RESPONSE TO THE INVITATION TO COMMENT ON THE DRAFT THAMES WATER - WATER RESOURCES MANAGEMENT PLAN 2024

DR PETER MATTHEWS PAST MASTER WORSHIPFUL COMPANY OF WATER CONSERVATORS (See footnote)

1 This personal submission is made on the basis of past experience of leadership in Anglian Wate, membership of the Environment Agency Board and Chair of Natural Resources Wales. I am not working on current water resources and I have not been familiar with the specific challenges facing Thames Water until now. And this submission is based on reading the Plan Summary and listening to an excellent presentation by Philip Stride on February 28th Well done for a good plan and a well planned Consultation process

2 The Plan has been in development and early consultation for many years. https://www.theguardian.com/environment/shortcuts/poll/2013/may/10/water-health

Customer demand management

3 I note that, by your own admission, the per capita target is somewhat higher than the government target and no doubt this will be acceptable to the Ofwat and Environment Agency..

4 There is a need to recognise the role of consumers in meeting consumption targets. The Water Conservators have suggested that more needs doing than just leaving the principal focus of changing consumer habits to Water Companies and there needs to be more national leadership and, possibly' more ancillary regulations; the Water Conservators supported the Defra proposals for water efficiency, with some adjustments .

5 Phil Stride's presentation highlighted an issue, which has been of growing concern …. customer pipe leakage. This occurs in two ways, within premises and in the supply pipe. Water Fittings Regulations were enacted in 1999 to deal with the impact of internal fittings on the quality of drinking water at the sampling tap and to protect customers, as compared to the responsibility of water companies for water quality at the property curtilage. The focus has evolved and now embraces more issues about 'within premises' leakage. 'Leaky loos' was mentioned. Leakage from supply pipes is dealt with separately under S75 of the Water Industry Act 1991. And these sit in juxtaposition with Part G of the Building Regulations for new build. It is my view that this whole area needs to be reviewed. At the least, Thames Water should have a strong 'axis of delivery' with Local Authorities.

6 I was intrigued by the focus on smart water meters. In principle these are a great idea. But my experience in Anglian Water in the 1990s in delivering the then most proactive metering programme at the time, is that the switch to metering in itself saves about 10-15% consumption. So what extra cost benefits are there for going from dumb to smart metering?. We have all experienced customer resistance on metering, but the introduction of more e-technology into homes (smart phones etc) might just be the final factor in resisting the installation of metering .So it might well be that some customers with fitted smart metering might use them as dumb meters pro tem . I am pleased that this project has gone well, so far, and I support the initiative.

Distribution Leakage

7 I compliment Thames for its programme. The Water Conservators have sought to highlight the practical issues of roads for mains replacement (along with those for re-sewering) . And there is a lot of experience stretching right back to the immediate post privatisation schemes to address S20 Undertakings. These include the requirements of the New Roads and Street Works Act 1991 , commercial compensation for affected businesses (under the Water Industry Act 1991), and the disposal of excavation waste (many golf course were remodelled in the early 1990s !)

8 There has been a move away from Lowest Economic Levels of Leakage, because there was insufficient recognition of environmental costs, but there is still room for an evolved approach. Nevertheless, if the arguments about LEL are set aside , what does Thames think that, in realistic practical terms, is the lowest rate of leakage achievable ? Of course, this will vary according to the average asset age, but even with modern assets, it might not be possible to get below about 8%. This is a very important media message

New river abstraction at Teddington

9 This is at the heart of most opposition and the current circumstances demonstrate the void which exists between fact and assumption. On the very day that Phil Stride made his presentation, a critical article was published in the Guardian, following on from other comments

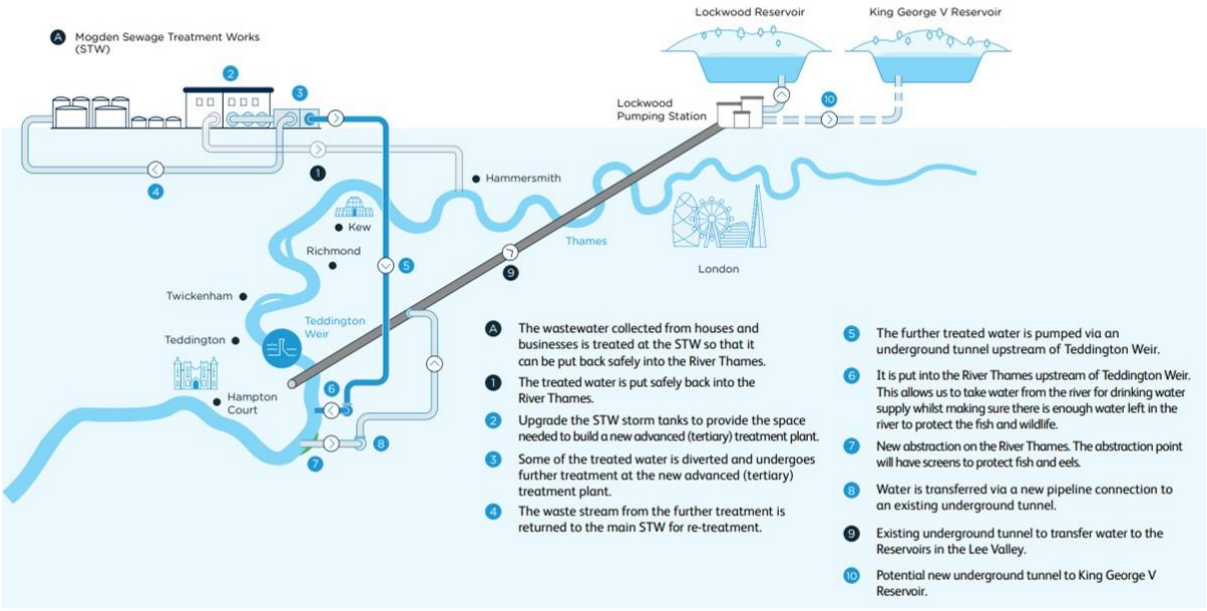
https://www.theguardian.com/uk-news/2023/feb/28/nearly-10000-oppose-plan-to-pump-treated-sewage-into-thames-london

https://teddington.nub.news/news/local-news/twickenham-mp-munira-wilson-slams-thames-water-sewage-plans-for-teddington-166491

https://www.change.org/p/stop-the-abstraction-plant-at-teddington-weir-and-releasing-treated-sewage-into-the-river?recruiter=155586205&recruited_by_id=cc2ea2e0-41d7-11e4-b388-c1552078fb49&utm_source=share_petition&utm_campaign=share_petition&utm_term=petition_dashboard&utm_medium=copylink&utm_content=cl_sharecopy_35493859_en-GB%3A10

The debate seems to highlight the challenge of reconciling the need of a flourishing river, in terms of quality and flow, with the uses of the water, including the contribution to water resources. It highlights what the Water Conservators have suggested, which is the creation of a national overarching water management strategy, under which is located a framework for managing river use and quality.

10 The Plan describes this as a new abstraction which would be sited on the River Thames close to Teddington Weir. Abstracted water would be transferred via an existing underground tunnel to the Lee Valley reservoirs in East London. Highly treated recycled water would be moved from Mogden sewage treatment works upstream to compensate for the additional water taken from the river to protect the environment and wildlife.



11 On the basis of the plan, some of the Mogden effluent will continue to be discharged at Isleworth with normal arrangements for dealing with storm overflows, and some, with additional treatment , and no storm overflows ,would be discharged above Teddington Weir to compensate for the new abstraction The proportion will vary with circumstances. This would compensate the loss of flow arising from the new abstraction, still further upstream, and its environmental value would be greater at Isleworth , than if all of the effluent continued to be discharged there into the Tidal Thames. The volume of that new abstraction would presumably be added to that abstracted already into the Thames – Lee Tunnel .. this is a scheme which increases water resources.

12 I refer to an interesting paper on that Tunnel
https://www.icevirtuallibrary.com/doi/abs/10.1680/iicep.1962.05088

The abstract for this describes the design and construction of a concrete-lined tunnel, together with the necessary pumping plant, which was designed to transfer water from the River Thames to the Lee Valley storage reservoirs of the Metropolitan Water Board. This tunnel is believed to be the longest in Europe and the longest tunnel in soft strata in the world. This tunnel main has been made necessary because insufficient water is available from the River Lee to meet the needs of East London. The main was designed as a gravity main. Electrically driven borehole type pumps located in a shaft at the Lee Valley end of the main deliver the water into the reservoirs.

13 But in many ways the public debate has moved away from some fundamental principles

- Treated sewage effluents are discharged to rivers all over the country where they comprise a valuable part of the river flows. And in many places those flows are used for abstraction particularly for water supply. And these are stored for resilience and safety in reservoirs. I am more familiar with the River Ouse, for example, in East Anglia. So the water flowing over Teddington Weir already contains some sewage effluent , although I cannot find out how much and what the proposed discharge will add .There is a useful

insight from 2013
https://www.theguardian.com/environment/shortcuts/poll/2013/may/10/water-health

- The proposal for the new discharge point for Mogden effluent should involve environmental impact studies, which will determine the consent conditions imposed by the Environment Agency according to the principles set out in its 2018 Permitting Guidelines. Thames Water will then have to respond by providing the appropriate treatment. The Consultation Plan states that the proposals have been developed in conjunction with the Environment Agency and the environmental impact studies are ongoing, to be completed this year. But the communication of this process to the general public has not been as transparent as it could have been.
- Just as in any other circumstances in determining the conditions for discharge , criteria must be set which take account of the impact on the existing abstraction and presumably this will include an appropriate Drinking Water Protection, or even Safe Guard , Zones
- The issue of PFAs in the environment has arisen and is much wider than a very focussed debate about water resources in the Teddington area. And national compliance has been set in the latest River Basin Management Plans as 2063 .
(https://www.gov.uk/guidance/river-basin-management-plans-updated-2022.

  PFAs may be present in the river water already and I was pleased to hear that modelling of the consequences is taking place

14 The published responses by Thames Water to the most frequently asked questions, so far, is an excellent step in the consultation process.

https://thames-wrmp.co.uk/assets/images/documents/teddington-river-abstraction/Teddington-DRA-Commonly-asked-questions.pdf

But it might have avoided some of the angst if this information had been provided pro- actively initially, rather than reactively during the Consultation process.

15 It is clear that the focus of the expressed angst is the impact of the overall scheme on river quality between the new abstraction and discharge points and existing discharge points for Mogden effluent. And it might help to understand the dynamics of what is happening as to why this has caused more opposition than might have been expected. It might well be that the use of the term ' water recycling', to describe the discharge of sewage effluent, taps into the subliminal antipathy to all matters arising from sewage. The origins of this lie in nature's way of warning us of the inherent dangers of faeces and, of course, our own public health training .There are numerous papers on the internet on this topic, for example
https://www.sciencedirect.com/science/article/abs/pii/S0272494415000055

16 Sir James Bevan, outgoing Chief Executive of the Environment Agency, referred to squeamishness about consuming water reclaimed from sewage.https://news.sky.com/story/be-less-squeamish-about-drinking-reprocessed-sewage-water-environment-chief-says-12684456#:~:text=Writing%20in%20The%20Sunday%20Times,water%20directly%20from%20flushed%20toilets. But the problem is that Thames Water refer to this normal discharge of sewage effluent to a river, which is used subsequently as water resource, as recycling. This is known usually as indirect recycling, whilst direct consumption is known as 'direct recycling' .In 2013 Thames Water consulted on the concept of indirect recycling and the Guardian newspaper published a poll, which showed that 37% would not drink even indirectly recycled water, as a precursor of what is proposed now, in spite of existing indirect recycling in the drinking water .

https://www.theguardian.com/environment/shortcuts/poll/2013/may/10/water-health

17 There are published insights into this matter , but the literature is not consistent in its terminology and the term ‘recycled water’ can refer to direct and indirect recycling. So, by using the term in the Consultations, Thames Water may have invoked the subliminal rejection mechanism. Paradoxically, the objections do not refer specifically to the impact on the existing abstraction. Thames Water may wish to rethink the structure of the messaging.

18.The objections refer to the potential impact of increased salinity on the river and, as I have stated earlier, this would be reflected in the consent conditions imposed by the Environment Agency. The risks of there being any impact of the salinity on the water cycle from the river through the reservoirs into public consumption and then back into the river via Mogden effluent, and then abstracted into the Tunnel are very, very small. But it might be worth doing some modelling to demonstrate these. Indeed, such modelling would provide comfort for concerns about other ‘forever’ chemicals. The storage reservoirs will provide buffering capacity for variations of qualities of the abstractions. But this recalls plans which were put into place for the Great Drought of 1976, but never activated because the weather changed suddenly in the August. It might be worth revisiting the 1976 Plans - if they are still available.

19 The overall observation is that the proposals are based on sound established practices and developed in conjunction with regulators. There appears to be a gap between the simplicity of non- technical summary and the complexities of the technical summaries. This could explain some of the opposition. This could be filled by an in-between document, explaining the process of planning more extensively , but still in simple, transparent terms. It might not be too late to do that (some objectors referred to the complexity of the available documents).

Abington Reservoir

20 I noted that pressure group opposition is of concern and there might be some value in taking those people with major concerns about the impact of the reservoir, to see how other regions have coped with this in the past …. and, of course, other Thames reservoirs. I understand that there are concerns about the actual construction, but I am sure that Thames will be following the ‘considerate constructor’ route.

Footnote

The Worshipful Company of Water Conservators, the City of London Livery Company, is focussed on the long-term health of our water resources and the broader environment. Its members include senior professionals from water, environmental and related industries and regulators, along with others who share our passion for water and the environment. Its experience and knowledge ranges from the complexities of environmental sciences, through the application of engineering to deliver the goals identified by those sciences, and the subsequent management of the assets created. The Company’s purpose is ***Promoting a diverse and sustainable environment***.

March 20th 2023.