

## Policy SI 5 Water infrastructure

- A In order to minimise the use of mains water, water supplies and resources should be protected and conserved in a sustainable manner.
- B Development Plans should promote improvements to water supply infrastructure to contribute to security of supply. This should be done in a timely, efficient and sustainable manner taking energy consumption into account.
- C Development proposals should:
- 1) through the use of Planning Conditions minimise the use of mains water in line with the Optional Requirement of the Building Regulations (residential development), achieving mains water consumption of 105 litres or less per head per day (excluding allowance of up to five litres for external water consumption)
  - 2) achieve at least the BREEAM excellent standard for the 'Wat 01' water category<sup>160</sup> or equivalent (commercial development)
  - 3) incorporate measures such as smart metering, water saving and recycling measures, including retrofitting, to help to achieve lower water consumption rates and to maximise future-proofing.
- D In terms of water quality, Development Plans should:
- 1) promote the protection and improvement of the water environment in line with the Thames River Basin Management Plan, and should take account of Catchment Plans
  - 2) support wastewater treatment infrastructure investment to accommodate London's growth and climate change impacts. Such infrastructure should be constructed in a timely and sustainable manner taking account of new, smart technologies, intensification opportunities on existing sites, and energy implications. Boroughs should work with Thames Water in relation to local wastewater infrastructure requirements.
- E Development proposals should:
- 1) seek to improve the water environment and ensure that adequate wastewater infrastructure capacity is provided

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<sup>160</sup>

Achieve at least a 12.5% improvement over defined baseline performance standard

- 2) take action to minimise the potential for misconnections between foul and surface water networks.

F Development Plans and proposals for strategically or locally defined growth locations with particular flood risk constraints or where there is insufficient water infrastructure capacity should be informed by Integrated Water Management Strategies at an early stage.

- 9.5.1 Londoners consume on average 149 litres of water per person per day – around 8 litres above the national average. All water companies that serve London are located in areas classified as seriously water-stressed. London is at risk of drought after two dry winters. During 2006 and 2012 **water use restrictions** affecting London were imposed. These restrictions were limited to sprinkler, hosepipe and non-essential user bans. A severe drought – with rota cuts, standpipes, reduced mains pressure or adding non-potable water to the mains supply – would have major implications for Londoners’ health and wellbeing, the environment and London’s economy. The Mayor will work with the water industry to prevent this level of water restriction being required for London in future.
- 9.5.2 An important aspect of avoiding the most severe water restrictions is to ensure that leakage is reduced and **water used as efficiently as possible**. The Optional Requirement set out in Part G of the Building Regulations should be applied across London.<sup>161</sup> A fittings-based approach should be used to determine the water consumption of a development. This approach is transparent and compatible with developers’ procurement and the emerging Water Label,<sup>162</sup> which Government and the water companies serving London are supporting.
- 9.5.3 Even with increased water efficiency and reduced leakage, water companies are forecasting an increasing demand for water. Without additional sources of supply, the increased demand will increase the risk of requiring water restrictions during drought periods. **Security of supply** should be ensured. Demand forecasts need to continue to be monitored and based on the consistent use of demographic data across spatial and infrastructure planning regimes.

<sup>161</sup> Planning Practice Guidance: Paragraph 014 of ‘Housing: optional technical standards’, DCLG, 27 March 2015. Where there is a clear local need, local planning authorities can set out Local Plan policies requiring new dwellings to meet the tighter Building Regulations’ Optional Requirement of 110 litres per person per day.

<sup>162</sup> <http://www.europeanwaterlabel.eu/thelabel.asp>

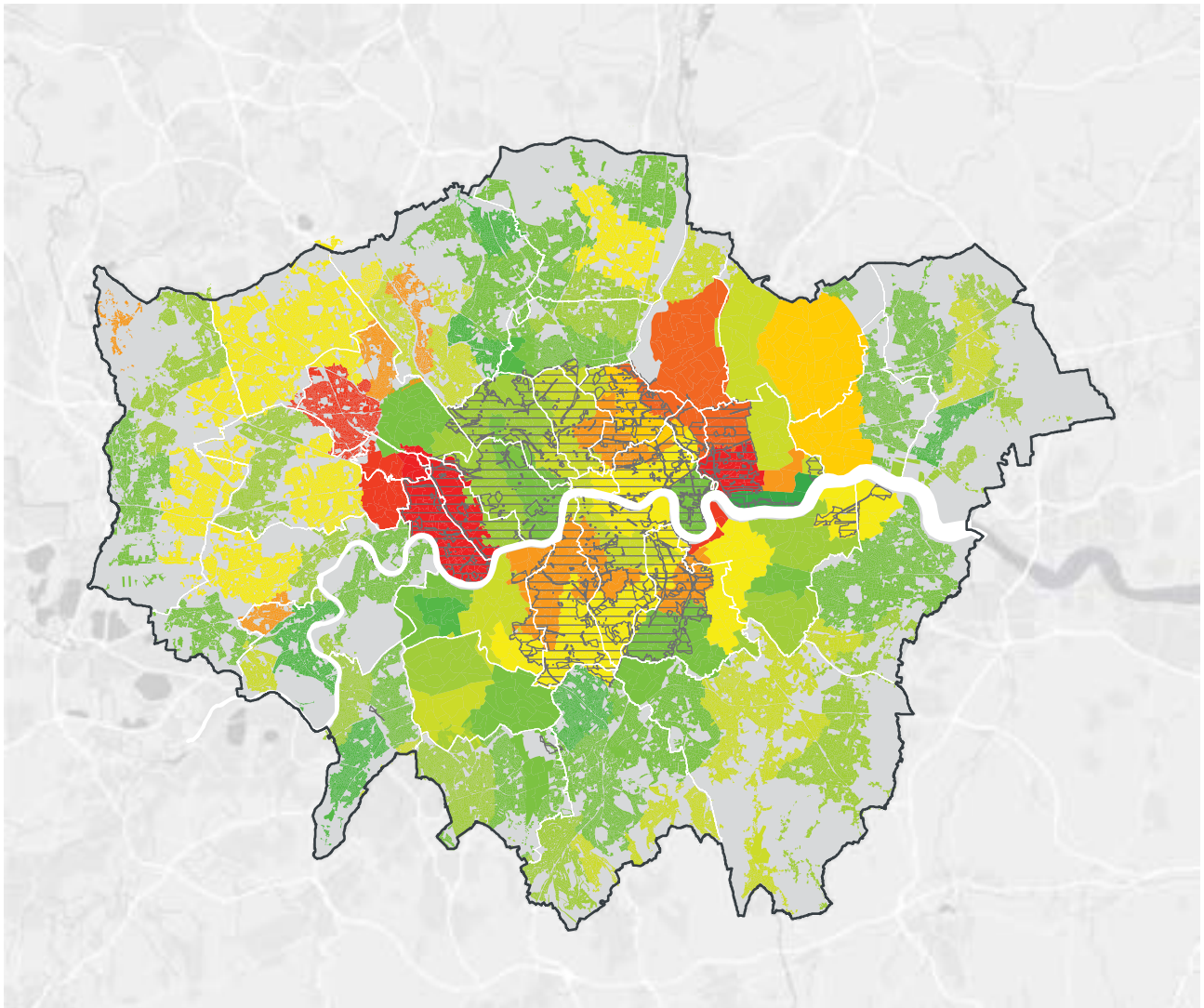


- 9.5.4 Thames Water has set out through the water resource management planning process its preferred approach to **strategic water supply options** to serve London and parts of the Wider South East. It is considering a suite of options, including a potential new reservoir, effluent reuse, water transfers and new groundwater sources.
- 9.5.5 A strategic approach to water supply networks to ensure future water resilience and, in particular, the timely planning for a new strategic water resource to serve London and the Wider South East is important. In its draft Water Resource Management Plan, Thames Water has explored coordinated supply options with the other water companies serving London and the South East of England working with the Water Resource South East Group. Water Resource East has undertaken similar work in the East of England area. All this involves **partnership working** with key stakeholders within London and beyond its boundaries.
- 9.5.6 **Infrastructure investment** is constrained by the short-term nature of water companies' investment plans. Similar to the approach to electricity supply, in order to facilitate the delivery of development it is important that investment in water supply infrastructure is provided ahead of need. To minimise wastage, water supply infrastructure improvements should give consideration to the replacement of ageing trunk mains.
- 9.5.7 In the context of the significant investment needed, measures to **protect and support vulnerable customers** in particular from rising water bills are important.
- 9.5.8 In relation to **wastewater** and improvements to the water environment, Water Framework Directive requirements should be maintained through the Thames River Basin Management Plan and the Catchment Plans prepared by the Catchment Partnerships, of which there are 12 in London. These Partnerships share lessons, experiences and best practice, and help achieve a coordinated approach to delivering the Thames River Basin Management Plan. Development Plans should be supported by evidence, which demonstrates that the development planned for:
- a. will not compromise the Thames River Basin Management Plan objective of achieving 'Good' status, or cause deterioration in water quality; and
  - b. will be supported by adequate and timely provision of wastewater treatment infrastructure.
- 9.5.9 The Urban Wastewater Treatment Directive drives improvements in **wastewater treatment infrastructure**. [Figure 9.4](#) provides a spatial illustration of the wastewater drainage capacity across London. Additional land may be required for upgrades or improvements at some wastewater treatment plants during the Plan period. Different wastewater treatment options may vary significantly in

terms of their energy requirements, and there are significant opportunities for energy generation from wastewater treatment (sewage sludge).

- 9.5.10 The Thames Tideway Tunnel is under construction and will help to improve the water quality of the River Thames by significantly reducing the frequency of untreated sewage being discharged into the Thames (known as combined sewer overflows). **Sustainable drainage** measures are of particular importance in areas with sewer capacity limitations and their widespread implementation over the coming decades will help the resilience of London and avoid the need for further major sewer tunnel projects. Thames Water is taking a long-term approach to drainage and wastewater management planning. Its London 2100 plan will identify the most appropriate strategy for ensuring that London's drainage and wastewater systems can meet the needs of London over the next 80 years in the most sustainable way.
- 9.5.11 London's tributary rivers suffer significant pollution from **misconnected sewers**. This allows untreated sewage into what are often small streams, many of which flow through London's parks and open spaces. Conversely, if surface water is misconnected to the foul system, sewer capacity issues are created within sewers and at sewage treatment works. Development proposals should therefore take action to minimise the potential for misconnections.
- 9.5.12 Development Plans and proposals should demonstrate that they have considered the opportunities for **integrated solutions** to water-related constraints and the provision of water infrastructure within strategically or locally defined growth locations. These could be Opportunity Areas or growth locations defined in Local Plans. Where such opportunities are identified, Development Plans should require an integrated and collaborative approach from developers. This could for example lead to the establishment of local water reuse systems or integrated drainage networks. Integration with the planning of green infrastructure could deliver further benefits.
- 9.5.13 A **water advisory group** with representatives from across the water sectors in London has been established to advise the Mayor and share information on strategic water and flood risk management issues across the capital.

**Figure 9.4 - Spatial illustration of wastewater drainage capacity across London**



**Flow Capacity Utilisation 2015  
Percent**

● 14	● 61 - 70
● 15 - 20	● 71 - 80
● 21 - 30	● 81 - 90
● 31 - 40	● 91 - 100
● 41 - 50	● 101 - 123
● 51 - 60	
⊘ Combined Sewer System	

Source: Thames Water

Contains OS data ©  
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database right (2017)

This Figure must be used  
in conjunction with  
paragraph 9.5.14

Note for Figure 9.4: Thames Water has developed a model of its drains and sewers in London to assess waste water flows. The model compares the theoretical capacity of the drain or sewer pipe against how much waste water flow the pipe is currently receiving during a one in two-year rainfall event. The model's outputs can be visualised as a 'heat map', which highlights at a strategic scale where there is a higher (green) or lower (red) ability to receive additional flows. 'Green' areas do not mean that no additional drainage infrastructure is required. The modelling does not consider how waste water is routed through the network, so it should be noted that some 'green' areas will flow into 'red' areas, hence increasing flows upstream will exacerbate performance in the downstream catchments. The hatched area on the map shows the portions of the sewer system that are generally combined sewers, which means they capture both waste water and surface water flows.

### Policy SI 6 Digital connectivity infrastructure

- A To ensure London's global competitiveness now and in the future, development proposals should:
- 1) ensure that sufficient ducting space for full fibre connectivity infrastructure is provided to all end users within new developments, unless an affordable alternative 1GB/s-capable connection is made available to all end users
  - 2) meet expected demand for mobile connectivity generated by the development
  - 3) take appropriate measures to avoid reducing mobile connectivity in surrounding areas; where that is not possible, any potential reduction would require mitigation
  - 4) support the effective use of rooftops and the public realm (such as street furniture and bins) to accommodate well-designed and suitably located mobile digital infrastructure.
- B Development Plans should support the delivery of full-fibre or equivalent digital infrastructure, with particular focus on areas with gaps in connectivity and barriers to digital access.

9.6.1 The **provision of digital infrastructure** is as important for the proper functioning of development as energy, water and waste management services and should be treated with the same importance. London should

