Wilts & Berks Canal Trust

# Response to Public Consultation
# on
# South East Strategic Reservoir Option

## Protecting and Supporting the Restoration of the Wilts & Berks Canal

August 2024

**Restoring 70 miles of canal and towpath for the benefit of local communities, wildlife and leisure**
The Wilts & Berks Canal Trust. Registered Charity No 299595, Limited Company No 2267719
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# Response to to Public Consultation on South East Strategic Reservoir Option

### Protecting and Supporting the Restoration of the Wilts & Berks Canal

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## Executive Summary

The Wilts & Berks Canal Trust is responding here to the public consultation on the proposals for the South East Strategic Reservoir (SESRO) proposed by Thames Water (TW). The programme to restore the main line of the Wilts & Berks canal from Abingdon to Melksham is supported by the local authorities along the route and many other organisations.

**The proposals for the auxiliary channel in the SESRO scheme are a considerable threat to the reconstruction of the canal. Our wish is to work with SESRO and TW to mitigate this risk.**

Since 1993, the potential of this reservoir has brought the Eastern end of the canal refurbishment to a halt. The Trust and our many partners assess that, over the 25 years following construction (2040 to 2065), the reconstructed canal from the reservoir under the A34 to the Thames, would present a huge benefit to the local population and also to natural habitats. This blue-green corridor is in part compensation for the dis-benefits resulting from a huge reservoir in their neighbourhood, feeding the South East of England.

Our primary concern is SESRO's new choice of Option C, a large tunnel as the auxiliary drawdown between the reservoir and the river. This replaces the previous and long standing preference of combined smaller tunnel with an open channel, Option B.

The open channel will serve as the Wilts & Berks Canal connection to the River Thames. It could be built within the reservoir programme at a modest extra cost and bring major benefits to the local population, the benefits credited to SESRO.

The selection of Option C is said to be primarily based on a cost/benefit analysis which the Trust considers to be insufficient based on the data available. The preference for Option C would appear to be based on costs alone despite the TW assertion that *'the cost difference is not considered a material differentiator in this assessment'*. The derivation of the cost difference between Options B and C appears opaque.

**The Trust believes Option B is the correct choice for the auxiliary drawdown and requests sight of the cost/benefit analysis** for the auxiliary drawdown options and further engagement to seek agreement on an improved analysis. A new analysis should be based on standard methodology and recognise the local growth predicted over the next decades.

**Canal restoration payback:** Based on national research and backed up by economic studies on completed canals, payback to society is between 5 and 8 years. The benefits include improved physical and mental health, growth in tourism with supporting infrastructure, active travel along towpaths, increased land values and council income, flood risk reduction, habitat diversification and involvement of communities in the environment.

**We do not see any evidence that the benefits to society have been fully assessed in recommending option B.** The Trust's assessment is that the benefit of the canal within the SESRO scope is at least £19.3m per annum (2022 values), which will increase further with a 10% growth in population and an ageing demographic.

**Our sincere wish is that Thames Water will continue to work on the open channel (option B) in partnership with the Wilts and Berks Canal Trust.**

Mike Gibbin
Chief Executive Officer
Wilts & Berks Canal Trust

28 August 2024

# 1. Introduction

The Wilts & Berks Canal Trust is responding here to the latest public consultation on the proposals for the South East Strategic Reservoir (SESRO) which is a major new reservoir sited southwest of Abingdon. The public consultation is being conducted by Thames Water and partners within the framework of the emerging Water Resources Management Plan for the Southeast of England. Since 1993, the SESRO scheme has been holding up the restoration of the canal. The Trust ceased work on the refurbishment of Drayton Lock which would be submerged by the reservoir.

The proposed scheme is critical to the aim of the Trust to restore the complete canal to navigable standard between the River Thames at Abingdon and the Kennet & Avon Canal at Semington because it sits astride several kilometres of the route. This has been recognised in the proposals for several years and there has been valuable engagement since the early 1990s between Thames Water and the Trust over that time.

The Trust recognises that the proposed reservoir will have a major impact both locally and in the region and that it attracts strong views in favour of or against the proposal. The Trust does not take a view on whether the scheme should proceed or not. It engages with the development of the scheme to ensure that, if it does proceed, the canal restoration is not prejudiced. Furthermore, the contemporaneous construction of the canal around the reservoir and onward to the River Thames would present a huge benefit to the local population in part-compensation for the build dis-benefits.

The responses here focus on the implications of SESRO for the canal. They are structured to be read against the questions set out in the online questionnaire. The first sections present more information on the benefits of the canal restoration, the public support and the development to date. The most critical issue for the trust is the change of direction in the project from providing an open channel to compliment the intake/outfall tunnel to meet auxiliary drawdown requirements. Instead a larger tunnel is proposed. The issues for the Trust are set out in detail. The following sections provide comments on other questions in the consultation.

The Trust will be pleased to engage with interested parties to expand on the responses provided here.

# 2. Background

## 2.1. History

The main line of the Wilts & Berks Canal connects the Kennet and Avon Canal at Semington to the River Thames at Abingdon, a distance of 52 miles. A branch known as the North Wilts (9 miles) connects the main line from Swindon town centre to the Thames & Severn Canal near Cricklade. The main line was opened in 1810 and the North Wilts Branch in 1819. The early years of operation were successful but trade declined after the Great Western Railway was constructed, much of it following the canal route.

## 2.2. Restoration

Formally abandoned in 1914, the canal has been undergoing restoration by the Wilts & Berks Canal Trust with support from local authorities and others. The Trust has come a long way since its formation and has grown from strength to strength through the generous input of an increasing number of members working to protect, conserve and improve the route of the waterway for the benefit of local communities and the environment with support from those communities and funding partners. The Trust is supported and guided by the Wiltshire Swindon and Oxfordshire Canal Partnership which represents all the local authorities and other supporters.

The purpose of the Trust is to create a sustainable, accessible and desirable destination for people and wildlife by restoring the historic Wilts & Berks Canal as a blue and green corridor through the region, adding economic, wellbeing, lifestyle and biodiversity value as the canal winds its way through communities and landscapes. It is creating a regional treasure to be cherished by all. When finished it will be an important link with other canals and paths, making the essential link to create the Southern Waterways of England which is accessible to all as shown in the figure below.

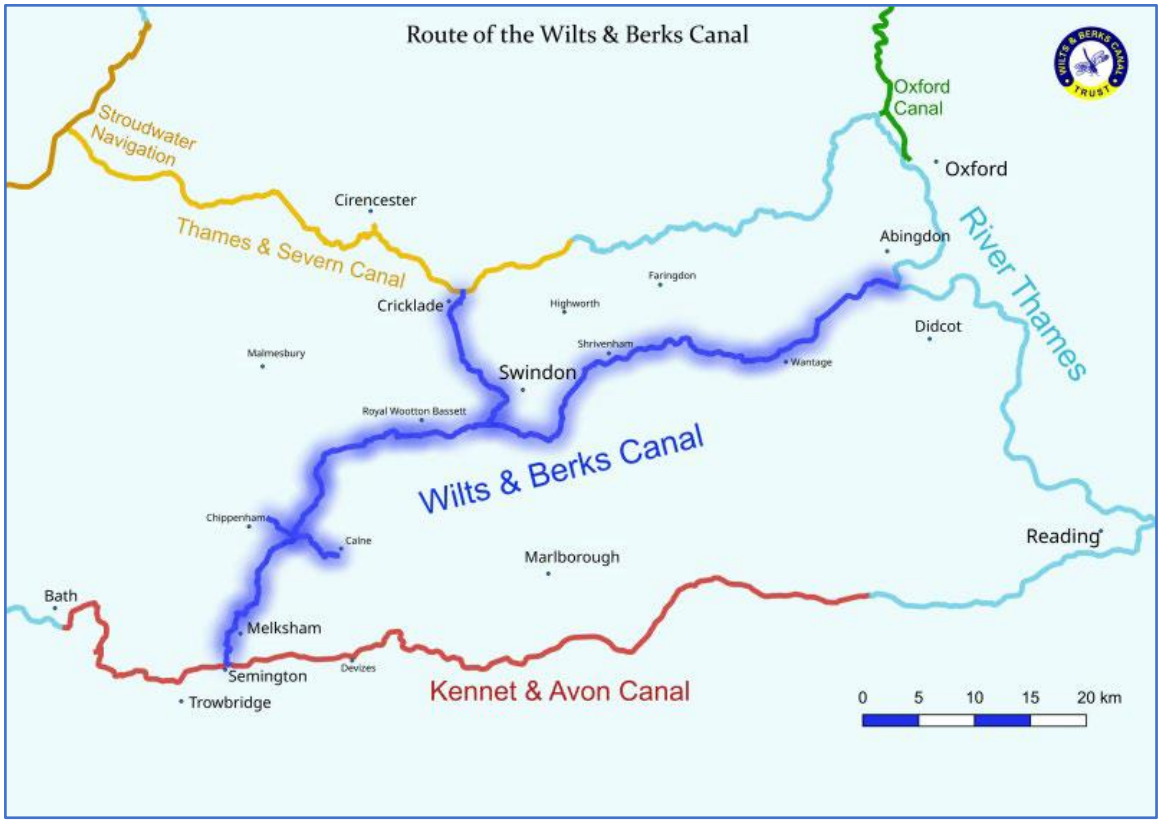


*Figure 1 The Southern Waterways Network*

The restoration of the Wilts & Berks Canal throughout Wiltshire, Swindon and Vale of White Horse in Oxfordshire is recognised and the route protected in the current local plans of all three authorities. The restoration is a long-term project which has evolved over many years and will need to continue to adjust as the world around it changes. It is essential to the completion of the project and the maximisation of its potential benefits to the community that the route is adequately protected for the long term and restoration supported.

## 2.3. Progress

The results of restoration work can be seen along the whole route with structures rebuilt, sections in water and some additional lengths of towpath open. Land acquisition and design development is ongoing for major projects while small projects driven by local volunteer teams are found throughout the canal. Further information can be found with the interactive map available on the Trust's website www.wbct.org.uk.

The largest active development in Wiltshire is at Pewsham where three locks with associated historic buildings are being reconstructed to form an educational and visitor centre. Within Swindon the showpiece development is the restoration at the Canalside District Centre in Wichelstowe and the

eventual connection between there and the new length at East Wichel that forms the start of the canal bypass route around the south and east of the town.

The Trust, supported by the Wiltshire, Swindon and Oxfordshire Canal Partnership comprising local authorities and others is leading restoration with the Towpath Challenge. This is a programme to make the towpath available to the public from end to end before the waterway can be fully restored.

Progress at the eastern end has been very limited because of the risk that restoration work would be abortive if the reservoir goes ahead. The reservoir would permanently drown 5 km of original canal route including three locks. A deviated route around the reservoir and onward to the junction on the Thames totals 10 km. The new junction was built by the Trust in 2006. The plan to restore boat access from the Thames to Wantage has been frustrated by the prospect of SESRO subsuming the first part of the route since first contact with the SESRO predecessors in 1993.

That the Trust's activities are focused towards public benefits above all is demonstrated by current examples of Trust activities that are 'add-ons' to canal restoration in addition to the restoration of paths, waterways and structures:

- The creation of a Bee Route through planting and management of wild flower meadows on land adjacent to the canal at Royal Wootton Bassett and near Chippenham which will be extended once further stretches of canal become available.
- The creation of 'Shrivenham Canal Park' within our West Vale Branch, where canal restoration, environmental and community engagement plans have come together in one place for a greatly enhanced public space.
- The recent acquisition of Uffington Gorse, also in the Vale of White Horse, a four acre protected woodland with a short section of canal that is being enhanced for public access and enjoyment.
- The restoration of the section between Grove Top Lock and Limekiln lock, on the margins of Wantage & Grove, as a significant public amenity.
- The restoration of the historic 'Sack House' where the Wantage Arm terminated at Wantage Wharf, now a small museum owned by the Trust.

# 3. Benefits of the Canal Restoration

## 3.1. Overview of Benefits

There is a substantial body of work that confirms the considerable benefits of people having access to waterways and restored canals. Recent research by the Trust based on national data and local data such as that from the re-opening of the Kennet and Avon Canal has identified the huge value of the complete restored Wilts & Berks Canal to the community in economic, habitat and human health & welfare terms:

- £54 million pa GVA from increased economic activity
- £138.6m pa savings due to increased exercise, improved health and wellbeing, and NHS savings
- £45.5 million remuneration for the construction workforce
- 1,896 habitats of principal importance across 750 acres
- 190 community activities each year and growing
- 200 year heritage worthy of best-in-class protection

- Uplift of land and housing values between 15% and 25% improving council revenue.

The first two items are annual figures based on current population.

These are the reasons why the restoration is supported and welcomed by so many organisations and members of the public.

## 3.2. Local Benefits

### 3.2.1 General

The potential benefits of the length from the River Thames to Wantage when the whole canal is completed might be evaluated pro-rata to the value ascribed to the complete canal (15% by length). This length is currently rural so the values have been adjusted down accordingly:

- Increased economic activity £5.4m
- NHS savings £3.9m
- Improved mental health & wellbeing £10.0m
- Remuneration from construction £4.5m
- Total **£23.8m** at 2022 prices and population

Data from the ONS National Population Projections predicts a growth of 10.2 percent between 2022 and 2065. Within this population growth the demographic change doubles the number of senior citizens who are particularly attracted to the level paths alongside canals. Currently the canal is in attractive countryside with the promise of enhanced features in the green and blue space alongside the reservoir and easy access from the Thames.

Benefits from capital investment are normally evaluated for a period of 25 years after completion, so in this case post-2040. By that time the Trust anticipates that significant stretches in Swindon and the Vale will be completed. Without connection to the Thames however, the full value to local economies cannot be realised.

The current Local Plan for the Vale of White Horse forecasts growth in population and commercial activity over the period to 2031. The residential growth is spread over the communities in the area with a handful of larger developments just to the north of the canal on the west side of Grove and to the west of Abingdon.

The Housing and Economic Land Availability Assessment to 2041 for the Vale of White Horse gives an indication of the potential for development in the area between Grove and Drayton, see Figure 2.

The growth in population along with future housing development will be a positive factor in re-estimating the benefits of the canal to nearby communities. Recognition of the importance of access to green space has recently led to a policy change which now targets new housing being within 15 minutes walk of green space. The restored canal can support this objective and enhance the value of the space.

More detailed analysis of the benefits of the canal is merited. The following sub-sections indicate some of the opportunities which would be enhanced or created by the canal and therefore are benefits of constructing the auxiliary drawdown facility as an open channel capable of use for the Wilts & Berks Canal.

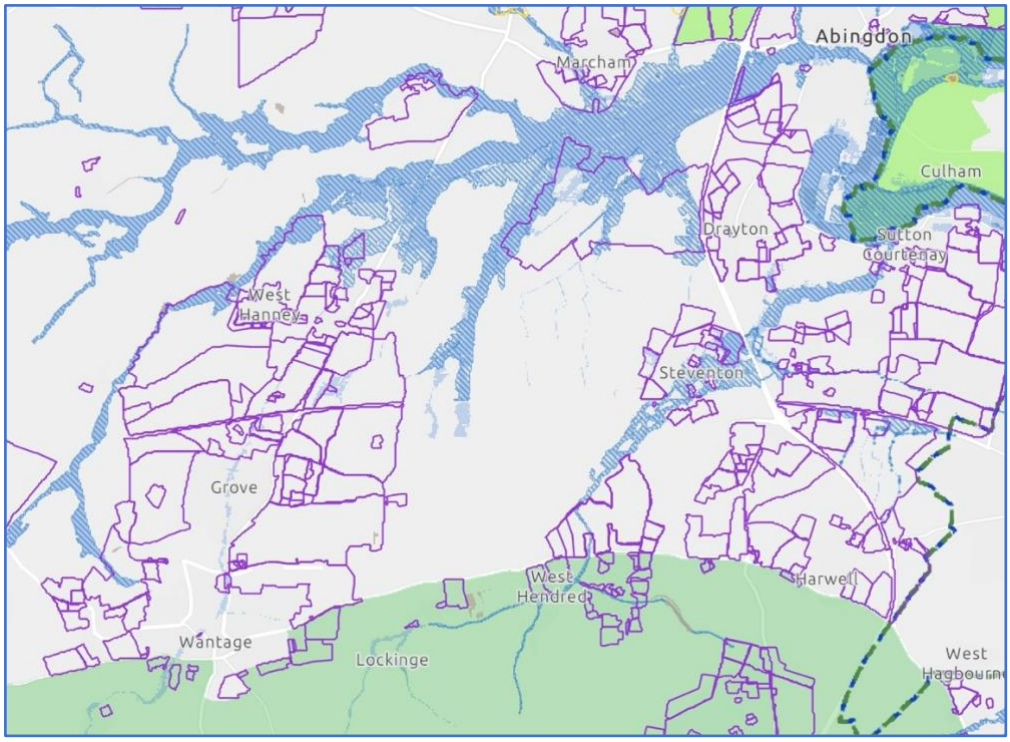


Figure 2 HELAA map for Grove to Drayton 2024 to 2041

### 3.2.2 Active Travel Network

The Oxfordshire County Council's 'Strategic Active Travel Network' (SATN) sets out a network of priority routes across the county in 'straight-line' form at present, to be developed when funding or development enable them (see Fig.3). One of the straight lines is the gap between Abingdon and Wantage. Examination of the National Cycling Route Map and others identifies this line as being devoid of off-road facilities for cycling and walking. The route of the canal from the Thames to Wantage provides the perfect opportunity to utilise the towpath corridor for a safe route in attractive surroundings. Furthermore, the canal route will continue onwards to fill the same need at least to Swindon. The Trust's own Towpath Challenge Project is working to complete the towpath access throughout the length of the canal in advance of completing the waterway.

A traffic survey in 2019 by Oxfordshire Cycling Network identified 200 cyclists per day using Peep O Day Lane and the numbers are thought to have increased significantly since the lane's conditions improved. Even modest towpaths elsewhere attract frequent cyclists. There is clearly an affinity between cycling and towpaths.

### 3.2.3 Commercial Opportunities

Canals attract people seeking wellbeing and the outdoors. People attract business. Here it is relevant that 95% of people attracted to the canal environment are not in boats but on the paths or adjacent open spaces. Typically the canal may be a magnet for smaller businesses, maybe an icecream stand in summer or an adaption to bed & breakfast accommodation, which are unpredictable. These opportunities would be good for farmers looking to diversify.

Larger operations can be contemplated also. Marina opportunities range from small moorings to more commercial operations with boatyard and chandlery and visitor facilities such as cafés. Potential sites on the Abingdon to Wantage route are noted here and shown in Figure 4.

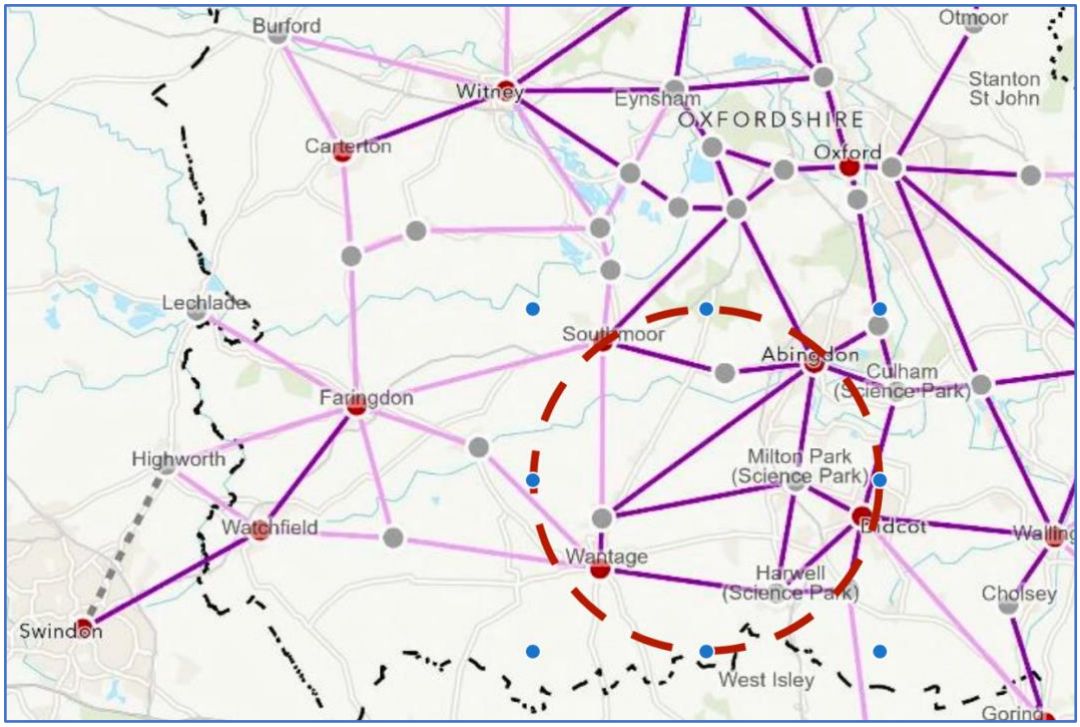


*Figure 3 Extract from Oxfordshire's Active Travel Desire Lines Map*

- The aggregate extraction workings near Jubilee Junction are close to the River Thames and just 4 km from the centre of Abingdon (site A). This would double up as safe haven when the river is in flood or the auxiliary drawdown channel is in use as such.
- At the northeast corner of the reservoir a safe haven for boats will be required for when the auxiliary drawdown channel is in use (B). It is still a good site if the auxiliary drawdown does not feature an open channel. With extra development to form a fully serviced marina or enhanced moorings this location is next to several potential attractions such as the reservoir's visitor centre and water sports centres. It will give access to the green space with nature trails etc and would be easily accessible by road and cycleway.
- Available land either side of the railway could be used for a marina on one side or other (D). On the north side SESRO proposes a temporary railway siding which is likely to be removed on completion of the reservoir but the site is not yet fixed. It could be opportune to develop a marina as part of the restoration of the site.
- At Wantage the canal route has been diverted north of the original line where it crosses the A338 and Denchworth Road thus disconnecting it from the former branch into Wantage centre ((e) in Fig.4). Housing is springing up along the route and limited land is available for any secondary use. There would be an opportunity east of Grove Road for canal-side facilities and moorings (E).

### 3.2.4 Access to Green and Blue Space

Access to green and blue space is a huge driver of the benefits to health and wellbeing. Canal and towpath restoration provides this directly and often links other green and blue spaces. The linear nature of the canal helps translocation and mixing of wildlife populations that otherwise might be isolated and at risk. Recognition of the importance of access to green space has recently led to a policy change which now requires new housing to be within 15 minutes walk of green space. The restored canal can support this objective and enhance the value of the space.

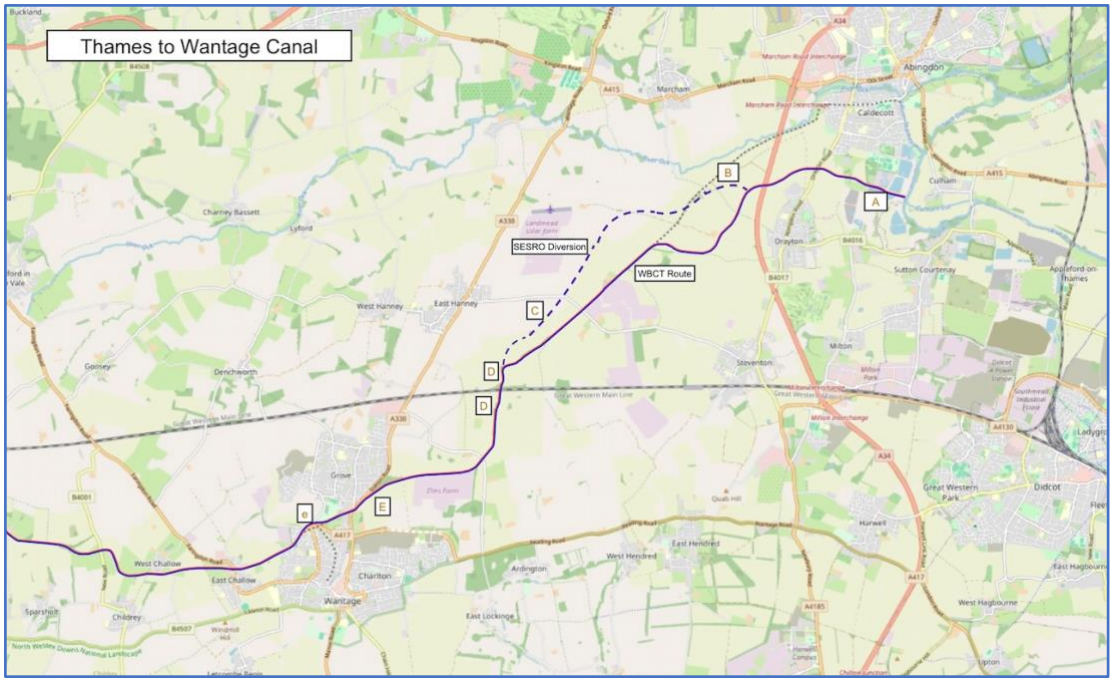


*Figure 4 Development Opportunities*

### 3.2.5 Drainage and Flood Protection

The southeast of England is subject to risk of water shortage and yet at increasing risk of flooding due to climate change. Canals can be integrated into the management of catchments to reduce risks and stabilise the local drainage such as at Wichelstowe in Swindon where the canal is integrated into the overall water management plan. This reduces the cost to the developer.

### 3.2.6 Local Property

People love to live near water. The value of properties near to a river or canal are proven to be boosted by 15% to 25%, according to several studies. The benefit for new build properties is a big boost to the developer's prices and an increase in revenue for the local council.

## 3.3. How the Drawdown Channel Will Help

Many of the benefits above are assessed for the completed canal. However, each small step is a local gain and this can apply to the drawdown channel if it is constructed suitably. The associated green space required by biodiversity legislation and access if designed for boat traffic and active travel routes, will provide a huge benefit to the local populace who otherwise have little to compensate them for the disturbance which will be caused by the reservoir.

The benefit attributed to the drawdown channel in the consultation documents is reviewed in Section 5.

# 4. Support for the Restoration

## 4.1. Partners

The Trust has developed relationships with strong partners who share the vision of a completed canal. The Swindon, Wiltshire and Oxfordshire Canal Partnership is a body which guides and assists the Trust. Its membership includes the four local authorities through which the canal passes; the town councils of Abingdon, Melksham and Royal Wootton Bassett; Natural England, the Environment Agency,

Sustrans, Thames Valley Chamber of Commerce, Canal and River Trust, Inland Waterways Association and others. The partnership members provide guidance and encouragement to the Trust and support developments with enabling actions. The Partnership shares with the Trust a masterplan for creating the complete canal. They do not fund the restoration other than the occasional local need.

As an example of support from the local councils the Abingdon-on-Thames Town Council has recently responded to this consultation and said in relation to the canal:

> *"Previous schemes allowed for this [the drawdown Channel] to be an open channel to allow supporting Berks & Wilts Canal Trust efforts to progressively restore and reopen the canal to offer far more amenity use.*
> *Now it is to be subsumed into the reservoir area and lost for the future with a major tunnelling effort disrupting a significant area of the country from the site to the Thames.*
> *The Council supports keeping the original method from previous designs."*

## 4.2. Funding Partners

Funding for the restoration projects comes from diverse sources with which the Trust seeks to develop long-term relationships. Large projects require partnerships with major, supportive organisations. The Trust seeks to work with major grant awarding bodies and sponsors such as heritage funds, national and local lottery sources, and organisations who have a special interest such as National Highways which has funded work where there is a major highway involved. The Sovereign Network Group is a developing partner. Small projects are often funded by the activities of the local membership or small grants from local organisations.

Other partners for projects who usually bring expertise or assistance in kind rather than funds are wildlife associations, Sustrans and The Ramblers along with various local interest groups.

The promoters of housing and industrial developments can be partners for specific projects. Fundng or work in kind may be provided through Community Levies and planning agreements. An excellent example is the development of Wichelstowe in Swindon where the canal is being restored over several kilometres and forms a key feature of the whole development.

This is all similar to the way that other canal restoration bodies have achieved their objectives. For example the Cotswold Canals Trust has been funded by National Highways and National Lottery funds amongst other sources.

Wilts & Berks Canal Trust are ready to partner with any organisation to help raise funds in a similar way. The Trust has a programme to raise awareness of the benefits to the community and the environment.

## 4.3. Local Policies

The local authorities all support the restoration of the canal by including in their Local Plans a policy to protect and support restoration of the canal. As an example, the Draft Policy IN4 in the recent Joint Local Plan Preferred Options Consultation of the South Oxfordshire and Vale of White Horse Local Authorities is preferred because:

> *"The revised policy is the preferred option because it retains the council's intention for reinstating the canal and is in keeping with policy wording to be used by other neighbouring local planning authorities for the restoration of the waterways."*

The policies allow for diversions to be created and equally protected where the original route has been lost to development, and generally support recognition of abandoned routes, for example by

encouraging the development of footpaths along them. The latest policies have evolved to improve their effectiveness as new local plans are drawn up. They recognise that the restoration programme is long term.

### 4.4. Public Support

Public support for the restoration of canals and access to them is widespread across the UK. Visitors to canals are increasing as are the number of boats on them.

The membership of the Trust is growing. Volunteer attendance at our sites has grown by 26% over the past year and social media followers by 60% The survey of members in 2023 has informed restoration strategy with over 70% saying that the environment and community benefit must be key drivers of our plan. Our management structure has been strengthened to focus on these objectives and project delivery. Over the past year, we have significantly improved volunteer support, interaction with schools, and colleges and family boat trips. Our biodiversity strategy develops new habitats, increases wild flower diversity and reduces invasive species.

The summary of feedback from the community engagement exercises on the SESRO Landscape and Environmental Masterplan notes the support for the restoration of the Wilts & Berks Canal.

The investigations made by the Trust in response to this consultation show widespread support for the adoption of Option B for the Auxiliary Drawdown.

In August 2024, the Trust launched a petition to gather further evidence of support for the open channel and canal option. The petition responses reached 2700 within the first three weeks. Learnings from comments attached to this petition and from broader social media activity suggest the following:

1. There is a lot of local opposition to the SESRO scheme;
2. There is a lot of local support for the reinstatement of a Wilts & Berks Canal link onto the River Thames;
3. If the SESRO scheme is constructed then a Wilts & Berks Canal open channel drawdown link into the River Thames would deliver significant benefit to the local population. It would also significantly increase local support for the SESRO scheme.

Comments made via the petition shows how positive they are, see Appendix 1 for a selection.

Radio, television and press reporting of canal development is usually very positive towards the canal although somewhat negative about the SESRO scheme.

## 5. Auxiliary Drawdown – Channel or Tunnel Only?

### 5.1. Overview

Up to the Gate 2 stage the auxiliary drawdown had been identified as a combination of using the intake/discharge tunnel with an open channel to accommodate the additional flow. The open channel would double up as the last section of the canal from the diversion around the reservoir to the Thames. The concept for the auxiliary drawdown channel including the canal was developed by the SESRO team over many years. 'The Abingdon Feasiibility Study', 2004 by Arup was commissioned by the Trust to identify the best location to cross under the A34 and link with the River Thames. Unsurprisingly the proposed route for the reservoir emergency discharge channel exactly follows the same route and faces the same obstacles such as road crossings and so combining them is logical if it is feasible. This is effectively Option B in the consultation.

The revised proposal is to abandon the auxiliary drawdown channel in favour of a larger tunnel. This option (Option C) has been made on the basis of a cost/benefit analysis which is not published except for the outcome. The Trust challenges this result.

The high level cost estimates put the range of costs for the auxiliary discharge options at approximately 3% of total SESRO costs (Options Appraisal - Connectivity to the River Thames clause 9.3.13). The cost difference between the options is not material compared to the overall project cost. In this context the cost of providing significant local benefits from the appropriate choice of option is not of huge significance to the whole scheme but is highly significant to restoration of the navigable canal and all its benefits.

The SESRO scheme is intended to offer benefit to the south east of England. The local effect, within a few kilometres of the reservoir, will be significant disruption for a long time with the promise of a new green and blue space and water sports facility at the end. About 16 years away. Naturally, the local opposition to the project is considerable, leaving aside any NIMBY effect. This section of the submission looks at the cost/benefit analysis and some of the technical issues related to Options B and C. The conclusion is that further work on the cost/benefit analysis is required.

## 5.2. Comparison of Options B and C

There is an apparent simplicity in the preference for Option C; it is a simple tunnel with no consequences for the land and environment above. However, it is made complex by the requirements for two way operation with pumps, control systems etc. It has still to be confirmed that it can be built according to the Options Report and potentially would discharge 75 $m^3/s$ at one point - a huge volume in relation to the usual flow in the river. In the event of a failure at the tunnel the auxiliary drawdown would not operate whereas with an open channel operating in parallel there is less risk of a failure to achieve at least a slower drawdown.

Option B is the more difficult to construct due to the requirement for land as indicated in the Gate 2 plan. The construction of road bridges, service diversions, roads and paths plus the locks and associated structures for use as a canal all add to the work required to build it. It is however more flexible to deal with any future demand for change. Dealing with disturbance to the natural environment and the requirement for biodiversity net gain adds complications. The normal development planning assessment of the drawdown channel will throw up several issues such as landscape, environmental disturbance and impact on heritage sites. However, these issues can be mitigated and provide opportunities to enhance the local environment, add active travel routes and public space, contribute to local facilities etc so that there is a real gain for local residents.

Option B is forecast to be the more difficult and expensive to operate and maintain due to the public access and navigation. However, as with the capital costs, there is no discussion of who might be responsible for costs outside of the core operation and maintenance of the structures.

## 5.3. The Technical Comparison

The comparisons of the engineering, environmental and land attributes of Options B & C reflect the current position and knowledge of these important factors and provide a reasonably balanced view. The review also identifies the uncertainties within the options and the further work required. It is not unreasonable that Option C is preferred on these criteria alone at this stage. However, this is an infrastructure project of national importance which will have a huge impact on many people. The social implications should weigh more heavily in the final decision.

The Trust's detailed comments are as follows on the 'SESRO Connectivity to the River Thames Options Appraisal Report'

*9.2.3 Auxiliary Drawdown Channel (ADC)*
*It is assumed that it will be possible to route the Eastern Watercourse Diversion under the ADC through culverts, but this would need to be in the location shown due to the hydraulic attributes of both assets.*

This will be required anyway to protect the future route of the canal in case that Option B is not adopted.

*9.3….. the ADC has a potential opportunity to incorporate a haul road along it during construction, improving access to the intake/outfall site.*

This would enable a direct connection between the reservoir site and the intake/outtake structure significantly reducing construction disruption on both the A34 and the A 4017.

*9.3.4 ….. Works to construct the ADC would be additional to the tunnelling but are not programme-critical for the construction of the SESRO project*

Noted

*9.3.11 Option B is resilient in that it has two methods of discharging flows from the reservoir, increasing reliability, although not sufficient for full auxiliary discharge if one method is out of operation.*

Noted

*9.3.17 In relation to the River Thames (aquatic environment), there is some uncertainty about the extent of additional bank protection measures needed for Option C compared to Option B. It is currently assumed this is not significantly different and has not been included as an option differentiator.*

This is considered a serious underestimate of the potential hydraulic consequences. With Option C the design auxiliary flow of 75$m^3$/s would emerge from single location on the river bank and must merge with a river, which in winter typically has a similar flow rate. The average flow of River Thames is given as 68.8 $m^3$/s albeit as measured further downstream. However, at Abingdon after winter rain the flow is often in the region of 75$m^3$/s. In these conditions it would be very advantageous to have two separate locations for the auxiliary flow to enter the river. For Option B this would be 30$m^3$/s via the operational tunnel and 45 $m^3$/s via the auxiliary discharge channel.

*9.3.27 The ADC for Option B allows additional recreational benefits and connects to existing routes, supporting the overall socio-economic incentives of the SESRO project…….*

Noted

*9.3.28 Considering consenting, Option B has greater overall land-take and greater potential to interact with and be a constraint to other land-uses and policies due to being above ground and requiring levee construction; it would also involve works for the A34 crossing that are more likely to be disruptive to National Highways' strategic infrastructure asset. However, it has the advantage of delivering a channel to facilitate the potential future Wilts & Berks Canal.*

The latter point is well made.

*9.3.29 For property and land acquisition, the land is predominately privately owned…… The additional land take, compared with Option C, is a significant negative difference for Option B.*

It is noted that the increased land acquisition required for Option B over Option C is insignificant compared to the overall land take required for the reservoir and will be required anyway for restoration of the canal.

## 5.4. The SESRO Cost/Benefit Analysis

The cost/benefit analysis results are presented in the options report with very little information on their derivation and source data other than saying that they are based on desk studies only and are high-level, early stage estimates (cl. 11.2.2). The forward work plan does not include any further work on the cost/benefit analysis or Option B.

Our detailed comments concerning cost on Sections 9 and 10 of the SESRO Connectivity to River Thames Options Appraisal Report are as follows:

> 9.3.13 *Initial high-level cost estimate indicates that the range in costs for emergencydischarge options represent approximately 3% of total SESRO costs. Option B results in a total project cost of 2.8% more than the lowest cost emergency discharge option.*

It is hard to follow the logic of this statement, but it would appear to indicate that Option C would be much, much cheaper than Option B which seems strange. This is particularly the case as only two years ago in the 2022 SESRO Masterplan at Gate 2, the preferred emergency discharge for a 150 Ml reservoir was the auxiliary discharge channel (equivalent to Option B). Two years later when the design and costing is still at a high level, Table 12 states that 'Additional costs for Option B over Option C is estimated at £68.1m.

> *10.2.1 Table 10.3, Cost.*
> *From initial high-level estimates, Option B has the higher CAPEX cost of the two options: Option B results in a total project cost approximately 2.8% higher than Option C. Given that the difference between the initial estimates is a small percentage of the overall cost of the SESRO project, the cost of Option B is not considered to be disproportionate in comparison with Option C such that it is an unreasonable preference over Option C if it performs better in the other subthemes. Cost is therefore not seen as a material differentiator at this stage between options when identifying a preferred option.*

It is noted that cost is not apparently a material differentiator, and it depends on other subthemes. However, in subthemes Option B is generally preferable which should lead to Option B being preferred?

> *10.2.2 Option C has the lower capital costs than Option B, but the difference in cost between the options is approximately 2.8% of the overall cost of SESRO so the cost difference is not considered a material differentiator in this assessment.*

The statement that the cost difference is not considered a material differentiator in this assessment is noted.

> *10.1 Comparison of Engineering Performance*
> *Table 10.1 Emergency Discharge - Constructability Subtheme Narratives*
> *Construction Complexity……. Although the complexity associated with the tunnel is greater than for Option B, Option C is the preferred option because removal of the ADC construction makes Option C less complex overall than Option B.*

This statement seems very arbitrary and in terms of the overall project, the complexity posed by Option B is minimal. Also, the advantage for construction of the Intake/outlet structure by taking construction traffic off the roads, by using the ADC linking the reservoir site with the River Thames under the A34 and A4017, is not mentioned.

> *Table 10.2 Emergency Discharge - Operability Subtheme Narratives*
> *Operational Complexity ….Option C is less complex..*

*Operational Resilience ……There is little future adaptability for Option C compared to Option B, which has an ADC which can be modified in the future and is proposed to be navigable and aid future expansion of social/recreational infrastructure. The ADC could form part of the potential Wilts & Berks Canal, giving it a dual function. Option C is also expected to have higher energy requirements for sweetening flow, although this is not expected to be significant*.

Noted

*10.1.2 Overall, for Engineering the provisionally preferred option is Option C (the tunnel only option)…….*

This conclusion is tenuous as there is little difference between the subthemes as indicated above. However Option B has the big advantage of a dual function as a canal and in addition a footpath and cycleway.

*Table 10.4: Emergency Discharge - Environmental Subtheme Narratives*

The Trust has no comments as there appear to be no marked differentiators between Options B and C.

*10.3.2 .. Option C is the provisionally preferred option*

Despite this assertion there appear to be no significant advantages to Option C.

*Table 10.5: Emergency Discharge - Community, Planning and Land Subtheme Narratives Socio Economic ….Option B is preferred as, although it has the potential for significant disruption from construction, there are significant recreational benefits that could be realised during operation.*

Noted

*Consenting……..Option C is slightly preferred over Option B due to the former's tunnel bored nature minimising overall land-take and potential conflicts with existing or future development; however, it does not provide the Wilts & Berks Canal channel.*

Noted

*Property and Land Acquisition……Option B is significantly less viable than Option C due to the higher impact of the ADC on permanent land take and temporary land impacts for its delivery. With such a significant difference in the land requirements, both in terms of immediate effect on land and associated with compensation for secondary affects, a very strong case would have to be presented for the choice of Option B being in the public interest*

While Option B would require significantly more land acquisition than Option C, surely it is insignificant compared to the land required for the reservoir.

Also, why would it not be in the public interest? It would provide a through route from the reservoir site to the River Thames and Peep o Day Lane providing a navigable canal, a walk way and cycle route that would link Ardington Lane bridleway with Peep o Day Lane which is part of the National Cycle Network.

When the canal is eventually restored the land required for the ADC would need to be acquired anyway, much better to do it now rather than have two lots of disruption to the public.

*10.5.1 The outcome from the assessment and consensus from the workshop for the emergency discharge arrangement is that Option C (tunnel only) is the provisionally preferred option, subject to a cost benefit review of the ADC.*

Apart from cost (see below) it is difficult to see how Option C is preferred.

The Trust challenges the cost/benefit analysis and requests sight of the detailed assumptions and calculations.

The cost assessment is based on the difference in capital costs between the two options including capital cost and operating cost over 80 years starting after completion in 2040 and estimated to be £68m. Only quantifiable benefits from the presence of the canal are used in the calculation. This ignores the qualitative benefits and assumes that the benefits from a channel without the canal are zero.

It is not clear how the reduction factor (in Cl. 11.3.4) is estimated and applied to the benefits. The inclusion of a reduction factor to account for benefits that would accumulate without the presence of the canal would only seem to be valid if the calculation of benefits from the canal starts by calculating all benefits arising from the land space as it is (or maybe in future) and then deducts those from a total assessment with the new canal. The reduction factors are not shown so there is no indication of how they relate to the levels of displacement supposedly shown in Table 11.1.

Clause 11.3.6 claims to describe how the the benefit is intentionally conservative and is constrained to that gained by regular visitors only. Experience suggests that while the majority of visitors to a canal destination may be local and regular, destinations that are easily accessible and distinctive will attract many other visitors, adding considerable benefit. A length of canal connected to the Thames and open to all with likely unusual structures will fall into that category.

It is difficult to estimate the benefits for a section of the canal before the whole has been completed and the contribution from isolated lengths is recognised. In this case, even if the whole canal is not completed by 2040 it will be completed well within the 80 year assessment period. Consideration of the full scope of the additional benefits despite the uncertainty of the timing is justified.

There is no mention of a benefit that would acrue from the direct connection to Peep O Day Lane which is on the National Cycleway Network.

## 5.5. Summary on Cost/Benefit Analysis

In summary, the benefit analysis is not fit to be used as the primary reason for rejecting Option B.

The Trust notes that cl 11.2.2. says concerning the cost assessment between Options B and C:

> *'The cost estimates are high-level, indicative, early-stage estimates, which do not incorporate costed risk or optimism bias.'*

Yet on this basis Section 12 states that no further work is proposed on Option B. To not give a fuller and more reliable assessment of the comparison is to negate the stated aim of providing an open consultation process working with the consultees and populace.

Based on national research and backed up by economic studies on completed canals, payback to society is between 5 and 8 years. The benefits include improved physical and mental health, growth in tourism with supporting infrastructure, active travel along towpaths, increased land values and council income, habitat diversification and involvement of communities in their maintenance, flood risk reduction. We do not see any evidence that these benefits to society have been assessed in coming to the decision that SESRO's preferred option in not an open water channel. The Trust's assessment is that the benefit is at least £19.3m per annnum at 2022 values and it will increase with local growth. SESRO indicate in Clause 11.3.5 and Table 11.1 a present value benefit over 80 years at under £13.4m. The numbers are clearly incompatible.

The Trust strongly insists that a fuller assessment of the cost/benefit analysis with better data is undertaken in the next stage of the work.
uilt up from unclear data with dubious assumptions and apparently is designed to take a conservative view of the total benefits. The confidence in the result must be extremely low. ItResponses to Other Questions

# 6. Responses to Other Questions

The Trust makes the following comments in response to the other questions.

## 6.1. Q5. Rail Links

*We are considering options for the rail links to the site. Our preferred option is Option 5.*

The Trust recognises the benefit of including a railway siding and materials handling area in the scheme. The interest of the trust is in the impact of the scheme on the deliverability of the canal diversion north of the railway line. Options 1, 2 and 3 do not affect the proposed canal corridor. The studies are tending towards options 4b and 5 or possibly a variation on them. Neither option directly impacts the canal route. However, these options propose that a haul road to the reservoir itself would pass under the Steventon to Hanney Road Diversion via a bridge which could later serve as the canal crossing.

The concern of the Trust is that delivery of this length of canal would not be possible until the haul road is no longer required and has been removed. The Trust would therefore wish to see a firm commitment that the road crossing becomes available for canal restoration immediately on disuse of the haul road and not later than commencement of the filling of the reservoir.

It is noted that the rail siding is planned to be demolished when construction of the reservoir is complete (Technical Brochure P13). At that stage consideration should be given to allow construction of a canal marina. This will be important as boats accessing from the River Thames and round the reservoir will need a location to turn round should the canal not have been restored for navigation south of the GWR. The location is also ideal for a marina in that it will probably be beside the diverted East Hanney to Steventon road and so have easy access.

## 6.2. Q6. New Access Road

*We are proposing to build a new access road to the site for construction vehicles. Once the reservoir is built the road could be used as the access for visitors for recreational use. Our preferred option is Option B.*

The trust has no preference for the route.

All four routes must cross the canal which may be the Auxiliary Drawdown Channel if Option B for the auxiliary discharge is selected. It is assumed that all options can be engineered to meet appropriate standards for the canal.

## 6.3.Q7. Steventon to East Hanney Diversion

*Several routes have been considered to replace the existing road between East Hanney and Steventon. Our preferred option is Option A.*

The Trust has no preference between options A, B1 and B2 which all cross the canal line at the same location. It is assumed that option C will be eliminated but a simple canal crossing structure to

appropriate standards should be feasible there. It is noted that the bridge in option A will cross the canal on its original alignment and therefore its proposed temporary use for the haul road will entail destruction of a further length of the original canal which will need to be restored.

## 6.4. Q8. Southern Water STW

*We need to identify a location for a proposed Water Treatment Works, which is currently proposed to be designed, consented, built and operated by Southern Water. Our preferred options for the location of the Water Treatment Works are Option 2 and Option 4.*

The Trust has no preference for either option. It is noted that the sites have been chosen with regard to adjacent features including the canal corridor with a 5m buffer zone (but it is not clear what width is provided for the canal corridor). The canal at this location may be the Auxiliary Drawdown Channel if Option B for the auxiliary discharge is selected.

## 6.5. Q9. Location of Intake/Outfall Structure

*We are proposing Option B as our preferred option for our intake/outfall structure*

It is noted that the appraisals of the intake/outfall options are not impacted by the auxiliary discharge options. The concerns of the trust are that:

- the chosen location and scheme are compatible with the Trust's preference for Option B for the Auxiliary Drawdown; and
- If Option B for the auxiliary discharge is not selected the intake/outfall and associated works do not prejudice the development of a separate canal route into the river junction.
- The Trust would wish to be satisfied that manoeuvering of craft into and out of the connection of the canal to the river is not compromised by local effects on river flows of the intake or discharge from the structure. Access by land to the canal junction should be unhindered.

The Options Appraisal Report on Connectivity to the Thames says (in Cl 6.5.7) "*Option B is considered to be the preferred option regardless of which auxiliary discharge option is selected. This is due to the fact that the appraisals of the intake/outfall options are not impacted by the auxiliary discharge options."* The implication of this is that the capacity of the outfall is not critical to the choice of location and yet it will more than double if Option C is adopted for the auxiliary discharge rather than Option B. Has this been confirmed?

On the basis of the studies so far the Trust accepts that Option B for the intake/outfall structure is reasonable.

## 6.6. Q10. Emergency Discharge Options

*We have considered several options for the Emergency Discharge and Option C is our preferred option. Do you have any comments on these plans?*

The Trust's strong preference is for Option B as explained in Chpter 5 above.

## 6.7. Q11. Consultation Process

*Do you have any comments on the process we undertook to develop our preferred options for the infrastructure associated with the reservoir?*

The consultation process has missed out some important steps and has not included a social value assessment of the reconstruction of the canal.

The general public who respond on this critical issue do not have the available facts to be able to make an informed choice on the option for the location of the infall/outfall structure.

The time taken by Thames Water to develop the SESRO scheme, whilst simultaneously suggesting that their preferred option for the auxiliary drawdown is an open channel proposal, has significantly damaged the ability of the Trust to progress the restoration since 1993. These delays and changes in strategy have not been considered in the consultation documentation.

## 6.8. Q12. Design Principles

*We have presented our draft design principles for the SESRO Master Plan. Do you have any comments on our draft design principles?*

**Principle 4-S3 Seek to encourage active travel and use of public transport as part of the long term legacy for SESRO**.
Option B for the auxiliary discharge will be consistent with this principle but the preferred Option C is not.

**Principle 4-S7 Propose new foot, cycleways and bridleways to improve recreational access within the area, including connectivity between SESRO and local communities.**
Option B for the auxiliary discharge would provide a new link from the reservoir site toward Abingdon. However, in the current proposal there is no offroad link East of the A34 except retention of an existing bridleway to Drayton.

**Principle 5-S10 Reserve space for the Wiltshire and Berkshire Canal Trust's aspiration for the future diversion and rebuilding of the Wiltshire and Berkshire Canal as a recreational waterway within the landscape surrounding the proposed reservoir.**
The proposal of a reserved corridor for Wilts & Berks Canal is inadequate compensation for the length of existing canal and locks that will be permanently drowned by the proposed reservoir. This principle will provide for the restoration of a corridor which is longer than the original route; does not include any of the structures which may be restorable; and may be entirely featureless and at the wrong ground levels. The corridor will need to be considered in its relationship to the local watercourses, flood storage provisions and other new facilities. All of which will require careful design integration. Thus there is extra cost for the restoration and the possibility of serious complications in the design and construction of the new route. This is all contrary to the principal in Local Plan Policy 32 and the draft new local policy for canal protection (IN4 Wilts & Berks Safeguarding) of not permitting development which will prejudice delivery of the restored canal.

## 6.9. Q13. Interim Master Plan

*Our Interim Master Plan is an overall spatial layout of the proposed reservoir site, including wetlands for capturing flood water and introducing diverse ecology, operational areas, such as for treating water or transferring it to and from the reservoir, amenity areas, public access, woodlands, footpaths and others*

The updated Land & Environmental Interim Master Plan for this consultation shows a reserved canal corridor ending at the A34 crossing, consistent with the current preference for Option C for the Auxiliary Drawdown. It is assumed that the Master Plan design to the east of the A34 can be reinstated (subject to an update) if the choice of option is changed.

The diversion alignment of the canal , below the embankment to the west of the reservoir and close to the flood plain for most of the way, has been discussed with the SESRO engineering team. The plan shown in the Consultation Documents does not give any indication of ground levels and the proposed

levels either side of the canal which will be critical to constructing the canal with appropriate levels and lock positions. The canal as a waterway can be integrated with drainage and flood management requirements (e.g the embankment toe drains) and other watercourses to integrate the management of water through the green and blue space around the reservoir. The canal can also be integrated with the landscaping round the reservoir.

It is strongly recommended that the canal design be integrated into the Master Plan in both alignment and level. Access for operation and maintenance also needs to be planned along with the towpath and other paths and cycleways.

Responsibility for constructing the canal and its structures has yet to be decided. If the construction work is left until after the earthworks and landscaping for the green and blue space has been completed that will lead to the highly unsatisfactory situation of heavy plant again operating in the same space. New environmental planting etc to BNG requirements will be required to replace the loss of the planting etc recently made for the reservoir. Therefore the Trust strongly recommends that a way be found to carry out the canal construction within the timeframe of the reservoir works.

### 6.10. Q14. Any Other Comments

*Do you have any other comments relating to the proposals for SESRO at this stage in the process?*

Countless people have said to us that accessing the Consultation Quesionaire without help was not easy. Countless more said they had given up on the Questionaire before they had reached the 12th screen which has the critical question concerning the Emergency Discharge channel (Q10 in the paper version). Also in that question, while it says that Option C is preferred, it does not say what Option C is. Consequently, those that successfully navigated to the question on Emergency Discharge represent only a small proportion of those who prefer Option B to Option C.

## 7. Conclusions

The Trust recognises that the proposals are still evolving. Despite the concerns over the choice of auxiliary drawdown the Trust recognises the effort made to consult widely and wishes to continue engagement. It is believed that the engagement todate has been beneficial to both parties.

The immediate concern is the choice of Option C for the auxiliary drawdown. While funding for the extra cost of canal requirements in Option B is still to be resolved it is clear that constructing the canal at a later date than the reservoir would be a considerable cost for the Trust and its supporters when it could be built within the reservoir programme and bring major benefits to the local population, all credited to SESRO.

The Trust believes Option B is the correct choice for the auxiliary drawdown and insists on sight of the cost/benefit analysis for the auxiliary drawdown options and further engagement to seek agreement on an improved analysis.

The Trust accepts that the location B for the intake/outfall is reasonable but seeks confirmation of its effect on the canal junction.

If the Option C for the auxiliary drawdown is taken forward then the Trust will want to see all SESRO works to be fully adapted to allow later construction of canal without disturbance to SESRO construction and minimal environmental disturbance. Any canal-related works left to be completed later within the diversion route around the reservoir should be executed similarly. This is compliance with the protection for the canal in local planning policy.

The SESRO programme is progressing to the point where it is necessary to consider the funding sources for the canal works and co-operation on planning. The Trust wishes to engage with the SESRO team and others on these subjects.

## Appendix 1 Comments from the Petition Selected Petition Comments (as at 27 Aug 2024)

| Comment |
| --- |
| An open waterway has the potential for so many environmental and leisure benefits. |
| Any building work needs to include as many measures as possible to improve wildlife habitats and people's lives. Diverting this underground will not achieve any of this. |
| As a tourist from outside the UK, and regular hirer of a narrowboat, I'm amazed by the history and wildlife the English canals are offering, often taken for granted by councils and big companies it seems. The UK canals have a unique culture and wildlife and serves a green space for many people living in urban areas. Please save your heritage! |
| Benefit for local communities, wildlife and protection to the ecology must take precedent over convenience to a private business. |
| I believe in and support the aims of the Canal Trust. This is the ideal time to make this work, a missed opportunity would be almost criminal. |
| I believe, maintaining this canal link will bring significant benefits to the health and wellbeing of those plants and creatures who live in the natural setting of our countryside and canals as well as those of us who find these places of nature as a place of joy and peace. These settings are getting more and more important to access in what is an ever busy and overwhelming world. |
| I feel this is much needed facility that will promote interest in the local ecology as well as promoting outdoor activities to the wider community |
| I think this a great opportunity to restore the canal from its current position to provide a green corridor for everyone to enjoy |
| I want the Wilts & Berks Canal to be reinstated to benefit everyone and this option to have a channel rather than a tunnel best supports that. |
| I want to see the whole length of the canal restored to allow once again access from the Thames to the Avon |
| I'm signing because it is so important to preserve our waterways heritage and to provide opportunities for a wide range of outdoor leisure activities that support wellbeing. |
| If this opportunity is missed, future generations will curse those responsible. |
| I'm in favour of the reservoir but want to preserve the canal and cycleways. |
| I'm very much against putting what could be a valuable stretch of open space and a nature corridor into a tunnel, if it can possibly be avoided. |
| It would be better to transfer surplus water from the Severn to the Thames by restoring the Thames & Severn Canal, but if this reservoir goes ahead then it should make full provision for the Wilts & Berks Canal diversion. |

## Wilts & Berks Canal Trust

| |
|---|
| Restoring the Wilts and Berks Canal is one of the most important amenity projects in the region. The new reservoir needs to be supportive of this, and not ignore the broader interests of the community |
| The canal restoration is an important project for the region and will be vital for community benefits of walking, cycling and water recreation. The reservoir projecting it goes ahead, should be contingent on restoring the canal through this area. |
| The restoration in full of the Wilts & Berks is a super asset to so many people, and a huge benefit as a wildlife corridor. WBCT do great environmental work and a Thames Tunnel will be of no benefit. An open channel secures benefit for all! |
| The restoration of the Wilts & Berks Canal is fundamentally important to the prosperity of the Wantage and Grove area. The reservoir project has already delayed restoration by decades, and everything must be done to ensure that the SESRO project not only does not hamper restoration, but actively facilitates it |
| The Thames is a vital national asset and maximum access by boats is key to its vitality |
| The Wilts & Berks canal is an heritage and environmental gem that needs to be reinstated in full including the important eastern section joining it to the River Thames. The diversion of this section around the new reservoir is vital and must be included as part of the SESRO project. |
| This is such a large project that will have a huge impact on the people and environment that it is an opportunity to give something back to the community at negligible cost and build the canal connection for the Wilts and Berks Canal Trust from the Thames to under the A34 |
| This will help preserve travel along the UK waterways, if routes are kept open this should help encourage more holidaying in the UK which will be good for the economy |
| This tunnel is probably a cost-cutting exercise because they think nobody cares. Thanks for bringing it to our attention. |
| Totally against a reservoir and we need to preserve the canal link for the wildlife. |
| Why put something underground when you can have it on the surface for all to enjoy. Not to mention the birds that would benefit. The maintenance would surely also be easier with it being on the surface as opposed to it being underground.... |

## Appendix 2 Sources of Data


1. Waterways and Wellbeing – The Headlines, Canal and River Trust, Nov 2022
2. ONS Population Projections – Interim Nationa;l Population Projections year ending June 2022
3. Strategic Active Travel Network – Final Draft Consultation, 2023, Oxfordshire County Council
4. Vale of White Horse Local Plan 2031
5. South Oxfordshire and Vale of White Horse Joint Local Plan Preferred Options Consultation, Jan 2024
6. Housing and economic land availability assessment (HELAA) - South Oxfordshire and Vale of White Horse District Councils, Jan 2024
7. National Cycling Route Map, Sustrans