

buffer for flooding and maintenance purposes.

B) Where on-site environmental enhancements or deculverting are financially viable but not feasible, the Council will seek a financial contribution towards relevant projects for the enhancement or deculverting of other sections of rivers or watercourses.

C) Existing wharves and their access will be protected for continued use.

D) Proposals that would adversely affect the infrastructure of main rivers and ordinary watercourses, or which fail to secure feasible enhancements or deculverting, will be resisted.

E) Development located in or adjacent to watercourses should enhance the waterside environment and biodiversity by demonstrating a high design quality which respects the historic significance of the canal and character of the waterway and provides access and improved amenity to the waterfront.

F) All development alongside or that benefits from a frontage on the Grand Union Canal will be expected to contribute to the improvement of the Canal.

Management of Flood Risk

6.41 The Council's aim is to ensure flood risk is managed appropriately across the Borough by using the best available information on flood risk to inform a flood risk management strategy and working in a coordinated way with relevant parties.

6.42 Hillingdon is a Lead Local Flood Authority under the Flood and Water Management Act 2010. The Council has prepared a portfolio of flood risk documents to better inform flood risk management decisions and meet the statutory requirements of the Flood and Water Management Act 2010 and Flood Risk Regulations. The following documents are available on the Hillingdon website at www.hillingdon.gov.uk/planning:

- The Preliminary Flood Risk Assessment (PFRA) which gives an overview of flooding in the Borough;
- The Strategic Flood Risk Assessment (SFRA) which includes information on flooding from all sources and identifies those parts of the Borough which are subject to the risk of flooding, thus providing the evidence base for planning decisions as referred to in the Local Plan Part 1.
- The Surface Water Management Plan (SWMP), which includes proposals to address surface water flooding.

- The Flood Risk Management Strategy, which details how the Borough will manage flood risk in partnership with other key stakeholders such as the Water Utilities and other boroughs.

6.43 Development proposals need to take into account the recommendations in the above documents and the current best available information available on flooding from all sources. The Council as the local planning authority will ensure that new development in Hillingdon is not put at unacceptable risk from flooding and that it will not increase the risk of flooding elsewhere. The Council will assess planning applications, including those for windfall sites, against flood risk on the basis of technical advice forming part of the NPPF, which includes the application of a “sequential test” and, if necessary, an “exception test”.

6.44 Hillingdon’s portfolio of flood risk documents has identified in broad terms areas that are liable to flooding from local sources of flood risk such as ordinary watercourses, groundwater and surface water, as well as rivers and artificial sources such as reservoirs and canals and the associated probability of flooding (i.e. the flood zones). However the data contained within these documents is not intended to provide the detailed information about flood risk and therefore an assessment of the risk will be required at a site specific level.

6.45 In built up areas there is also the additional risk of flooding from surface water, due to rainwater falling onto impermeable surfaces which is the key flood risk identified for Hillingdon. Hillingdon’s SWMP identifies Critical Drainage Areas in the Borough. In these areas strict control will be exercised to manage surface water.

POLICY DMEI 9: Management of Flood Risk

A) Development proposals in Flood Zones 2 and 3a will be required to demonstrate that there are no suitable sites available in areas of lower flood risk. Where no appropriate sites are available, development should be located on the areas of lowest flood risk within the site. Flood defences should provide protection for the lifetime of the development. Finished floor levels should reflect the Environment Agency's latest guidance on climate change.

B) Development proposals in these areas will be required to submit an appropriate level Flood Risk Assessment (FRA) to demonstrate that the development is resilient to all sources of flooding.

C) Development in Flood Zone 3b will be refused in principle unless identified as an appropriate development in Flood Risk Planning Policy Guidance. Development for appropriate uses in Flood Zone 3b

will only be approved if accompanied by an appropriate FRA that demonstrates the development will be resistant and resilient to flooding and suitable warning and evacuation methods are in place.

D) Developments may be required to make contributions (through legal agreements) to previously identified flood improvement works that will benefit the development site.

E) Proposals that fail to make appropriate provision for flood risk mitigation, or which would increase the risk or consequences of flooding, will be refused.

Water Management

6.46 Sustainable drainage systems (SuDS) are vital in addressing Hillingdon's surface water flood risk, which is predicted to rise as climate change increases the frequency of heavy rainfall and as further new development and intensification within the Borough increases the volume of waste and surface water going into the existing drainage infrastructure. SuDS manage runoff from developments, reducing the quantity of water entering drains, especially at peak periods, improving the quantity of runoff and promoting amenity and biodiversity benefits from using water in the environment.

6.47 The Council aims to reduce runoff rates from all developments to limit flood risk, with a particular focus on major developments to restrict runoff rates to a 'greenfield rate'. However without mitigation, the cumulative impact of small scale development throughout the Borough is likely to put continued pressure on the existing drainage network. All minor new build developments, including proposals for householder development and minor extensions to commercial premises, are therefore required to contribute to a reduction in the rate of surface water runoff. This may include maximising areas of soft landscaping; ensuring all hard surfaces are permeable or drain into permeable features; and/or maximising areas of green roofs and walls.

Water Quality

6.48 The Water Framework Directive (WFD), designed to protect and enhance the quality of our rivers, is being implemented through the River Basin Management Plans. The Thames River Basin Management Plan 2009 covers Hillingdon. All the 'water bodies' or key rivers are considered as being moderate in water quality, other than the Crane which has a poor status. Annex B of the Thames River Basin Management Plan 2009 indicates that chemical phosphate is a key reason for the status of the rivers in the Borough. The Council requires developments to contribute to improving water quality in the Borough and to consider the actions required within the Thames River Basin Action Plan and the Catchment Plans developed for each river.

Water Resources and Water Efficiency

6.49 The appropriate management of water through understanding the water cycle is vital to ensuring that water quantity and quality is maintained and improved throughout the Borough.

6.50 The Colne Catchment Abstraction Management Strategy produced by the Environment Agency indicates that some of Hillingdon's rivers are over abstracted, putting stress on the natural environment of these rivers. This situation is likely to be exacerbated in the future due to the effects of climate change. The London Catchment Abstraction Management Strategy indicates that the River Crane has 'water available'. It is therefore important that development uses water efficiently to limit environmental stress.

6.51 Water efficiency measures should also be incorporated within non-residential development to meet the Building Research Establishment's Environmental Assessment Method (BREEAM) requirements. BREEAM is used to assess the environmental performance of new and existing non-residential buildings, and is regarded by the UK's construction and property sectors as the measure of best practice in environmental design and management.

6.52 In addition to these requirements, the Council will maintain dialogue with infrastructure providers and neighbouring planning authorities to ensure an overall improvement to critical water resources, and to ensure that development proposals can be serviced without increasing the pressure on existing natural systems or prejudicing the delivery of Water Framework Directive targets.

6.53 Groundwater resources are relied on for an adequate supply of fresh, clean drinking water. The Environment Agency has identified and mapped a number of these resources according to their significance and vulnerability to pollutants, with categories including Source Protection Zones (1-3), Safeguard Zones and Water Protection Zones. The Environment Agency advocates a risk based approach to the protection of these groundwater resources, as set out in the document 'Groundwater Protection: Policy and Practice' and this approach will be taken into account in the planning process.

Water and Wastewater infrastructure

6.54 The water and wastewater needs of new development can put pressure on the infrastructure network and could cause problems for existing development, such as increased risk of surface water flooding. All new development proposals will need to show there is sufficient capacity in the water and wastewater infrastructure network to provide for the needs of the new development. Developers will be expected to engage with relevant water

and wastewater infrastructure providers prior to submitting a planning application. The Sites Allocations document identifies sites that might have capacity issues and notes this as a constraint.

Policy DMEI 10: Water Management, Efficiency, and Quality

A) Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy 5.13: Sustainable drainage).

B) All major new build developments, as well as minor developments in Critical Drainage Areas or an area identified at risk from surface water flooding must be designed to reduce surface water run-off rates to no higher than the pre-development greenfield run-off rate in a 1:100 year storm scenario, plus an appropriate allowance for climate change for the worst storm duration. The assessment is required regardless of the changes in impermeable areas and the fact that a site has an existing high run-off rate will not constitute justification.

C) Rain Gardens and non householder development should be designed to reduce surface water run-off rates to Greenfield run-off rates.

D) Schemes for the use of SuDS must be accompanied by adequate arrangements for the management and maintenance of the measures used, with appropriate contributions made to the Council where necessary.

E) Proposals that would fail to make adequate provision for the control and reduction of surface water run-off rates will be refused.

F) Developments should be drained by a SuDs system and must include appropriate methods to avoid pollution of the water environment. Preference should be given to utilising the drainage options in the SuDS hierarchy which remove the key pollutants that hinder improving water quality in Hillingdon. Major development should adopt a 'treatment train' approach where water flows through different SuDS to ensure resilience in the system.

Water Efficiency

G) All new development proposals (including refurbishments and conversions) will be required to include water efficiency measures, including the collection and reuse of rain water and grey water.

H) All new residential development should demonstrate water usage

rates of no more than 105 litres/person/day.

I) It is expected that major development⁸ proposals will provide an integrated approach to surface water run-off attenuation, water collection, recycling and reuse.

Water and Wastewater Infrastructure

J) All new development proposals will be required to demonstrate that there is sufficient capacity in the water and wastewater infrastructure network to support the proposed development. Where there is a capacity constraint the local planning authority will require the developer to provide a detailed water and/or drainage strategy to inform what infrastructure is required, where, when and how it will be delivered.

Policy DMEI 11: Protection of Ground Water Resources

All development proposals within a Source Protection Zone, Safeguard Zone or Water Protection Zone must assess any risk to groundwater resources and demonstrate that these would be protected throughout the construction and operational phases of development.

Development of Land Affected by Contamination

6.55 Hillingdon has a long industrial history, including extensive mineral extraction and land filling. This has left a legacy of land contamination with the potential to harm human health and the wider environment, where it is left untreated. Contamination can be due to the presence of metals, liquid chemicals, gases and vapours in the ground. This can present a risk to users of land, cause damage to buildings and structures and impact on local ecology and water courses. It can restrict development potential or prevent the introduction of new uses that involve public access where it is left untreated.

6.56 The policy approach is to apply the 'precautionary principle' in assessing planning applications. The introduction of Part IIA of the Environmental Protection Act 1990 also means that, as a minimum standard, new development should be on land that is remediated so that it cannot be determined as 'contaminated land' under this legislation. The responsibility to

⁸ Major Development: Residential development of 10 dwellings or more; any building with a floor space of 1000 square metres or more; development on a site of 1 hectare or more.