

Appendix A

GLOSSARY

Annual Average Damages (AAD)	The average flood damages that are predicted to occur annually, and could include damages to people, property and the environment.
Annual Exceedance Probability (AEP)	Flood frequency can be expressed in terms of an annual exceedance probability (AEP). This is the probability, as a percentage, that for any given year an event will occur at a certain probability. For example, the 100-year flood can be expressed as the 1% AEP flood, which has a 1% chance of being exceeded in any given year. ¹
Area Action Plans (AAP)	A type of Development Plan Document focussed on a specific location or area subject to conservation or significant change (e.g. major regeneration).
Areas Benefitting from Flood Defences (ABD)	Land that may benefit from the presence of major defences during a 1% fluvial or 0.5% tidal flood event. These are areas that would flood if the flood defence were not present, but may not flood because the defence is present. Areas benefitting from flood storage areas may be remote from the flood defence structure. ²
Areas Susceptible to Groundwater Flooding map (AStGWF)	The AStGWF map is a strategic scale map showing groundwater flood areas on a 1km grid square basis covering England and Wales. This data uses the top two susceptibility bands of the British Geological Society (BGS) 1:50,000 Groundwater Flood Susceptibility Map and thus covers consolidated aquifers and superficial deposits. It shows the national proportion of each 1km grid square where groundwater might emerge. The susceptible areas are represented by one of four area categories showing the proportion of each 1km square that is susceptible to groundwater emergence. It does not show the likelihood of groundwater flooding occurring. The four classes are: 1) less than 25%; 2) greater than or equal to 25% and less than 50%; 3) great than or equal to 50% and less than 75%; 4) great than or equal to 75%. ³
Artesian Aquifer / Artesian Conditions	Groundwater in aquifers between layers of poorly permeable rock, such as clay or shale, may be confined under pressure. If such a confined aquifer is tapped by a well, water will rise above the top of the aquifer and may even flow from the well onto the land surface. Water confined in this way is said to be under artesian pressure, and the aquifer is called an artesian aquifer. ⁴
Asset Management Plan (AMP)	A plan for managing Water and Sewerage Company (WaSC) infrastructure and other assets in order to deliver an agreed standard of service. The Asset Management Plans inform the WaSCs business plans submitted to Ofwat every 5 years and which forms the basis by which price limits for customers are set. These plans identify the timescales and levels of investment required to maintain the serviceability of the assets and improve service where appropriate. (Other organisations have asset management plans e.g. the Environment Agency).
Baseflow	(Also known as groundwater flow) is the flow of groundwater through soils, porous rocks and aquifers. Baseflow contributes to flow in rivers, the extent of which becomes apparent during extended dry periods.
Benefit-Cost Ratio (BCR)	A ratio of the present benefits and costs of an option. A Benefit-Cost Ratio of greater than one indicates benefits are greater than costs.
Biodiversity Framework	The Biodiversity Framework succeeds the Biodiversity Action Plan. The Framework covers 2011-2020 and shows how the four countries of the UK will meet the 'Aichi Biodiversity Targets' set by the Convention on Biodiversity's Strategic Plan for Biodiversity 2011-2020 (published in 2010) and the EU Biodiversity Strategy released in May 2011.
Canal and Rivers Trust	The Canal and Rivers Trust is the organisation responsible for 2200 miles of Britain's canals and rivers.
Capital Expenditure (CAPEX)	Public expenditure defined by the Office of National Statistics as being within the remit of capital for Treasury allocation purposes. Expenditure that provides a benefit realised over a number of years. Privatised water utilities also define CAPEX budgets.

¹ Environment Agency Hydrology: Design flood estimation concepts (Source: <http://evidence.environment-agency.gov.uk/FCERM/en/FluvialDesignGuide/Chapter2.aspx?pagenum=4#>)

² Environment Agency – Areas Benefitting from Flood Defences (Source: <http://data.gov.uk/dataset/flood-map-areas-benefitting-from-flood-defences>)

³ Information from the Environment Agency's Geostore (Source: http://www.geostore.com/environment-agency/WebStore?xml=staticweb/xml/dataLayers_ASGWF.xml)

⁴ USGS Definition (Source: <http://water.usgs.gov/edu/gwartesian.html>)

Catchment Flood Management Plan (CFMP)	A strategic planning tool through which the Environment Agency works with other key decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.
Chance of flooding	The chance of flooding is used to describe the frequency of a flood event occurring in any given year, e.g. there is a 1 in 100 chance of flooding in this location in any given year. This can also be described as an annual probability, e.g. a 1% annual probability of flooding in any given year. Defra's SWMP Technical Guidance uses the term chance of flooding, with the annual probability of a flood incident occurring in brackets. The SWMP Technical Guidance also recommends that the use of the term "return period" should be avoided. ⁵
Civil Contingencies Act 2004	The Act establishes a coherent framework for emergency planning and response within the UK. As part of the Act, Local Resilience Forums must put into place emergency plans for a range of circumstances including flooding.
Combined Sewer Overflows (CSO)	A combined sewer overflow allows the discharge of excess untreated wastewater from a sewer system that carries both sewage and storm water (a combined sewerage system) during a heavy or prolonged rainfall event that has caused the combined sewer to reach its capacity. The increased flow caused by the storm water runoff exceeds the sewerage system's capacity and the sewage is allowed to overflow into streams and rivers through CSO outfalls. CSOs are used under extreme circumstances, and the Environment Agency have design guidance which new CSOs have to be designed to, giving limits on the number of times CSOs are allowed to spill each year.
Core Strategy	A Development Plan Document setting out the spatial vision and strategic objectives of the planning framework for an area, having regard to the Community Strategy.
Cost-Benefit Analysis (CBA)	Analysis which quantifies in monetary terms the costs and benefits of a proposed scheme, including items which the market does not provide a readily available monetary value. Sometimes referred to as Benefit-Cost Analysis.
Critical Drainage Area (CDA)	As defined in the NPPF (Section 10, Footnote 20) a Critical Drainage Area is "an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency)." In Defra's SWMP Technical Guidance: "Critical Drainage Areas are specific areas in Flood Zone 1 only, where runoff can cause problems downstream, and is not necessarily an area where flooding problems may occur."
Critical infrastructure	Infrastructure which is considered vital or indispensable to society, the economy, public health or the environment, and where the failure or destruction would have large impact. This would include emergency services such as hospitals, communications, electricity sub-stations, water treatment works, transport infrastructure and reservoirs.
Cut-Off Drain	Cut-off surface drains are used to prevent water from flowing without restriction down the slopes of cuttings and embankments.
Department for Communities and Local Government (DCLG)	The Department for Communities and Local Government is the Government department which sets policy on local government, housing, urban regeneration, planning and fire and rescue. They have responsibility for all race equality and community cohesion related issues in England and for building regulations, fire safety and some housing issues in England and Wales. The rest of their work applies only to England. Provides funding to and agrees expenditure plans for Local Authorities.
Department for Environment, Food and Rural Affairs (Defra)	Department that brings together the interests of farmers and the countryside; the environment and the rural economy; the food we eat, the air we breathe and the water we drink.
Designing for Exceedance	Designing for Exceedance is an engineering philosophy or approach which aims to plan for and manage flows which are larger than the designed capacity of infrastructure during rainfall events. An example of designing for exceedance would be the use of car parks to store water during flood

⁵ Defra's SWMP Technical Guidance
(https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69342/pb13546-swmp-guidance-100319.pdf)

	events. CIRIA have published a designing for exceedance best practice manual.
Flood Risk Register	A Water and Sewerage Company (WaSC) held register of properties which have experienced sewer flooding (either internal or external flooding) due to hydraulic overload, or properties which are 'at risk' of sewer flooding more frequently than once in 20 years.
Digital Elevation Model (DEM)	A model of the elevation of the ground surface and includes building, vegetation etc.
Digital Terrain Model (DTM)	A model of the terrain of the earth's surface ('bare earth').
Discounting	A method used to convert future benefits or costs to present values, using the discount rate.
Drainage Area Plan (DAP)	A DAP is a comprehensive assessment of a sewer system's performance and condition made by the WaSC. It generally includes a hydraulic model of the foul, combined and some surface water sewers. It also proposes sewerage improvements or repairs to achieve desired levels of service (e.g. the alleviation of Flood Risk sewer flooding properties).
Environment Agency	The Environment Agency was formed in 1996 to protect and improve the environment and was formed under The Environment Act 1995. It is a non-departmental public body sponsored by Defra. The Environment Agency is the leading public body for protecting and improving the environment in England and Wales today and for future generations. The organisation is responsible for wide-ranging matters, including the management of all forms of flood risk, water resources, water quality, waste regulation, pollution control, inland fisheries, recreation, conservation and navigation of inland waterways. It will also have a new strategic overview for all forms of inland flooding.
Environment Agency Flood Zones	<p>Flood Zones are shown on Environment Agency Risk of Flooding from Rivers and Sea Maps. The Flood Zones show the given risk of flooding for an area from a Main River or from the sea. The definition of the flood zones are as follows:</p> <p>Flood Zone 1 – Low Probability - has an annual probability of flooding from rivers or sea less than 0.1% (less than 1 in 1000 year event).</p> <p>Flood Zone 2 – Medium Probability - has an annual probability of flooding from rivers between 0.1% and 1% (between 1 in 1000 year and 1 in 100 year event), (between 0.5% and 0.1% from flooding from the sea)</p> <p>Flood Zone 3a has an annual probability of greater than 1% (greater than 1 in 100 year), (greater than 0.5% from the sea).</p> <p>Flood Zone 3b is deemed as functional floodplain. This is where flood water is naturally stored in times of flood and is determined in the Local Planning Authority's Strategic Flood Risk Assessment (SFRA).</p>
EU Floods Directive (2007)	The EU Floods Directive came into force in November 2007 and is designed to help Member States prevent and limit the impact of floods on people, property and the environment. It was transposed into English law in December 2009 by the Flood Risk Regulations.
Exceedance flows	Excess flow that appears on the surface once the capacity of the underground drainage system is exceeded.
Exception test	The Exception Test, as set out in paragraph 102 of the NPPF ⁶ , is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available. Essentially, the two parts to the Test require proposed development to show that it will provide wider sustainability benefits to the community that outweigh flood risk, and that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.

⁶ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-exception-test/>

FCERM GiA

Flood and Coastal Erosion Risk Management Grant in Aid funding is provided by Defra to the Environment Agency to invest in flood risk management schemes. Funding from the Environment Agency which can be provided to local authorities to invest in flood risk schemes is called Capital Grant. Capital Grant is approved through an appraisal process, whereby the risk management authority seeking FCERM GiA funding submits an Outline Business Case (OBC).

Flood and Water Management Act 2010

The Flood and Water Management Act 2010⁷ received royal assent on 8 April 2010 and provides the legislative framework for managing risk associated with flooding and water resources from all sources including surface water flood risk in England.

Flood Hazard map

A map which identifies flood risk areas and shows:

- a) The likely extent (including water level or depth) of possible floods;
- b) The likely direction and speed of flow of possible floods; and
- c) Whether the probability of each possible flood occurring is low, medium or high.

Flood Risk Area

The methodology for identifying a Flood Risk Area involves an assessment of the national flood risk information used to identify 1km grid squares where local flood risk is considered to be an issue. Thresholds for these squares are: greater than or equal to 200 people at risk; greater than or equal to 1 Critical Service (i.e. schools, hospitals, fire and police stations, and sewage treatment works) at risk; greater than or equal to 20 non-residential properties at risk.

A Flood Risk Area is identified using this set of criteria to form a cluster. Where more than 5 highlighted grid squares are touching a cluster is formed. If these clusters contain more than 30,000 people at risk, the cluster is identified as a Flood Risk Area.

Flood Risk Assessment (FRA)

An assessment of the flood risk carried out by (or on behalf of) a developer to assess the flood risk to and from a development site. Where necessary (see footnote 20 in the NPPF), the assessment should demonstrate to the decision maker how flood risk will be managed now and over the development's lifetime, taking climate change into account and with regard to the vulnerability of its users. The FRA should accompany a planning application submitted to the local planning authority.

Flood Risk Management Plan

A plan for the management of a significant flood risk. The plan must include details of:

- a) Objectives set by the person preparing the plan for the purpose of managing the flood risk, and
- b) The proposed measures for achieving those objectives (including measures required by any provision of an Act of subordinate legislation).

Flood risk map

A map showing in relation to each flood risk:

- a) The number of people living in the area who are likely to be affected in the event of flooding;
- b) The type of economic activity likely to be affected in the event of flooding;
- c) Any industrial activities in the area that may increase the risk of pollution in the event of flooding;
- d) Any relevant protected areas that may be affected in the event of flooding;
- e) Any areas of water subject to specified measures or protection for the purpose of maintaining the water quality that may be affected in the event of flooding; and
- f) Any other effect on
 - i. Human health;
 - ii. Economic activity; or
 - iii. The environment (including cultural heritage).

⁷ Flood and Water Management Act 2010 (available at: <http://www.legislation.gov.uk/ukpga/2010/29/contents>)

Flood Risk Management Strategy	An Environment Agency output which provides a detailed assessment of flood risks (from rivers and the sea) at a location or for a whole catchment and the preferred management measures.
Flood Risk Regulations (FRR) 2009	Legislation that transposed the European Floods Directive in England and Wales.
Future Water	The Government's water strategy for England; Future Water was published in February 2008. This strategy sets out the Government's long-term vision for water and the framework for water management in England.
Grant in Aid	Grant in Aid funding is provided by Defra to the Environment Agency to invest in flood risk management schemes. Funding from the Environment Agency which can be provided to local authorities to invest in flood risk schemes is called Capital Grant. Capital Grant is appraised by the Environment Agency, where Outline Business Cases are submitted.
Green Infrastructure Plans	These Local Authority plans seek to provide improved green infrastructure within urban environments, such as parks, woodlands etc.
Greenfield runoff rate	This is the rate at which water runs off and discharges from an undeveloped green field. It is assumed that for where development is proposed, by limiting the discharge rate to the greenfield runoff rate i.e. the runoff rate prior to development, flood risk adjacent and downstream of the proposed development will not increase. In some places, this will be stipulated as policy in the Local Plan or Strategic Flood Risk Assessment therefore this requirement will need to be met in order to gain planning permission.
Highways Authority (Hertfordshire County Council (HCC))	Local authority (unitary or county) with responsibility for managing, maintaining and improving England's roads which are not under the responsibility of Highways England (formerly the Highways Agency), in this case Hertfordshire County Council.
Highways England	Highways England (formerly the Highways Agency) is responsible for managing, maintaining and improving England's motorways and trunk roads.
Hotspot	A spatially limited area where there are a number of properties, either residential or non-residential that are at risk of flooding. Hotspots were designated by hand, analysed using a Multi-Criteria Analysis (MCA) and informed through stakeholder discussions.
Integrated Urban Drainage (IUD) Pilots	These are the 15 Defra funded studies which ran from January 2007 – June 2008 to test new approaches to working in partnership to improve management of urban drainage.
Internal Drainage Boards (IDB)	Local drainage authorities established in some areas of the country, historically in low-lying areas with particular land drainage problems.
Joint Probability	Joint probability analysis gives the probability of two or more conditions which affect risk occurring at the same time. For example, high river levels can impede sewer outfalls.
Lead Local Flood Authority (LLFA)	Under the Flood and Water Management Act (2010) it specifies the role for local authorities in that the unitary or council for an area will be designated as a LLFA. As LLFA for Hertfordshire the County Council need to develop, maintain, apply and monitor a strategy for local flood risk management in its area. HCC must also establish and maintain a register of structures or features likely to have a significant effect on flood risk in its area, including their ownership and state of repair.
Local Development Framework (LDF)	The Local Development Framework was introduced in the Planning and Compulsory Purchase Act 2004 and describes the folder of documents which includes the Local Planning Authority's Development Plan Documents.
Local Flood Risk Management Strategy (LFRMS)	The Lead Local Flood Authority (Hertfordshire County Council) is required to produce a Local Flood Risk Management Strategy as detailed in the Flood and Water Management Act (2010). The aim of the LFRMS is to develop, maintain, review, update as well as apply and monitor the application of a strategy for local flood risk in their area.

Local Plan	Local Plans were introduced in the Localism Act 2011 in an effort to simplify the Local Development Framework documents into one single plan. Local Plans are prepared by the Local Planning Authority (LPA) and sets planning policies in the local authority area. The Local Plan is required to contain a Core Strategy, Site Allocations and Proposals Map. Other optional documents include Area Action Plans and other Development Plan Documents along with Supplementary Planning Documents.
Local Planning Authority (LPA)	The Local Planning Authority (LPA) is empowered by law to exercise planning functions. Often the local borough or district council. National Parks and the Broads Authority are also considered to be Local Planning Authorities. County councils are the authority for waste and minerals matters.
Local Resilience Forums (LRF)	Local Resilience Forums are multi-agency partnerships made up of representatives from local emergency services, local authorities, the NHS and the Environment Agency. The LRFs prepare and plan for localised incidents and emergencies identifying potential risks and producing emergency plans to prevent or mitigate the impact of any incident on the local community.
Main River	Main Rivers are watercourses marked as such on the Main River map. Generally Main Rivers are larger streams or rivers, but can be smaller watercourses. Main Rivers are determined by Defra in England and the Welsh Government in Wales. The Environment Agency has legal responsibility for Main Rivers. The Environment Agency's powers to carry out flood defence work apply to Main Rivers only.
Making Space for Water (MSfW)	MSfW, launched in 2004, outlines the Government strategy for the next 20 years to implement a more holistic approach to managing flood and coastal erosion risks in England.
Metadata	Metadata can be described as 'data about data'. For example, it can contain information about when data was created, who created it, or when it was last updated.
Multi-Agency Flood Plans (MAFP)	Multi-Agency Flood Plans are specific emergency plans which should be which should be developed by LRFs, to deliver a coordinated plan to respond to flood incidents.
Multi-Criteria Analysis (MCA)	MCA is a tool to assist decision-making where there are a number of different factors to consider. Each factor is scored and weighted to weigh up the benefits of different intervention options.
National Planning Policy Framework (NPPF)	The NPPF sets out national planning policy for England and how these are expected to be applied. The NPPF was published in March 2012 and simplified national planning policy into one document. The NPPF provides a framework for local people and planning authorities to produce their own Local Plans which reflect the needs and priorities of the community.
National Receptor Dataset (NRD)	The National Receptor Dataset is a collection of receptors (buildings; roads railways etc.) that can be affected by a hazard such as flooding. Examples of appropriate use of the NRD include production of SWMPs.
Net Present Value (NPV)	The discounted value of a range of costs and benefits. NPV is used to describe the difference between the present value of costs and benefits in future years.
Ofwat	Ofwat (the Water Services Regulation Authority) is the economic regulator of the water and sewerage sector in England and Wales. The industry comprises 21 regional water only and water and sewerage companies. Ofwat seeks to protect consumers, promote value and safeguard the future for the provision of water services. It does this by, wherever appropriate, promoting effective competitive values and acting to enable efficient water and sewerage companies to carry out and finance their functions. For sewerage these functions include the effectual drainage' of existing (and future) customers' premises. The price limits Ofwat sets every 5 years allow the companies to deliver any levels of service acceptable to consumers or required by statute, including meeting growth or changes in demand.
Operational Expenditure (OPEX)	The costs incurred through the day-to-day management of an operation, and maintenance of an asset or a scheme. Public Expenditure defined as annual by the Office of National Statistics for Treasury allocation 86 purposes. Privatised water utilities also define OPEX budgets.

Ordinary watercourse	An Ordinary watercourse is any other river, stream, ditch, cut, sluice, dyke or non-public sewer which is not a Main River. The LLFA and IDB's are responsible for regulating and consenting works, whereas the District Councils and IDBs have the power to carry out flood risk management works.
Outcome Measures	Outcome Measures are a method to judge different schemes against one another to allow the best mix of schemes to be approved.
Periodic Review (PR)	Ofwat requires WaSCs to periodically submit proposed business plans and price limits for customers. This 'periodic review' has taken place every five years since 1994. There was a 'periodic review' in 2009 which set price limits for 2010-15.
Permitted development rights	Qualified rights to carry out certain limited forms of development without the need to make an application for planning permission, as granted under the terms of the Town and Country Planning (General Permitted Development) Order 1995.
Pitt Review (2008)	An independent review of the 2007 summer floods by Sir Michael Pitt (entitled: "Learning lessons from the 2007 floods"), which provided recommendations to improve flood risk management in England.
Planning Policy Statement 25 (PPS25)	Planning Policy Statement 25: Development and Flood Risk, set national planning policy with relation to development and flood risk prior to simplification in the NPPF. PPS25 was revised and has been included in the NPPF in Section 10: Meeting the Challenge of Climate Change, Flooding and Coastal Change.
Pluvial flooding	Pluvial flooding (or surface runoff flooding) is caused by rainfall and is that flooding which occurs due to water ponding on or flowing over the surface before it reaches a drain or watercourse.
Preliminary Flood Risk Assessment (PFRA)	A Preliminary Flood Risk Assessment is conducted by the Environment Agency and LLFAs. A PFRA is an assessment of floods that have taken place or could take place in the future. It considers surface water runoff, groundwater and Ordinary watercourses and is used to identify areas that are at risk of significant flooding which are deemed Flood Risk Areas.
Principal Aquifers	There are layers of rock or drift deposits that have a high intergranular and/or fracture permeability – meaning they usually provide a high level of water storage. They may support water supply and /or river base flow on a strategic scale. In most cases, principle aquifers are aquifers previously designated as major aquifer.
Project Appraisal Guidance (PAG)	A series of five guidance notes issued by Defra which aim to integrate project appraisal, including economic and environmental appraisal, and approach to assessing risk from flooding.
Rate Support Grant	Funding mechanism from DCLG to Local Authorities, which provides funding for all Local Authority responsibilities.
Resilience measures	Resilience measures are designed to reduce the impact of water that enters property and businesses, and could include measures such as raising electrical appliances.
Resistance measures	Resistance measures are designed to keep flood water out of properties and businesses, and could include flood guards for example.
Return Period	This is an estimate of the likely recurrence interval of an event (such as a flooding). It is based on the average interval in time between two events of a similar magnitude. For example, an event described as a 1 in 100 year event would have an average recurrence interval of once every 100 years. This does not mean it is impossible for two 1 in 100 year events to happen back to back however. As explained previously, in "Chance of Flooding" and "Annual Exceedance Probability", a 1 in 100 year event can be described as having a 1% AEP (a 1% chance of occurring in any given year). Defra's SWMP Technical Guidance recommends that AEP is used over return period to aid understanding on the likeliness of flood events. Though the term "Return Period" is still referred to where appropriate in this report.
Riparian owners	A riparian owner is someone who owns land or property adjacent to a watercourse. A riparian owner has a duty to maintain the watercourse and allow flow to pass through freely.
Risk	In flood risk management, risk is defined by the conceptual equation below: $\text{Risk} = \text{Probability of a Flood} \times \text{Consequence of the flood}$

Risk of Flooding from Surface Water Maps	The Risk of Flooding from Surface Water Maps are the latest generation maps showing surface water flood risk. The maps show flooding according to risk bands, High, Medium, Low and Very Low Risk. These flood risk bands correspond to annual exceedance probabilities. High risk areas have a chance of flooding of greater than 3.3% (1 in 30), Medium risk areas have a chance of flooding of between 1% (1 in 100) and 3.3% (1 in 30), Low risk areas have a chance of flooding of between 0.1% (1 in 1000) and 1% (1 in 100) and Very Low risk areas have a chance of flooding of less than 0.1% (1 in 1000). The maps are available to the public and published on the Environment Agency website as "Risk of Flooding from Surface Water" (http://watermaps.environment-agency.gov.uk).
River Basin Management Plans (RBMP)	A management plan for all river basins required by the Water Framework Directive. These documents will establish a strategic plan for the long-term management of the River Basin District, set out objectives for water bodies and, in broad terms, what measures are planned to meet these objectives, and act as the main reporting mechanism to the European Commission.
Secondary A Aquifers	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Secondary B Aquifers	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
Secondary Undifferentiated Aquifer	With regards to Secondary A Aquifers and Secondary B Aquifers, Secondary Undifferentiated are assigned in cases where it has not been possible to attribute either category A or B to a rock type.
Sequential Test	A planning principle that seeks to identify, allocate or develop certain types or locations of land before others. The test is designed to guide development away from areas at high risk from flooding.
Sewerage Management Plan (SMP)	A Sewerage Management Plan is the output from the SRM process (see below).
Sewerage Risk Management (SRM)	A website outlining how water companies can invest in their drainage assets within a risk-based framework. Previous versions were known as the Sewer Rehabilitation Manual. The fifth edition (2008) with its revised name is an update to align with the risk-based principles used by the UK water industry's common framework for capital maintenance planning (CMPCF) published by UKWIR.
Sewers for Adoption	Standard for new drainage systems in England & Wales so that they can be adopted by a water company. It acts as a guide to assist developers in preparing their submission to a sewerage undertaker before they enter into an Adoption Agreement under Section 104 of the Water Industry Act 1991. Sewers for Adoption is now in its 7th edition (2012).
Shadow Price of Carbon	The shadow price of carbon an econometric modelling tool used to represent the cost to society of the environmental damage caused by a tonne of carbon dioxide emitted.
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.
Standard of Protection (SoP)	The level of protection provided by a flood alleviation scheme
Strategic Environmental Assessment (SEA)	Produced in order to comply with European Directive 2001/42/EC, this is a procedure comprising of: 1) Preparing an Environmental Report on the likely significant effects of the draft plan or programme; 2) carrying out consultation on the draft plan or programme and the accompanying Environmental Report; 3) taking into account the Environmental Report and the results of consultation in decision making; and 4) providing information when the plan or programme is adopted and showing how the results of the environmental assessment have been taken into account.

Strategic Flood Risk Assessment (SFRA)	A SFRA provides information on areas at risk from all sources of flooding. The SFRA should form the basis for flood risk management decisions, and provides the basis from which to apply the Sequential Test and Exception Test (as defined in NPPF) in the development allocation and development control process (see Sections 7 and 8 of the Technical Guidance to the NPPF).
Supplementary Planning Document (SPD)	A Supplementary Planning Document is a Local Development Document that may cover a range of issues, thematic or site specific, and provides further detail of policies and proposals in a 'parent' Development Plan Document.
Surface water flooding	In this context, surface water flooding describes flooding from sewers, drains, groundwater, and runoff from land, small water courses and ditches that occurs as a result of heavy rainfall.
Sustainability Appraisal (SA)	A Sustainability Appraisal is required during the preparation of a Local Plan. The Local Planning Authority must carry out an appraisal as to the sustainability of the proposals contained within the Local Plan and will allow the LPA to assess how the Plan will contribute to sustainable development.
Sustainable Drainage Systems (SuDS)	Sustainable drainage systems: a sequence of management practices and control measures designed to mimic natural drainage processes by allowing rainfall to infiltrate and by attenuating and conveying surface water runoff slowly compared to conventional drainage. SuDS can operate at different levels; ideally in a hierarchy of source control, local control and regional control, and can be used in both rural and urban areas.
UK Climate Impacts Programme (UKCIP)	UKCIP was established to co-ordinate scientific research into the impacts of climate change. In 2002 UKCIP released climate change scenario data, which was updated in 2009.
UK Water Industry Research (UKWIR)	UKWIR was set up by the UK water industry to provide collaborative research for UK water operators. Current research is divided into the following topic areas: drinking water quality and health; toxicology; water resources; climate change; wastewater treatment; sewage sludge; water mains and services; sewerage; leakage and metering; as well as customer and regulatory issues.
updated Flood Map for Surface Water (uFMfSW)	The updated Flood Map for Surface Water (uFMfSW) was the name given to the Risk of Surface Water Flooding Maps by the Environment Agency during the course of the project and the production of the maps. Now that the flood maps have been published and the project completed, these maps should be referred to as the Risk of Surface Water Flooding Maps. See "Risk of Surface Water Flooding Maps" glossary term for further detail.
Urban Pollution Management (UPM)	The UPM procedure, as established in the UPM Manual 1994, seeks to adopt a risk-based approach to assessing and reducing the impact of Combined Sewer Overflows (CSOs) on receiving water quality.
Water and Sewerage Company (WaSC)	Set up under the Water Industry Act 1991. Ten regional water and sewerage operators provide sewerage services in England and Wales. They are South West Water, Wessex Water, Southern Water, Thames Water, Anglian Water, Severn Trent Water, Yorkshire Water, United Utilities, Northumbrian Water and Welsh Water. Anglian Water and Thames Water are the two water and sewerage operators serving Hertfordshire. (Affinity Water also operates in Hertfordshire, providing water supply services, but not sewerage).
Water Cycle Study / Strategy (WCS)	The purpose of a Water Cycle Study (sometimes referred to as a Strategy) is to strategically plan the most sustainable water infrastructure in a timely manner, across all of the water cycle from water supply and water resources, flood risk and surface water drainage, and wastewater and biodiversity (e.g. water quality, ecology).
Water Framework Directive (WFD) 2000	A European Community Directive (2000/60/EC) of the European Parliament and Council designed to integrate the way water bodies are managed across Europe. It requires all inland and coastal waters to reach "good status" by 2015 through a catchment-based system of River Basin Management Plans, incorporating a programme of measures to improve the status of all natural water bodies.
Water UK	Water UK represents all water and wastewater service suppliers for England, Scotland, Wales and Northern Ireland.