10.0 FLOOD RISK AND WATER RESOURCES

National Context

10.1 National Policy[5] aims to ensure that flood risk is taken into account at all stages of the planning process and to avoid inappropriate development in areas at risk from flooding by directing development away from areas at highest risk or where development is necessary, making it safe without increasing flood risk elsewhere. Areas can be mapped according to the level of flood risk:

- Zone 1 (Low probability – less than a 1 in 1000 annual probability of flood)
- Zone 2 (Medium probability – between a 1 in 100 and a 1 in 1000 probability)
- Zone 3a (High probability – a 1 in 100 or greater probability)
- Zone 3b (Functional floodplain – area providing flood storage)

10.2 Through a 'sequential approach', the overall aim should be to steer new development to Flood Zone 1 (Low risk) in the first instance: development in Zone 2 and Zone 3a may be considered if no other reasonably sequentially preferable available sites exist and an 'Exception Test' is satisfied.

10.3 The use of Sustainable Drainage Systems (SuDS) to manage water flows can be an important tool in minimising flood risk by increasing permeable surfaces in an area which allows water to seep into the ground rather than running off into the drains system, and in reducing the impact of pollution from run-off and flooding. The use of Sustainable Drainage Systems should be incorporated in all new development where technically possible (but may not be appropriate in all areas). Site-specific Flood Risk Assessments need to be submitted with certain planning applications.

10.4 It is essential to protect water quality and, where possible, make efficient use of it. This means protecting and enhancing the quality and quantity of groundwater; protecting and enhancing surface water features and controlling aquatic pollution; ensuring new development has an adequate means of water supply and sufficient foul and surface water drainage. In addition, efficient use of water resources, including recycling, should be sought through sustainable construction methods that conserve and make prudent use of water and other natural resources.

10.5 The East of England is the UK's driest region, and Hertfordshire is one of the driest counties with the average rainfall returning only two-thirds of the national average. People in Hertfordshire also use more water than any other county – 20% above the national average. Hertfordshire's natural water environment is constantly at risk to periods of drought and floods. Groundwater resources are now at or approaching full utilisation, and many rivers and streams suffer from low flows which detrimentally impacts upon water quality.

Local Context

10.6 Some areas within Three Rivers are at risk of river or surface water flooding and it is likely that the effects of climate change will lead to increased risks. As a means of assessing levels of risk, the Council in conjunction with adjoining authorities in south and west Hertfordshire commissioned a Strategic Flood Risk Assessment (SFRA). This further refines the flood risk areas and takes into account other sources of flooding and future climate change impacts. This document details the following five flood risk objectives:

[5] National Planning Policy Framework

- Achieve flood risk reduction through spatial planning and site design
- Enhance and restore the river corridor
- Reduce surface water run-off from new developments
- Safeguard functional floodplain and areas for future flood alleviation schemes
- Improve flood awareness and emergency planning.

10.7 The Council has taken into account flood risk in identifying development sites through the Site Allocations.

10.8 The Three Rivers area has a high level of surface water resources including the Rivers Colne, Gade and Chess, the Grand Union Canal, several lakes and numerous ponds. In addition the District is entirely underlain by a pervious aquifer (high quality water-table) which is the main drinking water resource for the area. It is important to protect these resources from pollution and to safeguard them, taking into account future climate change.

10.9 Three Rivers is an area of serious water stress, so reducing water consumption levels is important. We will continue to promote measures that will reduce water consumption. It is also noted that many existing water mains and sewerage systems are increasingly becoming overloaded. It is therefore crucial to ensure that this infrastructure is in place prior to development in order to avoid impacts such as sewage flooding of existing residential dwellings and commercial premises. Core Strategy Policy CP8 seeks to ensure that development makes adequate provision for infrastructure.

Further Guidance for Applicants

10.10 Applicants are advised to contact the Environment Agency for information on specific areas which are at risk from flooding.

10.11 In some cases, developers will be required to contribute to the delivery of flood risk management schemes and facilities as identified in the Three Rivers Strategic Flood Risk Assessment and other relevant plans such as the Local Flood Risk Management Strategy for Hertfordshire to improve flood awareness and emergency planning, in partnership with the County Council as lead Local Flood Authority, the Environment Agency and other appropriate bodies.

10.12 Applicants are advised to refer to national policy for further information on flood risk and development and to enter into early pre-application discussions with the Council, the Environment Agency, and SUDS Approval Body (SAB) where required. Further guidance on ways to conserve water and deliver SUDS are contained in Building Futures: A Hertfordshire guide to promoting sustainability in development (http://www.hertslink.org/buildingfutures) and Roads in Hertfordshire – Highways Design Guide http://hertsdirect.org/services/transtreets/tranplan/infdev/roadsinherts/

DM8 Flood Risk And Water Resources

a) Development will only be permitted where it would not be subject to unacceptable risk of flooding; and would not unacceptably exacerbate risk of flooding elsewhere. Where practicable existing flood risks should be reduced.

b) New development will not be permitted in Flood Zone 3b, as defined by the SFRA. Redevelopment of existing built development in that Zone will only be permitted if the proposals are of a compatible use class and would not increase flood risk elsewhere.

c) A Flood Risk Assessment (FRA) will be required for development proposals of 1ha or more in

Flood Risk 1 and for proposals for all new development in Flood Zones 2 and 3; or in an area in Flood Zone 1 where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding as identified in the SFRA. Land in Flood Zone 1 surrounded by areas of Zones 2 or 3 will be treated as if in the higher risk Zone and a FRA will be required to demonstrate that access and egress would be satisfactory and that the development would not be unacceptably vulnerable during a flood period.

d) Within sites at risk of flooding the most vulnerable parts of proposed development should be located in areas of lowest risk unless there are overriding reasons to prefer different locations.

e) Development at risk of flooding should be flood resilient and resistant, including safe access and escape routes where required; and it should be demonstrated that residual risks can be safely managed.

f) Floor levels of development in Flood Zones 2 and 3 should be situated above the 1% (1 in 100 years) plus climate change predicted maximum water levels, plus a minimum freeboard of 300mm.

g) Development in all areas should include Sustainable Drainage Systems to reduce surface water run off.

h) Where appropriate, developers will be required to show that any necessary flood protection and mitigation measures will not have unacceptable impacts on nature conservation, landscape character, recreation or other important matters.

i) Development should normally be set back from a main river (as defined by the Environment Agency) with a minimum 8m wide buffer zone and from any other watercourse with a minimum 5m wide bufferzone to prevent any significant impact from flooding.

j) <u>Water resources</u>

The Council will support development where:

i) The quantity and quality of surface and groundwater resources are protected from aquatic pollution and where possible enhanced.
ii) There is an adequate and sustainable means of water supply and sufficient foul and surface water drainage
iii) Efficient use is made of water resources and account taken of climate change. This means incorporating all or some of the following measures as part of development:

- Rainwater harvesting techniques (for example providing waterbutts fitted to drainpipes and underground water storage as part of new development)
- Harvesting and recycling greywater (wastewater from baths, showers, washbasins, kitchen sinks)
- Using water efficient appliances (for showers, taps, washing machines, toilets etc.)
- Using water efficient landscaping and irrigation measures (for example by using drought tolerant plants)
- New development adjacent to water courses should seek to include river restoration and de-culverting.

Policy Links

National Policy (others may also be relevant)	National Planning Policy Framework
Related Core Strategy Policies	CP1: Overarching Policy on Sustainable Development CP12: Design of Development
Core Strategy Strategic Objective	S3

Further Guidance

Hertfordshire County Council: 'Building Futures: A Hertfordshire guide to promoting sustainability in development' http://www.hertslink.org/buildingfutures
Roads in Hertfordshire – Highways Design Guide
http://hertsdirect.org/services/transtreets/tranplan/infdev/roadsinherts/

Reasoned Justification

10.13 Policy DM8 recognises that due to the potential impacts of climate change and the increasing pressure for development across the District, it is vital that developments are protected as reasonably as possible against the flood risk, the risk of pollution to water is reduced and that the development itself is as water efficient as possible. The approach will contribute directly to the Core Strategy Objective 3: in reducing pollution, conserving water resources and taking into account climate change through design of development.