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Lewes District Strategic Flood Risk Assessment



Strategic Flood Risk Assessment Levels 1 and 2

Lewes Strategic Flood Risk Assessment

Lewes District Council



Lewes District Council
www.lewes.gov.uk

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Strategic Flood Risk Assessment Levels 1 and 2

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1 Introduction

- 1.1.1 Faber Maunsell was appointed by Lewes District Council on 23rd November 2006 to undertake a Strategic Flood Risk Assessment of Lewes District. The scope of the study was described in a Brief issued by the District Council and dated October 2006. Relevant information about Lewes District is provided in Appendix E: Supporting Information.
- 1.1.2 The agreed methodology, designed to comply with the recently published Planning Policy Statement 25 (PPS25) and its Practice Guide Companion, divided the study into two stages. The first stage of the study was to consist of the collection and evaluation of all available data and information relevant to the strategic assessment of flood risk within the District.
- 1.1.3 The collection and collation of data and information relevant to the strategic flood risk assessment has been undertaken in close collaboration with officers of the Council and key stakeholders such as the Environment Agency and Southern Water.
- 1.1.4 The second stage of the assessment involved the identification of the various flood zones as per PPS25 and a general Flood Risk Assessment for the whole of Lewes District was carried out. GIS mapping was undertaken to allow easy access and interpretation of the information.
- 1.1.5 A series of drawings covering different aspects of flood risk have been prepared to allow the application of the sequential test by Lewes District Council. Additionally, the sequential test was applied to seven flood cells, as requested by the Council.
- 1.1.6 General advice regarding flood risk planning policy, site specific flood risk assessment requirements and the implementation of Sustainable Drainage Systems (SUDS) has also been provided as part of the study.
- 1.1.7 The need for further hydraulic modelling was identified during the initial stage of the assessment. The additional work identified was carried out by Faber Maunsell to enable the assessment of climate change and potential flood defences improvements. The results of these will facilitate the application of the exception test by Lewes District Council.
- 1.1.8 This report represents our assessment of flood risk at a strategic level for Lewes District Council.
- 1.1.9 The Council will carry out further work to develop its Sequential Test methodology, taking account of revisions to national practice guidance, as necessary.

It must be noted that this SFRA is a tool for assessing flood risk and does not in itself determine whether any given land use or development is acceptable for any given site as it does not take into account any other material planning considerations that may be relevant. Site-specific Flood Risk Assessments may also be necessary.

2 User Guide

2.1.1 The purpose of this study is to allow the application of the Sequential and Exception Test by the Local Planning Authority and by doing so introduce the concept of flood risk at the early stages of the planning process.

2.1.2 In order to ensure an adequate understanding of the elements involved in this process, a summary of the essential concepts is presented below.

The Sequential Test

2.1.3 The Sequential Test is applied by Local Planning Authorities to establish land suitable for development (residential, commercial, industrial, etc) to be included in their Local Development Documents and to demonstrate that there are no alternative locations in areas with a lower probability of flooding that would be suitable for the type of development or land use proposed.

2.1.4 Any new development should be directed to Flood Zone 1 (low risk) wherever possible, and then sequentially to Flood Zones 2 and 3, and to the areas of least flood risk within Flood Zones 2 and 3, as identified by the Strategic Flood Risk Assessments (SFRA) (see Table D.1 and Table D.2 of PPS25, included in Appendix E).

2.1.5 The Local Planning Authority must demonstrate that various potential development sites have been considered in conjunction with the Flood Zone information from the Strategic Flood Risk Assessment and that they have applied the Sequential Test, and where necessary, the Exception Test, in the site allocation process. In cases where development cannot be fully met through the provision of site allocations, Local Planning Authorities are allowed to make a realistic allowance for windfall development if robust evidence has been provided, based on windfall delivery rates and expected future trends.

2.1.6 The Sequential Test should also be used by Local Planning Authorities to resolve planning applications where Local Development Document policies have not applied the Sequential Test to the application site. In these cases it is the responsibility of the developer to collect the relevant evidence for their site to allow the Local Planning Authority's planning officer to carry out the Sequential Test.

2.1.7 A schematic showing the train of thought when applying the Sequential Test as well as the maps to be referred to during this process is provided in Figure 1. A step by step guide to the application of the Sequential Test is provided below.

- 1) Identify the site (location, size, existing and proposed use etc).
- 2) Is the potential allocation site in an area at low risk of flooding? To answer this question it is necessary to refer to the following maps:
 - 002 Flood Risk Zones (Sections 1 to 12): Establish the location of the site within the various Flood Zones. On these maps flood zones 2 and 3 (EA) refer to flood outlines without taking into consideration flood defences whereas the functional floodplain refers to the 1 in 25 year return period taking into consideration the defences. If a site is located outside the flood zone areas shown on the map, it can be assumed that is located within flood zone 1 (low risk).
 - 004 Historical Flooding (Sections 1 to 12): Establish if the site has been affected by flooding from any source in the past or if it is located in an area with recognised flooding problems.
 - 006 Sources of Potential Flood Risk (Sections 1 to 12): Determine if the site has the potential to be affected by factors such as existing infrastructure or local conditions.
 - 007 Groundwater Risk (Sections 1 to 12): Establish if the site is likely to be affected by springs or is located in a dry bed and therefore prone to occasional flooding.

When carrying out the sequential test, the hierarchy in terms of determining the level of flood risk is as follows:

- Flood Risk Zones – most important factor
- Flooding History
- Groundwater Risk
- Potential Flood Risk

It is important to emphasise the importance of applying common sense when establishing the level of flood risk at any particular location as each site is different.

- 3) Is flood risk at the site likely to be affected by climate change? This question can be answered by referring to the following maps:
 - 012 Climate Change Flood Outline (Sections 1 to 12): Establish if the site is likely to be affected by extreme flooding (1000yr + 20%)
- 4) Is there an alternative site not sensitive to climate change? To answer this question it is necessary to refer to the Development Plan and be aware of the existence of potential sites outside the Climate Change Flood Outline shown on the 012 Climate Change Flood Outline maps.
- 5) Is there an alternative potential location in an area at low risk of flooding? To answer this question it is necessary to refer to the Development Plan and be aware of the existence of potential sites within Flood Zone 1 as shown on the 002 Flood Risk Zones maps.
- 6) Is this alternative site less suitable taking into account other planning issues? This should be assessed by a suitably competent planner with good local knowledge and referring to the Development Plan and the following maps:
 - 009 Environmental Considerations (Sections 1 to 12): Showing international, national and local designations that are likely to be subject to special planning conditions.
- 7) Is the potential allocation site in an area of medium risk of flooding? To answer this question it is necessary to refer to the following maps:
 - 002 Flood Risk Zones (Sections 1 to 12): Establish the location of the site within the various Flood Zones. On these maps flood zones 2 and 3 (EA) refer to flood outlines without taking into consideration flood defences whereas the functional floodplain refers to the 1 in 25 year return period taking into consideration the defences. The hierarchy in terms of flood zones is as follows:
 - Zone 3b (functional floodplain) – higher flood risk area
 - Zone 3 (high risk)
 - Zone 2 (medium risk)
 - Zone 1 (low risk) – lower flood risk area
 - 004 Historical Flooding (Sections 1 to 12): Establish if the site has been affected by flooding from any source in the past or if it is located in an area with recognised flooding problems.
 - 006 Sources of Potential Flood Risk (Sections 1 to 12): Determine if the site has the potential to be affected by factors such as existing infrastructure or local conditions. Additionally, establish if the site is within a buffer zone.
 - 007 Groundwater Risk (Sections 1 to 12): Establish if the site is likely to be affected by springs or is located in a dry bed and therefore prone to occasional flooding.

When carrying out the sequential test, the hierarchy in terms of determining the level of flood risk is as follows:

- Flood Risk Zones – most important factor
- Flooding History
- Groundwater Risk

- Potential Flood Risk

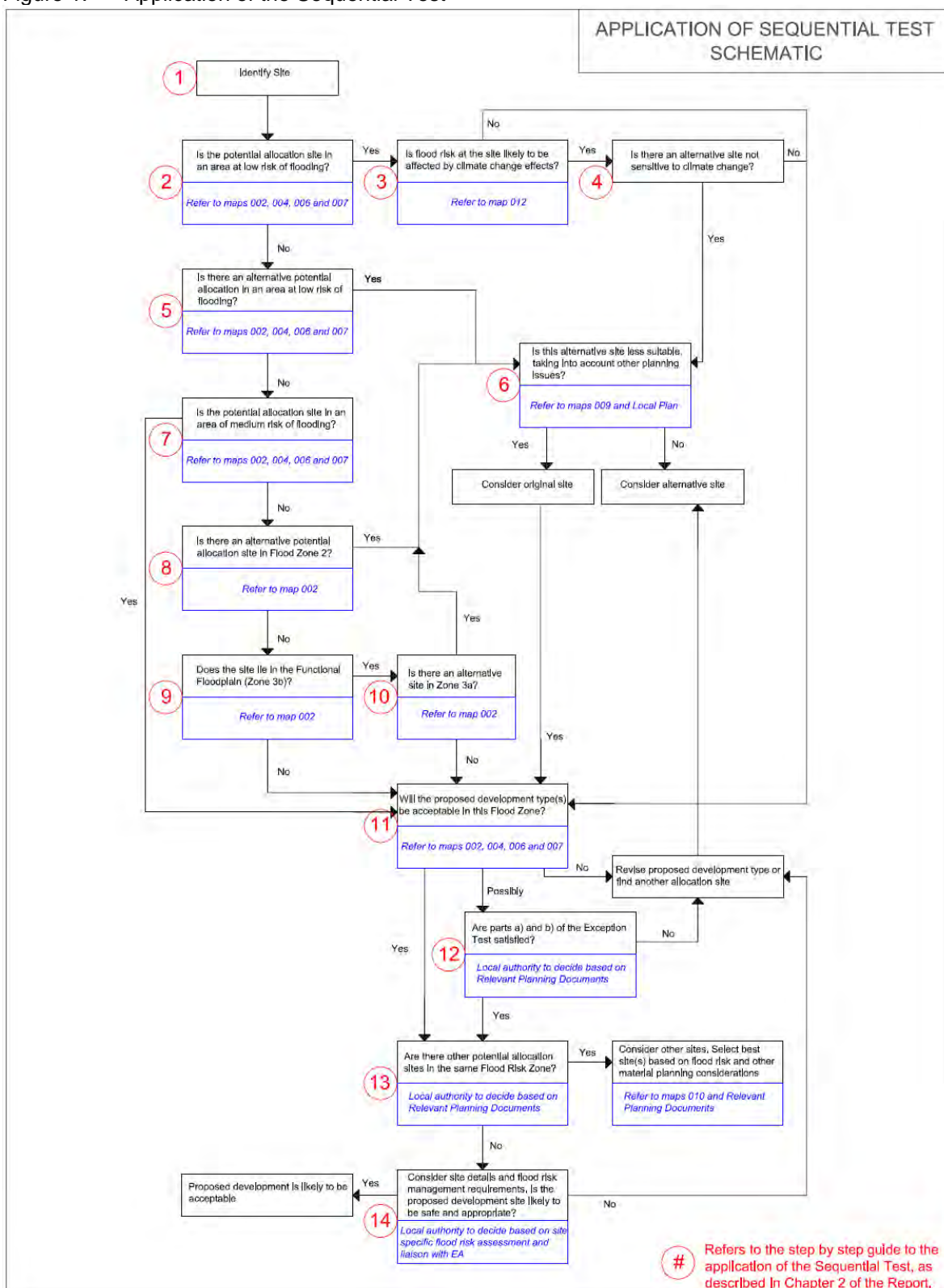
It is important to emphasise the importance of applying common sense when establishing the level of flood risk at any particular location as each site is different.

- 8) Is there an alternative potential allocation site in Flood Zone 2? To answer this question it is necessary to refer to the Development Plan and be aware of the existence of potential sites within Flood Zone 2 as shown on the 002 Flood Risk Zones maps.
- 9) Does the site lie in the functional floodplain, Zone 3b? To answer this question it is necessary to refer to the following maps:
 - 002 Flood Risk Zones (Sections 1 to 12): Establish the location of the site within the various Flood Zones. On these maps flood zones 2 and 3 (EA) refer to flood outlines without taking into consideration flood defences whereas the functional floodplain refers to the 1 in 25 year return period taking into consideration the defences. When a site falls in Flood Zone 3, it must be assumed that this correspond to the functional floodplain, Flood Zone 3b unless additional information is put forward to prove otherwise. It must be noted that when a site falls within more than one flood zone, the higher risk zone in terms of flooding should be assumed for the site. The hierarchy in terms of flood zones is as follows:
 - Zone 3b (functional floodplain) – higher flood risk area
 - Zone 3 (high risk)
 - Zone 2 (medium risk)
 - Zone 1 (low risk) – lower flood risk area
- 10) Is there an alternative site in Zone 3a? To answer this question it is necessary to refer to the Local Plan and be aware of the existence of potential sites within Flood Zone 3a as shown on the 002 Flood Risk Zones maps.
- 11) Will the proposed development type(s) be acceptable in this Flood Zone? To answer this question is necessary to refer to Flood Risk Vulnerability section in Appendix C for guidance.
- 12) Are parts a) and b) of the Exception Test satisfied? To answer this question it is necessary to apply planning judgement and refer to relevant planning documents (including PPS25).
- 13) Are there other potential allocation sites in the same Flood Risk Zone? To answer this question it is necessary to refer to relevant planning documents (including the Development Plan).
- 14) Is the proposed development site likely to be safe and appropriate? This should be decided based on the site specific flood risk assessment and other planning considerations. Liaison with the EA will be necessary to determine if the FRA addresses all flood risk issues and delivers a safe and compatible development.

It must be noted that whereas the principle remains the same, more recent guidance for Local Planning Authorities on applying the Sequential Test is now available on the Environment Agency website

(<http://www.environment-agency.gov.uk/research/planning/82584.aspx>).

Figure 1: Application of the Sequential Test



2.1.8

The checklist used by the Environment Agency to facilitate the demonstration of the application of the Sequential Test to planning applications is provided as Table 1.

Table 1: EA Checklist for the demonstration of the application of the Sequential Test to planning applications

Question	Answer Yes/No	Sequential Test – passed or failed?
1. Is this application consistent in scale, development type and location, with a site allocation that has already been sequentially tested and included in the Local Development Document (LDD)?	If yes, state which allocation and the location in the development plan. If the answer is 'No' go to Question 2.	If the answer is Yes the Sequential Test has been passed – FINISH HERE
2. Does the application site fall within an area identified for 'windfall' development that has been agreed as part of the LDD in association with a Strategic Flood Risk Assessment (SFRA)?	If yes, state the location in the LDD. If the answer is 'No' or there are no such areas identified in the LDD, go to Question 3.	If the answer is Yes the Sequential Test has been passed – FINISH HERE
3. Does the LDD or background documents contain reasonably available, alternative site allocations that are situated in a lower flood risk zone?	If yes, state which allocation(s) and the location in the development plan. If the answer is 'No' go to Question 4	If the answer is Yes the Sequential Test has been failed – FINISH HERE
4. Does the development plan or background documents contain reasonably available, alternative site allocations that are within the same Flood Zone and subject to a lower probability of flooding from all sources as detailed by the SFRA?	If yes, state which allocation(s) and the location in the development plan.	If the answer is No to Questions 3 and 4 the Sequential Test has been passed. If the answer is Yes to Question 4, the Sequential Test has been failed – FINISH HERE

(Source Companion Guide to PPS25)

The Exception Test

2.1.9

Application of the Sequential Test should ensure that more vulnerable property types, such as residential housing will not be allocated to areas at high risk of flooding. In exceptional situations, there may be well-founded reasons for a development type which is not entirely compatible with the level of flood risk at a particular site to nevertheless be considered. In these circumstances, it will be necessary for the Local Planning Authority or developer to demonstrate that the site qualifies for development in the manner proposed by passing all elements of the Exception Test.

2.1.10

The Exception Test should only be applied following application of the Sequential Test. There are three rigorous conditions, all of which must be fulfilled before the Exception Test can be passed. These conditions are as follows:

- a) it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a SFRA where one has been prepared. If the Local Development Document (LDD) has reached the 'submission' stage (see Figure 4.1 of PPS12: Local Development Frameworks) the benefits of the development should contribute to the Core Strategy's Sustainability Appraisal (SA);
- b) the development must be on developable (as defined in PPS3: Housing) previously-developed land or, if it is not on previously-developed land, it must be demonstrated that there are no reasonable alternative sites on developable previously-developed land; and

- c) a site-specific Flood Risk Assessment must demonstrate that the development will be safe, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

- 2.1.11 When considering part a) of the test, if a planning application fails to score favourably against the aims and objectives of the Sustainability Appraisal, the Local Planning Authority should consider whether the use of planning conditions and/or Section 106 Agreements of the Town and Country Planning Act, 1990, could make it do so. Where this is not possible the Exception Test has not been satisfied and planning permission should be refused.
- 2.1.12 In the absence of a Sustainability Appraisal, the developer/Local Planning Authority will have to provide a sound justification explaining in detail how the planning application provides wider sustainability benefits to the community that outweigh flood risk. Local Planning Authorities may consider the use of a sustainability checklist for this purpose.
- 2.1.13 Assistance on the consideration of part b) of the test can be found within Planning Policy Statement 3: Housing.
- 2.1.14 With regard to part c) it is the responsibility of the developer to propose a comprehensive flood risk management strategy for the site in question, covering:
- the design of any flood defence infrastructure;
 - access;
 - operation and maintenance;
 - resident awareness;
 - flood warning; and
 - evacuation procedures and funding arrangements.
- 2.1.15 The detailed hydraulic modelling work carried out in flood cells 4 & 5 Lewes and flood compartment 4 Newhaven should assist the Council when undertaking the exception test in those areas, as it provides a good indication of the sectors at low, medium and high risk of flooding.
- Presentation of Results**
- 2.1.16 A GIS mapping system that allows layer superimposition was adopted to present the results. This system enables the analysis of all the factors influencing flood risk and facilitates the application of the Sequential and Exception tests.
- 2.1.17 The various maps produced as part of this study have been formatted so information is not overlooked or missed due to the superimposition of layers or resolution. When opening individual tables to create new maps, special attention is required to ensure all layers are fully visible and nothing is ignored.
- 2.1.18 The software package used for this purpose was MapInfo which is also used by the Environment Agency. This program is however compatible with most GIS standard packages which can also be used to access the data.
- 2.1.19 A more detailed explanation of the GIS layers used can be found in the GIS Layers and Maps section of this report.
- Optimising the Use of the SFRA**
- 2.1.20 To ensure this document is used to its full potential, the following table has been prepared.

Table 2: SFRA and the Planning Process

Task	Stage within Planning Process	Refer to	Mapping	To be carried out by
Application of the Sequential Test	Initial	Schematic shown as Figure 1 of this report and process described in Section 2.1.7	Maps reference shown in schematic (Figure 1)	Local Planning Authority
Application of Exception Test	If necessary and only after Sequential Test has been applied	The Exception Test section in Chapter 2 of this report	Refer to all maps (as necessary)	Local Planning Authority or Developer
Site Specific Flood Risk Assessments (FRA)	As early as possible	Appendix C for requirements based on Flood Zones	Refer to: Map 002 for identification of flood risk zones Map 004 for flooding history Map 006 for potential flood risk Map 007 for groundwater risk Map 009 for environmental considerations Map 010 for residual flood risk Map 011 for areas inadequate for infiltration techniques FD2320 and other Maps (if necessary)	Competent drainage and flood risk professionals appointed by the Developer
Sustainable Drainage Systems (SUDS)	To accompany FRAs	Appendix C for background information	Refer to: Map 011 for areas inadequate for infiltration techniques Map 006 for potential flood risk	Competent drainage and flood risk professionals appointed by the Developer

3 Area Overview

- 3.1.1 Lewes District is located within East Sussex on the south east coast of England and covers the majority of the River Ouse catchment as well as relatively small sections of the River Adur and the Cuckmere catchments.
- 3.1.2 The District has an area of 29,350ha, the majority of which is used for agricultural purposes. The main settlements within its boundaries include Lewes, Newhaven, Seaford and Peacehaven/Telscombe.
- 3.1.3 Lewes District has been identified as being able to provide on average 220 new homes per year until the year 2026 (South East Plan, 2009).
- 3.1.4 The vast majority of flooding problems in the District can be attributed to the River Ouse or the sea (primary sources). Other flood sources such as groundwater, sewers, surface water and infrastructure failure have a limited effect in terms of extent but could have as much of an impact as the primary sources.
- 3.1.5 The tidal influence along the River Ouse extends upstream from Newhaven at the mouth to Barcombe Mills. Along this stretch flooding can be caused by a combination of high tides and significant river flows that individually may not cause any problems to the system.
- 3.1.6 Flood defences within Lewes District provide varying levels of protection along the River Ouse and the coast. The Environment Agency has undertaken a significant amount of work following the October 2000 flood event to improve standard of defences in the area.
- 3.1.7 Until recently the ageing drainage infrastructure within the District and in particular in the town of Lewes frequently contributed to flooding (both storm water and sewage) and consequent poor water quality in the River Ouse. Works have taken place since 1990 to reduce the risk and it is envisaged that the Lewes Integrated Urban Drainage Pilot Scheme currently being undertaken will further improve the situation.
- 3.1.8 Due to the underlying chalk aquifer, groundwater flow is a real concern in the Lower Ouse. When groundwater flooding does occur, it can last for months and damages can be significant. However, this is known to occur in relatively few urban areas.
- 3.1.9 There is currently one fully operational reservoir in Lewes District (Barcombe) with another one located in Wealden District Council in close proximity to Lewes District (Arlington). A new reservoir is being proposed within Lewes District at Clay Hill.
- 3.1.10 No canals exist within the District boundaries or its immediate vicinity.
- 3.1.11 The Environment Agency has identified seven flood warning areas within the River Ouse Catchment, five of which are within Lewes District. Additionally, there are Flood Plans in place for two areas of the District: Lewes Town and Seahaven.
- 3.1.12 The risk of fluvial and tidal flooding is increasing as a result of global warming and climate change. PPS25 makes allowances for the likely effects of climate change. These allowances have been taken into consideration throughout this study.

4 Data Collection

4.1.1 A Schedule of the data and information considered to be required for the strategic flood risk assessment was prepared at the beginning of the study. The various items of data were grouped into categories and the anticipated source of the information identified.

4.1.2 As the study progressed, the Schedule was amended to reflect the findings of the data collection process. The final version of the Schedule is given in Table 3 below.

Table 3: Schedule of Data and Information for the preparation of the SFRA

Section 1 – Sources of Flooding

	Supplied by -	Reliable / Complete	Comments
1. Plan (1/25,000 or larger) showing all Main Rivers and COWs in the Ouse, Adur and Cuckmere & Sussex Havens Catchments.	EA	Yes	
2. Details of all COWs in the District, including details of culverted sections.	LDC/EA	Partial	No details of culverts provided
3. Summary of all channel long & X-section data available for Main Rivers within the District, including details of EA flood storage lagoons.	EA	Partial	Not all main rivers and no storage lagoons
4. Summary of all channel long & X-section data available for non-Main River watercourses within the District.	LDC	Partial	Not available for all
5a Flooding Records & Maps - all available data for the whole District, including minor events.	LDC	Significant amount available	
5b Flooding records & Maps - all available data for Ouse, Adur and Cuckmere & Sussex Havens Catchments	EA	Partial	Significant amount for the Ouse
5c Flooding records - all available data for surface water and combined sewers within the District.	SW	Partial	Only last 10 years provided
6a Report & Plans for the post-2000 Lewes Flood Alleviation Scheme, including details of design flood flows, flood levels and defence levels.	LDC	Partial	No PAR made available
6b Ditto for other Flood Alleviation Schemes within the District	LDC	No	Available?
Continued over....			

Continued....	Supplied by -	Reliable / Complete	Comments
7. Map showing areas protected by the post-2000 Lewes Flood Alleviation Scheme and the standard of protection provided.	LDC	Partial	No PAR made available
8a Description of all computer-based hydraulic modelling carried out in Ouse, Adur and Cuckmere & Sussex Havens catchments (Main Rivers and tributaries), specifying lengths of channels modelled, including details of any earlier modelling.	EA	Yes	
8b Selected hydraulic model results (i.e. flood level profiles along channels modelled).	EA	Significant amount available	
9a Summary of all stream flow gauging stations in Ouse, Adur and Cuckmere & Sussex Havens catchments (i.e. OS grid ref, gauge type, period of record, etc).	EA	Yes	
9b Summary of all water level recorder stations ditto	EA	Yes	
10. Plan showing principal surface water sewers (i.e. diameters \geq 500mm) in Lewes District.	LDC	Yes	
11. Details of Flood Warning Schemes (including emergency response) in operation in the District.	LDC	Yes	Only Lewes and Seahaven made available
12. Details of flooding from the XXXXXXXX Canal and location of storm overflow weirs.	BWB	n/a	
13. Details of existing flood storage lagoons, runoff retention ponds etc on non-Main Rivers in the District.	LDC	n/a	

Section 2 – Topography

	Supplied by -	Reliable / Complete	Comments
1. OS Base Maps in electronic format on CD (coverage of the whole District) at 1/50,000 1/10,000 and 1/2,500 scale	LDC	Yes	
2. Selected LIDAR data	EA	Yes	
3. OS level data from major development plans	LDC	Partial	Details for Phoenix Site provided
4. OS level data and floodplain obstruction details from major highway schemes	ESCC	Partial	No OS level data available
Continued over....			

Section 3 – Land Use Planning

Continued....	Supplied by -	Reliable / Complete	Comments
1. Local Plan and/or Local Development Framework (if available).	LDC	Yes	Local Plan (March 2003)
2. Lewes District Council Urban Housing Capacity Assessment.	LDC	Yes	
3. Lewes District Council Key Issues Consultation Report Summary of Responses.	LDC	Yes	
4a Details of Major Development Areas (Existing & Proposed) in the Local Planning Authority area.	LDC	Partial	Some info provided
4b County Structure Plan.	ESCC	Yes	From website
4c Regional or Sub-Regional Strategy Studies.	RA	Yes	From website
5. Details of significant environmental sites in the District (NNRs, SSSIs, SIAs etc).	LDC	Yes	
6. Catchment Flood Management Plans (CFMPs) and Local Environmental Action Plans (LEAPs) or most recent equivalent.	EA	Yes	
7. Shoreline Management Plans (SMPs)	LDC	Yes	
8. Land Use Maps	LDC	No	
9. Local Drainage Studies	LDC	Yes	Only Wivelsfield available

KEY: LDC: Lewes District Council
 SW: Southern Water
 ESCC: East Sussex County Council

EA: Environment Agency
 BW: British Waterways
 RA: Regional Assembly

4.1.3

The appropriate authority (as listed in the "supplied by" column in the table above) was contacted either by the Council (EA) or directly by Faber Maunsell (SW, ESCC, etc) with a request for the information outlined under the relevant item of data or information required. The initial request was usually followed by further correspondence or an exchange of telephone calls, faxes or e-mails. The completeness of the data ultimately obtained under each item is summarised and commented on in the third and fourth columns of the above table. All the data and information received from the various sources was then collated and evaluated, as described in the following sections of this Report.

5 GIS Layers and Maps

A series of maps have been produced to accompany this study and facilitate the application of the Sequential and Exception Tests. A GIS based mapping system using the software package 'MapInfo' was implemented for this effect.

MapInfo uses a series of tables and allows superimposition of their contents to facilitate assessment of the information. This principle has been used to create the various maps necessary for this study as described in Table 5.

The tables containing information relevant to the study were provided by the various key stakeholders. A review of the information provided for mapping purposes is carried out below.

Table 4: GIS Tables Used for Mapping

Table Name	Supplied by	Reliable / Complete	Comments
Adur_Tidal_ABD	EA	Yes	Areas Benefiting from Defences
Adur_Tidal_ABD_Region	EA	Yes	Areas Benefiting from Defences
Adur_Xsecs_all	EA	Yes	Cross sections
CoastalFWAs	EA	Yes	Flood Warning Areas
Current_Boreholes_Lewes_DC	EA	Yes	
Evacuation_sectors_bc	EA	Yes	
FEO_Lewes_1960	EA	Yes	Flood Event Outline
FEO_Ouse_1975	EA	Yes	Flood Event Outline
FEO_Ouse_2000	EA	Yes	Flood Event Outline
FEO_Ringmer_1987	EA	Yes	Flood Event Outline
FEO_Seaford_1996	EA	Yes	Flood Event Outline
FEpoints	EA	Yes	Flooded Event Points
flood_cells_AJS_030204	EA	Yes	flood risk sectors in Lewes
FloodSectorA	EA	Yes	
FloodSectorB	EA	Yes	
FloodSectorC	EA	Yes	
FloodSectorD	EA	Yes	
FloodSectorE	EA	Yes	
FloodSectorF	EA	Yes	
FloodWatchAreas_Lewes_DC	EA	Yes	
FluvialFWAs	EA	Yes	Flood Warning Areas
Full_Adur_Output_PAB	EA	Yes	Flood Levels at cross sections
Full_Adur_Output_PABa	EA	Yes	Flood Levels at cross sections
Ground_Water_Vulnerability_100	EA	Yes	From Groundwater Vulnerability Map
Lewes_flood_cell_4	EA	Yes	
Lower_Ouse	EA	Yes	Cross sections
Major_High1	EA	Yes	From Groundwater Vulnerability Map
Major_High2	EA	Yes	From Groundwater Vulnerability Map
Major_High3	EA	Yes	From Groundwater Vulnerability Map

Table Name	Supplied by	Reliable / Complete	Comments
Major_HighU	EA	Yes	From Groundwater Vulnerability Map
Major_I1	EA	Yes	From Groundwater Vulnerability Map
Major_I2	EA	Yes	From Groundwater Vulnerability Map
Major_L	EA	Yes	From Groundwater Vulnerability Map
Marshalling areas	EA	Yes	From emergency plans
Minor_H1	EA	Yes	From Groundwater Vulnerability Map
Minor_H2	EA	Yes	From Groundwater Vulnerability Map
Minor_H3	EA	Yes	From Groundwater Vulnerability Map
Minor_HU	EA	Yes	From Groundwater Vulnerability Map
Minor_I1	EA	Yes	From Groundwater Vulnerability Map
Minor_L	EA	Yes	From Groundwater Vulnerability Map
Minor_I2	EA	Yes	From Groundwater Vulnerability Map
MRO_1_XS_WL	EA	Yes	Flood Levels at cross sections
MRO_2_XS_WL	EA	Yes	Flood Levels at cross sections
Newhaven_flood_compartment_4	EA	Yes	
Ouse_Fluvial_ABD	EA	Yes	Areas Benefiting from Defences
Ouse_Tidal_ABD	EA	Yes	Areas Benefiting from Defences
SO_floodzone2_v3_3_Clip	EA	Yes	Flood Zone 2
SO_floodzone3_v3_3_Clip	EA	Yes	Flood Zone 3
Standard_1000yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_100yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_200yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_2yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_30yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_50yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_5yr	EA	Yes	Standard of protection provided by defences (NFCDD)
Standard_unknown	EA	No	Standard of protection provided by defences (NFCDD)

Table Name	Supplied by	Reliable / Complete	Comments
Structures	EA	Yes	Water Management Structures from NFCDD
URO_1_XS_WL	EA	Yes	Flood Levels at cross sections
URO_2_XS_WL	EA	Yes	Flood Levels at cross sections
URO_3_XS_WL	EA	Yes	Flood Levels at cross sections
Watercourses	EA	Yes	Includes main rivers and COWs
xsecs_framfield	EA	Yes	Cross sections
Xsecs_Glynde_Nor	EA	Yes	Cross sections
xsecs_Goldbridge_Ardingly	EA	Yes	Cross sections
Xsecs_Ouse_Uck	EA	Yes	Cross sections
xsecs_tickeridge_stream	EA	Yes	Cross sections
Structure_information	ESCC	Partial	Bridges and culverts – no level information available
Structure_information_#2format	ESCC	Partial	Bridges and culverts – no level information available
Structure_information_#3_forma	ESCC	Partial	Bridges and culverts – no level information available
#YR-10M_EXISTING_MHWS_d_g005_Max	FM	Yes	Various #Return Periods
#YR-10M_EXISTING_MHWS_V_g005_Max	FM	Yes	Various #Return Periods
#YR-10M_EXISTING_MHWS_fd_max	FM	Yes	Various #Return Periods
EXISTING_#YR_MHWSonset	FM	Yes	Various #Return Periods
EXISTING_#YR_MHWSdur	FM	Yes	Various #Return Periods
#YR-10M_RAISED_DEFENCE_MHWS_d_g005_Max	FM	Yes	Various #Return Periods
#YR-10M_RAISED_DEFENCE_MHWS_V_g005_Max	FM	Yes	Various #Return Periods
#YR-10M_RAISED_DEFENCE_MHWS_fd_max	FM	Yes	Various #Return Periods
RAISED_DEFENCE_#YR_MHWSonset	FM	Yes	Various #Return Periods
RAISED_DEFENCE_#YR_MHWSdur	FM	Yes	Various #Return Periods
100YR-10M_UNDEFENDED_MHWS_d_g005_Max	FM	Yes	
100YR-10M_UNDEFENDED_MHWS_V_g005_Max	FM	Yes	
100YR-10M_UNDEFENDED_MHWS_fd_max	FM	Yes	
UNDEFENDED_100YR_MHWSonset	FM	Yes	
UNDEFENDED_100YR_MHWSdur	FM	Yes	
#YR-mhws-dif	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_EXIST_d_g010_Max	FM	Yes	Various #Return Periods

Table Name	Supplied by	Reliable / Complete	Comments
NEWHAVEN_SFRA_#YR_#YRTIDE_E XIST_V_g010_Max	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_E XIST_fd_max	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_E XISTonset	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_E XISTdur	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_R AISEDDEFENCE_d_g010_Max	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCE_V_g010_Max	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCE_fd_max	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCEonset	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCEdur	FM	Yes	Various #Return Periods
NEWHAVEN_SFRA_2YR_200YRTIDE _UNDEFENDED_d_g010_Max	FM	Yes	
NEWHAVEN_SFRA_2YR_200YRTIDE _UNDEFENDED_V_g010_Max	FM	Yes	
NEWHAVEN_SFRA_2YR_200YRTIDE _UNDEFENDED_fd_max	FM	Yes	
NEWHAVEN_SFRA_2YR_200YRTIDE _UNDEFENDEDonset	FM	Yes	
NEWHAVEN_SFRA_2YR_200YRTIDE _UNDEFENDEDdur	FM	Yes	
NEWHAVEN_SFRA_#YR_#YRTIDE_d _g010_diff	FM	Yes	Various #Return Periods
dem_5m-5_5_MHWS(2115)	FM	Yes	
dem_5m-5_5_MHWS(2115)-defended	FM	Yes	
fd2320_Legend	FM	YES	
diff_Legend	FM	YES	
Flow_Depth_Legend	FM	YES	
Flow_Velocity_Legend	FM	YES	
Lewes-onset_Legend	FM	YES	
Lewes-dur_Legend	FM	YES	
Newhaven_depth_Legend	FM	Yes	
Newhaven_vel_Legend2	FM	Yes	
newhaven-onset_Legend	FM	Yes	
newhaven-duration_Legend	FM	Yes	
Lewes_flood_compartment_number	FM	Yes	
Newhaven_flood_compartments	FM	Yes	based on information provided by EA
Climate Change Outline	FM	Yes	From Hydraulic modelling carried out for the SFRA
Dry riverbed	FM	Yes	From Hydrogeological map
Peacetime_Emergency_Flood_Assess ment	FM	Yes	From information provided by LDC
points_25yr	FM	Yes	Functional Floodplain (1in 25 years outline)
Springs	FM	Yes	From Hydrogeological map
Ancient_Monuments	LDC	Yes	From Local Plan
AONB	LDC	Yes	From Local Plan

Table Name	Supplied by	Reliable / Complete	Comments
Archaeological_Interest	LDC	Yes	From Local Plan
Clay	LDC	Yes	From Geology Map
Contaminated_Land	LDC	Yes	
ESA	LDC	Yes	From Local Plan
Historic_Battlefields	LDC	Yes	From Local Plan
Historic_Parks_and_Gardens	LDC	Yes	From Local Plan
Landfill_Sites	LDC	Yes	
LDC_Ancient_Woodland	LDC	Yes	From Local Plan
ldcarea	LDC	Yes	
Local_Nature_Reserves	LDC	Yes	From Local Plan
MM_AREA	LDC	Yes	OS Background
MM_ANNO	LDC	Yes	text for OS Background
National_Nature_Reserves_Clip	LDC	Yes	From Local Plan
parish_bnds	LDC	Yes	Shows Parish Boundaries
Proposed_National_Park	LDC	Yes	From Local Plan
Reservoirs	LDC	Yes	
SEWER_LINE	LDC	Partial	Only main trunk sewers included
sewers_diam_over_500mm	LDC	Yes	
SNCI	LDC	Yes	From Local Plan
Special_Areas_Of_Conservation_	LDC	Yes	From Local Plan
SSSI	LDC	Yes	From Local Plan
Lewes Flooding_List	SW	Partial	Only last 10 years provided

The above tables were used to create a series of maps to assist the application of the Sequential and Exception Tests. A brief description of the maps produced and the various tables shown on each map is included below.

Table 5: Summary of Maps Created

Map Reference	Map Title	Tables Used
001	River Network	MM_AREA* ldcarea* Watercourses* parish_bnds
002	Flood Risk Zones	All base tables plus SO_floodzone2_v3_3_Clip SO_floodzone3_v3_3_Clip points_25yr
003	Flood Defences	All base tables plus Standard_2yr Standard_5yr Standard_30yr Standard_50yr Standard_100yr Standard_200yr Standard_1000yr Standard_unknown Structures
004	Historical Flooding	All base tables plus FEpoints Lewes_Flooding_List FEO_Ouse_2000 FEO_Seaford_1996 FEO_Ringmer_1987 FEO_Ouse_1975 FEO_Lewes_1960

Map Reference	Map Title	Tables Used
005	Extent of Hydraulic Modelling	All base tables plus xsecs_tickeridge_stream Lower_Ouse xsecs_Goldbridge_Ardingly Xsecs_Glynde_Nor xsecs_framfield Xsecs_Ouse_Uck Adur_Xsecs_all URO_3_XS_WL URO_2_XS_WL URO_1_XS_WL Full_Adur_Output_PAB Full_Adur_Output_PABa MRO_1_XS_WL MRO_2_XS_WL
006	Sources of Potential Flood Risk	All base tables plus Structure_information Structure_information_#3_forma Structure_information_#2format sewers_diam_over_500mm SEWER_LINE Reservoirs
007	Groundwater Risk	All base tables plus Current_Boreholes_Lewes_DC Springs Dry_riverbed Minor_L Minor_I2 Minor_I1 Minor_HU Minor_H3 Minor_H2 Minor_H1 Major_L Major_I2 Major_I1 Major_HighU Major_High3 Major_High1 Major_High2 Ground_Water_Vulnerability_100
008	Existing Emergency Plans	All base tables plus Peacetime_Emergency_Flood_Asse marshalingareas evacuation_sectors_bc FloodSectorA FloodSectorE FloodSectorD FloodSectorC FloodSectorB FloodSectorF FloodWatchAreas_Lewes_DC CoastalFWAs FluvialFWAs

Map Reference	Map Title	Tables Used
009	Environmental Considerations	All base tables plus Special_Areas_Of_Conservation_Archaeological_Interest Historic_Parks_and_Gardens Ancient_Monuments SNCI Historic_Battlefields ESA AONB LDC_Ancient_Woodland SSSI Local_Nature_Reserves National_Nature_Reserves_Clip Proposed_National_Park
010	Residual Flood Risk	All base tables plus SO_floodzone2_v3_3_Clip SO_floodzone3_v3_3_Clip Points_25yr Ouse_Fluvial_ABD Adur_Tidal_ABD_Region Adur_Tidal_ABD Ouse_Tidal_ABD
011	Areas Unsuitable For Drainage Infiltration Techniques	All base tables plus Springs Clay Contaminated_Land Landfill_Sites Major_High2 Major_HighU Major_High3 Major_High1 Major_I2 Major_I1 Major_L
012	Climate Change Outline	All base tables plus Climate_Change_Outline
LEW01	Lewes Flood Risk Sectors	All base tables plus lewes_flood_compartment_number flood_cells_AJS_030204
SEAH01	Seahaven Flood Risk Sectors	All base tables plus newhaven_flood_compartments
LFC4 Existing Defences #yr RP_Depth	Maximum Depth of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_EXISTING_MHWS_d_g005_Max Flow_Depth_Legend
LFC4 Existing Defences #yr RP_Velocity	Maximum Velocity of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_EXISTING_MHWS_V_g005_Max Flow_Velocity_Legend
LFC4 Existing Defences #yr RP_FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_EXISTING_MHWS_fd_max fd2320_Legend

Map Reference	Map Title	Tables Used
LFC4 Existing Defences #yr RP_Onset	Rate of Onset	All base tables plus Lewes_flood_cell_4 MM_ANNO EXISTING_#YR_MHWSonset Lewes-onset_Legend
LFC4 Existing Defences #yr RP_Duration	Maximum Duration of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO EXISTING_#YR_MHWSdur Lewes-dur_Legend
LFC4 Raised Defences #yr RP_Depth	Maximum Depth of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_RAISED_DEFENCE_MHWS_d_g005_Max Flow_Depth_Legend
LFC4 Raised Defences #yr RP_Velocity	Maximum Velocity of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_RAISED_DEFENCE_MHWS_V_g005_Max Flow_Velocity_Legend
LFC4 Raised Defences #yr RP_FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_RAISED_DEFENCE_MHWS_fd_max fd2320_Legend
LFC4 Raised Defences #yr RP_Onset	Rate of Onset	All base tables plus Lewes_flood_cell_4 MM_ANNO RAISED_DEFENCE_#YR_MHWSonset Lewes-onset_Legend
LFC4 Raised Defences #yr RP_Duration	Maximum Duration of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO RAISED_DEFENCE_#YR_MHWSdur Lewes-dur_Legend
LFC4 undefended 100yr RP_Depth	Maximum Depth of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_UNDEFENDED_MHWS_d_g005_Max Flow_Depth_Legend
LFC4 undefended 100yr RP_Velocity	Maximum Velocity of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_UNDEFENDED_MHWS_V_g005_Max Flow_Velocity_Legend
LFC4 undefended 100yr RP_FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-10M_UNDEFENDED_MHWS_fd_max fd2320_Legend
LFC4 undefended 100yr RP_Onset	Rate of Onset	All base tables plus Lewes_flood_cell_4 MM_ANNO UNDEFENDED_#YR_MHWSonset Lewes-onset_Legend

Map Reference	Map Title	Tables Used
LFC4 Undefined 100yr RP_Duration	Maximum Duration of Flooding	All base tables plus Lewes_flood_cell_4 MM_ANNO UNDEFENDED_#YR_MHWSdur Lewes-dur_Legend
LFC4 Difference #yr RP_Depth	Depth Difference	All base tables plus Lewes_flood_cell_4 MM_ANNO #YR-mhws-dif diff_Legend
NFC4_2007 Existing Def_#yrF+#yrT_ Depth	Maximum Depth of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_EXI ST_d_g010_Max Newhaven_depth_Legend
NFC4_2007 Existing Def_#yrF+#yrT_ Velocity	Maximum Velocity of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_EXI ST_V_g010_Max Newhaven_vel_Legend2
NFC4_2007 Existing Def_#yrF+#yrT_ FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_EXI ST_fd_max fd2320_Legend
NFC4_2007 Existing Def_#yrF+#yrT_ Onset	Rate of Onset	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_EXI STonset newhaven-onset_Legend
NFC4_2007 Existing Def_#yrF+#yrT_ Duration	Maximum Duration of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_EXI STdur newhaven-duration_Legend
NFC4_2007 Raised Def_#yrF+#yrT_ Depth	Maximum Depth of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_RAI SEDDEFENCE_d_g010_Max Newhaven_depth_Legend
NFC4_2007 Raised Def_#yrF+#yrT_ Velocity	Maximum Velocity of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCE_V_g010_Max Newhaven_vel_Legend2
NFC4_2007 Raised Def_#yrF+#yrT_ FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCE_fd_max fd2320_Legend
NFC4_2007 Raised Def_#yrF+#yrT_ Onset	Rate of Onset	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCEonset newhaven-onset_Legend
NFC4_2007 Raised Def_#yrF+#yrT_ Duration	Maximum Duration of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_ RAISEDDEFENCEdur newhaven-duration_Legend

Map Reference	Map Title	Tables Used
NFC4_2007 Undef_2yrF+200yrT_Depth	Maximum Depth of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_2YR_200YRTIDE_U UNDEFENDED_d_g010_Max Newhaven_depth_Legend
NFC4_2007 Undef_2yrF+200yrT_Velocity	Maximum Velocity of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_2YR_200YRTIDE_ UNDEFENDED_V_g010_Max Newhaven_vel_Legend2
NFC4_2007 Undef_2yrF+200yrT_FD2320	FD2320_Safe Access and Exit Analysis	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_2YR_200YRTIDE_ UNDEFENDED_fd_max fd2320_Legend
NFC4_2007 Undef_2yrF+200yrT_Onset	Rate of Onset	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_2YR_200YRTIDE_ UNDEFENDED_onset newhaven-onset_Legend
NFC4_2007 Undef_2yrF+200yrT_Duration	Maximum Duration of Flooding	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_2YR_200YRTIDE_ UNDEFENDEDdur newhaven-duration_Legend
NFC4_2007 Difference_#yrF+#yrT_Depth	Depth Difference	All base tables plus newhaven_flood_compartment_4 NEWHAVEN_SFRA_#YR_#YRTIDE_d_g 010_diff diff_Legend
NFC4_2115 Existing Defences_200yrT_Depth	Maximum Depth of Flooding	All base tables plus newhaven_flood_compartment_4 dem_5m-5_5_MHWS(2115) newhaven-depth_Legend
NFC4_2115 Raised Defences_200yrT_Depth	Maximum Depth of Flooding	All base tables plus newhaven_flood_compartment_4 dem_5m-5_5_MHWS(2115)-defended newhaven-depth_Legend

Glossary

Annual exceedence probability

The estimated probability of a flood of given magnitude occurring or being exceeded in any year. Expressed as, for example, 1 in 100 chance or 1 per cent.

Attenuation

Reduction of peak flow and increased duration of a flow event.

Catchment Flood Management Plans (CFMP)

A strategic planning tool through which the Environment Agency will seek to work with other key decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.

Standard of Protection

The design event or standard to which a building, asset or area is protected against flooding, generally expressed as an annual exceedence probability.

Floodplain

Area of land that borders a watercourse, an estuary or the sea, over which water flows in time of flood, or would flow but for the presence of flood defences where they exist.

Flood Action Group

Local community groups who aim to ensure that all authorities work closely together to manage flood risk and to deliver an action plan to minimise flood risk within their area.

Flood Defence

Flood defence infrastructure, such as flood walls and embankments, intended to protect an area against flooding to a specified standard of protection.

Flood Map

A map produced by the Environment Agency providing an indication of the likelihood of flooding within all areas of England and Wales, assuming there are no flood defences.

Flood Risk Assessment

A study to assess the risk to an area or site from flooding, now and in the future, and to assess the impact that any changes or development on the site or area will have on flood risk to the site and elsewhere. It may also identify, particularly at more local levels, how to manage those changes to ensure that flood risk is not increased. PPS25 differentiates between regional, sub-regional/strategic and site specific flood risk assessments.

Flood Risk Management Measure

Any measure which reduces flood risk such as flood defences.

Flood Risk Management Strategy

A long-term approach setting out the objectives and options for managing flood risk taking into account a broad range of technical, social, environmental and economic issues.

Flood Zone

A geographic area within which the flood risk is in a particular range as defined within PPS25 and in Table 2 of this document.

Greenfield land

Land that has not been previously developed.

Development Plan

The local planning policies for an area consisting of the Regional Spatial Strategy (in this case the South East Plan) and the Local Plan (in this case currently the adopted Lewes District Local Plan, 2003) or Local Development Framework.

Local Development Framework

A non-statutory term used to describe a folder of documents which includes all the local planning authority's Local Development Documents (LDDs). The local development framework will also comprise the Statement of Community Involvement, the local development scheme and the annual monitoring report.

Local Development Documents (LDDs)

All development plan documents which will form part of the statutory development plan, as well as supplementary planning documents which do not form part of the statutory development plan.

Main River

A watercourse designated on a statutory map of Main Rivers, maintained by Defra, on which the Environment Agency has permissive powers to construct and maintain flood defences.

Ordinary watercourse

All rivers, streams, ditches, drains, cuts, dykes, sluices, sewers (other than public sewer) and passages through which water flows which do not form part of a Main River. Local authorities and, where relevant, Internal Drainage Boards have similar permissive powers on ordinary watercourses, as the Environment Agency has on Main Rivers.

Planning Policy Statement (PPS)

A statement of national policy, issued by central Government, on different aspects of land use planning in England (PPS are gradually replacing Planning Policy Guidance notes).

Previously-developed land (often referred to as brownfield land)

Land which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure (PPS3 Annex B)

Regional Spatial Strategy (RSS)

A broad development strategy for a region for a 15 to 20 year period prepared by the Regional Planning Body.

Reservoir (large raised)

A reservoir that holds at least 25,000 cubic metres of water above natural ground level, as defined by the Reservoirs Act, 1975.

Residual risk

The risk which remains after all risk avoidance, reduction and mitigation measures have been implemented.

Resilience

Constructing the building in such a way that although flood water may enter the building, its impact is minimised, structural integrity is maintained, and repair, drying & cleaning are facilitated.

Resistance

Constructing a building in such a way to prevent flood water entering the building or damaging its fabric. This has the same meaning as flood proof.

Return Period

The long-term average period between events of a given magnitude which have the same annual exceedence probability of occurring.

Run-off

The surface flow of water resulting from precipitation that has not infiltrated the soil.

Shoreline Management Plan (SMP)

A plan providing a large-scale assessment of the risk to people and to the developed, historic and natural environment associated with coastal processes. It presents a policy framework to manage these risks in a sustainable manner.

Sustainable Drainage Systems (SUDS)

A sequence of management practices and control structures, often referred to as SUDS, designed to drain water in a more sustainable manner than some conventional techniques. Typically these are used to attenuate run-off from development sites.

Sustainability Appraisal

An integral part of the plan-making process which seeks to appraise the economic, social and environmental effects of a plan in order to inform decision-making that aligns with sustainable development principles.

Vulnerability Classes

PPS25 provides a vulnerability classification to assess which uses of land maybe appropriate in each flood risk zone. These have been included in this report.

Washland

An area of the floodplain that is allowed to flood or is deliberately flooded by a river or stream for flood management purposes.

Windfall sites

Sites which become available for development unexpectedly and are therefore not included as allocated land in a planning authority's development plan.

OTHER TERMS USED IN MAPPING**Areas Benefiting from Defences**

The area that is protected by a defence or defence system against flooding from a 1% (1 in 100) annual probability fluvial event and 0.5% (1 in 200) annual probability tidal event, assuming all defences remain intact and function perfectly. This area does not have to contain any assets of high economic value to be included.

Borehole Data

Location where recorded borehole data is available.

Cross Section Points used in Hydraulic Modelling

Shows the areas for which cross-sectional information was obtained and fed into the different mathematical models prepared on behalf of the Environment Agency.

Dry River Bed

Paths followed by groundwater flows when the groundwater table is high.

EA Flood Events

Location for which the Environment Agency has a recorded history of flooding

ESCC Bridges

Location of bridges owned and maintained by East Sussex County Council.

Flood Defence with SoP of #yr RP

Indicates level of flood defence with a Standard of Protection described in terms of flood Return Period.

Flood Outline (Location year)

Area estimated to have been affected by a flood incident commonly known as "Location" during that year i.e. Ouse 2000.

Flood Risk Sectors

Areas recognised as at risk of flooding during significant events. These areas have their own emergency plans in times of flooding.

Flood Warning

If a flood warning is issued in an area, it means flooding is expected and will cause disruption.

Flood Watch

If an area is issued with a flood watch it means there is the possibility of some flooding.

Flood Zone 2

Land which has between a one in 100 and one in 1000 annual probability (chance) of river flooding (1% -0.1%); or between a one in 200 and 1 in 1000 annual probability (chance) of sea flooding (0.5%-0.1%)

Flood Zone 3

Land which has a greater than one in 100 annual probability (chance) of river flooding (>1%); or greater than one in 200 annual probability (chance) of sea flooding (>0.5%)

Functional Floodplain

Land where water has to flow or be stored in times of flood. Specifically, this land would flood with an annual probability of 1 in 25 (4 %) or greater in any year.

High Soil Class

Indicates soils with High Leaching Potential (H) and includes the following sub-classification:

H1 – Soils which readily transmit liquid discharges because they are either shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

H2 – Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of rapid drainage and low attenuation potential.

H3 – Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges. Some ability to attenuate due to clay or organic matter contents.

Intermediate Soil Class

Indicates soils with Intermediate Leaching Potential (I) and includes the following sub-classification:

I1 – Soils which can possibly transmit a wide range of pollutants.

I2 – Soils which can possibly transmit non or weakly adsorbed pollutants and liquid discharges but are unlikely to transmit adsorbed pollutants.

Low Soil Class

Indicates soils with Low Leaching Potential (L). These are soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal or they have ability to attenuate diffuse pollutants. Generally have high clay content.

Major Aquifer

Highly Permeable formations with known or probable presence of significant fracturing. Highly productive and able to support large abstractions for public supply and other uses.

Marshalling Points

Locations where people will gather when a flooding incident occurs.

Minor Aquifer

Fractured or potentially fractured rocks which do not have a high primary permeability. Seldom produce large quantities of water for abstraction, but important for local supplies and supplying base flow to rivers.

Peacetime Emergency Flood Locations

Points where flooding has occurred in the past and for which an emergency action plan has been prepared.

Structures identified in NFCDD

Flood defence structures identified from the National Flood and Coastal Defence Database.

SW Flood Events

Location for which Southern Water has a recorded history of flooding (last decade).

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