Rowlands Castle Parish Council

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Dear Sir/madam

Response to Consultation on Strategic Regional Water Resource Solutions: Accelerated Gate Two draft Decision for Havant Thicket Raw Water Transfer

1. Rowlands Castle Parish Council (RCPC or, the Council) has considered the consultation document "Strategic regional water resource solutions: accelerated gate two draft decision for Havant Thicket Raw Water Transfer" produced by Ofwat concerning the Havant Thicket Raw Water Transfer solution with 2 options (Option D.2 and Option B.4) for addressing deficits arising from abstraction licence reductions on the Rivers Test and Itchen. It has decided unanimously that the proposed plan by Southern Water to send recycled effluent to Havant Thicket Reservoir is unacceptable, both to RCPC and to the residents it represents, very many of whom have expressed grave concerns to the Council. This decision was reached for a large number of reasons; ten key reasons are stated in paras 2-11 immediately below and then expanded upon in the remainder of this letter in some detail. As a result, RCPC urges Ofwat to cease further consideration of the particular scheme to transfer waste water into Havant Thicket Reservoir and build the long pipeline to Otterbourne and not to supply funds to enable these projects to proceed.

Key reasons for RCPC opposing the Havant Thicket Water Raw Water transfer

2. The original and only declared purpose of the approved HTR project is to store surplus water emanating from chalk aquifers during the winter months. The storage of high quality water is not only very sensible but provides the opportunity to develop a unique wetland environment with supporting visitor infrastructure that has enthused local people to support the reservoir project. The new proposal to significantly reduce the water quality by mixing it with partially treated effluent will trash the proposed excellent wetland environment that should have resulted and adversely impact water courses below the reservoir as well as the coastal European Protected Sites. This is just not acceptable. It should be noted there is a danger that if there is low winter rainfall or prolonged drought the recycled water will not be mixed sufficiently with spring water, further reducing water quality.

3. RCPC agrees with Ofwat's stated concern that areas of the work are not yet at the standard required for inclusion in a final WRMP, particularly in relation to identifying and mitigating environmental and drinking water quality risks**.** In fact the Council considers that the adverse environmental impact of transferring partially treated effluent into a pristine chalk-aquifer supplied reservoir has been totally underestimated with potentially very bad environmental results.

4. Southern Water (SW) (and potentially Portsmouth Water (PW)) has failed to be open and transparent with its customers and those of PW over the change that will occur to the taste, smell and high quality of water supplied from chalk aquifers via the reservoir. There has been much talk of possibly using de-salination to provide water, which is no longer being pursued because of high energy costs, chemical usage and high carbon impact, all with a high cost to consumers. Conversely, very little has been said about the detailed process of water recycling

that equally suffers from the same failings. Overall there has been a major failure to engage with local people on this particular proposal to the required level of detail to show what is entailed; this is assessed as being a possible deliberate policy to delay potential opposition until the project has reached a stage where it will go forward because it has built up unstoppable momentum.

5. The solution owners have failed to show equivalence between the final effluent at Peel Common Wastewater Treatment Works (WwTW) and Budds Farm WwTW. This information is required to confirm suitability of the WRP which treats final effluent from Budds Farm.

6. SW has not done a robust options appraisal process. If they had this scheme would not have been selected. RCPC is very concerned that the significant adverse impacts of this proposal have not been fully considered.

7. The scheme to produce recycled water has very high energy and chemical use with resultant high cost. Customers are concerned about the huge amount of energy (with high carbon output) and chemicals needed to operate this plant and pump the water more than 35km to Otterbourne. This will have a huge environmental impact. With energy and chemical prices soaring this will be a burden to customers for the next 70 years+ and this option is not in line with government or water company policy on achieving net zero carbon at a time of long term climate emergency. Ofwat should recognise this and not support the scheme.

8. PW customers (and many SW customers) currently enjoy drinking high quality water that tastes good, obtained from chalk aquifers. The addition of treated effluent will diminish considerably the purity, taste and smell of the drinking water and may make many customers turn to using bottled water, which goes against the need to reduce such consumption as part of saving plastic waste and damage to the environment.

9. The Council notes that within the consultation document Ofwat is particularly concerned that:

- There has been insufficient stakeholder engagement, particularly with customers who will receive source or recycled water.

- There has been insufficient progress made in the work to carry out key environmental assessments including Strategic Environmental Assessment, Habitats Regulations Assessment and Water Framework Directive assessment.

- There is insufficient environmental monitoring data to understand environmental impacts and risks.

- There has been insufficient consideration of impacts of potential pipeline routes.

- There is insufficient evidence on the impacts of the WRP on chalk catchments.

- There has been insufficient sampling to provide seasonally representative characterisation to inform Drinking Water Safety Plans (DWSPs).

With so many concerns expressed in the Consultation Paper by Ofwat itself RCPC is surprised that Ofwat is still prepared to consider the project as viable and well-run when, clearly, it has been poorly developed and not discussed honestly and openly with the population in general.

10. Council notes that the Ofwat report page 9, row 5 makes it clear that this option is only cost effective if the capacity of the scheme is significantly increased to release more recycled effluent into the reservoir, indicating that; "*over the medium- to long-term the solution can be adapted to provide capacity beyond the immediate resilience requirement*". Increasing the volume of effluent discharged into the reservoir will make the adverse environmental and amenity impacts even worse, giving SW carte blanche to get rid of as much of their effluent as

possible to the reservoir. They will wish to do this because of their very poor track record in dealing with regular and large discharges of effluent to the sea. Poor management should not be rewarded with a get-out capability that will still damage the environment and also reduce the taste and purity of our drinking water.

11. The Otterbourne pipeline from the reservoir (Option D.2 – development in isolation) is not supported as being too long and it was not selected by Southern Water as a preferred solution in isolation anyway. If SW did not select Option D.2 as a preferred solution then logically Option B.4, the joint solution, should not be a preferred option either, as the 35km pipeline to Otterbourne can no longer be assumed to be in place for Option B.4. However, Option B.5 (75 Megalitres/day (Ml/d) Recycled water from Budds Farm WwTW and Peel Common WwTW sent to an Environmental Buffer Lake and treated at Otterbourne WSW) is a much more sensible option to consider and Southern Water specifically flag in their Gate 2 Annex 5, Page 138/139 that there are potential benefits to the sensitive coastal waters of Option B.5 rather than Option B.4:

- There are **potential benefits on the water environment associated with B.5 as some flows would be diverted from the Peel Common WTW Long Sea Outfall (LSO), which is a less well mixed environment than the Eastney LSO".**

Details of concerns

12. The HTR project was 'sold' to residents of the district as a means of storing the surplus high-quality chalk aquifer water that normally runs out to sea from the Bedhampton springs n the winter months and that its construction would also provide an excellent environment for people to enjoy with walking, cycling and horse-riding routes, coupled with a new extensive wetland environment that would more than compensate for the considerable loss of trees and open space required for the reservoir. This has enthused local residents to agree with and generally support the project and they are looking forward to enjoying the excellent environment that the approved project will bring. There has been some mention at recent project briefings of the plan to send some recycled effluent to the reservoir but it was strongly implied that this project would follow on for future consultation and consideration and that no decisions as to whether it could/should be done have yet been taken. The approved project thus makes no mention of the use of treated effluent, which would have significantly changed the opinion of local residents, potentially even against the reservoir itself. It makes absolutely no sense to dilute high quality water that has been filtered through chalk aquifers with impure water (only about 82% cleaned by SW's own admission), thus requiring PW to do further cleaning of the water (over and above what is currently done) to achieve nearly the same quality. In other words there will be an increased cost of cleaning the water twice. In addition the water will taste different (worse) and this may well put people off drinking tap water which has wider societal impacts if residents turn to bottled water in large numbers.

13. In looking at various options to improve availability of water over the long term, it is clear that there is a need to consider additional water retention, storage, transfer, recycling and even de-salination but this must be done with recognition that some schemes are much more demanding over the long term for energy, carbon and chemical use, with the resultant costs to consumers over many decades and a bad impact on the pursuit of net-zero carbon emissions. Therefore the use of water retention and storage, coupled with appropriate transfer systems are much better in that the energy and carbon costs are incurred only in construction and not over the long term. Recycling and de-salination incur continuous high energy, carbon and chemical usage with continued high costs over the lifetime of the project. As de-salination has already be ruled out by SW as inappropriate for that reason, the same should be done for recycling in most cases and particularly where high quality spring water is to be diluted with incompletely-treated effluent.

14. Developing the high carbon cost issue further, customers (residents) are very concerned about the huge carbon footprint of the construction of the plant and pipelines, plus the ongoing very large carbon use associated with operating the plant and pumping the water more than

35km. This cannot be the right solution at a time of climate emergency, when the industry has committed to net zero operational carbon by 2030, and the government to net zero by 2050. This means that customers will also be burdened with future offsetting costs that are not necessary if a more appropriate sustainable solution was selected now. Companies should be planning now for solutions that work with climate change not against it. This scheme is not cost-effective or good value and is an attempt by SW to develop a large infrastructure solution that requires huge investment in pipelines, pumping stations and treatment plant that puts assets on their own balance sheet for which they then get guaranteed funding for the life of the asset, so why would they look for more sustainable solutions which don't do that? These high cost solutions are designed to make up for their inadequacy in planning ahead over the last 10 years when they tried to reduce expenditure to maintain profit margins.

15. The original reservoir only got local support and planning permission on the basis that a number of key wider environmental and societal benefits would be provided and these also contributed to making it a best value scheme. Those benefits will be significantly reduced as follows:

- Loss in biodiversity net gain due to the adverse water quality impacts, increase in algal blooms and the change in the operating regime to keep the reservoir topped up.
- Loss of benefit to the coastal Special Protection Area (SPA), SAC and RAMSAR site from the reduced nitrates levels which would have discharged to Langstone Harbour when the reservoir was to be filled with just spring water.
- It will reduce the reservoir sites value as a support site for the nearby coastal SPA.
- There will be a loss of landscape & recreational amenity during more frequent algal blooms, making it a less attractive place to visit and enjoy, especially as the algae rot down producing smell issues for visitors and local residents.

The local community (who are losing a well-loved and much-walked landscape) feel betrayed and let down by the new proposal to store recycled effluent in the reservoir. This proposal brings no benefits to the reservoir or the local community, only adverse impacts. The environmental impact on the reservoir is not acceptable and has not been considered in the proposal, especially the impact of the deterioration in water quality. SW's own report has indicated that the treatment process only achieves 82% recovery. That leaves a very significant 18% of material in the sewage to get through and be pumped into the reservoir on a daily basis. It is considered that there will be a significant adverse impact on downstream water quality in the streams and coastal European Protected Sites. The reservoir will discharge a compensation flow via streams to Langstone Harbour. This has not yet been considered and as a result the Habitats Regulation Assessment (HRA) screening assessment completed to date cannot be relied upon. If SW did a robust HRA the scheme is likely to fail the test as it would be expected to show a significant adverse impact on Langstone Harbour SPA, SAC and RAMSAR site, making the scheme unviable as there are other alternatives available. The impacts from the changed water quality in the compensation flow to Langstone Harbour need to be considered fully, along with the discharge of the more concentrated effluent by-products of treatment which will happen via the long sea outfall into the Solent European Protected Sites. The Ofwat document page 16 recognises the deficiencies in the current HRA screening in relation to the long sea outfall assessment but not the fact that the impact associated with the compensation flow to Langstone Harbour has been completely missed out.

16. Local stakeholders, consumers and residents have not been given an appropriate opportunity to comment on the proposals as the scheme was not selected by SW in the WRMP19; as a result most of the previous consultation was focused on desalination at Fawley which is now firmly rejected. Stakeholder and community engagement to date is not in any way robust. If the B.4 option really has to be considered further PW should be funded to do robust and meaningful engagement with their customers as to whether they would be prepared to accept recycled sewage in their drinking water, given the negative implications of diluting the pure spring water they currently enjoy. Customers do not trust SW to carryout meaningful engagement because of their poor track record; as a result it would be better if PW also did the

engagement of SW customers to ensure genuine feedback is gathered. The Ofwat document (page 13) highlighted that SW's submission and associated annexes were difficult to navigate with a number of inconsistencies and inaccuracies identified throughout. Ofwat should have a look at the redacted versions of the report and annexes on the SW website, which are virtually impossible to follow as all useful information and figures have been redacted. This shows that SW is not genuine in its efforts to engage with the public. For example, why are the preferred pipeline route options and biodiversity net gain information redacted? They have even failed to provide information on the potential route of pipelines (for Option D.2 and B.4) through land to those who have received letters regarding compulsory purchase notifications. It can only be assumed that they are withholding the information to prevent meaningful public engagement; it cannot be for a genuine security reason since the routes will have to be published at the planning application stage.

17. The proposed spring-fed reservoir will provide an opportunity to create a very special reservoir, without the risk of agricultural and sewage pollution faced by other river-fed reservoirs in the UK. The chalk spring water will provide a unique environment in which wildlife could thrive creating something really special. By adding treated effluent the biodiversity net gain that the reservoir would have produced will be very significantly reduced, if not totally negated! For example, the seasonal variations in water level at the reservoir, which was essential to maximising the biodiversity net gain to compensate for other losses (loss of ancient woodland and priority grassland habitat), will be lost as effluent will be pumped in daily to keep the reservoir topped up. SW indicates that there will be wider environmental and societal benefits with Option B.4. However, all of the benefits actually come with the original spring-water-fed reservoir that will be provided anyway. There are no wider benefits at the reservoir site from implementation of Options D.2 and B.4, only negative issues that will detract hugely from the original benefits and that are not reflected in the SW assessment. The Ofwat document (Page 9, row 5) indicates that the scheme will provide better value through environmental, social & economic value but there is no indication as to what this is, nor that the negative impact on the reservoir benefits has been considered? It is disappointing that Ofwat has not challenged the environmental and social benefit being claimed by SW.

18. De-salination at Fawley was rejected on the basis that it is not environmentally friendly and cannot be delivered. SW is now repeating exactly the same mistakes in their options appraisal process, selecting effluent recycling which uses exactly the reverse osmosis treatment process as desalination. It is therefore just as environmentally unfriendly in terms of energy and carbon usage. It will use even more chemicals for treatment and still produces a concentrated liquor that must be discharged into our sensitive coastal waters. Effluent recycling should be rejected and only be considered as an option of last resort, as with de-salination, for those areas with no other means of enhancing water supply.

19. Option B.4 is a high-risk option that should not be pursued. SW has not done sufficient baseline work to show that this is at all a viable option. Their own Gate 2 reports highlight that the decision to select Option B.4 brings with it additional risks as follows:

- Reverse Osmosis is not an established treatment process for effluent recycling at this scale in the UK (recognised in SW HT report, page 29). This means that;
  - The market may not have confidence in the validity of such an option, and
  - The public may not accept drinking water that is created from effluent recycling, it will certainly taste different to the water they are used to, and this may give rise to concerns and complaints.
- The risk of customer acceptance associated with the change in taste of the water has not been determined (SW Annex 3, Page 53)
- Risk of reputational damage to SW and PW (recognised in SW HT report, page 27, table row 5)
- SW state that agreement for using up to 75Ml/d from Havant Thicket requires significant re-design, not currently part of PW's planning application, Therefore this is a major risk (SW Annex 5, page 284).

The WRSE draft Regional Plan consultation report indicated that; "*if costs go up that could make some options less viable, they may not be included in the next stage of the Regional Plan"*. As SW does not understand the risks of this option, the company cannot possibly understand the real costs. Given the very rapid increases in energy prices and the huge energy footprint for effluent recycling, the cost on customers of this environmentally unfriendly technology should be reviewed. Energy costs are highly unlikely to go down in the medium to long-term placing an unnecessary burden of extra costs on customers if this option is selected. It is hard to see how a solution with such a large energy footprint could ever represent best value for customers, especially when it must operate daily, even though it is supposed to be only a drought solution. We already know that we are in a climate emergency and that commitments have been made to net zero carbon, so it makes no sense to select options that are carbon hungry, as this means customers will be burdened with the energy costs and the future carbon off-setting costs for the life of the scheme. Effluent recycling options could easily become a white elephant, with customers having to pay to build and run them daily, only to find it being too expensive for the company to operate them in practice. This has happened for the existing desalination plant on the River Thames which Thames Water wants to mothball. This uses the same technology as effluent recycling so the water industry must learn from past mistakes.

20. The alternative Option B.5 (75 Megalitres/day (Ml/d) Recycled water from Budds Farm WwTW and Peel Common WwTW, sent to an Environmental Buffer Lake and treated at Otterbourne WSW) is indicated by SW as still being investigated as a viable option. Option B.5 is mentioned as a back-up option on page 17 but funding for this alternative scheme is not mentioned in the Ofwat consultation document even though it provides better value, as it requires a considerably shorter pipeline and thus less construction and operational pumping costs. In addition, it is worth noting that SW's own report (Gate 2, Annex 5, page 138/139) confirmed that there would be more environmental benefit to the sensitive coastal waters in removing sewage for effluent re-use at Peel Common STW rather than Budds Farm STW. Therefore, under any robust assessment criteria when scoring construction and operational costs, environmental benefit, carbon usage etc Peel Common STW effluent recycling scheme should come out as a much better option than the Budds Farm STW to Havant Thicket Reservoir Option with a subsequent long pipeline to Otterbourne. The trial effluent treatment plant was even located at Peel Common STW, suggesting it was the preferred option. Other points to note from the separate Option B5 Ofwat consultation: Page 6 identifies a number of risks associated with the effluent recycling Option B.5. These risks will be the same for Option B.4 (effluent recycling via Havant Thicket Reservoir) but they are not mentioned on page 6 of the Ofwat Havant Thicket Consultation. For example;

- No approved reverse osmosis membranes being available for the water recycling plant.
- Customers do not consider recycled water to be wholesome and acceptable.

21. Water quality modelling has not been undertaken so it must be completed urgently to assess the impact on the reservoir ecology, risk of algal blooms, treatment processes for drinking water, and the likely impacts on the taste of drinking water (including associated with any treatment by-products) that could lead to rejection by customers. Stakeholders and the public are concerned that SW cannot be relied upon to do this critical work robustly. The reservoir will be owned and operated by PW, whose customers will also have to drink the water; therefore any funding should go to them to do this important work. PW consultants already have experience of modelling the impacts on water quality under different scenarios for the original reservoir proposal; it will therefore be more cost effective and robust for them to commission and oversee the modelling. That modelling must consider the currently proposed volumes of effluent to be treated and discharged to the reservoir as well as the much larger medium and long-term projected volumes. It must also consider the multiple different operating regimes under which the reservoir would be operated. This is very important as the previous PW modelling demonstrated that the filling regime for the reservoir had a very significant impact on water quality and the risk of eutrophication as well as algal blooms. However, if Ofwat rejects Option B.4 then the money to be spent on water quality modelling could be saved for use on other water supply aspects.

Specific concerns in relation to the Otterbourne Pipeline (Option D2) if developed in isolation

22. It is reiterated that Option D2 was not selected by Southern Water as a preferred option in isolation. In the Southern Water Gate 2 summary report, Pg 9, Table 2, for the 1 in 500 year scenario, which SW indicate they are now planning for, the HTR D2 option drops to being the 5th ranked option, so is not a preferred option. Page 10 confirms that HTR is not a preferred option due to Option D.2; "being unable to mitigate for the extent of DO shortfall on account of finite water being available in Havant Thicket and the expected duration and severity of a severe drought. With B4 or B5 becoming the Emerging Preferred Option". Additionally, "through the development of the options in the lead up to Gate 2, it was concluded that for Options D.2 and B.2, the natural evolution would be into B.4 and B.5 respectively and as such, were removed from consideration in the Options Appraisal due to their inability to meet the increased requirements alone". If Southern Water did not select Option D2 as a preferred solution, then logically option B4 should not be a preferred option either, as the 35km pipeline to Otterbourne can no longer be assumed to be in place for Option B4. If the Option D.2 pipeline is not in place, as it was not selected, then the Option B.4 costs and adverse impacts have to be considered in-combination with the Option D2 impacts, making it even more costly and environmentally unfriendly.

23. The change in the operating regime of the Havant Thicket Reservoir to accommodate the D2 pipeline option in isolation, as a water transfer, will have significant adverse environmental impacts on the Havant Thicket Reservoir. It will result in:

- More regular and prolonged drawdown events.
- Increased risk of eutrophication. Previous modelling showed that there were significant impacts on water quality from regular reservoir drawdown and refilling.
- Reduced biodiversity due to adverse impact on water quality and prolonged drying events, including adverse impacts on the retained wetland designed to provide biodiversity net gain.
- Risk of impacts to the streams and Langstone Harbour (SPA, SAC & RAMSAR site) as a result of changes in water quality of the compensation flow. The current Habitats Regulation screening is not robust.
- Loss of visual amenity, adverse impacts on recreational use, additional health and safety, plus smell concerns associated with more regular exposure of large areas of exposed mud.
- Further consideration of the risks of transferring invasive species between river catchments also need to be considered e.g. associated with bursts, maintenance or flushing operations.
- The government has committed to zero carbon by 2050 and water companies to zero 'operational' carbon by 2030. Pumping water more than 35km on a daily basis for 70 years plus via a pipeline to Otterbourne is completely at odds with the stated national and water companies objectives at a time of climate emergency.

RCPC challenges the need for the new Option D2 pipeline when treated water can already be transferred from the Havant Thicket Reservoir through the Portsmouth Water distribution network which is currently being upgraded.

Summary

24. RCPC considers the proposal to pump treated effluent into Havant Thicket Reservoir, thus degrading very significantly the high quality spring water from chalk-aquifers in the South Downs, to be unacceptable because it will degrade the proposed environmental benefits of the reservoir, result in poorer quality water and result in huge increases in energy and chemical costs over the life of the project that will have to be meet by SW customers. The provision of the long pipeline to Otterbourne will also result in increased energy costs for customers over many

years. By contrast the Option B.5 (Recycled water from Budds Farm WwTW and Peel Common WwTW sent to an Environmental Buffer Lake and treated at Otterbourne WSW) makes much more sense if recycled water has to be part of a future strategic plan. The failure of SW management to plan ahead and put sustainable low cost processes in place years ago should not be rewarded by funding this expensive engineering scheme (B.4) that will permanently damage the environment and which is not cost effective. Ofwat is requested to cease considering funding Options D.2 and B.4 forthwith.

Yours faithfully

Lisa Walker - Clerk to the Council
On behalf of Rowlands Castle Parish Council

CC: Flick Drummond – MP for Meon Valley
Sir James Bevan – Chief Executive of The Environment Agency