South Oxfordshire and Vale of White Horse
Joint Local Plan 2041

TOPIC PAPER

WATER EFFICIENCY

Joint Local Plan

Pre-submission Publication Version

(Regulation 19)

South Oxfordshire District Council
Listening Learning Leading

Vale of White Horse District Council

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Contents

This topic paper supports the Joint Local Plan 2041.

We have prepared topic papers to present a coordinated view of the evidence that has been considered in drafting the Joint Local Plan 2041. We hope this will make it easier to understand how we have reached our current position.

The topic papers may be revised and published at the submission stage, timetabled for December 2024.

Section 1: Introduction and background

Introduction

1.1 Policy CE7 of the emerging Joint South Oxfordshire and Vale of White Horse Local Plan 2024 to 2040 (JLP) requires that all new residential development must achieve, amongst other things, a predicted water consumption of no more than 100 litres per person per day (lpppd).

1.2 The policy does not set specific water efficiency standards for non-residential development as there are a wide range of different non-residential uses that will each have different water needs. However, in demonstrating that non-residential development has been designed to be water efficient, developers are encouraged to consider schemes such as BREEAM and the Royal Institute of British Architects '2030 Climate Challenge', which may provide relevant standards.

1.3 The full text of policy CE7 is attached to this paper at Appendix 1.

1.4 This paper provides the clear justification for the approach to water efficiency contained in policy CE7 by reference to national planning policy and guidance and other relevant evidence. It demonstrates that the Plan area sits within an area of serious water stress such that a more restrictive approach than that mandated in national Building Regulations is both justified, appropriate and viable.

Background

1.5 The National Planning Policy Framework (NPPF)[1], policies expect local planning authorities to adopt proactive strategies to adapt to climate change that take full account of water supply and demand considerations.

1.6 In addition, the NPPF in the section on "meeting the challenge of climate change, flooding and coastal change", charges local planning authorities with the task of: "…proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures" (paragraph 158).

1.7 NPPF is supported by National Planning Practice Guidance (NPPG)[2] which amplifies and clarifies much of the policy contained in the NPPF. On 27 March 2015 Government published, as a supplement to the NPPG, Optional

[1] National Planning Policy Framework, available at: https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf

[2] National Planning Practice Guidelines, available at: https://www.gov.uk/guidance/housing-optional-technical-standards

Housing Technical Standards which, amongst other things, allows local authorities to set in local plans a tighter standard than that required under Building Regulations.

1.8 Building Regulations Approved Document G set limits for water consumption in new dwellings in England, which must not be exceeded, applying a lower limit of 105l/person/day plus 5l/person/day for outdoor use in water scarce areas including London, which amounts to 110 litres per person per day. The values are strictly upper limits, which may not be exceeded and are encouraged to be improved on. While the Regulations set upper limits, they do not encourage more ambitious installations, submissions of calculator outputs or design specifications are not checked. Furthermore, checks of compliance of installation with design or comparison of actual water consumption against design assumptions are not carried out. This was confirmed by a WRc study[3] of 80 new homes within the Welsh water area, where installed fitments averaged a consumption of 135lpppd and individual homes exceeded 190 lpppd. This makes a good case for tighter control on water consumption.

1.9 Whilst all new homes have to meet the mandatory national standard set out in the Building Regulations the NPPG allows local planning authorities to set Local Plan policies requiring new dwellings to meet the tighter Building Regulations optional requirement of 110 litres/person/day if there is a clear local need identified.

1.10 Both South Oxfordshire and Vale of White Horse adopted Local Plans require new developments to be designed to a water efficiency standard of 110 lpppd for new homes, which reflects a clear local need to introduce measures to curb water consumption.

1.11 The document is not a policy but a guidance document which also clarifies how this local need should be determined and states this is a matter for the local planning authority to establish through existing sources of evidence, consultations with the local water and sewerage company, the Environment Agency (EA) and catchment partnerships and taking into account any development viability and housing supply impacts of setting more restrictive standards. In clarifying the sources of evidence to be used the guidance highlights four potential sources:

- the EA's Water Stressed Areas Classification (2021) which identifies areas of serious water stress where household demand for water is (or is likely to be) a high proportion of the current effective rainfall available to meet demand;

- Water Resource Management Plans (WRMPs) produced by water companies;

[3] Waterwise report, available at: https://database.waterwise.org.uk/knowledge-base/building-regulations-water-efficiency-review/

- River Basin Management Plans which describe the river basin district and the pressure the local water environment faces; and
- Locally specific evidence such as collaborative water cycle studies which may have been carried out in areas of high growth.

1.12 The evidence to justify the JLP's policy position is set out in the next section.

Section 2: Evidence for the JLP Policy Approach

Water Stressed Areas Classification

2.1 Taking the advice in NPPG, the main source of information for establishing need for the JLP is the Environment Agency's 'Water Stressed Areas Final Classification (2021)[4]. The updated methodology for the 2021 classification identifies areas of serious water stress where: (a) the current household demand for water is a high proportion of the current effective rainfall which is available to meet that demand; or (b) the future household demand for water is likely to be a high proportion of the effective rainfall available to meet that demand.

2.2 The EA has classified the area served by Thames Water (which includes South Oxfordshire and Vale of White Horse) as being in "serious water stress". The primary purpose of the classification is to provide evidence to support universal metering proposals in certain areas. However, the information can also be applied to encourage or support high water efficiency measures in new build, or to support retrofitting initiatives. So, the policy CE7 is expected to directly help reduce the severity of the stress the region is experiencing.

2.3 Moreover, the Environment Agency has produced a National Framework for Water Resources (2020)[5] which sets out the scale of action needed to ensure that resilient water supplies are available for people and the environment in the future, whilst also restoring, protecting and improving the environment. The draft regional plan identifies options to secure water supplies in the region, including increasing water efficiency.

2.4 Water efficiency standards can also help deliver objectives set out in River Basin Management Plans (RBMPs). Local authorities have a legal duty to have regards to RBMPs and should ensure that their decisions do not compromise those objectives. The National Planning Policy Framework also says planning policies should contribute to and enhance the natural and local environment by taking into account relevant information such as RBMPs. The relevant Thames River Basin Management Plan 2022[6] contains an action to encourage local authorities to adopt the optional minimum building standard of 110 litres per person per day in all new builds

[4] Water stressed areas – 2021 classification, available at: https://www.gov.uk/government/publications/water-stressed-areas-2021-classification

[5] Meeting our future water needs: a national framework for water resources – accessible summary, available at: https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources/meeting-our-future-water-needs-a-national-framework-for-water-resources-accessible-summary

[6] Thames river basin district river basin management plan: updated 2022, available at: https://www.gov.uk/guidance/thames-river-basin-district-river-basin-management-plan-updated-2022

where there is a clear local need, such as in water stressed areas. In serious water stress areas tighter standards would be the appropriate response.

2.5 In January 2023 the Government launched the Environmental Improvement Plan, containing new potential water efficiency standards for new homes with a baseline of 105 l/p/d, with a tighter standard of 100l/p/d where there is a local need. The government also showed commitment in delivering a roadmap on water efficiency which has now been published by Future Homes Hub.

Water Resource Management Plans

2.6 The JLP area lies wholly within the Thames Water supply area. The Thames Water Resource Management Plan Revised Draft 2024[7] identifies how Thames Water will manage the supply and demand balance over the next 25 years. It shows what demand and supply measures will be introduced to manage the longer term challenge of population increase, climate change, drought resilience and growing environmental needs. Looking to the future, water supplies are forecast to fall, the main cause being climate change. The JLP lies within the SWOX Water Resource Zone, where the water available for use in the 2025/26 is estimated to be 304.77 Megalitres/day (Ml/d) and 330.02 Ml/d expected under Dry Year Annual Average (DYAA) and Dry Year Critical Average (DYCP) conditions respectively. Based on the demand figures the Plan suggests however during peak week (DYCP) conditions, there is a shortfall of 10.65 Ml/d already. This is expected to be exacerbated in the coming years.

2.7 These matters set out in detail in the various WRMP documents identified above serve to further highlight the degree of water stress suffered in the wider water supply region / catchment in which the JLP sits and help justify why there is a clear need to ensure the JLP takes all appropriate steps it can to try to reduce water consumption in new development.

Royal Institute of British Architects (RIBA) Climate Challenge Study[8]

2.8 RIBA has developed in consultation with other professional UK construction bodies voluntary performance targets for water use with regard to construction. The performance targets align with the future legislative horizon and set out challenging but achievable targets in order to have a realistic prospect of achieving net zero carbon for the whole UK building stock by 2050. In terms of water use it sets a standard of 95 l/person/day by 2025 and 75 l/person/day by 2030. BREEAM[9] sets graded standards for

[7] Thames Water Revised Draft Water Resources Management Plan, available at: https://www.thameswater.co.uk/media-library/home/about-us/regulation/water-resources/wrmp24-draft/technical-report/environment.pdf

[8] RIBA (2021) RIBA 2030 Climate Challenge, available at: https://www.architecture.com/-/media/files/Climate-action/RIBA-2030-Climate-Challenge.pdf?srsltid=AfmBOopW1CKKCWUCJ76wMu2194M2EVKmfsT9sCZT-NoSvN8rClGvzGv1

[9] BREEAM (2024) BREEAM Standards, available at: https://breeam.com/standards

individual water fittings which developers can use to reduce water consumption.

2.9 Although these are voluntary standards that developers could choose to align however they carry significant weight as these targets are based on recommendations from the Green Construction Board and have been developed in consultation with industry experts and UK professional bodies from across the built environment industries.

Future Homes Hub guidance

2.10 Defra commissioned the Future Homes Hub to support on the creation of a roadmap towards greater water efficiency in new homes and developments. The Hub's work informs the Government's Roadmap to Water Efficiency. The emerging Future Homes standard will include targets in relation to achieving water resilience and water efficiency, anticipating greater water efficiency in new development and potential future targets for reducing water use in 2025 and 2030.

2.11 The Future Homes Hub's Water Ready[10] (Apr 2024) working group has recommended a roadmap for future standards for litres per person per days as being 90lpppd in seriously water stressed areas which South and Vale are in, to enable sustainable growth by 2025, which progressively goes down to 80lpppd by 2035 in water stressed areas, which can be expected to be lower in seriously water stressed areas such as South and Vale. The Roadmap standards looking 5 and 10 years ahead provide a useful direction of travel.

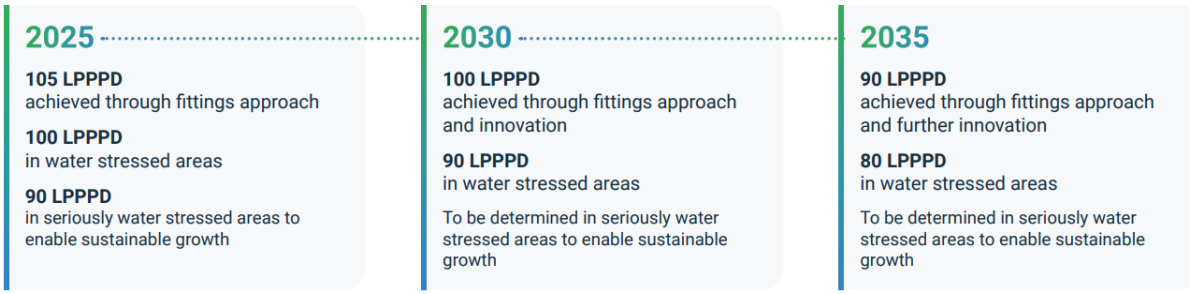

Figure 1: Future Homes Hub Roadmap for water efficiency

2.12 The document also recognises that in his Written Ministerial Statement of 19 December 2023, the DLUHC Secretary has encouraged "…local planning authorities to work with the Environment Agency and delivery partners to agree standards tighter than the 110 litres per day that is set out in current guidance" in "areas of serious water stress, where water scarcity is inhibiting the adoption of Local Plans or the granting of planning permission for homes." Written statements - Written questions, answers and statements -

[10] Future Homes Hub Water Ready Report, available at: https://irp.cdn-website.com/bdbb2d99/files/uploaded/Water%20Ready_A%20report%20to%20inform%20HM%20Government-s%20roadmap%20for%20water%20efficient%20new%20homes.pdf

UK Parliament. This effectively introduces a third level of water efficiency requirement into the national picture which needs to be considered.

2.13 The South Oxfordshire and Vale of White Horse Councils welcome the development of a roadmap for improving water efficiency beyond the 2025 Building Regulations standards to 2035. We agree that confirmation of the targets for litres per person per day should occur as early as possible, to provide greater lead-in times for local policies and water company environmental incentives. In that context, we consider the target set by Policy CE7 is the step in the right direction.

Water Cycle Study

2.14 In addition to the above the we commissioned Wallingford HydroSolutions (WHS) to undertake a Water Cycle Study (WCS). The aim of this study is to provide evidence to support the emerging Joint Local Plan 2041. The study considers how strategic plans and development proposals will affect the water environment when unmitigated future development can adversely affect the infrastructure capacity of clean and wastewater infrastructure often resulting in environmental impacts. In this regard, the study looks to identify infrastructural and environmental constraints, in order to determine the steps required to ensure that planned growth can occur without compromising the water environment.

2.15 The WCS Scoping Report appropriately highlights that the forecasts in Thames Water's latest WRMP there could be shortfalls in water supply up to 2041 and beyond.

- Without corrective action, the supply for both districts could be less secure which will mean a greater probability that demand restrictions will be required in dry years.

- The JLP and adopted local plans are bringing forward a greater allocation of dwellings than currently forecasted by the WRMP, so could exacerbate the shortfalls predicted.

2.16 In the analysis of demand forecast the WCS shows the total number of dwellings being brought forward in the plan period by the JLP and made Neighbourhood Plans to be higher, with 38,686 dwellings currently proposed in the JLP compared to 31,719 dwellings based on Thames Water’s plan-based forecasts. This suggests a significantly higher projected demand for water unaccounted for in Thames Water’s current projections and calls for identifying other tools and interventions to be deployed to improve water efficiency in an area that already experiences serious water stress.

2.17 The Water Cycle Study is clear that “New interventions from the district councils such as stricter water use standards may also be required during the plan period”.

Feedback from Reg 18 Part 2 Preferred Options Consultation on Policy CE7 - Water efficiency

2.18 Whilst there were concerns that the proposed water efficiency standard of 100 litres per person per day for new dwellings is not consistent with the Building Regulations or planning practice guidance there were some requests to set an even more ambitious water efficiency standard (such as 80 or 90 litres per person per day) and to apply the standard not only to new dwellings, but to extensions and renovations too.

2.19 Thames Water expressed support for applying a 110 litres per person per day standard in accordance with national planning guidance but noted that the Building Regulations allow water efficiency requirements to be achieved through either the 'Calculation Method' or the 'Fittings Approach', with the Fittings Approach being most effective. Considering compliance issues with the “Fittings Approach” as explained in the WRc Study, there is a case for tighter standard.

2.20 Oxfordshire County Council are supportive of more ambitious water efficiency standards. The reduction in water use helps to reduce the need for strategic water resource infrastructure such as the proposed reservoir near Abingdon.

2.21 There was some support for alternative options such as to explore the potential for community-scale rainwater harvesting and grey water recycling schemes. It was also suggested that these approaches should be considered for all scales of development, not just site allocations and other major development. However, we do not consider these options address the urgency of the issue.

2.22 Combined with significant pressure on water resources in the districts, the feedback from consultation suggests Policy CE7 should retain its approach to water efficiency, including a water efficiency standard of 100 litres per person per day for new dwellings**.**

Viability

2.23 The final aspect of justifying the policy is demonstrating that any policy requirements would not adversely affect development viability or housing supply. This aligns with the recommendations from Future Homes Hub which clearly suggests that whilst the recommendations provide a useful direction of travel, the commitment to specific levels of litres per person per day will need to be confirmed as deliverable by industry.

2.24 We commissioned Aspinall Verdi to prepare a Viability Report in support of the JLP which tested the impacts of all relevant policies on the viability of a suite of different development typologies in different market areas. One of the policies included in the testing was the water efficiency criteria of Policy CE7.

2.25 Table 3.1 of the Report notes that delivering tighter standards incurs an additional build cost of £350 per dwelling, which is considered negligible (cost implication based on the standard of 100 l/p/d):

> *We recognise that there is a cost implication with the enhanced water efficiency target. 100 litres per head per day is a pioneering requirement. This may involve technologies such as a smart water meter, low flow fittings and water efficient appliances. In this respect, we have explicitly included an allowance of £350 per unit for water efficiency. This is based on the report Future Homes Hub (April 2024) – 'Water Ready - A Report to Inform HM Government's Roadmap for Water Efficient New Homes'.*

2.26 Overall, the Aspinall Verdi Viability Report demonstrates that this additional cost incurred by imposing 100lppd does not adversely impact on the viability of schemes. Moreover, in considering its application, the Report suggests that these costs are considered to be the 'worst-case' scenario.

Section 3: Conclusion

3.1 This paper has demonstrated that South Oxfordshire and Vale of White Horse areas are in an area of serious water stress. Under Government guidance in the NPPG, this is sufficient justification for local plan policy to seek a more restrictive level of water efficiency (110 lpppd) than that mandated nationally through Building Regulations (125 lpppd). NPPG allows local authorities to seek tighter control where local evidence justifies it.

3.2 It should be noted that the current development plan in both South Oxfordshire and Vale of White Horse have successfully applied 110 lpppd requirement.

3.3 The emerging plan also has a suite of policies that seek to climate change issues which policy CE7 is part of. Both councils have declared climate emergencies, recognising that we must take action locally in order to tackle the global issue of climate change. This policy and the recommended tighter standard for water consumption is therefore an integral element of the JLP's overall approach to addressing wider issues of climate change and sustainability.

3.4 Given the strong local evidence of, amongst other things, serious water stress in our districts, and in conjunction with the Future Homes Hub recommendations actively advising the government for tighter standards the requirement for of no more than 100 litres per person per day as set out by policy CE7 in the JLP is considered entirely justified. It is further justified by the viability assessment outcomes which demonstrate the costs of achieving this standard still leads to viable schemes.

Appendix 1

Policy CE7 – Water efficiency

1) It must be demonstrated that development has been designed to be water efficient and to minimise water consumption.

2) All new homes must be designed to high water efficiency standards, with water use not exceeding 100 litres per person per day, or any future tighter standard that may replace this.

3) Every new home with a garden must be fitted with at least one water butt (unless an alternative rainwater harvesting scheme is implemented that would make this redundant).

4) Compliance with exemplar water efficiency standards (such as the Royal Institute of British Architects '2030 Climate Challenge' water use targets[a]) is encouraged.

5) Development at site allocations and major development should maximise water efficiency through large-scale rainwater harvesting and grey water recycling schemes where it is feasible and viable to do so.

[a] The Royal Institute of British Architects 2030 Climate Challenge, available at: https://www.architecture.com/about/policy/climate-action/2030-climate-challenge?srsltid=AfmBOorewwsWd7I6uwbpNSw9-5Q45fOd88sMG8x0MM756dNEhR7r-bwo

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Planning Policy Team
Abbey House, Abbey Close
Abingdon, OX14 3JE
Tel: 01235 422422
Email: planning.policy@southandvale.gov.uk

www.southoxon.gov.uk
www.whitehorsedc.gov.uk

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