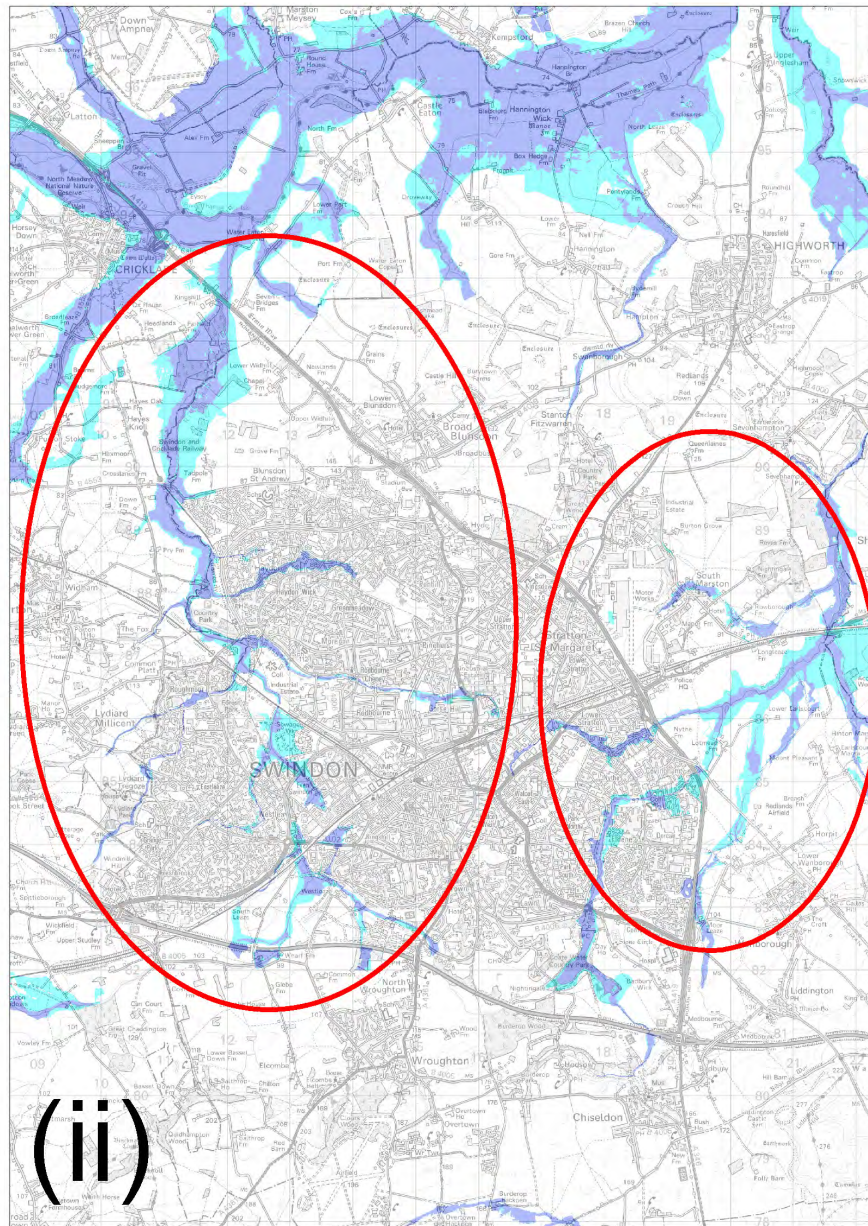
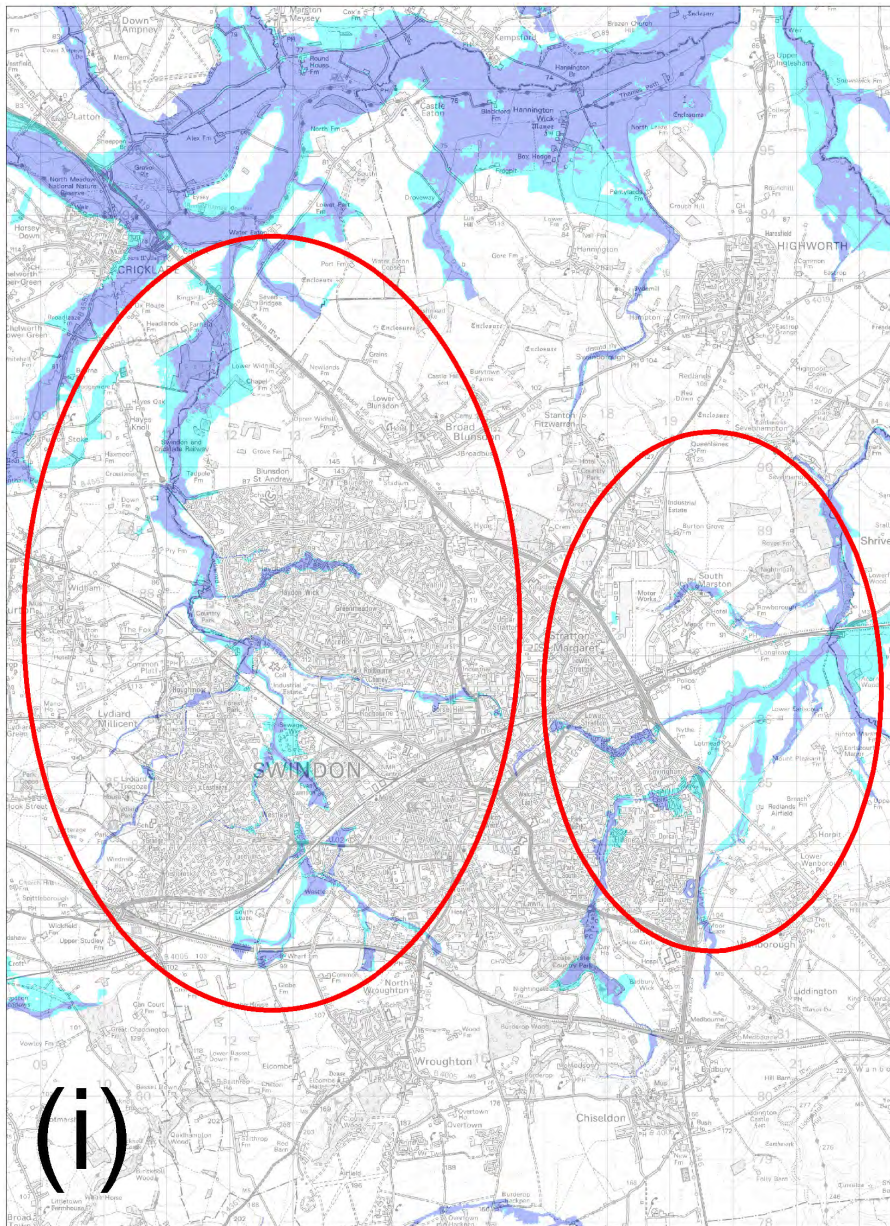
9.3 Data Updates and Review


New datasets were collected for review. This included requesting updated Environment Agency Flood Maps, Historical Flood data and Flood Map for Surface Water.

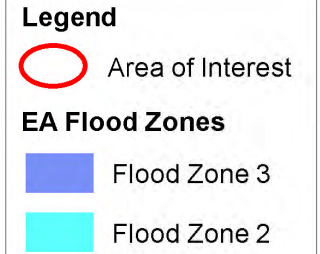
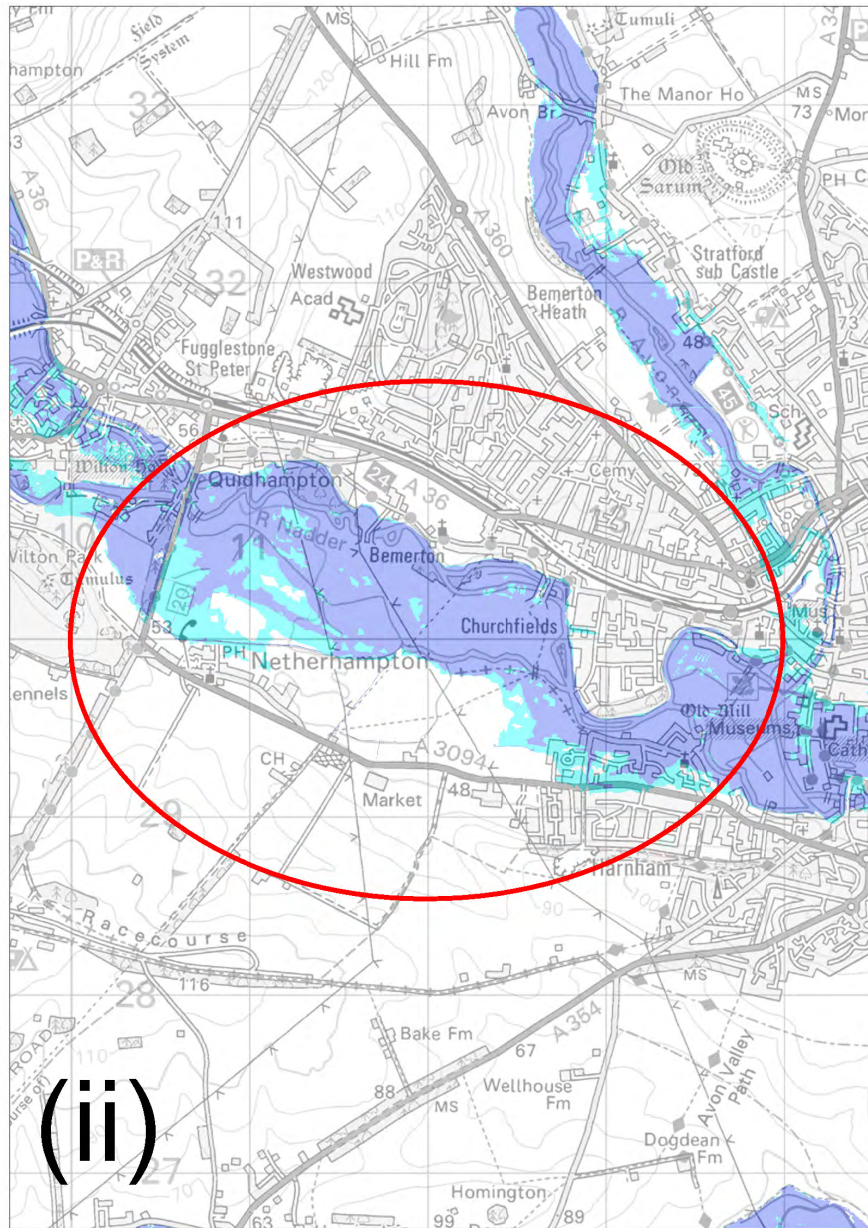
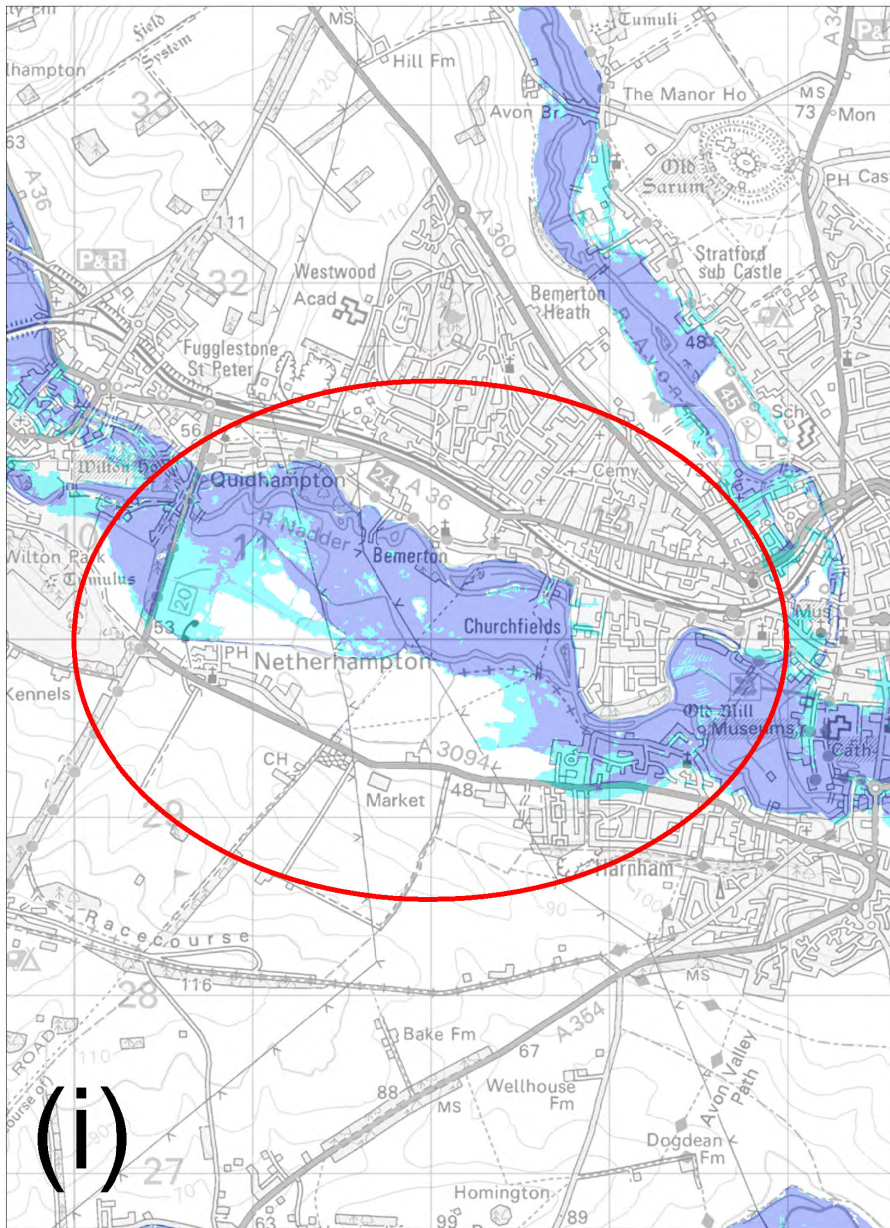
The Environment Agency Flood Map updates have been reviewed to identify changes in extent. Major changes were identified within the Swindon, Trowbridge and Salisbury area where major changes in flood zone extent were identified.

New Flood Map for Surface Water and Areas Susceptible to Groundwater Flooding datasets have been reviewed and included within this 2013 SFRA update report. A dataset containing all flood incidents reported to Wiltshire Council during 2012 was also reviewed with data limitations and recommendations provided.

Appendix A – Flood Map (2010/2013 Comparison)



<p>Project: Wiltshire Council Strategic Flood Risk Assessment - Level 1 Update</p> <p>Title: Swindon Flood Map</p> <p>(i) Flood Zones 2 and 3 (April, 2010) (ii) Flood Zones 2 and 3 (February, 2013)</p>	<p>Notes</p> <p>Reproduced from Ordnance Survey Digital Map with the permission of the controller H. M. S. O. Crown Copyright. License Number 0100031673 (2013).</p> <p>All data based on information provided by Wiltshire Council and the Environment Agency.</p> <p>This drawing may only be used at a strategic level and only for the purpose intended.</p>	<p>Appendix A1</p> <p>Drawn By: RM App'd By: MC Date: June 2013</p>	 <p>www.ursglobal.com</p>
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Project: **Wiltshire Council Strategic Flood Risk Assessment - Level 1 Update**

Title: **Salisbury Flood Map**
 (i) Flood Zones 2 and 3 (April, 2010) (ii) Flood Zones 2 and 3 (February, 2013)

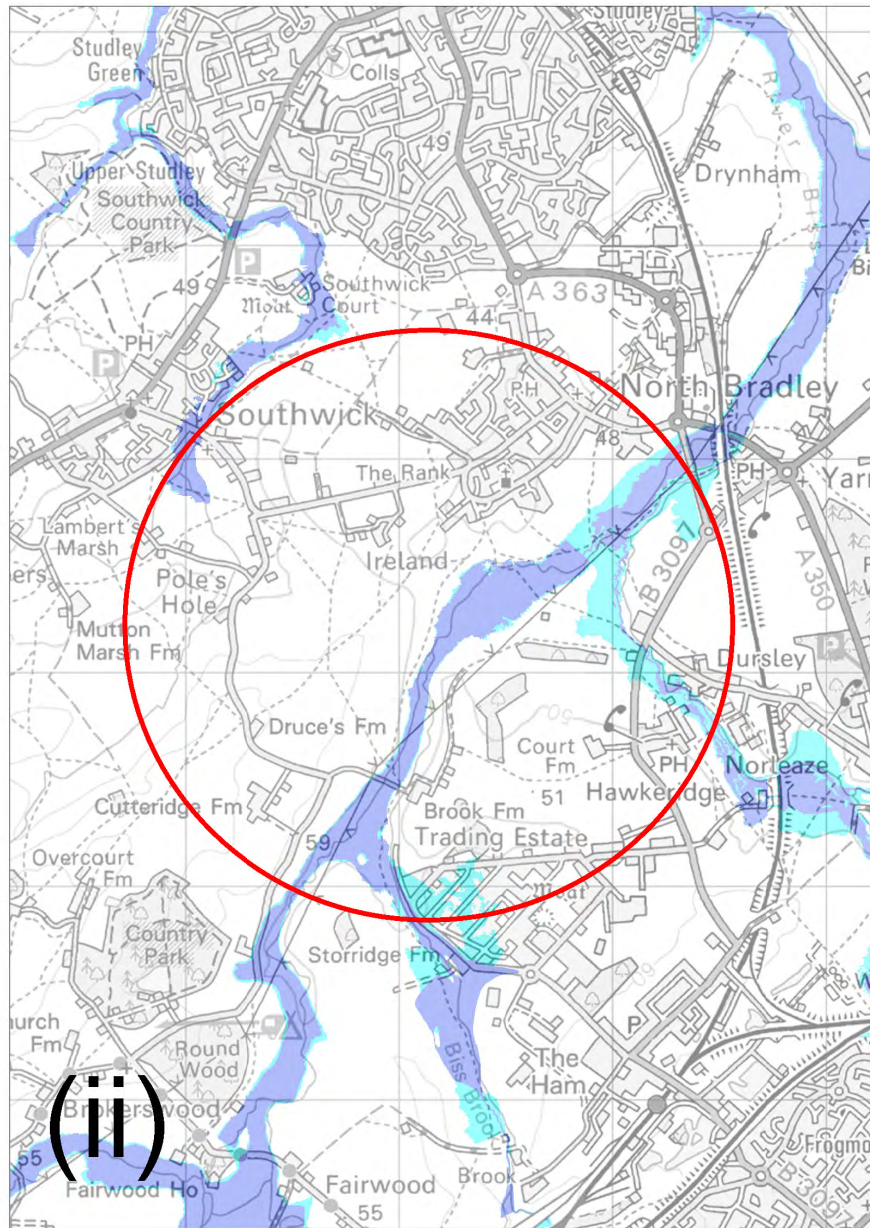
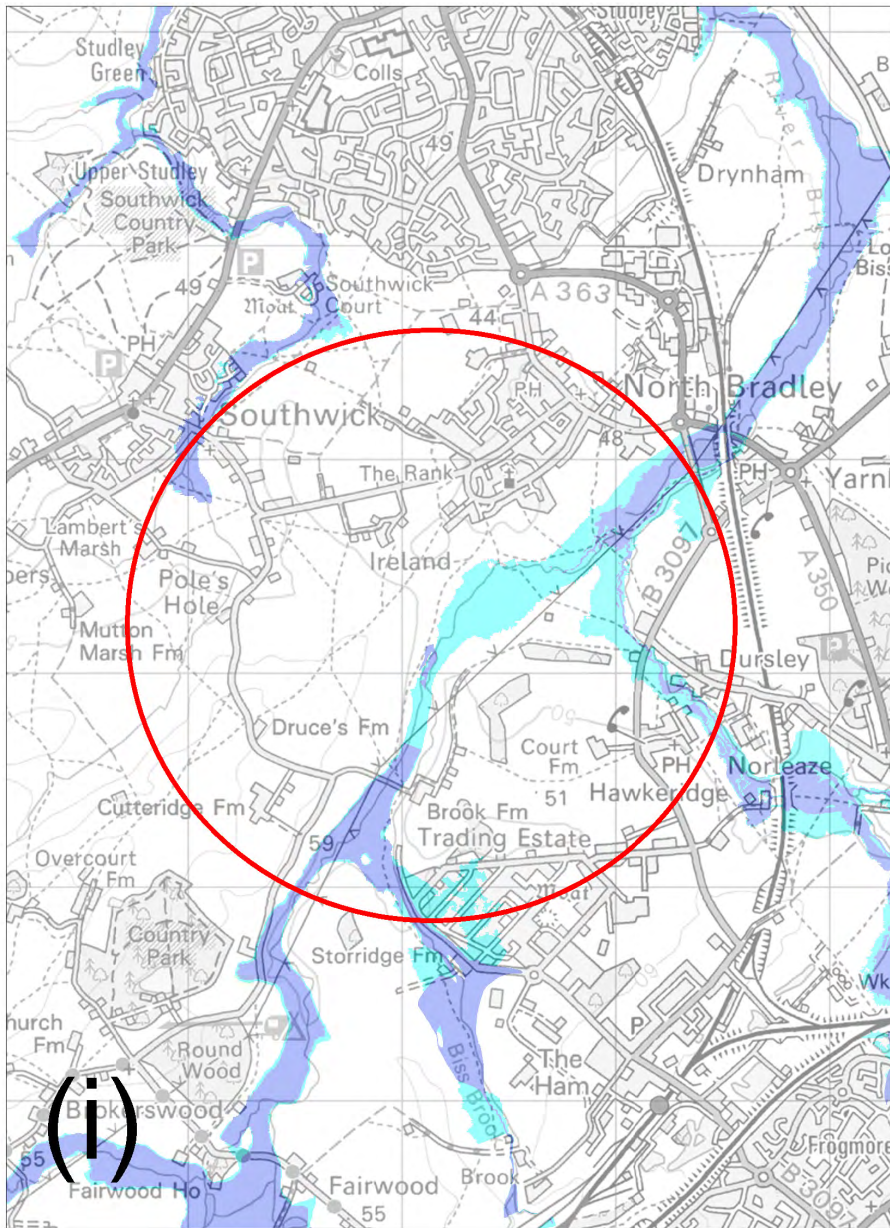
Notes
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Appendix A2




Drawn By: RM	App'd By: MC	Date: June 2013
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Legend

-  Area of Interest
- EA Flood Zones**
-  Flood Zone 3
-  Flood Zone 2

Project: **Wiltshire Council Strategic Flood Risk Assessment - Level 1 Update**

Title: **Trowbridge Flood Map**
 (i) Flood Zones 2 and 3 (April, 2010) (ii) Flood Zones 2 and 3 (February, 2013)

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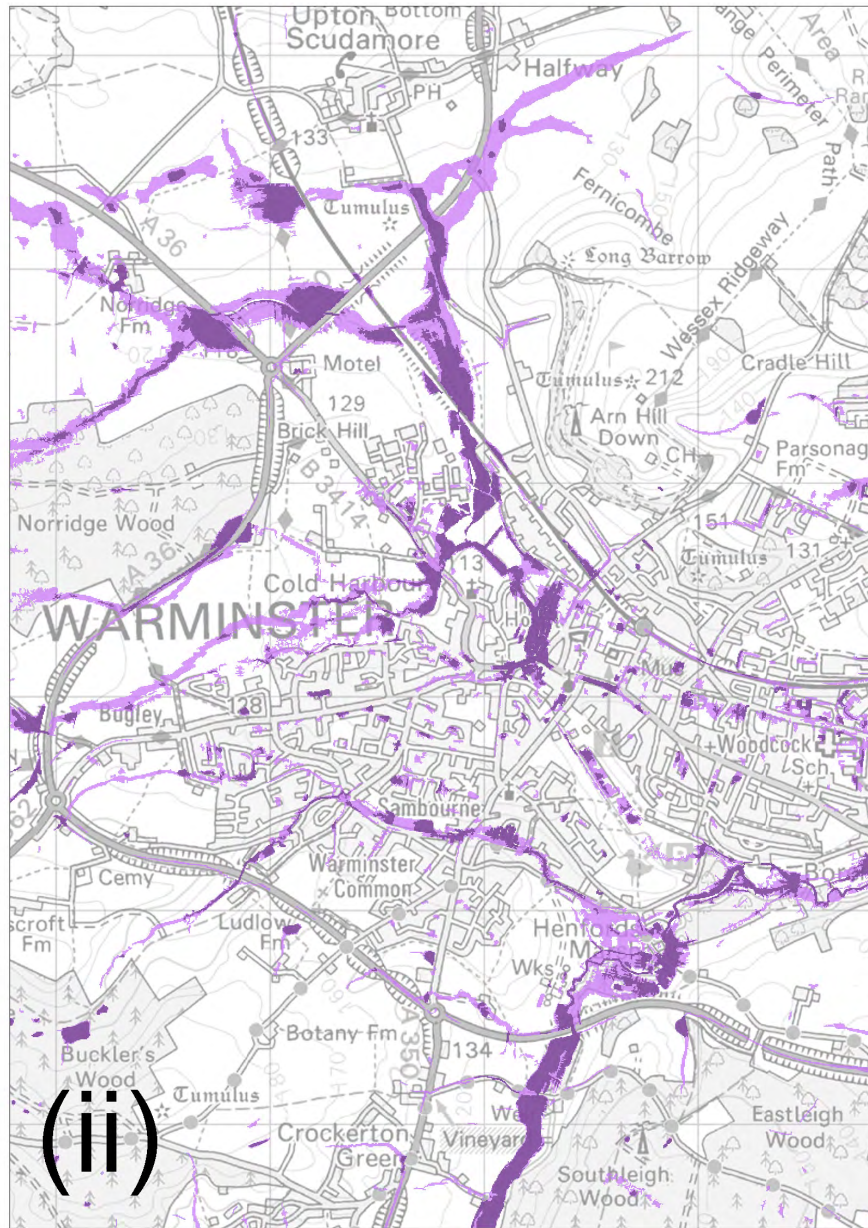
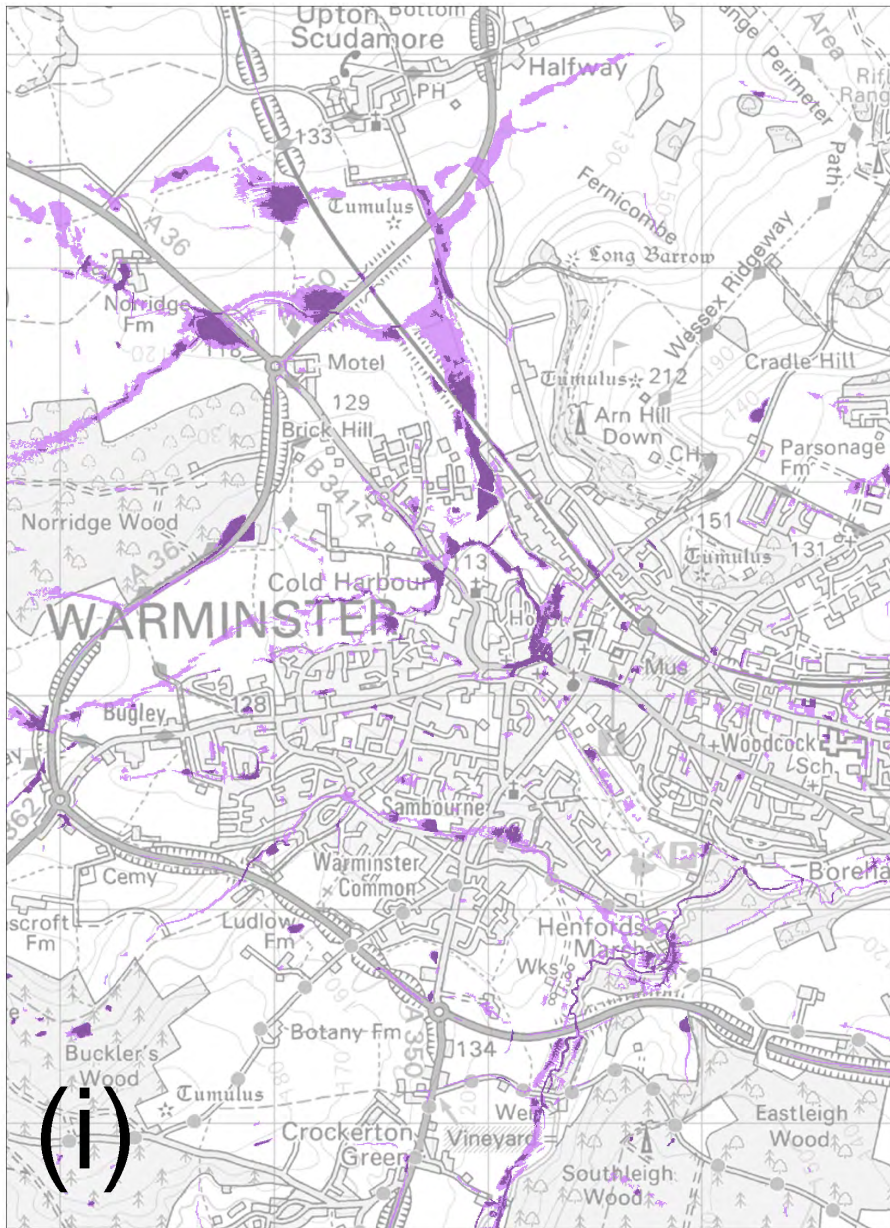
Appendix A3

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Appendix B – Flood Map for Surface Water Extract



Project: **Wiltshire Council Strategic Flood Risk Assessment - Level 1 Update**

Title: **Warminster Flood Map for Surface Water (FMfSW)**
 (i) 1 in 30 Year Event (ii) 1 in 200 Year Event

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Appendix B1

Drawn By: RM	App'd By: MC	Date: June 2013
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