Rother
District Council

Development and Site Allocations Local Plan

Water Efficiency

Background Paper

June 2016

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Introduction

1. Following the Government's Ministerial Statement released on 25 March 2015 in response to the Housing Standards Review Consultation, a number of changes have been introduced to technical housing standards in England, including the withdrawal of the Code for Sustainable Homes as a national standard. There are, however, some elements of the Code (water efficiency for example) which Local Authorities will look to continue to apply supported by robust evidence. This topic paper examines the validity of introducing a development management policy which advocates a reduction in water consumption in new development through the planning system.

2. The Government has provided Local Authorities the option to implement the Technical Standards on Water Efficiency. A 'clear need' must be established in order to adopt the standard. Considerations are to be taken on the impact of viability and housing supply.

3. This background paper has been prepared to inform the approach to be taken within the Council's Development and Site Allocations Local Plan in relation to water efficiency.

National Planning Policy and Guidance

4. The National Planning Policy Framework (NPPF) covers a range of topics; therefore water availability is not covered in great detail. However, paragraphs 94 and 99 highlight the need of LPAs to take a proactive approach to water supply in the context of adaptation to climate change. Paragraph 156 of the NPPF and the National Planning Practice Guidance also identifies the need to consider water infrastructure, including water supply and waste water during the plan making process.

Optional Water Efficiency Standard

5. The Optional Water Efficiency Standard is to implement a higher requirement for all new dwellings to have a consumption of water of **110 litres/person/day instead of the mandatory 125 litres/person/day as advocated in the Building Regulations**. Prior to the optional Technical Standard, water efficiency improvement was driven by the 'Code for Sustainable Homes'. As this is being wound down, the improvements to conserve water and reduce consumption will fall under Building Regulations G if implemented and would therefore be mandatory.

6. In the UK everybody uses approximately150 litres/day (Waterwise 2012). This figure has been rising by 1% every year since 1930 and includes everyday usage such as personal washing, drinking, flushing toilets and external use. In order to reduce the usage there are several methods of doing so other than occupant behavioural changes. The most practical approach is to install water meters as well as employ efficient fittings such as; dual flush toilets, water efficient appliances and aerated taps.

7. All products supply datasheets which outline the water consumption based on output of litres/ minute. The standards are based on typical user behaviour, for example; length of showers, no. of times toilet is flushed, use of washing machines and dishwashers etc. The water consumption based on length and number of uses is calculated with the products performance to provide the total estimated water consumption.

8. Applicants can calculate the estimated use with the methodology in the Water Efficiency Calculator[1] or use Table 2.2 in Building Regulations Part G 2015 which sets out the maximum fittings consumption levels.

Table 2.2 Maximum fittings consumption optional requirement level

Water fitting	Maximum consumption
WC	4/2.6 litres dual flush
Shower	8 l/min
Bath	170 litres
Basin taps	5 l/min
Sink taps	6 l/min
Dishwasher	1.25 l/place setting
Washing machine	8.17 l/kilogram

9. All new homes already have to meet the mandatory national standard set out in the Building Regulations (of 125 litres/person/day). 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/person/day.

[1] The Water Calculator is an online tool which can be used to assess the efficiency and water consumption of many products

Establishing the case for Need – Water Stressed Areas

10. Water is recognised as being a finite resource. As set out in the adopted Core Strategy the availability of water is important for a number reasons including as a source of drinking water, its role in industry and supporting the environment which includes protected habitats and species. A number of competing demands on water resources needs to be balanced. This balancing is expected to be challenging in light of development pressures and climate change. Policy SRM2 (v) sought to minimise the impact of development on water resources including managing demand for water. This did not include specific standards. It will be for the Development and Site Allocations Plan to refine Policy SRM2 (v) to set a standard.

11. The Environment Agency (EA) has highlighted the entire area of the South East as 'water-stressed'. This was established in the paper '*Water Stressed Areas- Final Classification'* published in 2013. The EA identifies water stressed areas 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."

12. As part of evaluating the resources, the EA looks at each individual water company areas and its water exploitation rates. This involves calculating the rainfall reaching water sources or percolating through groundwater, and the abstraction of water. The levels are assessed to see if the environment can cope.

13. In Table 1 below the local water suppliers (Southern and South East Water) are highlighted as 'stressed' and categorised as 'Serious'. The final water company stress classification shows how the current and future scenarios have been combined (L = Low stress, M = Moderate Stress, S = Serious Stress).

14. The Environment Agency advises the Secretary of State that the areas classified as 'Serious' in Table 1 should be designated as 'Areas of Serious Water Stress' for the purposes of Regulation 4 of the Water Industry (Prescribed Condition) Regulation 1999 (as amended). Under the Regulations, water companies in areas classified as seriously water stressed need to evaluate compulsory metering alongside other options when preparing water resource management plans (WRMPs).

Water Company Area	2013 Classification					
	Current Stress	Future Scenario 1	Future Scenario 2	Future Scenario 3	Future Scenario 4	Final Stress
Affinity Water (formerly Veolia Water Central)	S	S	S	S	S	Serious
Affinity Water (formerly Veolia Water East)	S	S	S	S	S	Serious
Affinity Water (formerly Veolia Water South East)	S	S	S	S	S	Serious
Anglian Water	S	S	S	S	S	Serious
Bristol Water	M	M	M	M	M	Not Serious
Cambridge Water	M	M	M	M	M	Not Serious
Cholderton & District Water	M	M	M	M	M	Not Serious
Dee Valley Water	M	M	M	M	M	Not Serious
Dwr Cymru Welsh Water	M	M	M	M	M	Not Serious
Essex & Suffolk Water	S	S	S	S	S	Serious
Northumbrian Water	M	M	M	M	M	Not Serious
Portsmouth Water	M	S	M	S	M	Not Serious
Sembcorp Bournemouth Water	L	M	M	M	L	Not Serious
Severn Trent Water	M	M	M	M	M	Not Serious
South East Water	S	S	S	S	S	Serious
South Staffordshire Water	M	M	M	M	M	Not Serious
South West Water	M	M	M	M	M	Not Serious
Southern Water	S	S	S	S	S	Serious
Sutton & East Surrey Water	S	S	S	S	S	Serious
Thames Water	S	S	S	S	S	Serious
United Utilities	M	M	M	M	M	Not Serious
Veolia Water Projects	M	M	M	M	M	Not Serious
Wessex Water	M	M	M	M	M	Not Serious
Yorkshire Water	M	M	M	M	M	Not Serious

Table 1. Water Stress Areas – Both Southern Water and South East Water are classifield as being a water stress area in all scenarios.

15. The Environment Agency is responsible for managing water resources in England and controls how much water is taken with a permitting system and regulates existing licenses and grants new ones. The publication 'Rother Abstraction Licensing Strategy (2013)[2]' considers the impact of abstraction from rivers/resevoirs at all flows, and licences are often limited to conditions. Both water companies operating in the Rother area have within their water management plan strategies, abstraction and transfer programmes between different zones within the catchment and even outside the Rother catchment in order to meet demand.

16. Management is crucial for sustainable use of the existing water resources. The EA values the importance of water efficiency and it is a condition for granting licences: *"Water efficiency is one of the tests that will need to be satisfied before we grant a new licence or renew a time limited licence".*[3]

[2] The Rother CAMS area covers approximately 970km2. The wider Rother catchment includes the rivers Dudwell, Darwell, Brede and Tillingham among other smaller streams, and the Romney and Walland marshes.
[3] Rother Abstraction Licensing Strategy 2013 Environment Agency (p15)

17. Furthermore the Rother Abstraction Licensing Strategy (2013) goes on to stipulate as part of the overall strategy to conserve water is to recommend water conservation through building design. The Environment Agency advocates this as good, positive planning and asserts: *"Water efficiency and the reduction in household water demand are crucial elements of good water resource management planning especially as the South East is under increased pressure from climate change and population growth".*

18. This is further evidence justifying the introduction of water efficiency measures through Development Management policies.

Water Framework Directive

19. The EU established the Water Framework Directive in 2000 and it is the basis for all UK policy regarding water resources. One UK interpretation of the policy is demonstrated through River Basin Management Plans which are produced by government and agencies. The Water Framework Directive establishes legal requirements to aim to achieve 'good' status or 'good ecological potential' for all water bodies by 2027. In addition, there should be no deterioration in the status of water bodies. This has implications for the quality and quantity of ground and surface water bodies.

20. The purpose of a river basin management plan is to provide a framework for protecting and enhancing the benefits provided by the water environment. To achieve this, and because water and land resources are closely linked, it also informs decisions on land-use planning. The plan is in place to protect, improve and have sustainable use of the water environment. It has been prepared under the Water Framework Directive whose standards range from conservation of habitats and promotion of sustainable use of water. The South East River Basin Management Plan (2009) was produced by DEFRA and the EA but has since been superseded by Water for life and livelihoods Part 1: South East River Basin District Management Plan (2015).

21. There are 9 management catchments that make up the river basin district. Rother District straddles two catchments: Rother Catchment area and the Cuckmere and Pevensey Levels Catchment area.

Figure 1. Map of the South East river basin district

22. The South East River Basin Management Plan (2015) specifies key actions for the catchment basins to meet the objectives of the Water Framework Directive including regulating the amount of water extraction and states:

'Dealing with unsustainable abstraction and implementing water efficiency measures is essential to prepare and be able to adapt to climate change and increased water demand in future'.[4]

23. In tackling the issue of water resource sustainability the 'management plan' encourages water efficiency through the following measures:

***'All sectors** take up or encourage water efficiency measures, including water industry work on metering, leakage, audits, providing water efficient products, promoting water efficiency and education'*
***'Local government** sets out local plan policies requiring new homes to meet the tighter water efficiency standard of 110 litres per person per day as described in Part G of Schedule 1 to the Building Regulations 2010.'*[5]

24. All sectors includes groups involved at all levels in the water environment including land managers, agriculture, government agencies, water companies, and non-government user groups, which are all encouraged to support water efficiency measures. However the Management Plan goes on to identify the pivotal role of Local Government in promoting water efficiency through their local plan policies with the implementation of the higher water efficiency standard of 110 d/p/d.

[4] South East river basin management plan - Part 1 (Water Resource Sustainability Measures p58)
[5] South East river basin management plan - Part 1 Changes to natural flow and levels of water (p44)

Appropraiate Assessment - Pevensey Levels

25. Under the Directive 92/43/EEC on the *Conservation of Natural Habitat* and of *Wild Fauna and Flora* and the *Conservation Regulations 1994,* Rother District Council was required to undertake an Appropriate Assessment (AA) of the implications of any land use plan on site as defined in the Natura 2000 network and any RAMSAR sites.

26. The Pevensey Levels is seen as a significant site of environmental importance as there were concerns the Wealden and Rother respective Core Strategies' would have an detrimental impact on the Pevensey Levels.

27. The AA concluded that due to the sensitivity of the Pevensey Levels, the abstraction licence issued to South East Water would not be extended and consequently no additional water can be abstracted.

28. The direction of Wealden's and Rother's Core Strategies will result in some new development in the catchment of the Pevensey levels. In Rother's case this would be planned extension to the north and west of Bexhill. However unsustainable abstraction of water has the potential to cause ecological problems within the Pevensey Levels. The AA goes on to conclude planned growth to the north and west of Bexhill advocated in the adopted Core Strategy is accepted. However positive planning through Development Management policies to promote water efficiency measures will help to preserve existing resource and help preserve the integrity of the Pevensey Levels.

Water Efficiencies Measures at other Local Authorities

29. Locally Lewes District Council, Brighton City Council and Worthing Borough Council have all indicated they will introduce a policy advocating water efficiency measures in line with the Optional Standards. For example Lewes Council is proposing a modification to draft policy CP14[6] in response to the Inspector's questions to the Joint Core Strategy Examination as outlined in the paper: *Local Plan Issue 14, Response to Inspector's Questions and Participants Written Statements*.

30. Following the recent Examination of Brighton's City Plan, the Inspector's Report includes modifications[7] to Policy CP8 Sustainable Buildings which is committed to the optional threshold of 110 l/d/p.

[6] Modification 48 and Modification 50.
[7] MM85 (p47)

31. In Worthing the Borough Council has produced a transitional paper committing the Council to implement the optional standard of 110 l/d/p as part of the Local Plan review.

Water Company Water Resource Management Plans and Business Plans

32. Water Resource Management Plans are prepared by water companies to establish 25 year plans for how water will be supplied. Both Southern Water and South East Water operate in Rother district.

Southern Water

33. In Southern Water's Water Management Plan 2010 - 2016, they have set out to deliver several improvements to the business including greater efficiencies the implementation of leakage reduction programme and for support for universal metering for all customers. The business plan was approved by 90% of their household customers and 91% of their business customers. Southern Water is resolved to provide better information and advice regarding water efficiency measures. This is part of their goal to reduce water use by 10% by 2020. They will be offering specially trained staff to visit homes to provide tailored advice on how to save water, energy and money and promote water efficiency.

34. Southern Water's operational area is split into three parts: Western, Central and Eastern. Sussex Hastings is located in the Eastern area and includes Kent Medway and Thanet. Kent Medway and Thanet take most of their water from groundwater and the rest from the River Medway, some of which is stored in Bewl Water reservoir and later released into the River Medway. Sussex Hastings takes the majority of its water from Darwell and Powdermill reservoirs, with the rest from groundwater. Water is transferred by pipeline from Medway to Thanet and from Medway to Hastings.

35. Sussex Hastings operational area takes the majority of its water from reservoirs (79%) with groundwater making up 5% and a further 16% derived from transfers from Bewl Water. The company's supply area is designated as an "area of serious water stress" by the Environment Agency. This designation requires Southern Water to consider universal metering and is currently the intention to achieve a level of 100% meter installation by April 2015[8]. Metering is generally considered to be one of the most effective means of reducing demand, as it provides a financial incentive to use water more efficiently.

36. In Southern Water's *Water Resources & Drought Strategy* it highlights the challenges brought in by EU law. The Water Framework Directive has five licences under review in the region which could lead to reduced abstraction. There is a strong focus on rivers, groundwater and streams which are under pressure and tight restrictions are being put in place to ensure stability. Therefore Local Authorities have a significant part to play to supporting water efficiency policies especially as planned development will put further stress on existing water resources.

South East Water

37. Based on South East Water's *Water Resource Management Plan*, the company claims "Customers overwhelmingly supported our proposals to reduce demand for water, such as through our water efficiency". The Management Plan has been produced to meet statutory requirements and to establish how South East Water will meet the water demand over the next 25 years. There are two main aspects that the management plan supports: ensuring current water supply goes further and to develop new water supplies.

38. Almost 25% of the additional water needed is through managing the existing water supply levels. Therefore ensuring the water is used efficiently is critical to their plan. While the quantum of development in the Core Strategy is significant, the water companies have indicated additional planned development would be accommodated, capacity was not an issue, and the introduction of water efficiency measures through development management policies would contribute towards the efficient management of existing water resources.

[8] Southern Water metering programme 90% of all households are now metered.

39. According to Ofwat, 40% of customers in England & Wales have water meters and many water suppliers are promoting the use of them. South East Water aim to have 90% of homes metered by 2020 as set out in their '2015 – 2040 Water Resources Management Plan'. The Consumer Council for Water is in support of the Defra Strategy Future Water to universally have water meters fitted within all water stressed areas. It has also been considered to be the fairest basis of charging.

Viability

40. A paper was produced by Department for Communities and Local Government **Housing Standards Review Cost Impacts** September 2014. The document reports on the comparison cost of the number of proposed and current housing standards put forward by the Housing Optional Technical Standards Paper.

41. Table 2 below summarises the revised costs for the current and proposed standards along with the process costs (for example design time or commissioning of specialist reports) associated with the standards. The figures are for a scheme size of 50 dwellings.

Table 2 – Summary Costs

	Current Standards		Proposed Standards	
	Standard	Range of cost / dwelling	Standard	Range of cost / dwelling
Security	Secured by Design	£299 to £352	Security	£40 to £107
Energy	Code for sustainable homes	£0 to £31,435	Building regulations	£0
	Renewable energy	£1,027 to £4,726		
Access	Lifetime homes*	£1,082 to £1,100*	Category 2 access*	£520 to £940*
	Wheelchair housing standards*	£10,552 to £25,282	Category 3 access	£7,764 to £23,052
Water	Water efficiency	£0 - £2,697	Single standard (110 ltrs / day)	£0 - £9
Process costs**	£16 - £159		£0.4 - £57	

* *figures exclude costs of additional space associated with requirements of the access standards – see later sections of this report for costs in this respect.*

** *process costs relate to general needs dwellings, additional costs are incurred for homes for wheelchair users*

42. For water requirements, Table 3 indicates the cost of complying with the higher standard of 110/l/p/d across different house types. Table 3 reflects the most common current practice which is to use flow restricting devices to reduce water consumption by taps and showers. Manufacturers will be expected replace 'older' ranges over time and will meet the proposed standard and as such additional restricting devices are not required. In comparison to Secured by Design, where the cost per dwelling is between £40 – £107 the cost per dwelling, to comply with higher water efficiency standard is competitive and should not be a undue financial burden for developers.

Table 3 – Water Standards Cost Summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost all dwellings (extra over usual industry practice)					
Proposed standard	£6	£6	£6	£9	£9

43. The NHBC Foundation produced a paper on [Sustainable technologies – the experience of housing associations]. The paper assesses the experience of sustainable technologies being implemented in new housing provided by Housing Associations. The NHBC used the social housing sector as the houses were often built to a high sustainability standard and it was able to gain feedback from occupiers through property management. Its findings in relation to water efficiency were that the measures for water efficiency were installed four times more often than energy efficiency. It also highlights that cost of the technology was the biggest influencing factor, indicating that water efficiency products were much more cost effective.

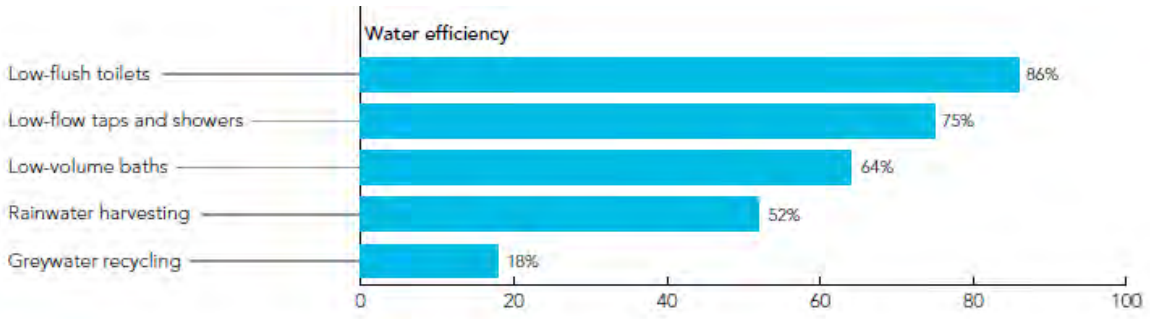

Figure 2 Percentage of housing associations installing technologies in newbuild homes

44. There was also positive feedback from the housing associations (survey from 200 telephone interviews & three focus groups), as shown in the graphic below.

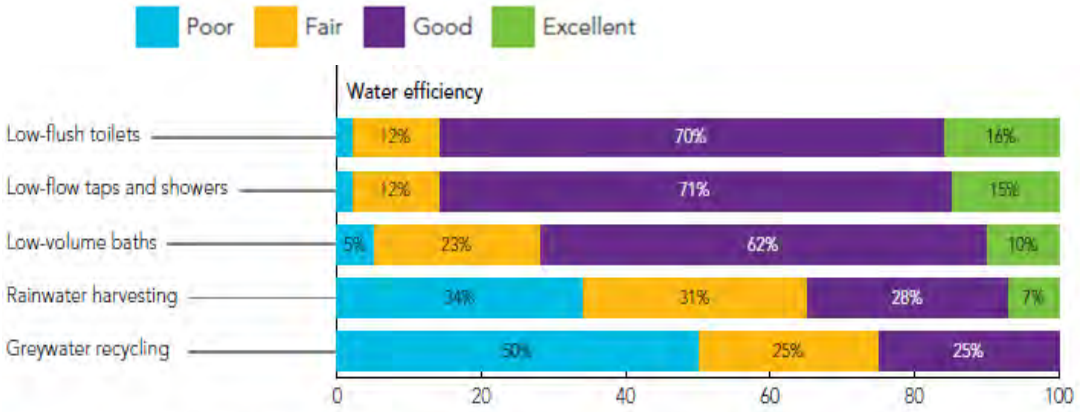

Figure 11 General satisfaction with technologies

Summary

45. As established in the reports made by the Environment Agency and elsewhere, Rother is identified as a water stressed area and is categorised as 'serious'. From both water suppliers in the area; Southern Water & South East Water, their aims and business objectives are to sustain the existing water reserves by implementing efficiency measures.

46. The water suppliers have indicated that they can accommodate additional development however it is acknowledged that with restrictions on abstraction together with a planned increase of at least 5,700 dwellings and over 100,000 sq ft of employment land over the plan period, there is an increased pressure to manage more effectively existing water resources.

47. In all legislation relating to water, there is clear direction towards water efficiency. The local water suppliers have also been able to demonstrate that there is a changing attitude in the public regarding sustainable water usage and cost, as seen by the rise of water meters being installed across many areas of the south east.

48. Taken together, the conclusion of this topic paper is the higher optional standard of 110 l/d/p is an achievable standard for house builders to implement. There is clear evidence that water efficiency measures are needed in this area. From the report **Housing Standards Review Cost Impacts** water efficiency measures are within acceptable range of costs and would not make development unviable.

49. This topic paper supports the adoption of the Optional Standard in relation to improving water efficiency. Rother's adopted Core Strategy has: *Policy SRM2 (v)* which states: *"Ensuring that all development incorporates water efficiency measures appropriate to the scale and nature of the use proposed"*. The new standard is therefore a refinement of existing Core Strategy policy SRM2. Accordingly, all new homes in the district will be required to achieve water consumption of no more than 110 litres per person per day. It is not considered that this will place an undue financial burden upon developers.

Proposed Policy

New development should plan positively to minimise its impact on water resources. All new dwellings are required to be designed to achieve water consumption of no more than 110 litres per person per day.

Suggested Notes

To enforce the water policy efficiency policy for new dwellings the applicant will be expected to submit a 'letter of intent' during the planning application stage confirming the dwellings will adhere to the new standard 110 litres/per day/per person.

At Building Regulations stage the applicant using an Approved Inspector or RDC (Building Control Body) will be required to notify the Council via the 'application process'. The Initial Notice has been amended to inform Approved Inspectors that the new dwellings will need to comply with the new water efficiency standard; however, it is the applicant's responsibility to inform the BCB about the reduced standard. RDC/HBC Surveyors go out to inspect the new dwelling to confirm this is the case with respects to Building Control compliance and a Completion Certificate/Final Certificate is issued upon satisfactory completion of the work.