

**DRAFT RESPONSE TO AFFINITY WATER  
REVISED DRAFT WATER RESOURCES MANAGEMENT PLAN (WRMP)2019  
Deadline for comments: 26 April 2019**

Introduction

1. Oxfordshire County Council has an interest in Affinity Water's Revised Draft WRMP19 as it proposes the development of a surface reservoir between Abingdon, Drayton, Steventon, East Hanney and Marcham. This is referred to as the South East Strategic Reservoir (SESR).
2. The County Council previously responded to Thames Water's Draft WRMP19 during their consultation periods:
  - a. On 20 April 2018, in response to Thames Water Draft WRMP19. The full response is contained in Appendix 1.
  - b. On 27 November 2018, in response to Thames Water Revised Draft WRMP19. The full response is contained in Appendix 2.
3. At the time of writing this response, Thames Water had not published its Statement of Response for the Revised Draft WRMP19 consultation. However, we understand further to a stakeholder forum in March 2019 that their final WRMP is to be submitted to government in April 2019. The Secretary of State for the Department for Environment, Food and Rural Affairs (Defra) will then decide whether they can publish a final plan, whether additional work is required, or whether to call for a hearing or inquiry.
4. Affinity Water's current consultation on its Revised Draft WRMP means that it will not be able to submit its plan to government in April, but we understand that the aspiration is to rapidly consider comments and submit the WRMP to government by 31<sup>st</sup> May 2019.

Affinity Water options appraisal

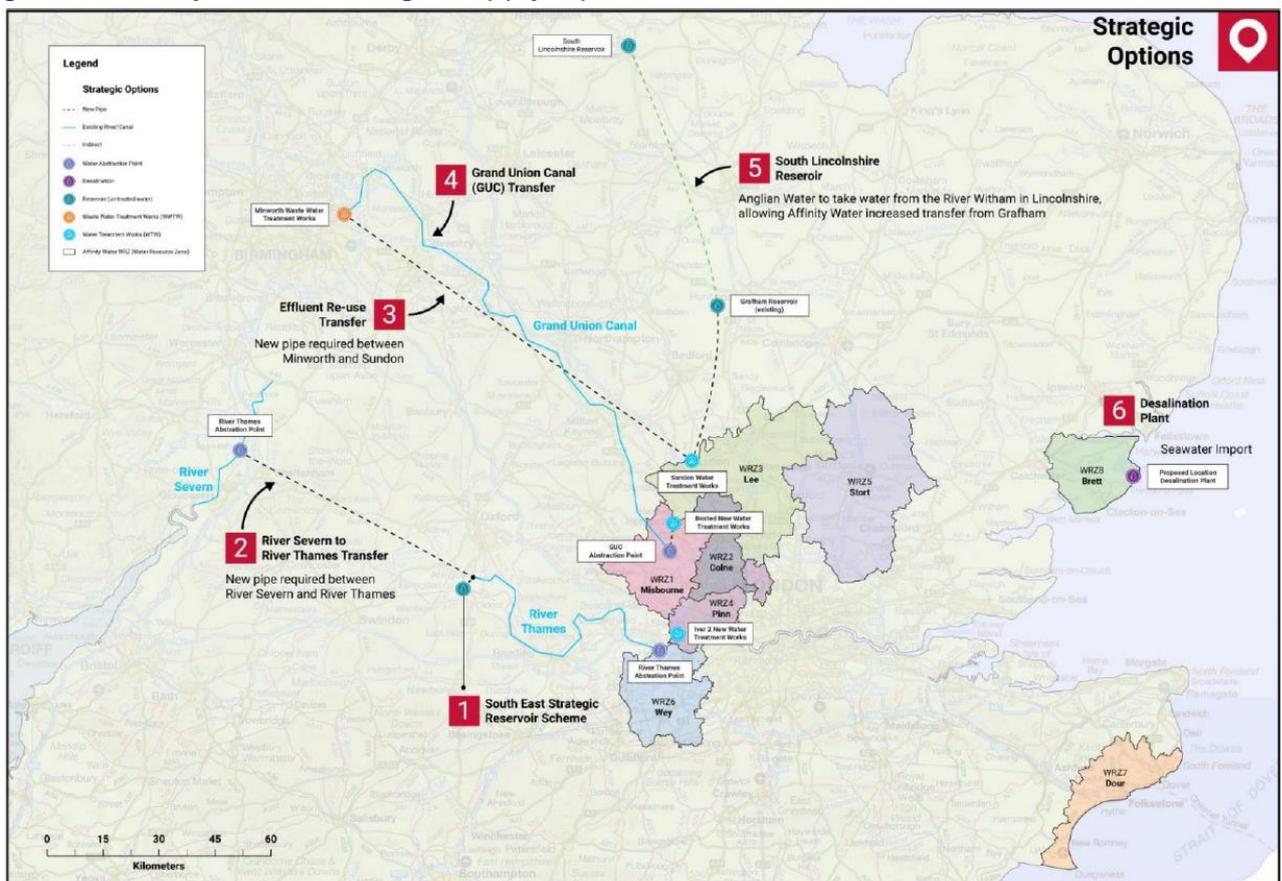
5. Table 1 is a list of strategic supply options identified by Affinity Water as capable of providing significant additional water resource in the mid-term. Figure 1 shows these diagrammatically.

*Table 1: Affinity Water Strategic Supply Options*

	<b>Scheme name</b>	<b>Description</b>
1	South East Strategic Reservoir (SESR)	The proposed reservoir is planned as a winter storage facility, where water is released back into the River Thames at other times. Affinity Water would reserve the volume required to provide their required yield. It is anticipated that Affinity Water would have the ability to take 100 MI/day (million litres per day) and Thames Water 181 MI/day. To enable this amount of water

		take, the anticipated size of the reservoir is 150 Mm <sup>3</sup> (150 cubic megametres), which is the largest reservoir option that Thames Water has consulted on.
2	Severn-Thames Transfer	Affinity Water has worked with Thames Water on the option to transfer water from the River Severn to the River Thames.
3	Minworth Effluent Transfer	This option is to take treated wastewater from Minworth WWTW, which is operated by Severn Trent Water, and transfer it via pipeline to Affinity Water's supply area and then treat it close to Affinity Water's existing Sundon Treatment Works.
4	Grand Union Canal Transfer (GUC)	Affinity Water has worked with the Canal and Rivers Trust (CRT) in respect of different levels of yield for a scheme to transfer water from Minworth WWTW and use the canal system to convey the water. It is anticipated that this could provide up to 50 MI/day.
5	South Lincolnshire Reservoir	This option is for Anglian Water to build a new reservoir in South Lincolnshire, which would allow Affinity Water to increase their take from the Grafham reservoir. It is anticipated that this could provide up to 100 MI/day.

Figure 1- Affinity Water Strategic Supply Options

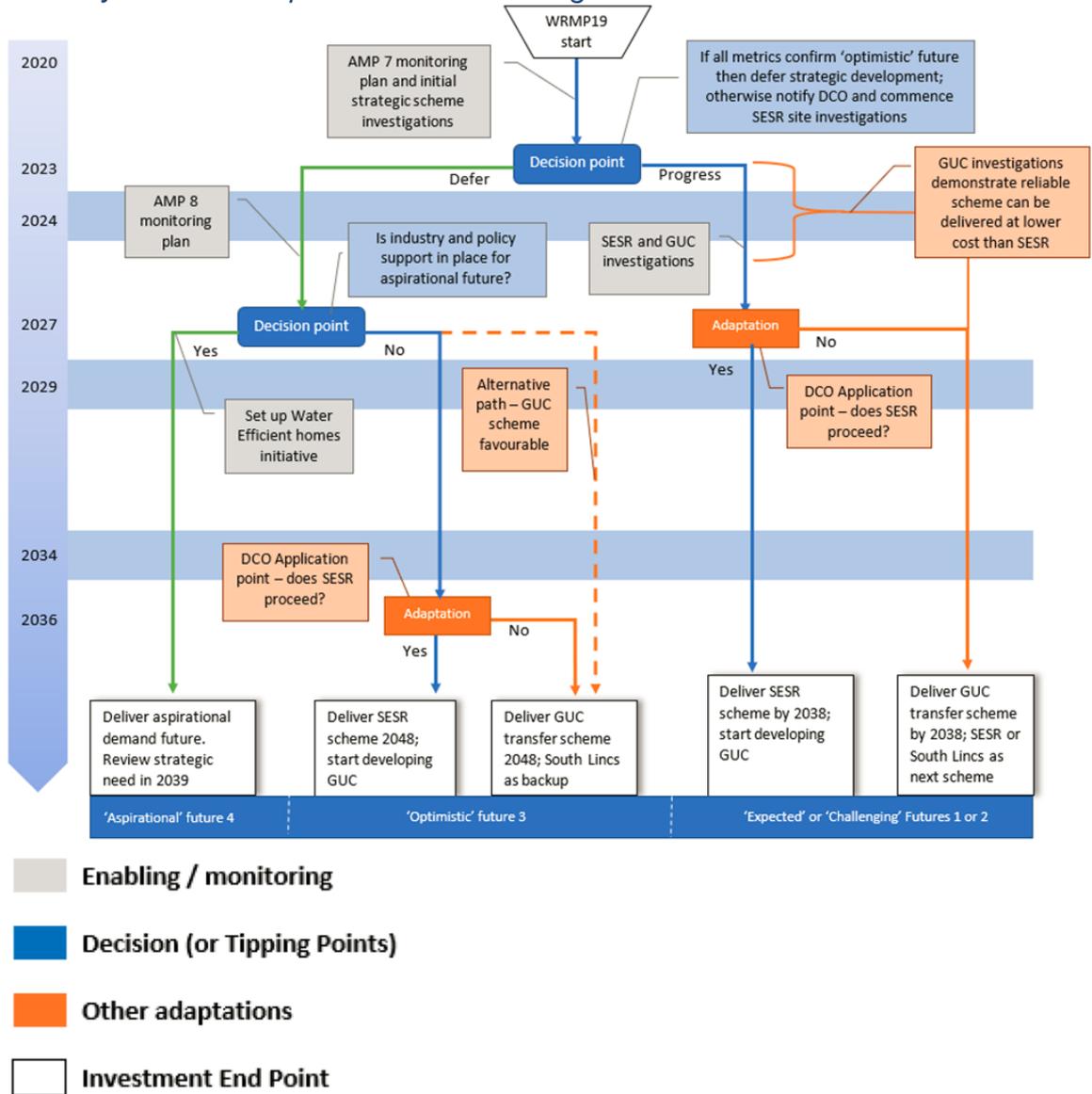


6. Affinity Water's analysis of four future scenarios (challenging, expected, optimistic and aspirational) selects SESR as the preferred option for the first strategic supply scheme. This is scheduled to start supplying water in 2037.
7. Both the SESR and GUC options require a 15-year lead time. This means that in the "challenging" future scenario, development will need to begin at the first strategic decision point in 2023 (See Figure 2).
8. **Response:** Oxfordshire County Council's particular concern is in respect of the SESR water supply option. We support analysis of different future scenarios which recognise that future population forecasts may change and/or innovation may affect the amount of need for water. Oxfordshire County Council would like to see a commitment to revise the list of strategic supply options in the light of changing forecasts and advances in technologies.

#### Adaptive Decision-Making

9. Affinity Water and Thames Water have both set out adaptive plans to allow decision-making in a timely manner that also can include potential deferring of investment on strategic supply options. Affinity Water's adaptive plan is summarised in Figure 2.
10. From now until the first decision point in 2023, Affinity Water will commence a monitoring plan of technical investigations, policy decisions and enabling actions, with the intention to progress SESR as the preferred option.
11. If SESR is not progressed at the 2023 or 2027 decision points, other options, such as GUC and/or South Lincolnshire Reservoir will be progressed.
12. **Response:** Oxfordshire County Council considers that there should be further investigation of the alternative options. Oxfordshire County Council is concerned that the adaptive decision-making process as represented in Figure 2 below appears to only figure monetary costs (for example it says that the GUC option will only be progressed directly at 2023 if it 'can be delivered at lower cost than SESR'), whereas other disbenefits and benefits need to be fully explored and taken into account in the decision-making process.

Figure 2 Affinity Water’s Adaptive Decision-Making Process



Demonstrating Regional-Scale Water Resource Management Planning

13. There is no Regional Water Resource Management Plan for the South-East. ‘Water Resources in the South East’ (WRSE), an alliance that brings together the water companies within the South-East, has recently restructured, but it is understood that they are looking to prepare a ‘regional resilience plan’ and they are not able to prepare a statutory plan.

14. **Response:** Oxfordshire County Council requests that water companies in the South East collectively and clearly present their supply needs in a regional context, preferably through a Regional Water Resource Management Plan.

### Need for a Public Inquiry

15. Once WRMPs are submitted to government, the Secretary of State will decide whether the final plan can be published, whether further work is required, or call for either a hearing or public inquiry.
16. Further to that, a proposed reservoir such as the SESR would follow the National Infrastructure Planning development consent application process. The application would be submitted to the Planning Inspectorate and the Inspectorate could also request hearings as part of the examination.
17. **Response:** Oxfordshire County Council considers there is a need for a public inquiry on both the Thames Water and Affinity Water WRMPs, to ensure a correct and robust process has been followed and the implications for each option have been fully assessed and explored in an appropriate level of detail. This would provide clarity on the need for, location and size of any potential reservoir near Abingdon or within the south-east region.

### Conceptual design

18. Affinity Water does not provide details on SESR conceptual design. Based on their Economics of Balancing Supply and Demand (ESBD) modelling, Affinity Water has identified the SESR scheme (with 100MI/d of additional supply) as the preferred strategic option. This demand requirement ultimately influences the final design.
19. **Response:** Oxfordshire County Council's conceptual design concerns are raised in paragraphs 24- 59 of the November 2018 TW-WRMP19 Response in Appendix 2 and these should be referred to. Further discussion on conceptual design issues is sought.

### Response to Affinity Water's Consultation Questions

*How we are planning to meet the changing needs of the future - Our Plan allows us to adapt to these uncertainties and deliver solutions. We are proposing an approach that focuses on reducing demand for water and developing long-term strategic regional water supply options where we would jointly build a new reservoir with a neighbouring water company and transfer water using a canal. Do you agree with this approach?*

20. **Response:** The County Council supports the twin-track approach to improve water supply resilience through both reduced demand and increased supply options. However, we are concerned at the SESR being identified as the preferred strategic option. We support a public inquiry to ensure a correct and robust process has been followed and the implications for each option have been fully assessed and explored in an appropriate level of detail.

*Leakage - In our Plan, we aim to reduce leakage to between 11% and 13% by 2045, provided we can do it in an affordable way for customers. This would be a reduction of nearly 50% since 2015. Do you agree with this proposal?*

21. **Response:** The County Council supports Affinity Water's ambition to reduce leakages by 50% by 2045 and expects further leakage reductions beyond 2045 considering the plan goes to 2080.

*Options to increase the supply of water - We are proposing to construct a new storage reservoir in Oxfordshire, called the South East Strategic Reservoir, in partnership with Thames Water. The River Thames will be used to transfer water into the area we serve. This will provide an extra 100 million litres of water per day by the late 2030s. Do you agree with this proposal?*

22. **Response:** The County Council objects to this proposal based on concerns raised throughout this response and the appendices. The SESR would have substantial environmental, transport and landscape impacts in Oxfordshire both during construction and when in operation.

*Options to increase the supply of water - We will continue to investigate the potential to transfer treated wastewater via the Grand Union Canal. This would bring water to the area we serve from near Birmingham, where there is a surplus of water available. This could provide an additional 50 million litres of water per day to customers either in the longer term or as an alternative to the reservoir development. Do you agree with this proposal?*

23. **Response:** The County Council supports further investigation and development into this scheme based on the need to action alternative options to the SESR scheme.

*Reducing the amount of water used by each person per day - In our Plan, we are aiming to reduce this to between 110 and 120 litres per person per day by 2045, but only if this is affordable for customers and delivered in a way acceptable to them. Do you agree with this proposal?*

24. **Response:** The County Council supports Affinity Water's ambition to reduce individual water use, as a way of managing strain on future supply scenarios.

*Cost of our Plan - Delivering our Plan will mean a rise in customer bills from the 2018 annual average of £171.70 to £193.70 in 2080. This is an increase of 37 pence per year. This figure does not include inflation or wastewater (sewerage) bills. Is this proposal acceptable?*

25. **Response:** The County Council does not have any comments, other than to query the question as the increase quoted is a £22 rise in average customer bills per year.

Conclusion

26. **Response:** Oxfordshire County Council's position has not changed from its response on Thames Water's revised draft WRMP in November 2018. Oxfordshire County Council is supportive of the approach being taken by water companies to build in resilience in their investment programmes and take an adaptive approach to decision making. However, we **OBJECT** to the current Affinity Water WRMP in respect of the proposals for a SESR and we consider that other alternatives should be further investigated. Oxfordshire County Council considers that a public inquiry should be held to ensure a correct and robust process has been followed and the implications for each option have been fully assessed and explored in an appropriate level of detail.



**Reference: Thames Water WRMP19**

**Communities  
County Hall  
New Road  
Oxford  
OX1 1ND**

**Susan Halliwell  
Director for Planning & Place**

**20 April 2018**

Dear Sir/Madam

**Re: Thames Water Draft Water Resources Management Plan 2019**

**Introduction**

Thank you for providing Oxfordshire County Council with the opportunity to respond to Thames Water's Draft Water Resource Management Plan 2019.

The following letter provides Oxfordshire County Council's comments on the proposed plan focussing on water trading, the need for a reservoir in Abingdon, Thames Water's forecasting and proposed demand management measures.

**Key Issues**

***Water Trading***

1. It is noted that in April 2017 Water Market Deregulation took place which no longer restricted businesses, charities and public sector customers to buying retail water services from their regional water company.
2. Through water trading, which is promoted and incentivised by Ofwat (the economic regulator of the water sector in England and Wales), it is recognised that water companies can import and export to each other and can include this within their forecasting. By introducing incentives, it would be expected that it would be in an individual water company's interest to have surplus to sell.
3. Thames Water is part of a wider alliance of water companies, Water Resources in the South East (WRSE). Along with the Environment Agency, Ofwat, the Consumer Council for Water, Natural England and Defra, the alliance comprises the following water companies: Thames Water, South East

Water, Southern Water, Portsmouth Water, Sutton and East Surrey Water and Affinity Water.

4. Thames Water includes in their Plan an expectation to purchase 17 million litres of water per day (17MI/d) and to export approximately 120MI/d of water to Affinity and South East Water in total by 2065.

### ***Proposed Reservoir – Abingdon***

5. To enable Thames Water to maintain their supply resilience and support regional demands for raw water from Affinity Water and South East Water, from approximately 2040 onwards a regional reservoir at Abingdon is planned. Oxfordshire County Council would like to understand more around the methodology used and calculations arrived at when considering the amount of water needed for Thames Water's catchment. The County also needs clarification on the quantities expected to be sold to other members of the alliance and the infrastructure required within the Thames Water Valley to ensure this water supply. Following on from this urgent, further discussion is essential on its location and the size of reservoir required.
6. Our understanding is that evidence on appraisals of suitable reservoir locations within the Thames Water catchment area has taken place, with a number of sifting exercises undertaken resulting in the Abingdon location being taken forward as the preferred site. The results of this can be found in the Thames Water Resource Options: Reservoir feasibility report - Executive Summary (September 2016).
7. However, the county would like further discussion with Thames Water and possibly other members of the WRSE on the potential sites that have been assessed across the South East region. As the reservoir is a 'Regional Reservoir', the County needs to fully understand the process that has been undertaken to assess other sites for their suitability for such a reservoir.
8. The proposed reservoir would be a significant piece of strategic infrastructure of national importance with a long lead in time, a planning application for which would be determined by the National Infrastructure Commission. Whilst new water resources will be required to meet Oxfordshire's needs, the scale of the new reservoir is driven by London's growing demands and other parts of the South East of England.
9. The reservoir would have substantial environmental, transport and landscape impacts in southern Oxfordshire, both during construction and when in operation. However, it could also provide an opportunity for a new leisure and/or green infrastructure resource if Thames Water's community benefits as part of their scheme. As such the County Council welcomes immediate and regular engagement with Thames Water on the potential reservoir, how, if the Plan is agreed, it is proposed to be developed and timescales for an application.

***Population Forecasting***

10. The Thames Water supply area contains 95 Local Authorities and Appendix E (Population and Property Projections) states that the forecasts have been produced using Local Plan housing evidence from each authority with a data capture in August 2017. It is noted that in the revised March 2018 population data that post-2045 population and housing figures have been revised down from those originally forecast.
11. It is accepted that housing numbers and Local Plans are emerging in some cases but there are significant concerns over these figures. Numbers for South Oxfordshire are lower than those contained in the emerging Local Plan and, in all Plans except for West Oxfordshire, Oxford's unmet housing need is omitted. It is also unclear whether Thames Water's forecasting takes into account any growth in Oxford City at all, as the housing number in appendix E contains a question mark.
12. The figures contained within this appendix underpin the entire plan and consequently there are significant concerns that not only has housing growth in Oxfordshire been miscalculated, identifying lower housing growth, but this may also be the case for other authorities within the Thames Valley.
13. Oxford is at the western end of the Oxford – Milton Keynes – Cambridge corridor which has been identified by the National Infrastructure Commission as an area of growth. Recognising this, all Oxfordshire County and District Councils have recently signed a Growth Deal with Government which commits to jointly delivering 100,000 homes to 2031 including an accelerated programme of delivery over the next 5 years. This deal includes a commitment to produce a Joint Statutory Spatial Plan by 2021, which would identify strategic locations for housing and employment growth within the county to 2050.
14. In this context, it is recommended that Thames Water reassesses the expected housing growth within Oxfordshire, and potentially elsewhere, and re-examines whether the preferred programme contained within the Plan is adequate to accommodate growth within the region. Oxfordshire County Council would welcome further discussion with Thames Water on this.

***Demand Management - Leakages***

15. Thames Water aims to reduce leakages to 15% by 2025 which equates to 100MI/d.
16. Oxfordshire County Council would expect Thames Water to maximise their infrastructure (pipes, leakages and sewerage etc) and speed up their programme of leakage reduction early on in the plan period to delay the need for a reservoir as long as possible.

***Further Engagement***

17. Oxfordshire County Council would welcome a presentation to local members by Thames Water and will be in touch to arrange this over the coming months.

Yours sincerely

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Director for Planning & Place

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**Reference: Thames Water WRMP19**

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**Susan Halliwell  
Director for Planning & Place**

**27 November 2018**

Dear Sir/Madam,

**Re: Thames Water Revised Draft Water Resources Management Plan 2019  
Deadline: 28 November 2018**

Thank you for providing Oxfordshire County Council with the opportunity to respond to Thames Water's Revised Draft Water Resource Management Plan 2019.

The following letter provides Oxfordshire County Council's comments on the proposed plan focussing the need for a reservoir in Abingdon.

**Introduction**

1. Oxfordshire County Council responded to Thames Water's Draft Water Resource Management Plan (WRMP) in April 2018. The full response is contained in Appendix 1.
2. In July 2018, Oxfordshire County Council resolved to support the position of Group Against Reservoir Development (GARD) in their response to the Draft WRMP19 which asked Thames Water to undertake a second consultation and to:
  - a. Reduce leakage by half by 2050
  - b. Improve water-use efficiency to match the norms of other companies
  - c. Provide a proper analysis of water available through other measures, including Teddington DRA and water re-use.The full response is contained in Appendix 2.
3. The following comments are in response to Thames Water's Revised Draft WRMP published in October 2018.

**Leakage Reduction**

4. Oxfordshire County Council previously raised issues around Thames Water's programme of leakage reduction. In the revised draft WRMP Thames Water have committed to reduce leakages by halve by 2050. Oxfordshire County

Council supports this ambition and expects Thames Water to outline a further reduction in leakages beyond 2050.

### Population Forecasts

5. Under statutory guidance Thames Water has planned for growth forecast in Local Authority Local Plans. They have collated forecasts for the 65 local authority areas where water is supplied to and used the figures to calculate the demand for water. Thames Water forecasts a gap between supply and demand in the Thames Water catchment area from the beginning of the 2020 planning period that increases through the century. The Thames Water catchment area is now expected to grow from 10.1m in 2019 to 13.9m in 2100 (this has been reduced from 15.4m in the previous draft WRMP).
6. Oxfordshire County Council accepts that Thames Water should follow statutory guidance. Nevertheless, the point made in April 2018 about the reliability of forecasts remains. Oxfordshire County Council also seeks to be presented with population forecasting undertaken by other water companies in the south-east region if those plans are to be reliant on a proposed reservoir in Abingdon.

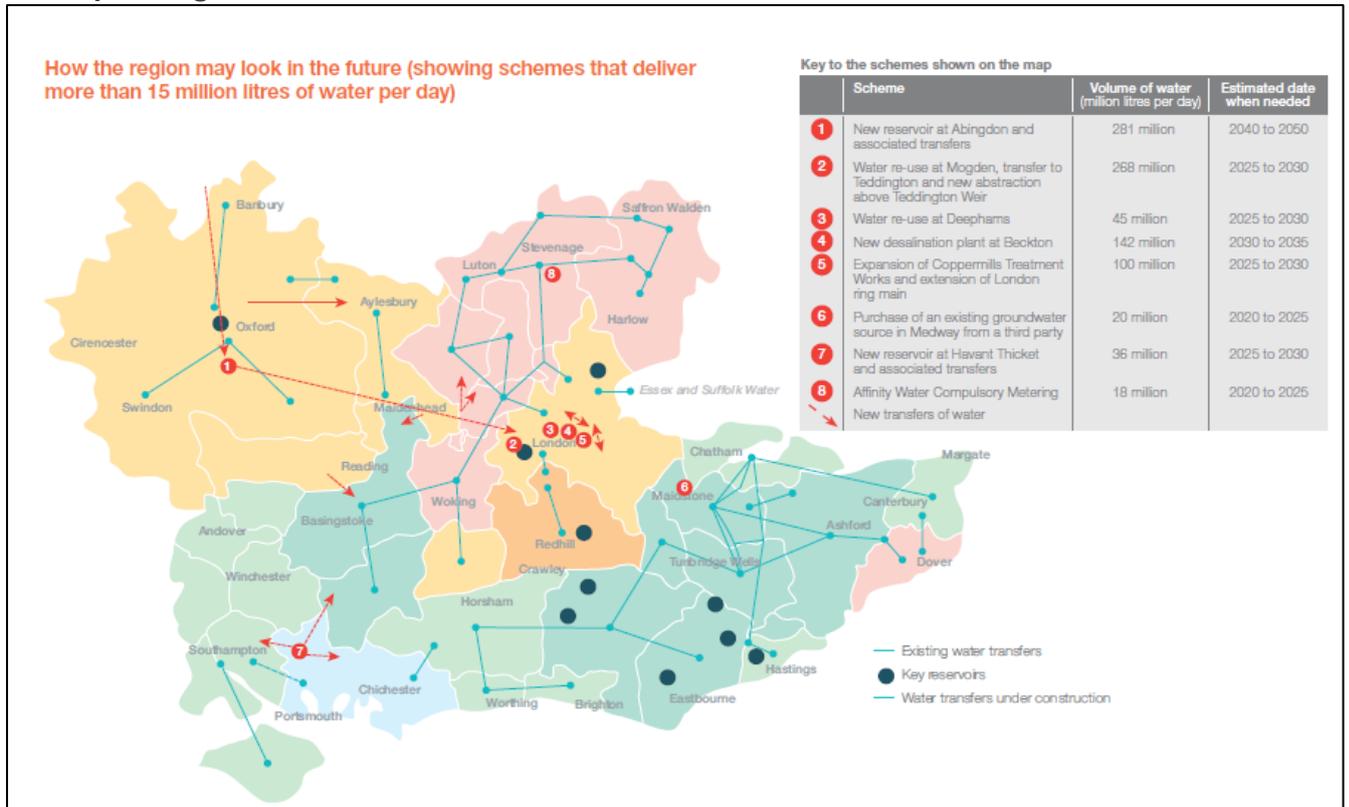
### Proposed Abingdon Reservoir - Principles

7. The County Council is cognisant that Thames Water is following clear guidelines set out by bodies such as Ofwat, Defra, Government and the National Infrastructure Commission on the need to work with other regional partner companies, exploring options such as reservoirs to ensure resilience against population growth and impacts of climate change. It is proposed that Oxfordshire County Council is supportive of this approach.
8. Water Resources in the South East (WRSE) is an alliance that brings together the water companies within the south-east. In April 2018 it published a strategy<sup>1</sup> 'From Source to Tap – The South-East Strategy for Water' which considers the water issues facing the south-east collectively.
9. Map 1 shows the potential 'big ticket' schemes around the region by volume of water those schemes produce; with a reservoir in Oxfordshire producing the highest quantities of water within the south-east.

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<sup>1</sup> [http://www.wrse.org.uk/wp-content/uploads/2018/04/WRSE\\_File\\_726\\_From\\_Source\\_To\\_Tap.pdf](http://www.wrse.org.uk/wp-content/uploads/2018/04/WRSE_File_726_From_Source_To_Tap.pdf)

Map 1: 'Big Ticket' schemes



10. It is not clear from the WRSE Strategy whether water companies have collectively reviewed potential schemes across the south-east and reached a conclusion on the best option for all water companies and consumers, or if the proposed reservoir in Oxfordshire is simply presented by Thames Water as a 'good choice' for the south-east.

11. It is noted that WRSE will publish a final report in Autumn 2018 outlining potential solutions available to meet the south-east regional deficit. Oxfordshire County Council is keen to understand if this will present the historic, sequential testing of scheme options around the south-east undertaken by all water companies which could include potential sites for large scale infrastructure such as reservoirs outside of the Thames Valley catchment.

12. The WRSE 'From Source to Tap' document also considers further work over the coming years, including to: *Develop one regional plan that is split up into the companies' Water Resource Management Plans for them to consult on and deliver.* The County Council supports this ambition for a Regional Water Resource Management Plan for the south-East so all options for water resilience in a regional context are fully understood before a commitment to large infrastructure such as a reservoir, taking years to construct with huge impacts on the respective local population, is made.

13. The Executive Summary goes on to state that Thames Water has included funding in their business plan to support and drive further development of a regional plan which the County Council is supportive of.
14. Prior to Oxfordshire County Council accepting the need for a proposed reservoir anywhere in the south-east region it needs to understand clearly the sequential testing of supply options undertaken by Affinity Water, as well as other water companies in the South East, and then be presented with evidence to show that its current location in Abingdon is the best option. A proposed reservoir of this scale would take years to construct and have a significant impact on any nearby local population which must be taken into account when reaching a decision on a preferred programme of supply options.
15. Currently Oxfordshire County Council considers that Thames Water and other water companies in the south-east region have not produced a coherent plan that considers regional need. The Thames Water WRMP is flawed in that it has evolved quickly, has presented material which does not fully explain the wider regional need (for example it only includes population forecasts for the Thames Valley catchment area) and has concluded that a large reservoir is required in Abingdon.
16. It is therefore requested that water companies in the south east collectively and clearly present their supply needs in a regional context through the production of a joint Regional Water Resource Management Plan for the South-East demonstrating jointly the demand and supply options to Oxfordshire County Council so that any potential reservoir's location and size can be assessed accordingly in the context of regional need.

#### Need for Public Inquiry

17. The County Council supports the need for a public inquiry to ensure a correct and robust process has been followed and the implications for each option have been fully assessed and explored in an appropriate level of detail. This would provide clarity on the need for, location and size of any potential reservoir in Abingdon or within the south-east region.

#### Proposed Abingdon Reservoir – Conceptual Design

18. The proposed reservoir is now being presented as being promoted by both Thames Water and Affinity Water with Thames Water supplying Affinity Water with 100ml/d in the 2030s. There is also potential for future demands from other water companies in the south-east.
19. The Thames Water WRMP19 'Resource Options' provides conceptual designs and related data for proposed reservoirs in Abingdon ranging from 30,000ml to 150,000ml in capacity. Options include single reservoirs and a combination of 2 reservoirs with split capacity.

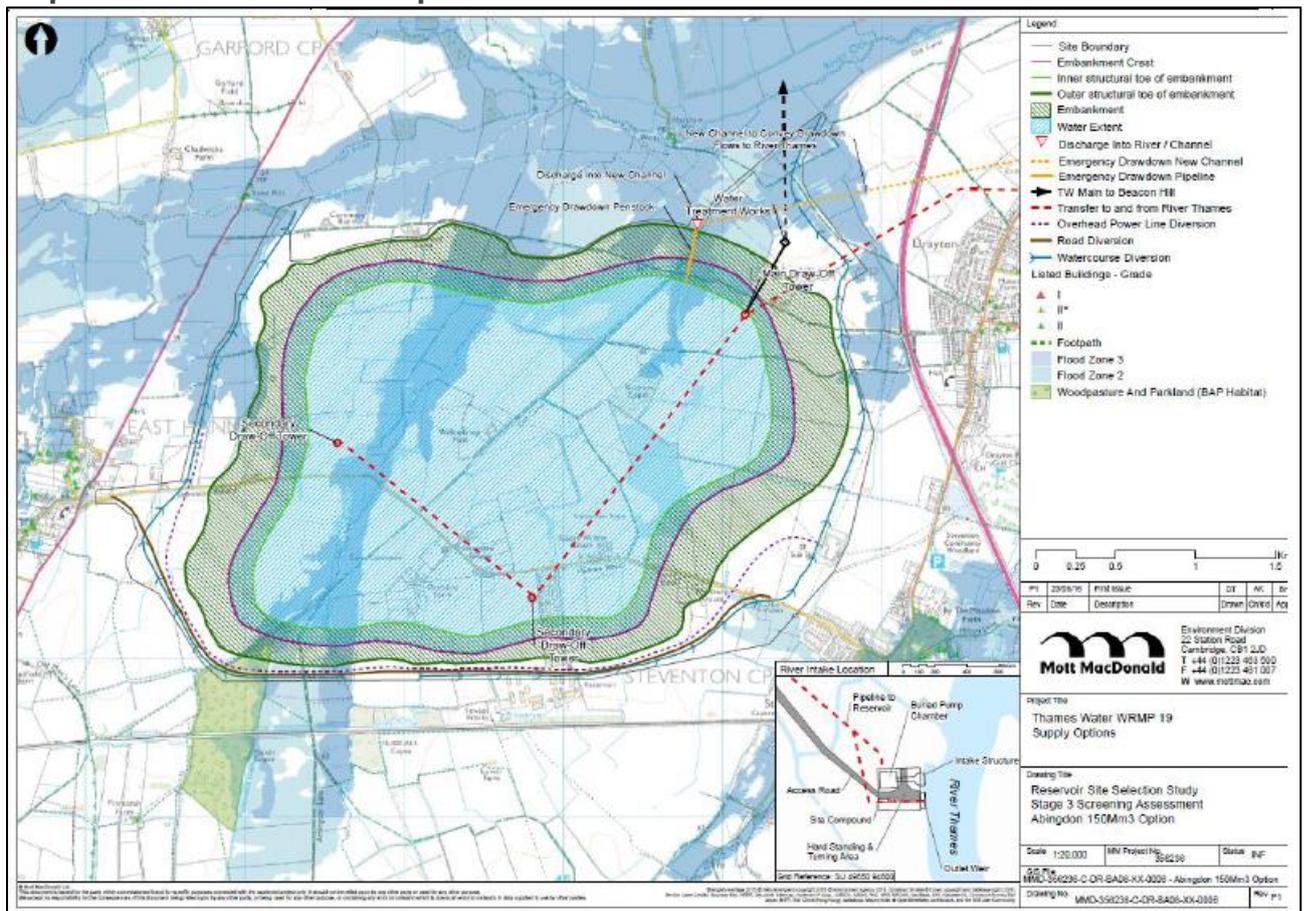
20. Each option also varies in hectarage of water surface area at full supply level (from 165ha to 675ha), size of perimeter (from 4.8km to 10.3km) and height of embankment (15m – 25m).

21. In each option the same access arrangements are suggested:

- a. A new road access to be provided by a new access off the A34 on the eastern end of the reservoir;
- b. A new temporary railway siding constructed on the southern edge of the site for the delivery of sand and gravel.

22. Map 2 shows the preferred 150Mm3 reservoir option.

**Map 2: 150Mm3 reservoir option**



23. Oxfordshire County Council understands that that the various plans/maps within the report are concept only and that further work is required on these. However, they do raise a number of issues which OCC would seek clarity on moving forward. Some of the issues raised below will have a material impact on whether the Abingdon Site can be delivered in terms of infrastructure required outside of the site. Below are the main issues we wish to raise.

Highway access

24. OCC seeks clarity on the intended road access for the site. In *Appendix D: Stage 2: Site assessment*, the RAG assessment of the Abingdon site (p.36) states that “Site access does not involve local roads – access to A34 via A415 without the need to pass through built up areas”, this would appear to be confirmed by the site layout drawings in *Appendix U: Abingdon phased options*, which indicate an access road from the site joining the A415 to the west of the Marcham Interchange.
25. However, this would appear to be inconsistent with the wording in *Appendix M: Reservoir site descriptions*, in which access for each capacity option is described as “Road access to the site would be provided by a new access off the A34 road on the eastern end of the reservoir.” OCC seeks confirmation whether it is intended for the access road to be from the A415 or directly from the A34 itself.
26. Assuming the former is correct, OCC will need to understand the traffic impact of a new access taken from the A415, which experiences high volumes of traffic in the AM and PM peaks. There are also known capacity issues at Marcham Interchange. The impact of additional movements generated by the site will need to be understood and possible mitigation measures to the highway network identified where appropriate. This will need to include a thorough assessment of the impact of construction traffic and traffic generated by the site when it is operational, including trips generated by recreational users.
27. If access is to be taken directly from the A34 (and not via the A415), the impact of all types of traffic generated by the site (construction, operational, and recreational) will also need to be understood. In either scenario, Highways England will need to be consulted on the proposal for the reservoir at the earliest possible opportunity.
28. OCC is seeking to safeguard land immediately to the north of Milton Interchange in the submitted Vale of White Horse District Council Local Plan Part Two. This is to facilitate the potential for improving access to the A34 near Milton Park, OCC would like to understand whether a potential new access to the A34 serving the reservoir would prejudice the delivery of such a scheme.
29. Land is also safeguarded for an Abingdon Southern Bypass in the Vale of White Horse Local Plan Part 1 (Appendix E) and land is proposed to be safeguarded for a Marcham Bypass in the Vale of White Horse Local Plan Part 2 (Appendix B). OCC needs to understand whether these schemes could be impacted.
30. It will also be important to understand what is planned with regard to other highway accesses to the reservoir. Clarity is needed as to whether it is intended for the only access to be via the A415 or if there will be other accesses to other parts of the existing highway network. Additionally, if there

are to be multiple accesses, it will be important to understand if some will be restricted to site traffic only and if others will be for public access.

#### Diversion of the Hanney / Steventon Road

31. A number of the capacity options will result in the need to divert the route of the Hanney / Steventon Road. Instead of the indicative route shown on the drawings in Appendix U, where the road joins back up with its original route immediately to the east of East Hanney, OCC would like to explore the possibility of the road joining the A338 further south. The precise location of the new access would need to be explored but this would be between the railway line and the southern end of East Hanney. The rationale for exploring this option is to more directly serve the proposed new Grove Railway Station, for which OCC is seeking to safeguard land adjacent to the A338 in the submitted Vale of White Horse District Council Local Plan Part Two. It also offers the opportunity to offer alternative bus routes across the area with reduced journey times.

#### Temporary railway siding

32. Although the construction of a railway siding is described as temporary (p.35 of the main report and various pages in Appendix M) for the delivery of sand and gravel, it is not made explicit that this is for use only during the construction period, clarity is required on this matter. Further to this, Network Rail will need to be consulted at the earliest opportunity to determine whether this proposal is feasible. Additionally, OCC would seek to ascertain whether the provision of a temporary siding may prejudice the delivery of the aforementioned Grove Station.
33. A temporary siding alongside the Great Western Main Line on the southern edge of the site for the delivery of sand and gravel is possible but there is insufficient detail to determine whether it is a realistic suggestion.
34. Thames Water states that if suitable granular material cannot be located on site with which to construct the embankment drainage, then a total of between 127,000m<sup>3</sup> and 290,000m<sup>3</sup> of sands and gravels will need to be imported (depending on the size of the reservoir built). Wet sand (that is sand stored in a natural setting and naturally compressed) has a nominal density of 1.9 metric tons per cubic metre (m<sup>3</sup>) so the requirement would be for between 241,300 and 551,000 tons.
35. Thames Water do not indicate the proportion of imported material which will be delivered by rail, whether it will require processing or what the facilities will be for unloading and stockpiling on site. It is noted that the site boundary does not appear to include the land needed for the construction of a temporary aggregate siding.
36. The siding, will in effect need to be two parallel sidings, each capable of accommodating up to 20 wagons and a locomotive, with a head shunt at each end to release the locomotive, and a separate siding for storing any crippled

wagons. A storage area will be needed for the sand and gravel after it is unloaded from the train, probably by a mechanical grab. A similar facility at Water Eaton, suggests a site approximately 650m in length would be required.

37. The two-track railway between Didcot and Swindon is severely capacity constrained so works will inevitably be required to the existing infrastructure to facilitate the aggregate sidings, including additional track in the form of crossovers and connection into the site, along with new signals and associate cabling. It may even be necessary to provide loops alongside the existing railway where a freight train can stand clear of the high-speed main lines whilst waiting for acceptance into the sidings.
38. Whilst there are a number of active sites producing sharp sand and gravel in Oxfordshire they are mainly concentrated in the north of the county. The Minerals & Waste Local Plan Core Strategy predicts that they will be the only local source of sand and gravel by 2028 unless a new mineral working is agreed in the south of the county. None are rail-connected. The imported sand and gravel, if it is to be delivered by train, is likely to originate in the Kent and East London areas where there are rail-served wharves that land marine dredged sand and gravel from the North Sea, East English Channel and Thames Estuary. However, timetabling freight trains on the busy commuter lines around London may be challenging.
39. There is a possibility changes to the rail infrastructure may help increase rail capacity, alongside proposals being considered by Network Rail to extend the existing loops further towards Swindon. This will need to be considered in more detail but it could be a positive legacy of the construction works.

#### Impact of proposed tunnel between the reservoir and the River Thames

40. Whilst it is appreciated that the drawings provided in Appendix U are described as conceptual, it is worth noting that a new tunnel is shown immediately to the north of Drayton. However, the OS base map used is out of date and does not show a number of recently built developments, including the residential development of Walnut Meadow, under which the tunnel would appear to run. Even assuming the correct position of the tunnel is to the north of the residential development, OCC would seek to understand the effect of that construction on roads and property in the area, including any requirement to close roads during construction.

#### Construction Management Plan

41. A detailed construction management plan will need to be produced for this proposal. Answers to some of the above questions, particularly construction traffic usage of the A34/A415 and the potential for transporting materials by rail will need to be understood as these will be fundamental to the impact of construction traffic and therefore the necessary mitigation measures, including diversions, temporary improvements to capacity on effected roads, etc. In addition to the construction impact of the reservoir site itself, the management

plan will need to take account of the impact on the highway network of the associated infrastructure between the reservoir and the River Thames.

#### Oxford to Cambridge Expressway

42. Highways England are looking at possible route for a new expressway between Oxford and Cambridge. Currently Highways England are assessing route options around Oxford and there is potential that a route may come as far south as Didcot. The reservoir planning needs to be aware of these plans in any future design work.

#### Future leisure use of the Reservoir

43. It is important to understand the potential future use of the reservoir for leisure activities such as walking, cycling, nature reserves and water sports. Other reservoirs/large bodies of water across the county attract high visitor numbers and the potential impact of visitors on a road network that already has significant capacity issues need to be fully assessed and understood – as well as the potential for building the offsite and onsite transport infrastructure to enable active and sustainable modes of travel to the reservoir. This should include the restoration of the Wilts and Berks Canal.

#### Public Rights of Way and Countryside Access

44. As is recognised in the plan, all of the capacity options will have a significant impact on a number of public rights of way that cross the site area and the surrounding area – as well as on path users which include equestrians, cyclists and walkers. These impacts could be both negative and positive so a specific appraisal of public rights of way and users should be undertaken.

45. It appears that some alterations to the public rights of way and countryside access may be necessary to accommodate the reservoir and associated infrastructure so separate legal processes will be needed to alter these routes. The extent of these alterations should be minimised and enhancements to the existing network in the vicinity made – including surfaces, furniture and landscaping.

46. Further to this, although there are bridges shown in the drawings provided where public rights of way intersect with the Auxiliary Drawdown Channel, no bridges are shown where the channel crosses them. It will be expected that provision is made for the continued use of these public rights of way without significant diversion, i.e. for bridges to also be constructed at these locations.

47. The reservoir has the potential to create new routes for recreational access around the site and onward connections to settlements and the public rights of way network as well as upgrading existing routes in the vicinity to maximise their utility. This should include the restoration of the Wilts and Berks Canal on its historic or alternative route.

Negative impacts of the reservoir (on access), that OCC would like to avoid or reduce

- Unavoidable loss of public rights of way on the site of the reservoir and associated infrastructure areas that currently provide a reasonable *traffic-free* access resource
- Reduction in quality of the remaining network caused by dead end routes, lack of connecting routes or inappropriate landscaping or other restrictions to visibility
- Loss of an equestrian centre <http://www.malthousecentre.co.uk> and associated social and economic benefits
- Loss of habitat corridors associated with public rights of way
- Loss of the historic route and potential future use of Wilts & Berks canal as a waterway and green corridor
- Reduction in users' enjoyment from construction noise, dust, barriers, traffic and route diversion/closure
- Conflicts between commercially run activities and the use of the site and surrounds for free public access and recreation
- Traffic generated for free and paid-for leisure uses on the site and the surrounding areas

Positive impacts of the reservoir – that OCC would like to see

- Onsite creation of a circular walking, cycling and riding route around the reservoir site with associated landscaping, interpretation and route infrastructure. As a destination in itself this could provide an important sustainable tourism resource in the county that encourages more and longer overnight stays in the area and encourages non-vehicular transport for leisure in the area
- Provision of a staffed and resourced countryside access, outreach, education and management centre on site
- Provision of a restored section of the Wilts & Berks canal and associated facilities throughout the site and onwards to the River Thames at Abingdon
- Creating a better off-site connected network of routes for walker, cyclists and equestrians that meets the aims of the Oxfordshire Rights of Way Improvement Plan ([www.oxfordshire.gov.uk/rowip](http://www.oxfordshire.gov.uk/rowip)), by connecting up the reservoir site to surrounding towns and villages with additional and improved rights of way and green routes. This should include Steventon, East Hanney, Abingdon, Marcham, Grove and Drayton, as well as access to the River Thames, Ock and other key recreation sites. To include improved and additional road crossings of local roads (including A338, A415, A34 and Steventon Road) plus rail and river crossing facilities.

More in-depth points

48. Although there are bridges shown in the drawings where bridleway 192/8, restricted byway 192/7, the B4017, and the A34 intersect with the Auxiliary Drawdown Channel, no bridges are shown where the channel crosses restricted byway 192/6, footpath 100/3, and bridleway 373/18 (the latter of

which forms part of Route 5 of the National Cycle Network). It will be expected that provision is made for the continued use of these public rights of way without significant diversion, i.e. for bridges to also be constructed at these locations.

49. The reservoir will have significant impacts during construction and afterwards once it becomes operational. As a potential regional asset as a large water body for watersports, fishing and countryside access the transport and rights of way access issues should be expanded. When it comes to encouraging and enabling walker, cyclist and equestrian access as an option instead of cars, the plan needs to include Wantage, Didcot, Abingdon, and Oxford as well as the smaller settlements like Marcham and Steventon. From a tourism perspective these surrounding settlements are likely to be the focus for accommodation service providers.
50. Any application will need to balance nature conservation and access. One way to do this whilst still maintaining a circular route around the site would be to vary the route and landscaping treatments to provide people free zones on the inner and outer faces. Dog walkers will need additional positive management and consideration in order to balance their requirements with other users and nature conservation objectives.
51. Detailed conversations are required with Oxfordshire County Council as to the physical, social and environmental impacts this reservoir would have if it should come forward. Joint liaisons would be required between OCC, Thames Water and partners, the Vale of White Horse District Council and Highways England to ensure a thorough and robust assessment will be undertaken.

### Archaeology

52. Since the area west of Abingdon was first considered as the potential site for a reservoir there have been extensive investigations and assessments relating to the historic environment. This has included desk based studies, field walking, geophysics and evaluation (trial trenching). None of this was comprehensive due to ownership and access constraints.
53. The evaluation and geophysical survey were almost exclusively confined to those areas where cropmarks were visible. As such some parts of the area have not been evaluated. The trenching was also minimal and certainly not undertaken to the extent and specification that would be required today.
54. The investigations have revealed extensive evidence of Bronze Age, Iron Age, Romano British and medieval settlement and activity across the area of potential impact. Some of the studies were undertaken over twenty five years ago and the data within them is no longer current. It is vital therefore that TW undertake a full reassessment of all the work that has been undertaken to date and this should form part of an archaeological desk based assessment (DBA). The DBA should also include Lidar data, an assessment of all available aerial photographic data and the Oxfordshire Historic Landscape Characterisation Project data. It should be undertaken by a professionally

qualified archaeologist and be subject to a Written Scheme of Investigation that has been agreed with both OCC and HE.

55. It would also be appropriate for TW to supply HE with digitised copies of all reports so that they can assess whether any of the specific archaeological sites previously evaluated within the development area are demonstrably of equivalent significance to a SM. Once this has been undertaken a decision as to whether further geophysical survey and evaluation should be undertaken could be made. After all evaluation has been completed then a decision as to the most appropriate level and extent of mitigation can be determined.
56. These decisions should not be left to the design stage; rather this information should be used to assist the design process so that the impact upon the historic environment can be minimalised. The TW statement that a watching brief should be undertaken is both inappropriate and ill-advised. A watching brief is normally undertaken for the monitoring of small scale minor developments and is wholly unsuitable for a development that includes a substantial impact upon an extensive historic landscape that includes extensive and important archaeological remains.

#### Abingdon Flood Alleviation Scheme

57. Thames Water should also note that a proposed Abingdon Flood Alleviation Scheme is being developed. The Environment Agency and Thames Regional Flood and Coastal Committee are working with the Vale of White Horse and Oxfordshire County Council to gather evidence and conduct studies. Information is available on our website: <https://www.oxfordshirefloodtoolkit.com/contacts/abingdon-flood-alleviation-scheme/>.
58. The main issues the county council would have with a proposed Flood Alleviation Scheme at Abingdon would be the extent of the flood area and how this interfaces with the proposed reservoir, flooding and drainage associated with the reservoir and land acquisition matters; especially considering the respective powers of both Thames Water and the Environment Agency.
59. How a potential reservoir and potential flood alleviation scheme at Abingdon would interrelate, would need further discussion between authorities should both progress.

#### Innovation

60. The Executive Summary discusses a study produced by WaterUK together with water companies and regulators which looked at water trends and potential future scenarios, looking 50 years ahead. It then goes on to explain that Thames Water's approach looks at a longer time horizon for the plan which is longer than the statutory minimum of 25 years.

## CA8

61. With innovation and industry disruption in mind, it could be argued that a plan that looks 80 years ahead and is based on existing technology to ensure a water supply might commit to a water resource management plan that does not provide, in the long term, the best solution for customers. Consequently, the land take and disruption caused by the construction and operation of a large reservoir could prove redundant in the decades to come.
62. Overall, the County Council would like to see a commitment to reviews of a long-term regional plan should more advance technologies become available.

### Conclusion

63. Oxfordshire County Council is supportive of the approach being taken by water companies to build in resilience in their investment programmes. However, it **OBJECTS** to the current Thames Water WRMP on the basis that it contains a proposed reservoir in Abingdon and also to the considerable proposed size of the reservoir. There is insufficient evidence to prove that it is required to support both Thames Water as well as other water company catchment areas in the WRMP period.
64. Oxfordshire County Council needs to be presented with evidence from all water companies in the south-east including their population forecasts and sequential assessments of supply schemes. This should be in the form of a Regional Water Plan.
65. Whilst Oxfordshire County is supportive of the improved targets in leakage reduction within the draft Water Resource Management Plan, the county expects Thames Water to outline a programme of leakage reduction beyond 2050, considering the Plan goes to 2100.
66. The County Council also requests a public inquiry to ensure a correct and robust process has been followed and the implications for each option have been fully assessed and explored in an appropriate level of detail. This would provide clarity on the need for, location and size of any potential reservoir in Abingdon or within the south-east region.
67. Concerns are also raised about conceptual design of the proposed reservoir which are discussed above.