



South East Strategic Reservoir Option (SESRO)

Technical Supporting Document B3
Conservation, Access and Recreation Strategy

Notice

Position Statement

This document has been produced as the part of the process set out by RAPID for the development of the Strategic Resource Options (SROs). This is a regulatory gated process allowing there to be control and appropriate scrutiny on the activities that are undertaken by the water companies to investigate and develop efficient solutions on behalf of customers to meet future drought resilience challenges.

This report forms part of suite of documents that make up the 'Gate 2 submission.' That submission details all the work undertaken by Thames Water and Affinity Water in the ongoing development of the proposed SROs. The intention of this stage is to provide RAPID with an update on the concept design, feasibility, cost estimates and programme for the schemes, allowing decisions to be made on their progress and future funding requirements.

Should a scheme be selected and confirmed in the companies' final Water Resources Management Plan, in most cases it would need to enter a separate process to gain permission to build and run the final solution. That could be through either the Town and Country Planning Act 1990 or the Planning Act 2008 development consent order process. Both options require the designs to be fully appraised and in most cases an environmental statement to be produced. Where required that statement sets out the likely environmental impacts and what mitigation is required.

Community and stakeholder engagement is crucial to the development of the SROs. Some high level activity has been undertaken to date. Much more detailed community engagement and formal consultation is required on all the schemes at the appropriate point. Before applying for permission Thames Water and Affinity Water will need to demonstrate that they have presented information about the proposals to the community, gathered feedback and considered the views of stakeholders. We will have regard to that feedback and, where possible, make changes to the designs as a result.

The SROs are at a very early stage of development, despite some options having been considered for several years. The details set out in the Gate 2 documents are still at a formative stage and consideration should be given to that when reviewing the proposals. They are for the purposes of allocating further funding not seeking permission.

Disclaimer

This document has been written in line with the requirements of the RAPID Gate 2 Guidance and to comply with the regulatory process pursuant to Thames Water's and Affinity Water's statutory duties. The information presented relates to material or data which is still in the course of completion. Should the solution presented in this document be taken forward, Thames Water and Affinity Water will be subject to the statutory duties pursuant to the necessary consenting process, including environmental assessment and consultation as required. This document should be read with those duties in mind.

Contents

Notice	ii
Figures and Tables	v
Abbreviations	vi
1. Introduction	1-1
1.1 Background to the Scheme	1-1
1.2 Purpose of the CAR Strategy	1-1
1.3 Scope of the CAR Strategy	1-2
1.4 Report Structure	1-4
2. Solution design, options and sub-options	2-1
2.1 Solution description	2-1
2.2 Options considered	2-1
2.3 Option configuration and operation	2-2
2.4 Key assets required	2-2
2.2 Interactions with existing assets and other SROs	2-7
2.3 Scalability	2-8
3. Approach to the CAR Strategy	3-1
3.2 Desk-based Research	3-1
3.3 Identification of Opportunities and Challenges	3-2
3.4 Long List of Options	3-2
3.5 Short List of Options and Proposed Scenarios	3-2
4. Review of Legislation and Policy Context	4-1
4.2 International Policy	4-1
4.3 Legislation and National Policy	4-1
4.4 Local Policy	4-5
4.5 Other Policy Considerations	4-9
5. Existing Environment	5-1
5.2 Overview	5-1
5.3 Community	5-3
5.4 Landscape and Ecology	5-6
5.5 Historic Environment	5-7
5.6 Transport Network and Access	5-10
5.7 Summary of Environment	5-14

6. Case Studies	6-1
7. Internal and External Engagement	7-1
7.2 Previous Stakeholder Feedback	7-1
7.3 Water Resource Management Plan 2019 (WRMP19)	7-4
7.4 Gate 2 Internal Engagement	7-5
7.5 Gate 2 External Engagement	7-6
7.6 Future Engagement	7-7
8. Opportunities and Challenges	8-1
8.2 Conservation	8-1
8.3 Access	8-3
8.4 Recreation	8-5
9. Approach to Scenario Development	9-1
9.2 SESRO Design Principles	9-2
9.3 Visitors Number Estimation	9-2
9.4 Proposed Scenarios	9-4
9.5 Details of Option across Scenarios	9-5
9.6 Details of Option across Scenarios	9-7
9.7 Partnerships	9-14
10. The Final CAR Scenarios	10-1
11. Role in the Gate 2 Submission and Next Steps	11-1
11.1 Next Steps	11-1

Figures and Tables

Table 2.1: Summary of key aspects of the Indicative Gate 2 Master Plan	2-4
Table 2.2: Interactions of SESRO with other SROs and with other local supplies and sources	2-7
Table 4-1: Additional Vale of White Horse District Council Local Plan policies of relevance to the CAR Strategy	4-8
Table 5-1: Population and age profile for the Vale of White Horse District, Oxfordshire County and South East Region	5-2
Table 5-2: Population projections for the Vale of White Horse District, Oxfordshire County and the South East region	5-2
Table 5-3: Preferred activity for each dominant market segment	5-5
Table 5-4: Habitat types within the indicative location for SESRO	5-7
Table 5-5: Summary of Environment	5-14
Table 7-1: Summary of 2005 CAR Visionary Workshop	7-1
Table 7-2: Key issues from stakeholders on the CAR Strategy	7-6
Table 9-1: Visitor Numbers for the CAR Scenarios	9-3
Table 9-2 Short list of conservation options across the 3 scenarios.....	9-7
Table 9-3 Short list of access options across the 3 scenarios	9-9
Table 9-4 Short list of recreation options across the 3 scenarios.....	9-11
Figure 1.1: Conservation, Access and Recreation Scope	1-4
Figure 2.1: SESRO 150Mm3 option, Indicative Gate 2 Master Plan	2-6
Figure 3.1: Stages of the CAR Strategy Development.....	3-1
Figure 4.1 UN SDGs relevant to the CAR Strategy	4-1
Figure 4.2: National Planning Policies relevant to the CAR Strategy	4-3
Figure 4.3: Thames Water Public Value Policy.....	4-11
Figure 5.1: Cultural Heritage Assets.....	5-9
Figure 5.2: Key transport links	5-11
Figure 5.3: Public rights of way (PRoW) and active transport networks	5-13
Figure 7.1 Probable and Possible Options for the Reservoir identified in the 2005 Visionary Workshop	7-4
Figure 9.1: Approach to Scenario Development.....	9-1
Figure 9.2: Drive time to SESRO	9-4
Figure 10.1: Low CAR Scenario	10-2
Figure 10.2: Medium CAR Scenario	10-3
Figure 10.3: High CAR Scenario.....	10-4

Abbreviations

Abbreviation	Full Term
CAR	Conservation, Access and Recreation
SESRO	South East Strategic Reservoir Option
RAPID	Regulators' Alliance for Progressing Infrastructure Development
PRoW	Public Right of Way
CDR	Concept Design Report
SDG	Sustainable Development Goals
NPS	National Policy Statement
NPPF	National Planning Policy Framework
WRMP	Water Resources Management Plan
NVQ	National Vocational Qualification
AONB	Area of Outstanding Natural Beauty
HLC	Historic landscape character
SSSI	Site of Special Scientific Interest
SPA	Special Protection Area
STEAM	Science, technology, engineering, arts and mathematics

1. Introduction

1.1 Background to the Scheme

- 1.1 Following submission of the National Infrastructure Commission report 'Preparing for a Drier Future, England's Water Infrastructure Needs'¹¹ in 2018, Ofwat derived the Strategic Resource Options (SRO) Programme, identifying where and how water could be transferred to areas of water deficit in England. The South East Strategic Reservoir Option (SESRO) has been identified as one of the SROs in Ofwat's Price Review 2019 (PR19) Final Determination.
- 1.2 SESRO is being jointly promoted and developed by Thames Water and Affinity Water under the Regulators' Alliance for Progressing Infrastructure Development (RAPID) SRO programme.
- 1.3 Several alternative capacity options have been considered for the SESRO (i.e., 150Mm³, 125Mm³, 100Mm³, 75Mm³, 30+100Mm³ and 80+42Mm³). The largest SESRO option (150Mm³) is a fully bunded reservoir in the upper River Thames catchment. Water would be abstracted from the River Thames at Culham during periods of high flow and pumped into the reservoir during wetter months. When flow in the River Thames is low and water is required in the catchment, water would be released back into the Thames for re-abstracted further downstream.

1.2 Purpose of the CAR Strategy

- 1.4 Building on the work undertaken to support the SESRO RAPID Gate 1 submission, further development of the SESRO options has been undertaken to support the RAPID Gate 2 submission. The Gate 2 submission presents detailed feasibility, design and multi-solution decision making.
- 1.5 The RAPID Gate 1 submission identified the need for a Conservation, Access and Recreation Strategy (hereafter referred to as the 'CAR Strategy') as a key deliverable during Gate 2. The CAR Strategy is intended to inform the design of SESRO for Gate 2 whilst securing wider community support and realising potential biodiversity, amenity and recreational benefits for SESRO.
- 1.6 The Gate 1 submission identified the potential for SESRO to deliver wider benefits to the local area through the following:
- Increasing tourism in the local area and bringing socio-economic benefits including job generation and business opportunities.
 - Enabling visitors to get the most from their visits by incorporating 'softer infrastructure' to support education and recreation as well as outdoor activities.

¹¹ National Infrastructure Commission (2018). Available at: <https://nic.org.uk/app/uploads/NIC-Preparing-for-a-Drier-Future-26-April-2018.pdf> [Accessed 01/04/2022]

- Improving public rights of way (PRoW), including the re-instatement of disrupted accesses after construction but also by enhancing existing ones. In particular to tackle the fragmentation amongst communities.
 - There is an opportunity for sustainable, creative, education, recreational and leisure-related opportunities as part of the proposal that deliver social value for local communities and visitors.
- 1.7 This CAR Strategy outlines the process undertaken to identify and explore potential uses of SESRO beyond its original function. This CAR Strategy considers the existing environment and local policy context to identify the important environmental and sustainability issues of the local area. This has helped to explore the feasibility of the potential uses of SESRO as well as considering the local need.
- 1.8 The CAR Strategy presents three potential future scenarios for SESRO which include different conservation, access and recreation options e.g., a visitor centre, public rights of way, butterfly banks etc. The scenarios are labelled low, medium and high to reflect the extent of the recreational activity proposed for each scenario. The low visitor scenario would provide an attractive recreational asset enjoyed primarily by the local community, while the high scenario would be considered a tourism destination which may attract visitors from further afield.
- 1.9 At this stage of the RAPID Gated process the CAR Strategy has not identified a preferred scenario. However, the proposed scenarios are intended to influence the concept design and cost estimation of SESRO as part of the Gate 2 submission. This is a live document which means it would evolve and develop over subsequent project stages.

1.3 Scope of the CAR Strategy

- 1.10 As set out in Section 2 to 5 of the Water Industry Act 1991², reservoir developments are required to consider the impact of the development on different aspects of conservation, access and recreation when carrying out their duties. The Act specifies that Thames Water is required to:
- Further the conservation and enhancements of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interest.
 - Have regard to the desirability of protecting and conserving buildings, sites, and objects of archaeological, architectural or historical interest.
 - Take into account effects the proposal would have on the beauty or amenity of any rural or urban area on any such flora, fauna, features, buildings sites or objects.
 - Have regard to the desirability of preserving for the public any freedom of access to areas of woodland, mountains, moor, heath, down, cliff or foreshore and other places of natural beauty.

²UK Government (1991). Available at:
https://www.legislation.gov.uk/ukpga/1991/57/pdfs/ukpga_19910057_en.pdf [Accessed 01/04/2022]

- Have regard to the desirability of maintaining the availability to the public of any facility for visiting or inspecting any building, site or object of archaeological, architectural or historic interest.
- Consider any effect which the proposals would have on any such freedom of access or on the availability of any such facility.
- To take into account the needs of persons who are chronically sick or disabled.

1.11 Furthermore, the Code of Practice on Conservation, Access and Recreation³ gives practical guidance to water and sewerage undertakers and the Environment Agency in relation to their environmental and recreational duties under the Water Industry Act 1991 and the Environment Act 1995 and seeks to promote desirable practices in these fields. The Code of Practice is discussed further in Section 3.3.1.

For the purposes of this CAR Strategy, the terms conservation, access and recreation will be used broadly when referring to a number of different asset/features.

1.12 Figure 1.1 outlines the scope across each term.

³ *Department of the Environment, Transport and the Regions (2000)*
<https://www.legislation.gov.uk/uksi/2000/477/made/data.pdf> [Accessed 11/08/2022]
Conservation, Access and Recreation Strategy

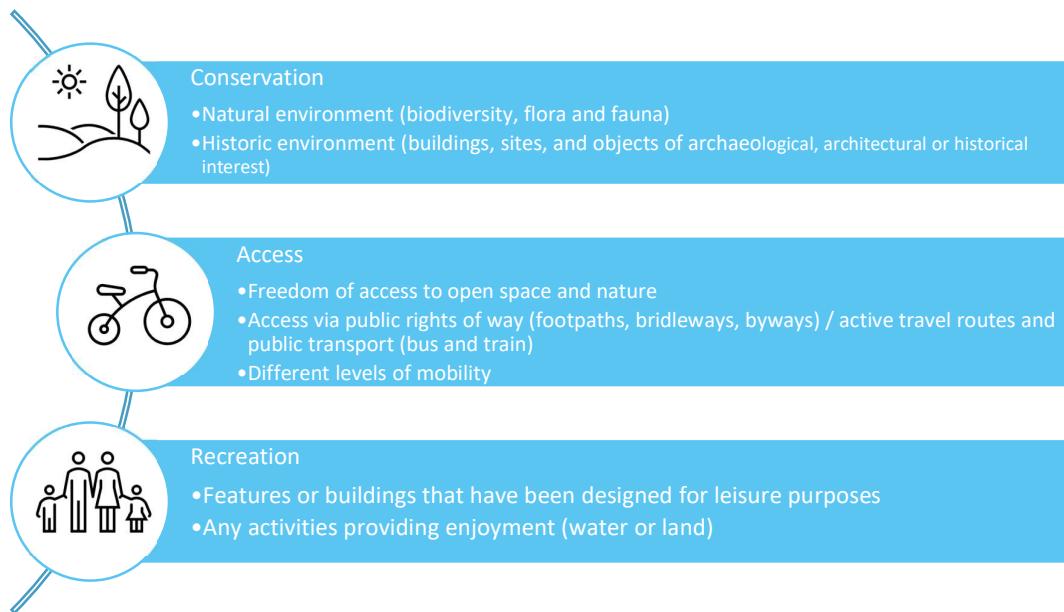


Figure 1.1: Conservation, Access and Recreation Scope

1.4 Report Structure

1.13 The CAR Strategy is structured as follows:

- Section 2 presents the approach to the CAR Strategy.
- Section 3 contains the review of relevant legislation and policy which is integral to the options developed for the CAR Strategy.
- Section 4 presents the existing socio-economic and environmental baseline for the local area.
- Section 5 provides an analysis of existing reservoir case studies to support the production of the long list of options.
- Section 6 captures all internal and external engagement that has been undertaken to date with customers and key stakeholders.
- Section 7 assimilates the policy review, existing environment review and case study review to understand what the opportunities and challenges may be for SESRO.
- Section 8 outlines the approach to scenario development and the proposed scenarios.
- Section 9 presents the concept maps for the three CAR scenarios
- Section 10 presents the CAR Strategy's role in the Gate 2 submission and the next steps.

1.14 This CAR Strategy is supported by one appendix:

- Appendix A: Shortlisting the Long List of Options.

2. Solution design, options and sub-options

2.1 Solution description

- 2.1 The South East Strategic Reservoir Option (SESRO) is an 'off-line', fully bunded raw water storage reservoir in the upper catchment of the River Thames.
- 2.2 Water would be abstracted from the River Thames during periods of high flow and stored in a reservoir, to be released back into the River Thames when there is a need to augment the flows in the River Thames. Water released from SESRO could be re-abstracted by existing or new infrastructure further downstream to supply customers of Thames Water and Affinity Water.
- 2.3 SESRO also incorporates the future flexibility to abstract water direct from the reservoir, treat it on site and then transfer potable water either to the south to serve Southern Water⁴ or else to support TW's Swindon and Oxfordshire supply zone⁵. These elements will continue to be explored as the scheme develops and the timing and magnitude of each is confirmed in the final WRMPs.

2.2 Options considered

- 2.4 SESRO is one of various raw water storage reservoirs that have been considered for WRMP24 by Thames Water. Alternative options have been passed through an appraisal process⁶ and feasible options costed and assessed as part of WRMP24. Analysis completed as part of the options appraisal for WRMP24 confirms that alternative sites for storage reservoirs are available in the Thames Valley, but none considered as suitable as SESRO. Building upon the options appraisal work that was originally undertaken for WRMP09 and has been updated for each subsequent strategic plan to ensure accuracy, the leading alternative sites have been analysed and costed (and made available for selection as feasible options) as part of option selection for WRMP24. Further 'back-checking' of the analysis and screening out of alternative sites has ensured that the list of options is correct and robust. This is all reported in the updated Reservoir Feasibility Report that will be published for consultation by Thames Water as part of WRMP24.
- 2.5 Several size variants of the SESRO scheme have been included in the Thames Water WRMP24 Constrained List of options and submitted as options to WRSE, as follows:
- 150 Mm3 capacity reservoir;
 - 125 Mm3 capacity reservoir;
 - 100 Mm3 capacity reservoir;
 - 75 Mm3 capacity reservoir;
 - 30+100 Mm3 capacity phased reservoir; and

⁴ Thames to Southern Transfer, another SRO project, jointly funded by Thames Water and Southern Water

⁵ The additional transfers and associated water treatment facilities are not included within the SESRO core scheme, although a provision of land allocation within the scheme is identified for such future use

⁶ Thames Water WRMP24, Reservoir Feasibility Report Update.

- 80+42 Mm3 capacity phased reservoir.

2.3 Option configuration and operation

- 2.6 The combined river intake / outfall Structure would be located on the western bank of the River Thames upstream of Culham. Abstracted water would pass through a tunnel and pumping station and jetted into the reservoir at the base of an inlet tower.
- 2.7 Water being discharged back into the river would pass through an outlet tower and the same tunnel before flowing over a stepped gravity weir at the outfall, which would maximise aeration whilst avoiding scour to the River Thames.
- 2.8 The current conceptual design provisionally allows for the inclusion of the outfall for the Severn to Thames Transfer (STT) SRO project within the SESRO outfall, providing a more efficient combined solution should both schemes be implemented.
- 2.9 The intake for the reservoir would operate under strict conditions imposed by the Environment Agency's future environmental permit for the scheme. This would be sought as part of the scheme's consenting strategy:
- The abstraction into SESRO shall be controlled by a Minimum Residual Flow (MRF) that must be retained in the River Thames at Culham of 1,450MI/d;
 - The maximum pumping capacity at the intake shall not exceed 1,200 MI/d;
 - The maximum 24-hour abstraction shall be < 1,000 MI/d (and < 150,000 MI/yr);
 - Abstraction will increase progressively at a rate of no more than 300 MI/d; and
 - Water would be discharged at a maximum rate of 600 MI/d, with typical release rate between ~165 MI/d and ~320 MI/d depending on the size of the reservoir.
- 2.10 The need for water to be released from the reservoir would be triggered by conditions in the lower River Thames, governed by the Lower Thames Operating Agreement⁷. It is expected that the release would primarily be triggered during periods of low flow.

2.4 Key assets required

- 2.11 The key components or assets required to deliver the scheme are as follows:
- Provision of a fully bunded raw water storage reservoir in Oxfordshire, 5km south-west of Abingdon.
 - Pumping station at the toe of the embankment (on the north-east side of the reservoir) including both inflow pumps and outflow energy-recovery turbines.
 - Conveyance tunnel to transfer flows via the pumping station to and from the intake / outfall structure on the River Thames near Culham.
 - Auxiliary drawdown channel (ADC) linking the reservoir siphons to the River Thames, to allow drawdown of the reservoir in emergency scenarios. This could also form a navigable channel and as plans progress for the SESRO scheme, there is an opportunity

⁷ Further information may be found in Supporting Document G: Planning and Consents Strategy Conservation, Access and Recreation Strategy

to engage with the promoter of any rehabilitation of the Wilts & Berks Canal for an ADC to form part of their scheme.

- Main access road into the site (from A415, Marcham Road) and diversion of the existing East Hanney to Steventon Road.
 - Temporary rail siding to facilitate delivery of certain construction materials by freight train.
 - Public access, parking and recreation facilities, public education facilities, landscaping and creation of aquatic / grassland habitats.
 - Local stream channel diversion to both the east and the west of the reservoir and construction of compensatory floodplain.
- 2.12 To provide a first illustration of how the engineering requirements of the scheme may be integrated with the expected environmental mitigation and with possible recreational uses of the site, an indicative landscape and environment led Master Plan for the largest SESRO option has been developed for Gate 2 (see Figure 2.1). This vision will be subject to change and refinement if SESRO progresses through scheme promotion, through future consultation, environmental assessment and associated design iterations, but provides an initial overview of how the largest SESRO option could be conceptualised. We considered this level of detail appropriate for the SESRO Gate 2 submission, which may exceed that available or presented for other SROs, due to the maturity of the scheme (it has been considered in many previous strategic plans and subject to various previous public consultations) and the level of public interest in the scheme, as demonstrated by the consultation on the WRSE emerging regional plan and the SESRO Gate 1 submission (see Section 9 of the Gate 2 Report). As noted in paragraph 2.4 previously, the 150 Mm³ option, as the largest option for the proposed site, has formed the basis of the design work completed for Gate 2. Although all options were considered feasible and available, this largest scheme contains the most constraints and issues to resolve and hence was considered a better 'starting point' for the Gate 2 design process and for the development of the indicative Gate 2 Master Plan.
- 2.13 This indicative Gate 2 Master Plan has been informed by the design principles and vision for the scheme and driven by the initial desk-based environmental assessments that have been completed (see Section 6.1 of the Gate 2 Report) and by initial community feedback. These are demonstrated in
- 2.14 Table 2.1 below.
- 2.15 We aim to develop this indicative Gate 2 Master Plan once the size and / or phasing of the preferred scheme is confirmed by WRMP24 and as we progress more local, community engagement on the specific design and use of SESRO.

Table 2.1: Summary of key aspects of the Indicative Gate 2 Master Plan

Design Philosophy	Indicative Gate 2 Master Plan 'response'
Provide value to local communities	<p>Provide recreational and access opportunities for local communities. Small scale water-based recreation, under controlled conditions (such as via a sailing club or similar), could be provided in the north-east corner, co-located with the main access routes into and out of the site. This corner, furthest from the local villages, would be a much busier part of the site, dedicated to the more intensive recreational uses.</p> <p>The access and recreational concept for the site is intended to be modest, at this early stage, and to maximise environmental benefit and to minimise disturbance and disruption to the closest villages. The wetland focused western part of the site, adjacent to East Hanney would be designed to be a quieter, less disturbed part of the site, to maximise the environmental benefit. Some local access and parking would be provided on this western side for the benefit of East Hanney. Visitor footfall to the south-east corner of the site, around Steventon, would also be discouraged to minimise disturbance. However, the indicative master plan has been currently developed to allow local access from both villages to the circular footpath and cycle path networks, along with limited local parking.</p>
Manage visitors to the site to minimise local disruption and maximise environmental benefit	<p>'Zoning' of the site into different areas, to implement the habitat creation and mosaic of biodiversity net gain required and also to help manage the flow of visitors into and around the site and to help protect the more sensitive areas. Access into and out of the site is configured to minimise disruption to local traffic networks, as far as possible, making best use of the adjacent trunk main and A-road network. This enables the main access road to come into the site from the north, directing the majority of visitors and operational traffic to the north-east corner of the site, furthest from the existing villages of East Hanney and Steventon. A modest visitor 'hub' could be provided at this location, adjacent to the main parking areas, with a small café on the embankment crest overlooking the views of the Ridgeway towards the south.</p>
Focus on the aquatic environment	<p>The management of water on site, either drainage, stream diversion or floodplain compensation is designed to make best use of the existing topography of the site. This enables the lower lying western areas to be dedicated as a conservation and biodiversity led sector, providing extensive wetland habitat creation. A small education centre is envisaged to the north of this sector, providing educational opportunities for the local school communities. We have suggested the possibility of integrating this wetland creation, with conservation led features along the west and south-west sides of the main reservoir, including lagoons and small floating platforms for wildfowl.</p>
Enable access for all	<p>The network of footpaths and cycle paths across the site is intended to provide enhanced integration with the existing Public Rights of Way network and provide access to all across the site and link up with all surrounding routes and villages. The new paths across the site could include a crest path around the reservoir, various circular routes around the embankment and multiple access points up to the crest. The footpaths around the quieter western sector are designed to integrate into the wetland areas.</p>

2.16 The design development undertaken for Gate 2 aligns to the design principles set out by the All Company Working Group Gate 2 methodology on design⁸, with further details provided in Supporting Document A1: Concept Design Report. This methodology provides a guiding framework for the design of the SROs to ensure consistency and best-practice.

⁸ All Company Working Group (ACWG) Design Principles, Process and Gate 2 Interim Guidance, December 2021, Fereday Pollard
Conservation, Access and Recreation Strategy

Figure 2.1: SESRO 150Mm3 option, Indicative Gate 2 Master Plan

note, the details of this plan are subject to change through future community engagement and consultation, further environmental assessment and associated design development; it will be adjusted, as required, once the size of the preferred scheme is confirmed by WRMP24



2.2 Interactions with existing assets and other SROs

2.17 There are significant potential physical interactions between SESRO and other SROs and local water supply schemes, which may need to be integrated together in the final scheme design, depending on the final timing between schemes. These include:

- **Severn to Thames Transfer (STT) SRO:** to minimise construction disruption and to provide greater refill resilience if SESRO is linked to the Thames to Southern Transfer (T2ST) SRO. Further information on the Deployable Output benefit of combining the schemes is provided in Section 4.2 of the Gate 2 Report. In the WRSE draft Regional plan and draft WRMPs preferred plans, the STT is required by 2050 for the more extreme future scenarios (situations 1 and 4).
- **Thames to Southern Transfer (T2ST) SRO:** to minimise the impacts of the transfer on London’s Deployable Output and maximise the resilience of the transfer. In the WRSE draft Regional plan and draft WRMPs preferred plans, this is required by 2040 for the more extreme future scenarios (situations 1, 4 and 7).
- **Thames to Affinity Transfer (T2AT) SRO:** The resources from SESRO could provide supplies to the Thames to Affinity Transfer (T2AT), required by 2040 in the WRSE draft Regional plan and draft WRMPs preferred plans, hence they would need to be integrated in terms of utilisation and control. However, there is no physical interaction between the schemes at the reservoir site.
- **Supply to Thames Water’s Swindon and Oxford (SWOX) water resources zone.** In the WRSE draft Regional plan and draft WRMPs preferred plans, this would be utilised for up to 48 MI/d after 2050 for the more extreme future scenarios (situations 1, 4, 5 and 7).
- **Potential integration with Farmoor Reservoir:** to help manage potential future reductions in abstraction during low flow periods and deliver environmental benefits to the Oxford watercourses, which forms part of Thames Water’s medium and high scenario Environmental Destinations⁹.

2.18 These interactions and the implications for SESRO are summarised in Table 2.2 below. The exact integration of these different aspects has not yet been decided and will not be until the exact timing between them is finalised in the Final WRMP. However, it is probable that some of the aspects noted above may need to be integrated into the DCO for either SESRO or the STT, in order to deliver the schemes in the most cost efficient and the least environmentally and socially disruptive way.

Table 2.2: Interactions of SESRO with other SROs and with other local supplies and sources

Interaction	Implication for SESRO
STT	The route of the STT pipeline passes close to the SESRO site. The two schemes could be joined via a connecting valve chamber west of the A34 crossing, linking the STT pipeline and the SESRO intake pumping station. This means that either scheme

⁹ In the draft WRMP the reductions at Farmoor are within the Medium scenario (15MI/d reduction in Deployable Output by 2050) and High scenario (35MI/d reduction in Deployable Output by 2050).

Interaction	Implication for SESRO
	<p>could be delivered first, depending on the outcome of the WRMP process. The lower section of the STT pipeline follows the approximate route of the SESRO ADC and discharges to the River Thames at the same location as SESRO. The concept design currently allows for the lower sections of the STT pipeline to be constructed at the same time as the ADC, located in the towpath of the canal. This would minimise construction disruption, avoid the need for multiple road crossings and reduce the land area required for the two schemes. A single outfall structure could accommodate the discharge from both schemes. If STT precedes SESRO, then this configuration will need to be revised, but the current approach reflects the timing of the schemes within the draft WRMP.</p>
T2ST	<p>The proposed site for the water treatment works for the T2ST is currently located on the SESRO site, adjacent to the intake pumping station. The site for this works would either need to be safeguarded within the SESRO site design, to enable future construction when required under separate consent by a third party, or else included within the SESRO scheme, depending on scheme timing. The initial sections of treated water main to Southern Water would pass to the east of the SESRO embankment, before crossing the Great West Railway. It is expected that the initial section of this treated water main would need to be constructed as part of the SESRO scheme, to avoid destroying new habitat that would be created as part of the SESRO scheme. The SESRO indicative Gate 2 Master Plan has been developed to ensure such a pipeline route is available through the site, into which the T2ST SRO could then connect, as required.</p>
SWOX Supply and Farmoor	<p>The proposed site for the water treatment works for the local SWOX supply is currently located on the SESRO site, adjacent to the intake pumping station. The site for this works would either need to be safeguarded within the SESRO site design, to enable future construction when required under separate consent by a third party, or else included within the SESRO scheme, depending on scheme timing. The initial sections of treated / raw water main(s) to SWOX and Farmoor would pass to the north, crossing the River Ock floodplain. The SESRO indicative Gate 2 Master Plan has been developed to ensure a route for these main(s) is available. The optimised option for meeting the SWOX supply and the abstraction reduction at Farmoor Reservoir has yet to be developed. This will be a key aspect of the scheme development in the next phase.</p>

2.3 Scalability

2.19 The SESRO options enable a degree of scalability and future phasing, but this is within the constraints of the main option chosen. For each of the single phase options, once built, these would not enable easy future expansion and no such facility is currently built into the concept design. The two phased options are available, which would enable the assets, and hence the available deployable output, to be phased if that is the best value solution. The phased options do tend to be more expensive (see

Section 8.1 of the Gate 2 Report) as they involve more earthworks, overall, for the volume of storage created, and would need to be developed in multiple construction phases thereby extending the time of the construction phase impacts.

- 2.20 The integration with other schemes would enable scalability in the future. For example, the STT connection could be enabled for future use but not commissioned immediately, which would enable future integration with transfers from the Severn to maximise the potentially available additional DO (see Section 4.2.1 of the Gate 2 Report). Equally, the SWOX supply or the Thames to Southern Transfer WTWs could be developed in a modular fashion, depending on future need for the water. This would enable the supply of water to those subsidiary uses to be scaled if required, to help manage future uncertainty. The design of these aspects of the scheme will be developed during the next design phase, depending on the outcome of the WRMP24 process.

3. Approach to the CAR Strategy

- 3.1 The stages of the CAR Strategy development are shown in Figure 3.1. The key stakeholder feedback received during the CAR Strategy production was integral to the creation of the long list of options for potential features and future use options
- 3.2 During the development of the CAR Strategy internal and external engagement was undertaken with the client, key stakeholders and other specialists delivering the RAPID Gate 2 submission. Section 7 outlines the engagement undertaken and which aspects of the CAR Strategy it influenced.

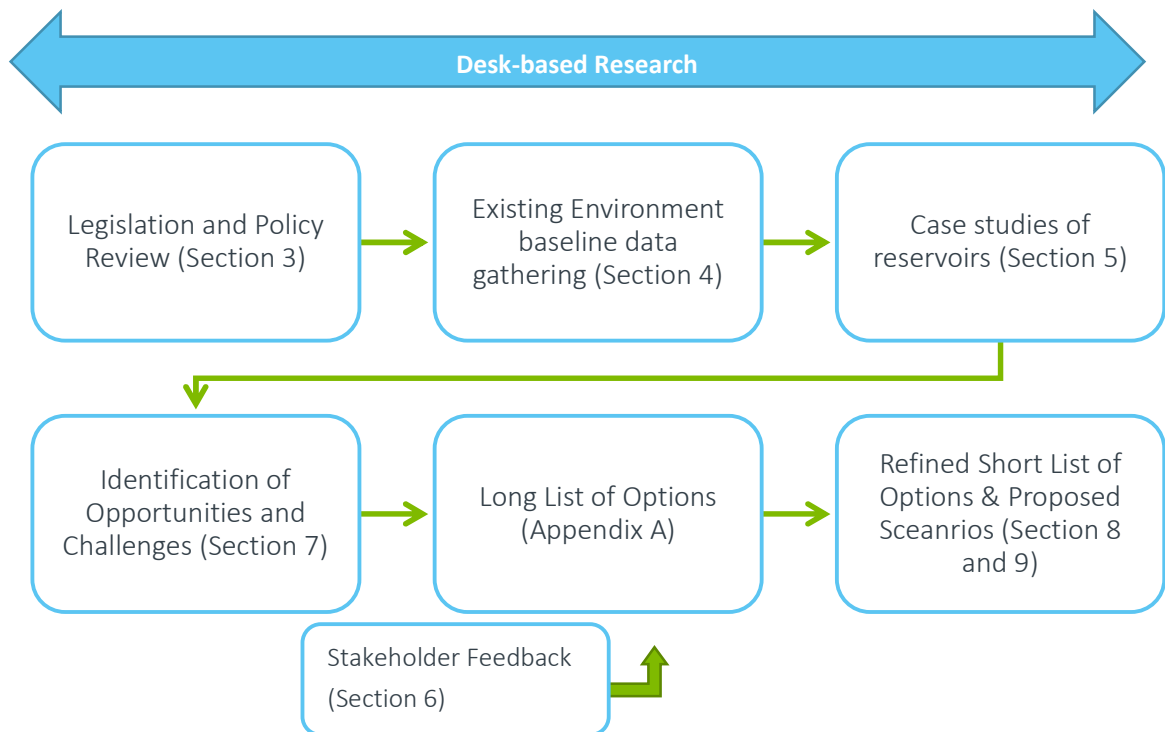


Figure 3.1: Stages of the CAR Strategy Development

3.2 Desk-based Research

- 3.3 The first stage of developing the CAR Strategy was to undertake a detailed desk-based study of the local needs and the existing environment. This step involved:
- Review of the RAPID Gate 1 submission and information on opportunities for conservation, recreation and access;
 - Review of local, national and international policies, plans and legislation;
 - Collection of socio-economic and environment data to produce a baseline of the site and understand the needs of the community and potential environmental constraints; and
 - Review of existing reservoir case studies.

3.3 Identification of Opportunities and Challenges

- 3.4 Using the outcomes of the desk-based research and through discussions with environmental specialists and the engineering design team, Section 7 highlights the potential opportunities and existing challenges in regard to conservation, access and recreation for SESRO.

3.4 Long List of Options

- 3.5 A long list of all potential features and future use options for SESRO was created. This list was initially based on previous studies that have been undertaken and was then expanded to include potential options from the case studies of reservoirs. The long list took into consideration the desk-based research as well as all internal and external engagement with specialists and key stakeholders. The long list of options is presented in Appendix A.

3.5 Short List of Options and Proposed Scenarios

- 3.6 Following stakeholder engagement on the long list of options, a short list of potential features and future use options for SESRO was created. This was grouped into broad themes and was refined following feedback from stakeholders. Internal workshops were undertaken to discuss the engineering feasibility of the options and the balance of these options in relation to the operational requirements of SESRO. These discussions provided the basis for shortlisting the long list of option in Appendix A.
- 3.7 Section 1 presents the short list of options across three scenarios with consideration of the SESRO design principles and visitor number estimations outlined in Supporting Document A1: Concept Design Report (hereafter referred to as 'the CDR'), produced to support the RAPID Gate 2 submission.

4. Review of Legislation and Policy Context

4.1 This section presents a review of the relevant legislation and policy context for the CAR strategy.

4.2 International Policy

4.2.1 Sustainable Development Goals

4.2 The United Nations Sustainable Development Goal (SDGs)¹⁰ called for worldwide action across governments, business, and civil society to address 17 critical societal issues. Six SDGs have been identified to have potential to be supported by the delivery of SESRO (Figure 4.1).

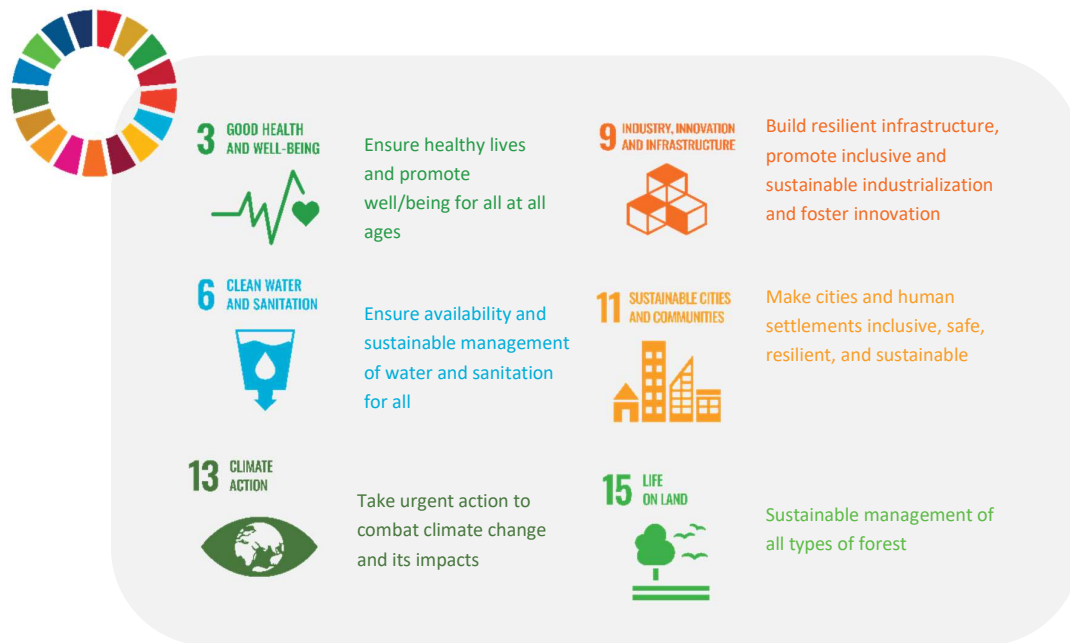


Figure 4.1 UN SDGs relevant to the CAR Strategy

4.3 Legislation and National Policy

4.3.1 Code of Practice on Conservation, Access and Recreation

4.3 The Code of Practice on Conservation, Access and Recreation¹¹ gives practical guidance to water and sewerage undertakers and the Environment Agency (also known as 'the relevant bodies' in the code of practice) relating to their environmental and recreational duties under the Water Industry Act 1991 and the Environment Act 1995 and seeks to promote desirable practices in these fields. The conservation,

¹⁰ United Nations (2015). Available at:

https://www.un.org/qa/search/view_doc.asp?symbol=A/RES/70/1&Lang=E [Accessed 01/04/2022]

¹¹ Department of the Environment, Transport and the Regions (2000)

<https://www.legislation.gov.uk/uksi/2000/477/made/data.pdf> [Accessed 11/08/2022]

access and recreation duties of water and sewage undertakers of the Water Industry Act 1992 involve:

- the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interest
- the protection and conservation of buildings, sites and objects of archaeological, architectural, engineering (in the case of the Agency) or historic interest
- the effect of any proposals on the beauty or amenity of any rural or urban area or on any flora, fauna, features, buildings, sites or objects
- in the case of the Agency, the effect which any proposals would have on the economic and social well-being of local communities in rural areas
- the maintenance of public freedom of access to places of natural beauty and to buildings, sites or objects of archaeological, architectural or historic interest
- the availability of water and associated land to which the relevant bodies have rights for recreational purposes, taking into account the needs of disabled people
- additional environmental duties with respect to sites of special interest

4.4 In carrying out their duties in respect of conservation, access and recreation, the Code of Practice emphasises that relevant bodies should seek to contribute to the over-arching objective of achieving sustainable development. This involves ensuring a better quality of life for everyone, now and for generations to come. Sustainable development involves taking a long-term view, and an integrated approach to the way we work through considering the social, environmental and economic impacts of our actions.

4.5 The Code of Practice also highlights the need for an integrated approach to reconcile the differing objectives between and within the fields of conservation, access and recreation. The relevant bodies should make assessments of the environmental value of their sites and the suitability of land for different uses in respect of conservation, access and recreation. Land use and management plans should be drawn up following consultation with relevant stakeholders and the relevant bodies should also have detailed plans for individual sites, especially where they are subject to pressures from competing uses.

4.3.2 National Policy Statement for Water Resource Infrastructure

4.6 The Draft National Policy Statement (NPS) for Water Resource Infrastructure¹² states that:

'Applications for reservoirs are required to be supported by a recreational amenities statement outlining details of any amenities to be provided.' (paragraph 4.13.9)

¹² Department for Environment, Food & Rural Affairs (2018). Available at: https://consult.defra.gov.uk/water/draft-national-policy-statement/supporting_documents/draftnpswaterresourcesinfrastructure.pdf [Accessed 01/04/2022]

4.7 The NPS recognises that reservoirs can provide benefits in addition to securing a resilient water supply. The NPS also highlights the importance of balancing adverse impacts of constructing proposed developments against their potential long-term opportunities for the provision of conservation, recreation and wellbeing benefits.

4.8 The NPS highlights that new water resources infrastructure may have indirect health impacts. For example, providing opportunities for cycling and walking or the use of open space for recreation and physical activity can lead to positive impacts for physical and mental health.

4.3.3 The National Planning Policy Framework

4.9 The National Planning Policy Framework (NPPF)¹³ details the Government’s economic, environmental, and social planning policies for England. It provides a framework to guide how developments can be designed and how they can contribute to the achievement of sustainable development. A critical review of the NPPF identified eight policy areas which are of relevance to the CAR Strategy, these are presented in Figure 4.2



Figure 4.2: National Planning Policies relevant to the CAR Strategy

4.10 The national policies that are relevant to the CAR Strategy broadly relate to improvement of open spaces, sustainable provision that is in harmony with the surrounding environment and improvements in PRow and accessibility and biodiversity. The relevant national policies are discussed below.

- **Achieving Sustainable Development**

- The NPPF identifies three overarching objectives to achieve sustainable development: an economic objective, a social objective and an environmental

¹³ Ministry of Housing, Communities & Local Government (2021). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf [Accessed 01/04/2022]

objective. Each of these overarching objectives encompasses other policies within the NPPF and those relevant to the CAR Strategy are as follows:

- **Economic:** Building a strong, responsive and competitive economy.
 - **Social:** Promoting healthy and safe communities; and achieving well designed places.
 - **Environmental:** Making effective use of land; conserving and enhancing the natural environment; conserving and enhancing the historic environment.
- **Building a Strong, Responsive and Competitive Economy**
 - Developments should consider the community and business needs and incorporate these into the development to ensure it is sensitive to its surroundings. New developments are also encouraged to improve access to sustainable transport such as walking and cycling.
 - **Promoting Healthy and Safe Communities**
 - Developments should aim to achieve healthy, inclusive and safe places which promote social interaction, are safe and accessible and enable and support healthy lifestyles. Developments should protect and enhance PRoW and access, including taking opportunities to provide better facilities for users.
 - **Making Effective Use of Land**
 - Planning policies should encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains – such as developments that would enable new habitat creation or improve public access to the countryside.
 - **Achieving Well-designed Places**
 - Design policies should be developed in collaboration with local communities, so that they reflect local aspirations and are grounded in an understanding of each area’s defining characteristics.
 - **Conserving and Enhancing the Natural Environment**
 - There is a requirement to protect and enhance the natural environment, this includes landscapes, sites of biodiversity or geological value and soils. Developments should contribute to minimising the impacts on biodiversity and provide opportunities for biodiversity net gain.
 - **Conserving and Enhancing the Historic Environment**
 - Consideration given to sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation. The wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring should also be considered.
 - **Promoting Sustainable Transport**
 - Planning policies should provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking.

4.4 Local Policy

4.4.1 Oxfordshire Plan 2050

4.11 The Oxfordshire County Council Oxfordshire Plan 2050 is currently in draft. However, two consultation documents are of relevance to the CAR strategy: Topic Paper 5 – Strong and Healthy Communities¹⁴, Topic Paper 6 – Securing Nature’s Benefits¹⁵ and Topic Paper 8 – Improving Connectivity and Movement¹⁶.

4.12 One of the key themes of Topic Paper 5 – Strong Healthy Communities is shaping the built environment to allow people to easily access greenspace and provide opportunities for people to be more active for example through encouraging walking and cycling. Additionally, the document emphasises that developments must be designed to allow universal accessibility. The Oxfordshire plan contains a number of strategic principles to guide and inform how the Districts plan for growth at the local level. Topic Paper 5 suggests some ideas as to what these strategic principles could look like, those of relevance to the CAR strategy include:

- Addressing the existing and projected health and wellbeing needs of an area and considering existing community assets that could be enhanced to help promote health.
- Providing opportunities for people to be more active e.g. street layout and public realm to encourage walking and cycling as modes of transport, open spaces/green spaces for play and recreation, sports and leisure.
- Enabling good mental wellbeing through reducing social isolation and loneliness by encouraging social community infrastructure, access to nature and opportunities for social interaction.
- Making it easier for people to make healthier food choices e.g. encouraging healthy food provision in public spaces such as community centres, leisure centres and park kiosks as well as including opportunities for food growing.
- Designing to allow universal accessibility, making it easier for everyone to maintain their independence throughout their life course.

4.13 Topic Paper 6 – Securing Nature’s Benefits details Oxford County Council’s vision for Oxfordshire to benefit from a high-quality, resilient environment which supports economic growth, development, health, wellbeing and prosperity for all. There are a number key elements to be included in the Oxfordshire Plan, identified in Topic Paper 6, of relevance to the CAR Strategy:

¹⁴ Oxfordshire County Council (2019a). Available at <https://oxfordshireplan.org/wp-content/uploads/2019/02/Topic-Paper-5-Strong-and-healthy-communities-Feb-2019.pdf> [Accessed 02/06/2022]

¹⁵ Oxfordshire County Council (2019b) Available at <https://oxfordshireplan.org/wp-content/uploads/2019/02/Topic-Paper-6-Securing-Natures-Benefits-Feb-2019.pdf> [Accessed 16/08/2022]

¹⁶ Oxfordshire County Council (2019c). Available at: <https://oxfordshireplan.org/wp-content/uploads/2019/02/Topic-Paper-8-Improving-Connectivity-and-Movement-Feb-2019.pdf> [Accessed 02/06/2022]

- Protect and enhance Oxfordshire’s key landscapes, landscape settings, views and heritage features.
- Protect, enhance, expand and link key wildlife areas to achieve measurable net gain in biodiversity and other environmental services, avoiding further fragmentation.
- Deliver new and enhanced green infrastructure assets to meet the needs of the expanding population in locations and ways that deliver multiple benefits, including for biodiversity, flood risk, air quality and climate change and, contribute to improvements in the physical and mental health and wellbeing of Oxfordshire’s residents and visitors.

4.14 Topic Paper 8 – Improving Connectivity and Movement includes details on Oxford County Council’s vision to improve public health and well-being through increasing provisions for walking and cycling. The future transport vision for Oxfordshire would be more fully developed in the Oxfordshire Local Transport Plan. The key element of Topic Paper 8 which is of relevance to the CAR Strategy is the requirement for new developments to promote active travel, health and wellbeing.

4.4.2 [Oxfordshire County Council: Making the case for investment in green infrastructure in Oxfordshire](#)

4.15 The Oxfordshire County Council commissioned a review of the role and benefits of Green Infrastructure to Oxfordshire. The report “Making the case for investment in green infrastructure in Oxfordshire” was written in 2021 and sets out the strategic case for investment in green infrastructure in Oxfordshire¹⁷. The report focuses on the role that green infrastructure can play in seven positive outcomes:

1. Supporting housing development
2. Sustainable transport
3. Better health & wellbeing
4. Ensuring climate change adaptation and mitigation
5. Reducing flood risk in Oxfordshire
6. Improving air quality
7. Thriving biodiversity

4.16 The positive outcomes ‘Better health & wellbeing’ and ‘Thriving Biodiversity’ are considered relevant to the CAR Strategy.

¹⁷ Oxfordshire Count Council (2021). Available at <https://www.oxfordshire.gov.uk/sites/default/files/file/countryside/GreenInfrastructureSummaryReport.pdf> [Accessed 11/08/2022]

4.4.3 The Vale of White Horse District Council Local Plan 2031

4.17 The Vale of White Horse District Council Local Plan 2031: Part 1 and Part 2^{18,19} were identified as most relevant as the indicative location for SESRO would fall within the boundary of this administrative area. The Vale of White Horse District Council Local Plan 2031 Core Policy 14: Strategic Water Storage Reservoirs specifically acknowledges that land is safeguarded for a reservoir and ancillary works. The policy safeguards land between the settlements of Drayton, East Hanney and Steventon. This was confirmed in the published Thames Water's Water Resources Management Plan (WRMP) 2019²⁰. The following policy requirements are relevant to the CAR strategy:

- minimise the effects on the landscape of an embankment reservoir through its design, general configuration and the use of hard and soft landscaping;
- maximise the creation of wildlife habitats and biodiversity;
- promote the recreational uses of the reservoir consistent with the landscape and biodiversity values of the proposal and having regard to the traffic impacts of such uses;
- include a new route for the diverted Hanney to Steventon road, to include provision for an off-road cycle path in relation to the reservoir proposal between the villages of Drayton, East Hanney and Steventon;
- make provision for the new route of the Wilts and Berks Canal in relation to the reservoir proposal between the villages of Drayton, East Hanney and Steventon; and
- minimise any impact on the archaeological significance of the site, to include the retention of in situ archaeological remains, where possible, and their full investigation and recording with the results deposited in a public archive.

4.18 In addition to Core Policy 14, there are ten policies within the Vale of White Horse District Council Local plan 2031 which are of relevance to the CAR strategy, these are presented in Table 3.1. These core policies are supported by the Vale of White Horse District Council Local Plan 2031: Part 2, which details development management policies to complement the strategic policies set out in Part 1. This document also sets out what would be delivered by each policy, targets to monitor progress towards achieving the Strategic Objectives as set out in Part 1 and what action to take if the policies do not deliver in accordance with the targets.

¹⁸ Vale of White Horse District Council (2016). Available at: <https://www.whitehorsedc.gov.uk/wp-content/uploads/sites/3/2020/10/Local-Plan-2031-Part-1.pdf> [Accessed 01/04/2022]

¹⁹ Vale of White Horse District Council (2019). Available at: <https://www.whitehorsedc.gov.uk/wp-content/uploads/sites/3/2021/03/VOWHDC-Master-1.pdf> [Accessed 16/08/2022]

²⁰ Thames Water (2019). Available at: <https://www.thameswater.co.uk/media-library/home/about-us/regulation/water-resources/technical-report/executive-summary.pdf> [Accessed 01/04/2022]

Table 4-1: Additional Vale of White Horse District Council Local Plan policies of relevance to the CAR Strategy

Core Policy 1: Presumption in Favour of Sustainable Development	Core Policy 39: The Historic Environment
Core Policy 31: Development to Support the Visitor Economy	Core Policy 43: Natural Resources
Core Policy 33: Promoting Sustainable Transport and Accessibility	Core Policy 44: Landscape
Core Policy 35: Promoting Public Transport Cycling and Walking	Core Policy 45: Green Infrastructure
Core Policy 37: Design and Local Distinctiveness	Core Policy 46: Conservation and Improvement of Biodiversity

4.4.4 [South Oxfordshire and Vale of White Horse Joint Local Plan 2041](#)

4.19 South Oxfordshire and Vale of White Horse District Councils have come together to produce a new Joint Local Plan which would guide the type of new housing and jobs needed and where they should go, helping to inform planning application decisions for the districts.

4.20 South Oxfordshire and Vale of White Horse districts carried out public consultation to gain an insight into the public’s thoughts on the main issues facing the districts and how the Joint Local Plan could address them. Consultation was open from 12th May until 23rd June 2022. The themes presented in the consultation included the following themes of relevance to the CAR Strategy:

- Nature Recovery and Landscape
- Protecting and Enhancing Local Heritage
- Thriving Inclusive Communities
- Transport and Facilities
- Healthy Lifestyles and Safe Communities

4.21 Consultees were presented with a series of opportunities related to each of the themes followed by a series of questions related to the opportunities. The comments received from the consultation will help shape the draft of the Joint Local Plan.

4.4.5 [South & Vale Green Infrastructure Strategy](#)

4.22 The South & Vale Green Infrastructure Strategy sets out the South Oxfordshire and Vale of White Horse Districts vision for the future provision of and management of

Green Infrastructure (GI)²¹. The vision for GI in in South Oxfordshire and the Vale of White Horse is as follows:

“South and Vale has an increasingly interconnected, multifunctional Green Infrastructure network of green and blue spaces and corridors, which supports our communities and high class economy. The network is valued for its natural and recreational benefits and its contribution to attracting inward investment and supporting sustainable growth. It also helps to support healthy and thriving communities, and a resilient environment capable of enhancing biodiversity and managing the impacts of climate change.”

4.23 The Green Infrastructure Strategy aims to deliver the following five objectives, all of which are of relevance to the CAR Strategy:

- Support sustainable economic growth
- Improve health and wellbeing
- Increase biodiversity and access to nature
- Adapt to and mitigate the effects of climate change
- Reinforce and/or enhance the local character

4.5 Other Policy Considerations

4.5.1 Ofwat Public value in the water sector: A supporting set of principles

4.24 In December 2020 Ofwat published a discussion paper on public value, to which they received a number of helpful responses²². The Public Value in the Water Sector: A supporting set of principles²³ (hereafter known as “Ofwat Public Value Principles”) sets out the key themes from the responses and provides Ofwat’s reflections on the points made and how these can be built on to support the delivery of further social and environmental value.

4.25 The responses to the Ofwat discussion paper informed the creation of a set seven of principles, based around four key themes:

- Scope and public value
 - Principle 1: Companies should seek to create further social and environmental value in the course of delivering their core services, beyond minimum required to meet statutory obligations.

²¹ ²¹ South Oxfordshire & Vale of White Horse District Councils (2017) South and Vale Green Infrastructure Strategy. Available at:https://data.southoxon.gov.uk/ccm/support/dynamic_serive.jsp?ID=1670533741&CODE=120D6FB08E4B931977BFDFD4BB91831D [Accessed 01/04/2022]

²² Ofwat (2020) <https://www.ofwat.gov.uk/wp-content/uploads/2020/12/A-discussion-paper-on-public-value-in-the-water-sector.pdf> [Accessed 11/08/2022]

²³ Ofwat (2021) <https://www.ofwat.gov.uk/wp-content/uploads/2020/12/Ofwat-Response-to-Public-value-discussion-document.pdf> [Accessed 11/08/2022]

- Drivers for decision-making and transparency
 - Principle 2: The mechanisms used to guide activity and drive decision-making should facilitate the delivery of social and environmental benefits that are measurable, lasting and important to customers and communities.
 - Principle 3: Companies should be open with information and insights on operations and performance.
 - Principle 4: Delivery of public value outcomes should not come at greater cost to customers without customer support.
- Collaboration and systems thinking
 - Principle 5: Companies should consider where and how they can collaborate with others to optimise solutions and maximise benefits, seeking to align stakeholder interests where possible, and leveraging a fair share of third-party contributions where needed.
 - Principle 6: Companies' public value activities should not displace other organisations who are better placed to act.
- Maturity and focus
 - Principle 7: A company should take account of its capability and circumstances in scoping the delivery of greater public value.

4.26 The production of the CAR Strategy has taken into consideration the Ofwat Public Value Principles, in particular principles 1,2 and 5.

4.5.2 Thames Water Public Value Policy

4.27 The production of the CAR Strategy has taken into consideration Thames Waters' Public Value Policy²⁴. This Policy provides an overarching framework for what the reservoir should aim to achieve in terms of helping local communities, creating enjoyable spaces and safeguarding the environment.

4.28 Thames Water has created this policy to demonstrate that they aim to go beyond compliance and to show that they want to explore the benefits that their interventions can bring to local communities and the natural environment. The policy has four key principles summarised in Figure 3.3. of which the CAR Strategy is expected to contribute to positively impacting communities, protecting the environment, and create public realm.

²⁴ Thames Water (2020). Available at: <https://www.thameswater.co.uk/media-library/home/about-us/governance/our-policies/sustainability/public-value-policy.pdf> [Accessed 01/04/2022]

- Keeping bills affordable through our social tariffs
- Supporting customers through our priority services register
- Continuing support for the Thames Water Trust Fund
- Delivering more Smarter Home Visits
- Supporting our corporate charity and local charities

Helping those in need



- Growing and focusing our community Investment Programme
- Reaching every schoolchild with our education programme
- Providing a public voice for water and wastewater
- Encouraging employee volunteering and community speakers
- Contributing to the economy through innovative and sustainable employment

Positively impacting communities



- Committing to net zero carbon by 2030 and beyond
- Looking after the health of rivers
- Aiming for zero pollutions and a cleaner Thames
- Tackling plastic pollution through customer education and by installing drinking fountains
- Investing in nature-based infrastructure

Protecting the environment



- Building on the success of Walthamstow Wetlands and our nature reserves
- Delivering a net gain in biodiversity
- Improving access to sites for sport and recreation
- Supporting special interest groups and citizen science
- Creating new public realm as part of the Thames Tideway Tunnel

Create public realm



Figure 4.3: Thames Water Public Value Policy

5. Existing Environment

- 5.1 This section provides an overview of the socio-economic and environment baseline. Understanding the existing environment is critical for the development of the CAR Strategy to ensure that the activities and facilities proposed are well suited to the area's landscape and visual, historic, ecological, and terrestrial and socio-economic environment.
- 5.2 A study area has not been explicitly defined for the Gate 2 CAR Strategy given the potential for the CAR Strategy to benefit people beyond the study area that was identified in the RAPID Gate 1 submission. For the socio and economic baseline data was gathered for the Vale of White Horse District Council, Oxfordshire County and the south east region where possible. Where this was not possible, national datasets and surveys have been used.
- 5.3 The landscape and ecology baseline has used the indicative location for SESRO based on the boundary identified in Gate 1.
- 5.4 The transport network baseline has considered local access i.e., roads that pass nearby or around the indicative location for SESRO. PRoW have been considered within the 2km walking and 5km cycling catchments (identified in the CDR) as this is considered relevant for those using active travel to visit the reservoir.

5.2 Overview

- 5.5 The indicative location of SESRO is south west of Abingdon and to the west of the A34 in the Vale of White Horse District. SESRO is surrounded by the small community settlements of Marcham and Frilford to the north, Drayton to the east, Garford, Grove and East Hanney to the west and Steventon to the south. Social and Economic
- 5.6 The total population of Vale of White Horse District was approximately 140,000 in 2020 (see Table 5-1). The age profile of the Vale of White Horse District is aligned to that of Oxfordshire County and the South East Region. The largest population group in the Vale of White Horse District is the working age population (aged 16 to 65), which accounts for approximately 62% of the population, this is followed by those aged 65 and above that represent 19% of the population and those aged 0-15 account for 19%.

Table 5-1: Population and age profile for the Vale of White Horse District, Oxfordshire County and South East Region²⁵

	Vale of White Horse District	Oxfordshire County	South East Region
Total Population	137,910	696,880	9,217,265
Aged 0-15 (%)	19	19	19
Working age population (%)	62	63	62
Aged 65+ (%)	19	18	19

5.7 Table 5-2 presents the population projections for the Vale of White Horse District, Oxfordshire County and the South East region for the operation of SESRO. The population of the Vale of White Horse District is estimated to be approximately 160,000 during operation of SESRO, a growth of approximately 17% from the current population. The population growth in Vale of White Horse, similar to Oxfordshire and the South East region, is expected to slow by 2043 with less than a 1% increase between 2042 and 2043.

Table 5-2: Population projections for the Vale of White Horse District, Oxfordshire County and the South East region²⁶

Year	Vale of White Horse District	Oxfordshire County	South East Region
2037	159,800	739,100	9,774,500
2038	160,600	740,900	9,799,800
2042	163,900	748,600	9,906,000
2043	164,600	750,600	9,933,800

5.8 The household composition of Vale of White Horse is primarily married households and pensioners households, representing 63% of the total households in the district, respectively²⁷. For Oxfordshire County Council and the South East region, married households and pensioners also represent the majority of households, however the percentage of these households is slightly lower, representing approximately 58% of the total households in the respective areas.

²⁵ ONS (2011). Available at: <https://www.nomisweb.co.uk/census/2011/ks105ew> [Accessed 01/04/2022]

²⁶ ONS (2018). Available at: <https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=2006> [Accessed 01/04/2022]

²⁷ ONS (2011). Available at: <https://www.nomisweb.co.uk/census/2011/ks105ew> [Accessed 01/04/2022]

5.2.2 Economic Profile

- 5.9 Approximately 78% of people aged 16-64 in the Vale of White Horse District were economically active in 2021. This is similar to Oxfordshire County and the South East Region, of which 79% and 80% of people aged 16-64 are economically active, respectively²⁸.
- 5.10 Model-based estimates of unemployment estimate that 3.5% of people in the Vale of White Horse District are unemployed²⁹. This is similar to the South East Region, of which 3.8% of the population are unemployed.

5.2.3 Education Profile

- 5.11 Data on education shows that 53% of people aged 16-64 in Vale of White Horse District have qualification of National Vocational Qualification Level 4 (NVQ4) or higher. NVQ4s are qualifications equivalent to Higher National Diplomas and Higher National Certificates. For Oxfordshire County and the South East Region, 56% and 45% of people aged 16-64 have an NVQ4 or higher²⁸.

5.3 Community

- 5.12 Gathering information on existing community assets such as schools and recreational facilities can help to paint a picture of the existing infrastructure, but also to understand what social groups may utilise SESRO. Community assets within 5km of the indicative location for SESRO are presented in this section.
- 5.13 There are over 30 educational facilities located in communities within 5km of the indicative location for SESRO, but none within the indicative location for SESRO. These facilities range from nurseries to secondary schools located in the communities of Didcot, Harwell, East Hendred, Charlton, Wantage, Grove, East Hanney, Frilford, Marcham, Cothill, Abingdon, Culham, Drayton and Steventon.
- 5.14 There are a number of recreational facilities located in communities within 5km of the indicative location for SESRO, including, but not limited to, the following:
- a number of parks and recreation grounds in local communities;
 - a number of sports clubs including rowing, sailing, badminton, tennis, rugby, football, cricket, athletics, squash and racketball and bowls;
 - Millets Falconry Centre in Frilford;
 - Golf Courses in Drayton and Frilford;

²⁸ ONS (2021). Available at:

<https://www.nomisweb.co.uk/query/construct/summary.asp?menuopt=200&subcomp=> [Accessed 01/04/2022]

²⁹ ONS (2021). Available at:

<https://www.nomisweb.co.uk/query/construct/components/stdListComponent.asp?menuopt=12&subcomp=100> [Accessed 01/04/2022]

- Hitchcopse Pit Nature Reserve and Dry Sandford Pit Nature Reserve in Gozzard's Ford;
 - Abingdon County Hall Museum and The Long Gallery Museum in Abingdon; and
 - Equestrian centres in Steventon, East Hanney and Abingdon.
- 5.15 The Vale of White Horse District Active Communities team³⁰ run weekly events for all ages and abilities to help residents with their physical health and wellbeing. These activities take place across the District, including in the settlements in proximity to SESRO such as Abingdon and Didcot. Events include skateboarding, cricket/rounders, football, swimming, orienteering, wellbeing walks and Nordic walking.
- 5.3.2 Sports and Physical Activity
- 5.16 Sport England data shows that over 67% of the adult population in Vale of White Horse District are active (over 150 minutes of activity a week), 10% are fairly active (between 30 – 149 minutes of activity a week) and 24% are inactive (less than 30 minutes of activity per week)³¹. As the population in the area are already active it is anticipated that there would be an uptake in use of any future recreational facility provided. In addition, having an area for outdoor recreation may encourage increased physical activity.
- 5.17 Sport England data shows that 52% of children aged between 5 and 16 in the Vale of White Horse District were active for an average of 60+ minutes per day in 2020-2021³², 21% of children were fairly active (active an average of 30-59 minutes a day) and 27% of children were less active (less than an average of 30 minutes a day). Sport England data also show that 67% of children in Vale of White Horse District spend an average of 30 minutes or more engaged in outdoor activities.
- 5.18 The Vale of White Horse District Leisure and Sports Facilities Study 2013 – 2031³³ identifies Sport England's Market Segmentation tools as a useful way to understand individuals' attitudes and motivations to sports and physical activity in a particular area. For the Vale of White Horse the dominant market segments are 'Comfortable Retired Couples', 'Settling Down Males', 'Comfortable Mid-Life Males'. The breakdown of preferred activity for each dominant market segment is presented in Table 5-3. The main sports activities are compatible with outdoor sports provision and therefore there is an opportunity to support the physical activity preferences through SESRO.

³⁰ *Active Communities 2022*. Available at: *Active Communities - Vale of White Horse District Council* (whitehorsedc.gov.uk)

³¹ *Sport England 2021*. Available at: <https://www.sportengland.org/know-your-audience/data/active-lives/active-lives-data-tables> [Accessed 01/04/2022]

³² *Sport England 2021*. Available at: <https://activelives.sportengland.org/Result?queryId=70970> [Accessed 27/05/2022]

³³ *Noroft Ltd (2014)*. Available at: <http://www.radleyvillage.org.uk/installer/wp-content/uploads/2016/12/Vale-of-White-Horse-Leisure-and-Sport-Facilities-Study-2013-31-Part-1.pdf> [Accessed 01/04/2022]

Table 5-3: Preferred activity for each dominant market segment

Segment	Breakdown of activity by the segment
Settling Down Males	21% Cycling 20% Keep fit/gym 15% Swimming 15% Football
Comfortable Retired Couples	10% Keep fit/gym 9% Swimming 7% Golf 4% Bowls
Comfortable Mid-Life	16% Cycling 15% Keep fit/gym 12% Swimming 9% Football

5.3.3 Demand for Outdoor Recreation

- 5.19 Demand for outdoor recreation (defined as physical activity taking place in the natural environment) has increased significantly in recent years. Sports England carried out a study in 2015³⁴ to examine the supply and demand of outdoor provision as well as understand the profile of those who are active outdoors. The research provides valuable insights into the consumers demography, motivation and participation.
- 5.20 The Sports England report states that 27.6% of the total active population are active outdoors. 16% of the total regularly active population are regularly active outdoors.
- 5.21 Outdoor activities enjoyed a 3% rise in 2014, whilst the Active People Survey found that other sports showed a decline. This data suggests that there is a growing appetite for outdoor recreational facilities. Other trends the report alludes to include the environmental and education trends which have increased the number of families participating in outdoor recreation.
- 5.22 There are 8.9 million people in England who are active outdoors, and approximately

³⁴ Sport England (2015). Available at: <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/outdoors-participation-report-v2-lr-spreads.pdf> [Accessed 01/04/2022]

7% of those people have a disability³⁵. An important finding of this research is an identification of the barriers present in outdoors activities for people with a disability. These relate to; distance, shelter and rest points, safety, physical access to sites (i.e. gates, bridges, steep/uneven paths), route finding, access to information and, confidence.

5.4 Landscape and Ecology

- 5.23 The indicative location for SESRO is located within an area of the relatively flat and open clay vale lowland farmland, interspersed by small woodland blocks, hedgerows and tree belts which often are associated with other linear features such as watercourses, PRowS, roads and the Great Western Rail (GWR) Main Line. The landscape is sparsely settled, with just a few scattered properties that are generally located along the Steventon Road and Hanney Road, between East Hanney village to the west and Steventon village to the east.
- 5.24 To the north of the road, there are three large solar farms located within the farmland; Landmead, Goose Willow and Steventon Solar Farms. To the south, an industrial estate, including storage units, is located between Hanney Road and the GWR Main Line, the latter which generally forms the southern fringe of the indicative location for SESRO. To the west, East Hanney and the A338 abut the indicative location for SESRO, while the Childrey Brook, Cow Common Brook and River Ock generally forms the northern fringe, except at the far north-eastern corner, which extends up to Marcham Road to the east of Marcham village. The eastern fringe generally abuts the A34 and Steventon, except for the far eastern extent to the east of the A34, which reaches all the way to the River Thames to the south of Abingdon market town and north of Drayton village.
- 5.25 The North Wessex Downs Area of Outstanding Natural Beauty (AONB) is the third largest AONB in England and is located more than 2km south of the indicative location for SESRO. It is a visibly ancient landscape marked with the impact of thousands of years of human use and settlement. As noted in the North Wessex Downs AONB Management Plan⁹, *'the depth of history can still be seen in today's landscape, including ... the Ridgeway – the oldest road in England'*.
- 5.26 The landscape within the indicative location for SESRO and the wider vale landscape is generally flat and low lying, with higher ground to the north and south associated with the Midvale Ridge and North Wessex Downs AONB respectively. While hedgerows, tree belts and smaller blocks of woodland limit the distance of views within the Vale to some extent, there are middle-distance to distant views available towards the scarp of the AONB and also views from the AONB towards the Vale.
- 5.27 The habitat within the indicative location for SESRO is predominantly cropland, with areas of woodland and grassland making up the majority of the remainder of the

³⁵ Sports England (2015). Available at: <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/disability-presentation-summary.pdf?VersionId=H8z1pJnRBnjAv99cr3REOS5v95bLseK9> [Accessed 01/04/2022]

area. Table 5-4 presents the area of habitat types within the indicative location for SESRO identified in Gate 1. The majority of the Gate 1 study area was cropland, reflecting the number of farms within the local area.

Table 5-4: Habitat types within the indicative location for SESRO

Broad Habitat Type	Area (Ha)
Cropland	1509
Woodland	62
Neutral grassland	72
Modified grassland	31
Scrub	7
Waterbodies	4

5.28 A detailed habitat classification baseline is presented in Appendix A of Supporting Document B6 Biodiversity Net Gain Assessment, produced to support the RAPID Gate 2 submission.

5.29 Figure 2.1 Landscape Design Strategy Plan in Technical Support Document B2 Environmental Appraisal Report (terrestrial), prepared for the RAPID Gate 2 submission, provides an illustration of the potential location for the different habitat types for SESRO.

5.5 Historic Environment

5.30 There are no scheduled monuments within the indicative location for SESRO, however there are 12 scheduled monuments within the wider study area used for the Historic Environment Desk Based Assessment (DBA) (Figure 4.1). Within the indicative location for SESRO are the following archaeological assets:

- 24 prehistoric assets recorded chiefly from aerial photographic interpretation and trial trenching;
- 14 Romano-British assets, some of which continue from the Iron Age period and are also included in the prehistoric total above;
- One early medieval (Anglo-Saxon) feature;
- Nine medieval assets;
- Three post-medieval and modern assets; and
- 13 undated assets.

5.31 There are two listed buildings within the indicative location for SESRO. These comprise Marcham Mill (1199505) a Grade II listed mill building and a bridge (1048362) 50m south-east of the mill on the Childrey Brook, which runs parallel to

the River Ock which is also Grade II listed.

- 5.32 There are no registered historic parks and gardens within the indicative location for SESRO.
- 5.33 There are 75 historic landscape character (HLC) units within the indicative location for SESRO. These comprise an array of historic landscapes interpreted from the archaeological record, historic mapping and the existing field patterns. In the wider study area, there are 437 further HLC units.

5.6 Transport Network and Access

5.34 The transport network baseline looks at the routes in and around the indicative location for SESRO and considered key highway infrastructure that may be used to access the reservoir.

5.6.2 Transport Links

5.35 There are existing bus routes which stop in close proximity to the indicative location for SESRO, specifically, the 34, S8, S9, X2 and X32.

5.36 The indicative location for SESRO is also accessible by car, with roads skirting the indicative location for SESRO in all directions except the south. Figure 4.2 shows the key transport links within the area, from modes such as car, bus and railway.

5.37 The nearest train stations to the indicative location for SESRO are Didcot Parkway, Appleford and Culham. These train stations are located between 6km-7km from the indicative location for SESRO. As a result, it is anticipated that the majority of visitors to SESRO would travel by bus or car. The proposed Wantage and Grove train station³⁶, if built, would be located approximately 4km from the indicative location for SESRO.

³⁶ Oxfordshire County Council (2022). Available at: <https://www.oxfordshire.gov.uk/residents/roads-and-transport/roadworks/future-transport-projects/wantage-and-grove-station>

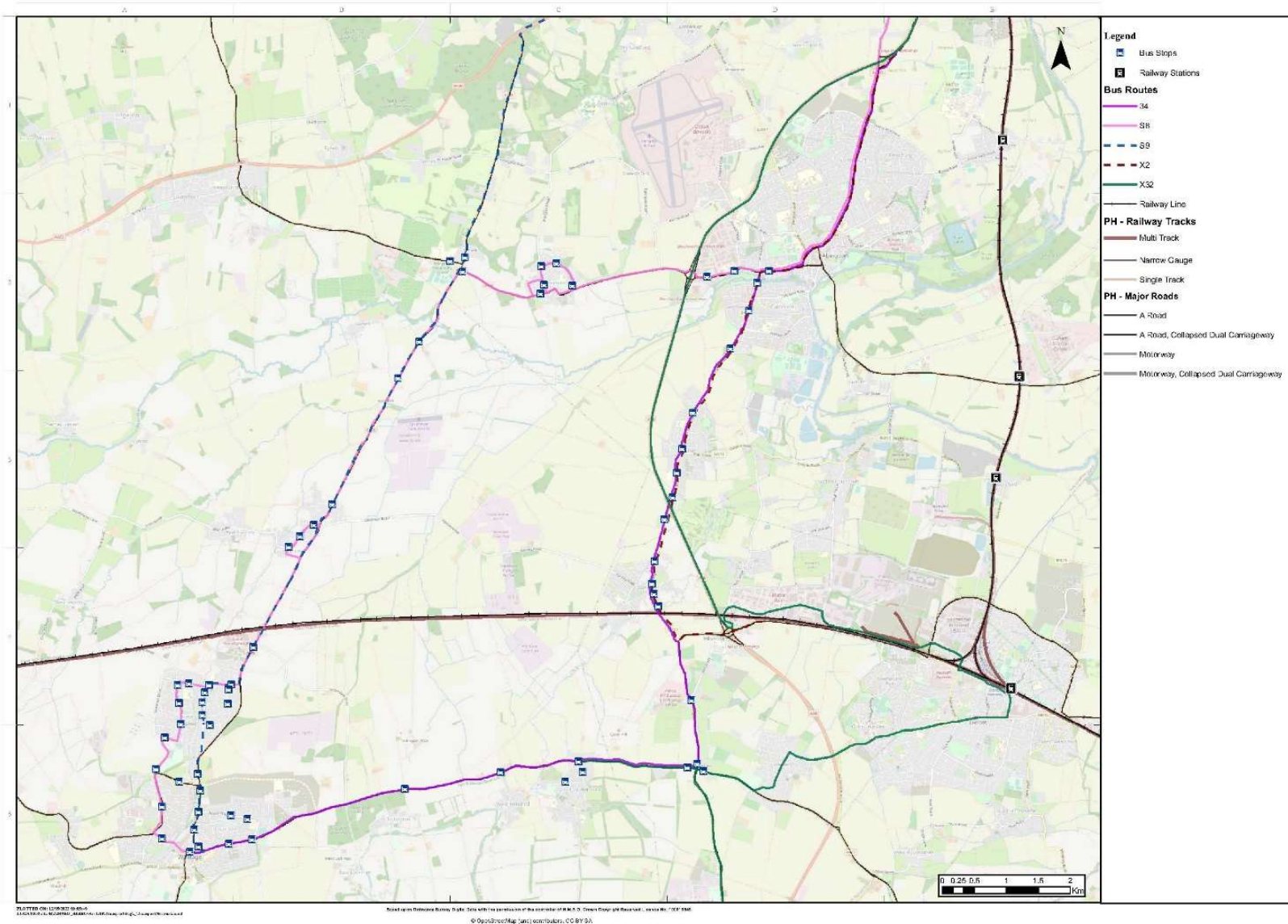


Figure 5.2: Key transport links

5.6.3 PROW and Active Travel

- 5.38 The indicative location for SESRO is largely covered by a network of bridleways and public footpaths, see Figure 5.3. The existing path network is fragmented and of poor quality, with short footpaths and numerous dead ends. In addition, there is a lack of dedicated cycle paths within the area, with the majority of cycle paths located in and around Abingdon. As a result of the fragmented path network, local communities are not connected, resulting in active travel not being a viable option to move between communities.
- 5.39 The cycling catchment of the indicative location for SESRO appears to reach Abingdon, suggesting a cycling trip to SESRO from Abingdon could be popular with residents and visitors. A number of cycling groups are located in communities surrounding the indicative location for SESRO, including: Cycling Wantage UK, Corallian Cycle Club, Harwell Campus Bicycle Users Group, OT Cycling Club in Abingdon; Abingdon Freewheeling Cycling Club; Didcot Phoenix Cycling Club and Maybush Cycling Club.
- 5.40 Given the increasing uptake of ebikes the cycling catchment could be greater for a 25-30minute ride for an average cyclist than the cycling catchment presented in Table 5-2.

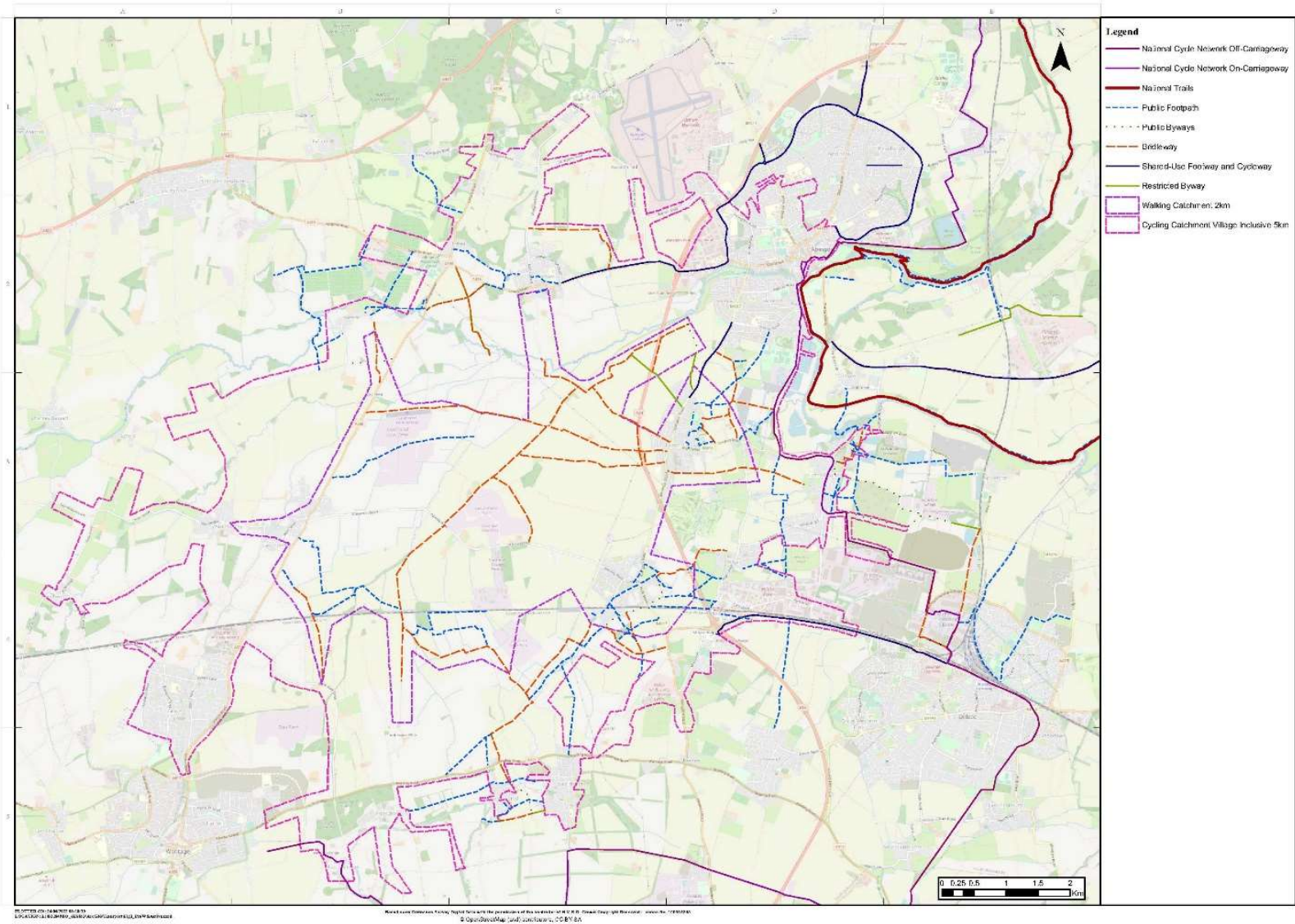


Figure 5.3: Public rights of way (PRoW) and active transport networks

5.7 Summary of Environment

5.41 Following a review of the existing environment, Table 5-5 summarises the findings and the environmental assets potentially affected by the indicative location for SESRO.

Table 5-5: Summary of Environment

Topic	Environmental Constraints within the indicative location for SESRO
Community	<ul style="list-style-type: none"> • No community assets • Cycling and keep fit/gym most popular activities within the Vale of White Horse
Landscape and Ecology	<ul style="list-style-type: none"> • Large area of farmland, hedgerows and tree belts • Lowland mixed deciduous woodland • A number of watercourses • Location of three large solar farms • Views of Midvale Ridge and North Wessex Downs AONB
Historic Environment	<ul style="list-style-type: none"> • 64 archaeological assets • Two listed buildings (Marcham Mill and Childrey Brook Mill) • 75 historic landscape character units • No scheduled monuments • No registered historic parks and gardens
Transport Network and Access	<ul style="list-style-type: none"> • Close proximity to transport access points • Large number of bridleways • A small number of footpaths

6. Case Studies

- 6.1 A review of existing reservoirs has been undertaken to support the production of a long list of options. These case studies support the production of the CAR Strategy scenarios through identifying opportunities and challenges associated with promoting conservation, access and recreation facilities within reservoir developments.
- 6.2 Case studies presented in this CAR Strategy comprise:
1. Farmoor Reservoir, Oxfordshire, Thames Water
 2. Abberton Reservoir, Essex, Essex and Suffolk Water
 3. Rutland Water Reservoir, Rutland, Anglian Water
 4. Walthamstow Wetland, London, Thames Water
 5. Grafham Water, Cambridgeshire, Anglian Water.
- 6.3 Other outdoor recreational assets have also been considered when developing the potential recreational features within the long list of options for SESRO including: Rainham Marshes Nature Reserve, Cotswold Water Park, the Earth Trust Farm and the National Parks.
- 6.4 The purpose of reviewing case studies, in addition to producing the long list of options, is to help align the future CAR scenarios (low, medium and high) with an existing recreational asset. This allows for comparisons to be drawn and to give an understanding of the potential visitor numbers expected at each scenario.

1. Farmoor Reservoir

Farmoor reservoir, a bunded reservoir managed by Thames Water and is located next to Farmoor village approximately 8km west of Oxford. Farmoor reservoir is located approximately 10km from the indicative location for SESRO and covers an area of approximately 168 hectares (ha). The reservoir incorporates nature reserves, a fishery, water sports and walking trails.



- 3 Nature Reserves: Pinkhill Meadow, Shrike Meadow, Buckthorn Meadow.
- Habitats attract a variety of birds, mammals and insects.
- Bird hides throughout the site.
- Partnership with the Oxfordshire Ornithology Society who hold open days and bird events throughout the year.

Conservation



- Access via Cumnor Road which is connected to the A840 and A83.
- One main car park at entrance (£2 per day).
- 2 easy access routes around reservoir, suitable for wheelchair and pushchairs.
- A wheelyboat is available for hire for disabled anglers.
- 9 toilet blocks around reservoir, including 3 disabled toilets.
- Issues with parking reaching capacity and visitor parking in local streets

Access



- Angling from bank or boat.
- Various watersports offered through partnerships with Oxford Sailing Club, Oxford Sailing Training Trust and Oxford SUP Club.
- Lessons available for all activities and regular sailing events held.
- Easy access short walk (1.7 miles) and long walk (2.4 miles) around each reservoir and a 4 mile Countryside Walk.
- Waterside Cafe and picnic areas.

Recreation



2. Abberton Reservoir



Abberton Reservoir is located in eastern England, 6km south west of Colchester. The reservoir is managed by Essex & Suffolk Water, part of Northumbria Water Limited. The reservoir is the largest freshwater body in Essex, with 472ha covered by water when the reservoir is full.

- Designated as a Site of Special Scientific Interest (SSSI); Special Protection Area (SPA) and a Ramsar site.
- Wetland habitat attracts a variety of bird species, with up to 40,000 ducks, swans and geese visiting each year.
- Site provides an over wintering migratory and moulting habitat for birds.

Conservation



- Large free car park.
- Bicycle parking.
- Accessible toilets
- Wheelchair friendly walking routes and a wheelchair and electric buggy are available for use.

Access



- Various walking routes around nature reserve and reservoir.
- Visitor centre
- Shop
- Cafe
- Outdoor play area
- Picnic area

Recreation



3. Rutland Water Reservoir

Rutland Water Reservoir is managed by Anglian Water and is located in Rutland, approximately 27km west of Leicester. The reservoir is one of the largest manmade lakes in Europe and England's largest in terms of its surface area. The reservoir has a total surface area of approximately 1,100ha.



- 3 nature reserves covering 1000 acres managed in partnership with Leicestershire & Rutland Wildlife Trust.
- Reserve is a Site of Special Scientific Interest, Special Protection area and a Ramsar site.
- Over 30 bird hides and nature trails.
- Rutland Osprey Project started in 1996, aims to reintroduce Ospreys to Rutland and provide a base for Ospreys to spread across England.

Conservation



- Access via the A606 and A603.
- Four main car parks tailored to different experiences (e.g. active day out and a family day out).
- Linear route (2 miles) is wheelchair accessible.
- Sites are linked by a regular, wheelchair accessible bus service.
- Accessible toilets are available in each centre and car park.

Access



- Fishing
- Multiple walks and trails, including a full circuit walk (24 miles).
- Cycling routes and facilities.
- Cycle hire available through partnership with Rutland Cycling.
- Pleasure Cruise.
- Aquapark.
- Various watersports.
- Visitor Centre.
- Multiple cafes and picnic areas.
- Play areas.
- Outdoor gym.
- Minigolf.
- Rutland Zoo.
- Rutland Water Beach.

Recreation



4. Walthamstow Wetland

The Walthamstow Wetlands is a 211ha site comprising 10 reservoirs managed by Thames Water. The site is Europe's largest urban wetland reserve and is located 15 minutes outside of central London. The Walthamstow Wetlands provide weekly activities and seasonal events throughout the year to engage with the local community and visitors from further afield, events include a variety of outdoor and nature based workshops and family days.



- Designated as a Site of Special Scientific Interest and forms part of the Lee Valley Special Protection Area.
- Reservoir is home to overwintering wildfowl and are regionally important for breeding birds.
- 2 bird hides.
- Wetlands offer a haven for insects, bats and amphibians.
- Partnership with the London Wildlife Trust who lead the conservation activities at the site, working with a team of staff and volunteers.

Conservation



- 4 entrances to the site.
- Main entrance is served by two bus routes and has a car park.
- 4 parking bays in the main entrance for blue badge holders.
- Bike stand is located on site.
- Engine House and main concrete pathways through the site are accessible for wheelchairs, pushchairs and those with walking difficulties.
- Accessible toilets with ramp access.

Access



- Two 1.2km primary paths through the site.
- Seasonal walking routes around some of the individual reservoirs.
- Touchston trail follows part of the primary and seasonal routes and offers opportunity to enjoy the surroundings and learn about the site through educational boards.
- 5 dedicated viewing points.
- Angling is permitted.
- Engine House includes a shop and cafe, and also hosts art exhibitions.
- Site accommodates a range of learning experiences for school trips as well as hosting weekly and seasonal events throughout the year.

Recreation



5. Grafham Water

Grafham Water is located in the north of Perry, Huntingdonshire. It was created in 1965 and is managed by Anglian Water. The reservoir has a surface area of 620ha making it the 3rd largest reservoir by area in England. The reservoir incorporates different uses, providing a nationally important habitat for wildlife and many recreational uses.



- Designated as a Site of Special Scientific Interest in 1986.
- 80ha nature reserve, including 18ha bird sanctuary, managed by Bedfordshire, Cambridgeshire and Northamptonshire Wildlife Trust.
- Scrub and wetland habitats are home to a wide range of insects, birds, mammals, and rare plants.
- 7 bird hides provide views of wildlife and reservoir waterfowl.

Conservation



- Access via the A1 and A41.
- Car parking available (tarrif based on duration).
- Walks around reservoir are hard-surfaced and fully accessible to prams and wheelchair users.
- Wheely boat available, giving disabled access to the water.
- Visitor Centre is on one level.
- Disabled toilet.
- Grafham Water Fishing Lodge is on two levels but both are accessible for wheelchair users.

Access



- Fishing
- 9 mile track for cycling and walking.
- Nature trails through anient woodland.
- Cycle hire through partnership with Rutland Cycling.
- Watersports through Grafham Water Sailing Club and Jonti Sailing and Windsurfing Centre.
- Two outdoor play areas.
- Visitor Centre and Cafe.
- Harbour View Cafe.
- Picnic and BBQ area.

Recreation



Other Bunded Reservoir Examples

- The Queen Mother Reservoir is a bunded reservoir located west of London and was built in 1976. The reservoir is managed by Thames Water and has a total volume of 37 million m³.

Conservation

- The reservoir lies within the Colne Valley regional park. Colne Valley regional park covers 43 miles² and is a mosaic of farmland, woodland and water.
- The reservoir habitat attracts a wide range of water birds and waders.

Access

- The reservoir is only accessible to members of the Berkshire Ornithological Club and the Datchet Water Sailing Club

Recreation

- The Datchet Water Sailing Club operate on The Queen Mother Reservoir and offer training in sailing, powerboating, coxwaining, windsurfing. The club also host races and offer a rigging area and storage facilities.

The Queen Mother Reservoir



- The Wraysbury Reservoir is a bunded reservoir located west of London and was built in 1970. The reservoir is managed by Thames Water and has a total volume of 35 million m³.

Conservation

- The reservoir lies within the Colne Valley Regional Park. The reservoir is designated as a Site of Special Scientific Interest, Special Protection Area and a Ramsar site.
- Wraysbury Reservoir regularly supports nationally important numbers of wintering cormorant, great crested grebe and shoveler.

Access

- There is no public access to this reservoir.

Recreation

- There are no recreational assets at this reservoir.

Wraysbury Reservoir



- The Queen Elizabeth II Reservoir is a bunded reservoir located south west of London and was built in 1962. The reservoir is managed by Thames Water and has a total volume of 200,000 million litres of water.

Conservation

- The reservoir does not lie within any nature designation and is not a nature reserve.
- In 2016 more than 23,000 solar panels were installed on the reservoir, covering 1/10th of the reservoir's surface. The solar farm is expected to offset Thames Water's energy requirements to power their nearby pumping stations.

Access

- There is no public access to this reservoir.

Recreation

- There are no recreational assets at this reservoir.

Queen Elizabeth II Reservoir



7. Internal and External Engagement

7.1 According to the Code of Practice for Conservation, Access and Recreation (2000)¹¹, consultation should be carried out at an early stage, where proposals raise conservation, access or recreation issues. This would enable any necessary measures to be incorporated in a simple and cost effective manner. Consultation should be at a level (national, regional or local) which is most likely to elicit an informed response. Government Departments, non-governmental organisations and local users groups should be consulted with. This section outlines the previous stakeholder engagement undertaken for SESRO, engagement carried out for the Gate 2 submission and proposes future engagement for the site as the design develops.

7.2 Previous Stakeholder Feedback

7.2 Engagements on SESRO have been conducted during previous studies. As part of these previous studies, a two-day CAR Visionary Workshop was carried out on 6 October 2005 to discuss SESRO’s conservation, access and recreation proposals. The workshop was attended by 29 delegates with a range of experience across conservation, access and recreation.

7.3 Despite this workshop being over 15 years ago there were some valuable and still relevant points around sustainability that have been considered in this CAR Strategy. The main outcomes of group discussions are provided in Table 7-1.

Table 7-1: Summary of 2005 CAR Visionary Workshop

Group Discussion Topics	Comments
Sustainability Group Discussion	
Biodiversity & Tranquillity	<ul style="list-style-type: none"> Thames Water needs to focus on the area around a reservoir to create a wetland based system of habitats, as well as giving a considerable amount of land to biodiversity, education and quiet recreational experiences The sites created should link into similar experiments being undertaken within and beyond Oxfordshire if the current provisional preference of a reservoir south west of Abingdon is taken forward Focus should be on the creation of a biosphere reserve, with the possible consequence that it may subsequently be designated as a Local nature Reserve Thames Water should forge an early link with World Wide Fund for Nature (WWF), Wildfowl & Wetlands Trust (WWT), RSPB, Environment Agency, Country Land and Business Association, CPRE The Countryside Charity and academic experts

Group Discussion Topics	Comments
	<ul style="list-style-type: none"> • Newly created landscape relates to the best of the old in terms of woodland, hedgerow, grassland and wetland features • Opportunity to create new wetland features in the surrounding area should also lead to the creation of attractive new wetland landscapes. • Some farmed areas could also be recreated as the reservoir would need to be grazed by cattle and sheep • The reservoir should also be open to novel ideas such as the possibility of vineyards on south facing slopes.
Sustainable living and fun	<ul style="list-style-type: none"> • Thames Water should aim for a world-class conservation centre. • There must be a nearby railhead or station for distant visitors to utilise in order to minimise use of the car. • The group suggested that, should it be restored, the canal could be engineered to provide access for some visitors to the site, or that the site could potentially be accessed by a type of mono-rail or cable-car route to and from the nearest railway station. • A reservoir should aim to provide sustainable recreation without being elitist.
Design and Appearance Group Discussion	
Design	<ul style="list-style-type: none"> • A number of general ideas were water-based for example wetlands, possibly using the canal as the focus for a wetland corridor, in the case of the current provisional preference • An educational centre focusing on the role of water in society • Sailing should be avoided as it could disrupt views and tranquillity • Buildings floating on islands in the water, although this might compromise the most natural element of the whole project i.e. open water • Inner breakwater to accommodate wave action, thus creating far greater design opportunities for the inner embankment.
Appearance	<ul style="list-style-type: none"> • Accommodate vibrant variety • Aesthetic beauty

Group Discussion Topics	Comments
	<ul style="list-style-type: none"> • Innovation in all aspects • Control access and transport
Provision of Facilities Group Discussion	
Facilities	<ul style="list-style-type: none"> • Water's edge visitor centre, potentially incorporating a restaurant and/or conference centre • Sports and recreation facilities (water and land based), possibly linked to a university • Management and delivery of the CAR uses of the reservoir could be delegated to a Trust, however, Thames Water may be unable to invest at a scale to meet public aspirations or be able to maintain the company reputation and benefit of a reservoir. • A waterside location for development, especially residential development, significantly enhances value • should concentrate on eco-recreation themes, not major commercial development. This would be consistent with the Company's statutory duties.
Visitors vs tranquillity	<ul style="list-style-type: none"> • There appears to be no conflict between the provision of facilities and tranquillity. • Feedback from visitors at nine WWT visitor centres is that each site provides a feeling of peace and tranquillity despite high visitor numbers

7.4 Figure 7.1 summarises the options identified through the workshop discussion groups. These have all been considered within the long list of options in Appendix A.

Probable	Possible
Visitor centre / conference centre / restaurant Sports and recreation facilities (water and land based), possibly linked to a university Education and research Access to the hinterland (World class bio-reserve) Woodland Country Park World class bio-reserve	New railway station Grand house with "Capability Brown" landscape Outdoor science museum Organic farm, possibly incorporating rare breeds Fish farm Major water garden Vineyard Golf Course Sculpture park Events area / amphitheatre Greater integration of restored canal Houses / buildings on stilts A railway station next to the water An Eden Project for Oxfordshire Another Glydebourne Locks to link the water to the Wilts and Berks Canal Conservation and community facilities through purchase of sufficient land Scuba diving to a sunken 'wreck' Waterfall feature Creation of specialist habitats such as heathlands, chalk grasslands, etc. Butterfly banks Organic picnics, fish and pick your food for the pot! View point over water, possibly from a road Break up water surface and hard edge with breakwaters Renewable energy generation, hydro power or wind

Figure 7.1 Probable and Possible Options for the Reservoir identified in the 2005 Visionary Workshop

7.5 At the time of the workshop, Thames Water and the stakeholders present had a clear preference for the site to concentrate on sustainable and low impact recreation themes, and not to become a major commercial development. It was considered that a low-key informal space could still accommodate a wide range of activities and generate significant visitor numbers but acknowledged that this approach would not realise the full development value of the site.

7.3 Water Resource Management Plan 2019 (WRMP19)

7.6 In 2019, Thames Water published their WRMP19³⁷; a strategic plan which set out how the company planned to maintain the balance between supply and demand for water for a minimum planning period of 25 years. SESRO was included in the WRMP19 as the leading option to meet regional needs across the south east of England. Thames Water undertook public consultation on the strategy in February 2018 and received over 540 representations. Environmental, river and angling groups supported the development of new resources, specifically SESRO, to help to reduce abstraction and thereby protect vulnerable watercourses.

³⁷ Thames Water (2019). Available at: <https://www.thameswater.co.uk/media-library/home/about-us/regulation/water-resources/technical-report/executive-summary.pdf> [Accessed 01/04/2022]

- 7.7 In response to the WRMP19 there was a strong local opposition to SESRO and calls for a public inquiry from some local residents, parish councils in the vicinity of the reservoir, campaigning organisations and some local authorities. The concerns related to the visual impact of SESRO, potential exacerbation of local flooding, environmental impact, close proximity to local villages and safety aspects. A number of organisations and individuals expressed support for the reservoir and argued that it should be brought forward, in order to protect vulnerable chalk streams sooner and increase resilience. Feedback from the wider customer base indicated that one in ten respondents questioned why the reservoir was not in the plan until the 2030s.
- 7.8 The statement of response to the draft WRMP19³⁸ referred to the inclusion of a range of facilities to enable conservation, access and recreation within and around SESRO. A series of general ideas which were raised have been added to the long list of options, these ideas were high-level and comprised:
- visitor centre with facilities to accommodate schools study centre;
 - water based activities including boating;
 - footpaths;
 - rehabilitation of part of the Wiltshire to Berks canal;
 - habitat creation including wetland areas;
 - landscaping and tree planting;
 - fishing and angling;
 - equestrian centre and associated bridleways; and
 - woodland and scrub/grassland areas.

7.4 Gate 2 Internal Engagement

- 7.9 Early in the CAR Strategy development an internal workshop was held with the landscape, ecology, natural capital and wider benefits specialists. The workshop was designed to identify the needs of each of the environmental aspects which may potentially feed into the long list of options. Feedback was provided on the types of options that could enhance the existing habitat and achieve biodiversity net gain; improve access to and from the reservoir; and attract local communities to use the reservoir.
- 7.10 For the Gate 2 submission several design workshops were held involving specialists from the terrestrial and aquatic environment and engineering and masterplan teams. Outcomes from these design workshops informed the scale and location of specific conservation, access and recreation options for each of the scenarios and also determined which options would be technically feasible and available given the engineering constraints around the site.

³⁸ Thames Water (2019). Available at: <https://www.thameswater.co.uk/media-library/home/about-us/regulation/water-resources/statement-of-response-main-report-2.pdf> [Accessed 01/04/2022]

- 7.11 Engagement with the Thames Water Safety Lead was intended to identify any safety constraints for potential features and future use options at SESRO. The short list of options was presented, and it was determined that there were no options that were expected to bring a risk to safety or impact the safe operation of SESRO. The only feedback specifically related to safety is the use of formalised swimming zones within the reservoir so as to discourage informal open water swimming.
- 7.12 In addition, discussions were held with the Thames Water Conservation, Access and Recreation Lead to discuss challenges and opportunities identified from other reservoirs. Feedback was provided on the current challenges identified at Farmoor Reservoir, including the issues with traffic congestion and parking on streets within the local communities. Consideration of what direction visitors would approach SESRO from has influenced the location of the proposed car parking facilities across the scenarios.
- 7.13 The positive feedback on Walthamstow Wetlands was also shared including the sites ability to handle 250,000 visitors per year. The Thames Water CAR Lead shared that extra security on site helped to manage the balance between conservation and people. Walthamstow Wetlands was designed for a large number of visitors and therefore is not experiencing the same difficulties as Farmoor which needs to be retrofitted to accommodate the number of visitors it has been.

7.5 Gate 2 External Engagement

- 7.14 A workshop was held in March 2022 with key stakeholders to discuss progress on the CAR Strategy at this stage. The workshop was attended by officers from the Vale of White Horse District Council, Oxfordshire County Council, Environment Agency and the North Wessex Downs AONB. The stakeholders were presented with the grouped short list of options and provided feedback and points for consideration moving forward. Table 7-2 presents the key issues raised by the stakeholders and how their comments have influenced the CAR Strategy.

Table 7-2: Key issues from stakeholders on the CAR Strategy

Concerns from Stakeholders	Response within the CAR Strategy
Consideration of banded reservoirs when reviewing case studies	A review has been undertaken and case studies of banded reservoirs have been included in Section 5.7 of this CAR Strategy and their uses have informed the long list of options (Appendix A).
Consideration of dogs being permitted in and around the reservoir	This point would be considered at subsequent project states.
The health benefits of water sport recreation versus the visual impact of facilities and boats on the water	The benefits and disbenefits of features have not been assessed within this CAR Strategy, however a wider benefits specialist and landscape and visual specialist have reviewed the long list of

Concerns from Stakeholders	Response within the CAR Strategy
	options and provided comment which have influenced the scenario development.
Potential for bird strikes	This point was raised with the wider environment team for consideration in the Environmental Assessment Report and is not considered further in the CAR Strategy
Timescale of aesthetic vegetation growth around the reservoir edge	This point is considered within the Landscape assessment as part of the Environmental Assessment Report
Integrating the biodiversity net gain with landscaping impacts	This point is considered within the Landscape Design Strategy Plan and the Ecology assessment as part of the Environmental Assessment Report
Conflict between pedestrians and cyclists on public rights of way	Appropriate signage and segregated routes should be considered within the SESRO concept design. In the CAR scenarios the cycle and footpaths have been considered generally across the site. At subsequent project stages, the design would consider how to segregate the cyclists and pedestrians.
Impact on horse riders from the removal of bridleways	This point has been considered during the scenario development. Public rights of way have been presented across the three scenarios, details of whether these would be footpaths/bridleways would be decided at subsequent project stages following community engagement.
Linking with existing services, facilities and car parks	Paths have been considered between the indicative location of SESRO and the surrounding communities in the long list of options

7.6 Future Engagement

7.15 It is acknowledged that given the early stage of development of SESRO the stakeholder engagement to date, for Gate 2, has been limited to a number of key stakeholders only. There is opportunity for wider stakeholder engagement to help develop the scenarios at the next stage of the design. Future engagement is recommended with the following groups:

- Government departments/agencies;
- Non-governmental organisations;
- Local authorities; and
- Local user groups including those representing disabled users, landowners and bodies representing industry.

8. Opportunities and Challenges

- 8.1 The vision for SESRO is not only to provide a resilient water supply to the South East for generations to come, but also to deliver new spaces for nature and recreation, providing a net environmental gain and social benefits for the local area and wider region.
- 8.2 SESRO holds many opportunities for the local communities and wildlife. The CAR Strategy presents a unique opportunity to fully explore the potential of SESRO to generate long lasting wider benefits and social value for the local community as well as the surrounding biodiversity and create a long-lasting legacy for the community. The challenge is finding the balance between recreation and conservation.
- 8.3 This section highlights the potential opportunities for SESRO and existing challenges with regards to conservation, access and recreation. This is based on the outcome of the policy, baseline and case study review as well as the challenges and opportunities identified through discussion with environmental specialists and the engineering design team.

8.2 Conservation

8.2.1 Opportunities

- 8.4 SESRO would provide an opportunity for new and diverse habitats to be integrated into the area. The optimal outcome for conservation and enhancement would be to create habitat so rich in biodiversity that SESRO could become a nature reserve in the future. The following habitat creation opportunities have been identified:
- Creating a sustainable blue and green corridor along the Wilts and Berks canal and around the replacement floodplain storage area.
 - Create habitat mosaics to blend the lower slopes of the reservoir into the surrounding landscape.
 - Integration of floating islands and lagoons around the reservoir may attract new wildlife to the site. Lagoons and wet woodland would also enhance the visual amenity of the reservoir.
 - Creation of wildlife ponds which would be suitable for Great crested newts, a European Protected Species.
 - Green corridors including new tree lines and species-rich hedgerows to help maintain wildlife connectivity across the site. These would ensure continued access to foraging/breeding grounds for species such as reptiles, badgers and Great crested newts.
 - Create wetland areas which are magnets for invertebrate/amphibian species and would in turn attract other wildlife which prey on those invertebrates and amphibians such as birds, reptiles and badgers.

- Attract species not currently present on site including wading birds.
- Opportunities for reptile hibernacula, butterfly banks, log piles, bird hides, inclusion of bat boxes and bird boxes.

8.5 The wetland habitat mosaic within the replacement floodplain storage area to the west of the reservoir could become home to different wetland habitats with educational boards and bird hides positioned at this location. Around this area it is envisaged that there could be an informal network of footpaths, potentially including pond dipping platforms, to generate a further educational and recreational resource. This wetland habitat could contribute positively to the landscape character within the existing floodplain and help to meet the aims of relevant landscape guidelines and the Ock Valley Blue Corridor ambitions, set out in the South and Vale Green Infrastructure Strategy²¹.

8.6 All opportunities for SESRO relating to landscape would be in line with Figure 2.1 Landscape Design Strategy Plan in Technical Support Document B2 Environmental Appraisal Report.

8.2.2 Challenges

8.7 The biggest challenge in terms of habitat conservation is the potential loss of lowland mixed deciduous woodland during construction of SESRO as highlighted in Table 5-5. This habitat type takes many years to establish and is therefore of high distinctiveness within the Biodiversity Net Gain metrics. If lost, it needs to be compensated for by creating either the same habitat or another habitat of high distinctiveness. The SESRO concept design would need to consider which habitats could establish quicker than lowland mixed deciduous woodland in the short term and look to retain as much as possible.

8.8 Hedges are important for creating connectivity across a landscape which allows wildlife to disperse, forage, commute, access breeding grounds etc. The loss or fragmentation of hedgerows can severely impact the movement of species including birds, Great crested newts, reptiles, invertebrates, badgers, dormice and harvest mice. The SESRO concept design would need to retain as much hedgerow as possible and look for opportunities to create more.

8.9 There are a number of ancient and veteran trees located along Cow Common Brook, along the northern fringe of the indicative location for SESRO, which would be retained and protected. However, one ancient crack willow tree is located within the reservoir footprint would need to be removed. A bespoke mitigation plan would need to be produced to mitigate the loss of the tree.

8.10 There is potential for Invasive and Non-Native Species to enter SESRO and become established, as well as spread to other locations. The risk is associated with the movement of people to and from SESRO that the recreational activities would generate. Particular water sports such as boating, and angling could pick up Invasive and Non-Native Species from elsewhere and transfer them to SESRO. The assessment performed at Gate 1 concluded that SESRO would be considered a 'medium risk' and

the full removal of all terrestrial recreational activities or aquatic recreational activities would mean SESRO would be considered low risk. Consideration of biosecurity approaches (e.g. boat wash down facilities, signage, foot baths, targeted species management, screens) should form part of the SESRO concept design as this would mitigate the risk, in addition to careful consideration of appropriate recreational activities.

- 8.11 Some bird species may be discouraged from nesting on the edge of the reservoir due to the impact of drawdown. Floating islands and lagoons may make nesting more attractive to certain bird species that may not otherwise have nested but this still presents a vulnerability for the bunded reservoir and would suggest that potential zoning of the lagoon and floating island edge may need to be enforced to optimise the value of these features. As wintering birds may also be attracted to the reservoir edge this is not a seasonal issue.
- 8.12 Due consideration needs to be given to the local landscape character and views from the North Wessex Downs AONB towards SESRO, as well as views looking from the Vale and Midvale Ridge towards the AONB (see Table 5-5). The AONB is located more than 2km to the south of the indicative location for SESRO. Due to the rising landform up to the scarp of the AONB, which faces the indicative location for SESRO, the reservoir and its embankments would be visible from the AONB. The proposed embankment earthworks and planting needs to integrate the reservoir into the existing landscape in order to reduce the impact on landscape character and views, as well as facilitating the creation of new views towards the AONB and Midvale Ridge to help mitigate for existing views that would be lost.

8.3 Access

8.3.1 Opportunities

- 8.13 There is an opportunity to build on the previous studies undertaken and to expand the PRoW network, creating new sustainable routes for commuters in the surrounding communities of East Hanney, Steventon, Drayton, Marcham, Garford and Frilford. By connecting the communities, it is likely to create wider benefits associated with employment and growth of local businesses.
- 8.14 The existing PRoW network is fragmented as can be seen in Figure 5.3 and of relatively poor quality with short PRoW and numerous dead ends. For example, PRoW 192/3/10 near Marcham Mill crosses a small bridge which is considered potentially unsafe across the Childrey Brook. SESRO could reinstate access across the brook and up to Mill Road and onwards to Marcham. There is a huge opportunity to not only enhance the connectivity between the local communities but to also improve the quality of the network so it can be used by a variety of individuals with different levels of mobility. The inclusion of easy access routes suitable for wheelchairs and pushchairs is one of the key opportunities identified from the case studies. Existing routes can be diverted and extended to serve a purpose for users either by linking with nearby assets, including the proposed reservoir, and connecting with other footpaths to create links with the surrounding communities such as East

Hanney, Steventon and Drayton.

- 8.15 The PRow network could be a widely used feature of SESRO if it is connected into the reservoir loops (along the crest and toe of the reservoir embankment) and could encourage use of the network for physical exercise and leisure, Table 5-5 highlights the popularity of cycling. There is the potential for canal tow paths along the auxiliary drawdown channel to provide links to the National Cycle Network Route 5 and the Vale Way Long Distance Path. The network could link into natural play features, as well as wildlife trails that could cross through and around future habitat. The enhancements to the PRow network could contribute positively to the local landscape character and help to meet the aims of relevant landscape guidelines and the Ock Valley Blue Corridor ambitions, set out in the South and Vale Green Infrastructure Strategy²¹.
- 8.16 There is an opportunity for SESRO to link in with the proposed Wantage and Grove Train Station to the southwest and potentially train stations further afield. More users could access SESRO via the train station and a sustainable connection between the station and SESRO could be achieved. This opportunity should be discussed at later stages of the RAPID Gated process when more information is available on the proposed station.

8.3.2 Challenges

- 8.17 A key challenge from an access perspective is the uncertainty around the number of users who may access SESRO and where they may choose to park. As mentioned in the Farmoor case study (Case Study No.1), the reservoir has issues with parking provision not being suitable for the number of visitors coming to the site. This is leading to large numbers of private vehicles being parked in the streets surrounding the reservoir and creating congestion for local communities. For SESRO there is a risk that users may choose to park in the local streets of East Hanney and Steventon creating congestion for local residents. The SESRO concept design needs to ensure that the location of car parks considers the surrounding local communities and that the size is appropriate for the visitor numbers predicted for the site. The parking provision also needs to be sustainable for the potential growth in demand beyond the first year of operation.
- 8.18 Within the indicative location for SESRO a number of bridleways and footpaths would be lost, and the network would be diverted around the reservoir during operation of SESRO. This could adversely impact horse riding in the area. Enhancing the PRow network around the reservoir perimeter needs to take into consideration different users and conflicts of interest. Appropriate signage and segregated routes should be considered within the SESRO concept design.
- 8.19 SESRO has an opportunity to meet the growing demand for outdoor recreation in an inclusive and sustainable way. Mobility of different users has to be considered when identifying the location for parking provision as some people visiting SESRO may be unable to walk long distances and may require disability parking provision close to amenities.

8.4 Recreation

8.4.1 Opportunities

- 8.20 There is an opportunity to link SESRO to the historical route of the Wilts and Berks canal, which passes through the indicative location for SESRO. The canal was constructed between 1795 and 1810 and connected Kennet and Avon Canal to the River Thames at Abingdon. Although the canal was abandoned parts of the historic route can be used for walking, cycling and riding. The Wilts and Berks Canal Trust has plans to restore parts of the canal and the proposed alignment of the restored canal would pass to the north and west of SESRO. This could enhance the recreation benefits of the reservoir by creating a sustainable blue and green corridor which could be used for walking, cycling and horse-riding, whilst also providing a boating network which could draw visitors from greater distances. In addition, there is also potential for a canal link to be created between the reservoir and the Thames through the design of the auxiliary drawdown channel.
- 8.21 There is growing demand for outdoor recreation and sport and outdoor lifestyles more broadly. Various water sports provide a substantial recreational opportunity that would reveal itself based on relative demand. These sports include but are not limited to angling, kayaking, windsurfing, sailing, rowing etc. Other sports popular within the Vale of White Horse District area include cycling and keep fit/gym activities as per Table 5-3.
- 8.22 The creation of habitats around SESRO links well with informal recreation features such as picnic tables, bird hides and natural play opportunities. This can allow visitors to experience the natural environment without damaging habitats or creating significant disruption.

8.4.2 Challenges

- 8.23 The key challenge of recreational activity is the number of visitors that could be attracted to the site to use the new facilities. High volumes of visitors can create local traffic congestion with associated noise and visual impacts. While on site tourism can increase the risk of environmental damage including noise pollution, littering, habitat destruction and footpath erosion. Given the rural landscape of the local area, consideration of what level of tourism can be managed effectively and is appropriate for the area should be considered in the SESRO concept design. This includes consideration of which recreational assets may attract large numbers of visitors and in combination effects of locating a number of different recreational facilities in the same location.
- 8.24 Whilst opportunities in water sports are expansive, they can also present aesthetic challenges. Large numbers of boats on the reservoir surface, could be in contrast to the existing landscape character. Furthermore, the large trailers required to move water sports equipment should be considered in the car parking provision design. To remedy this, the SESRO concept design should consider these recreational impacts, aiming to accommodate these activities whilst maintaining the landscape's

character, potentially by shielding proposed boathouses or storage facilities with vegetation.

- 8.25 Finally, there is a risk that breeding birds which are easily disturbed by noise could be drawn away from SESRO if it is being used for recreation, particularly boating. Consideration of wildlife access needs to be incorporated into the SESRO concept design, which should look at creating quiet zones/no motorised vehicle areas around SESRO.

9. Approach to Scenario Development

9.1 This chapter outlines the approach to scenario development. The proposed scenarios have been based on several inputs as outlined in Figure 9.1.

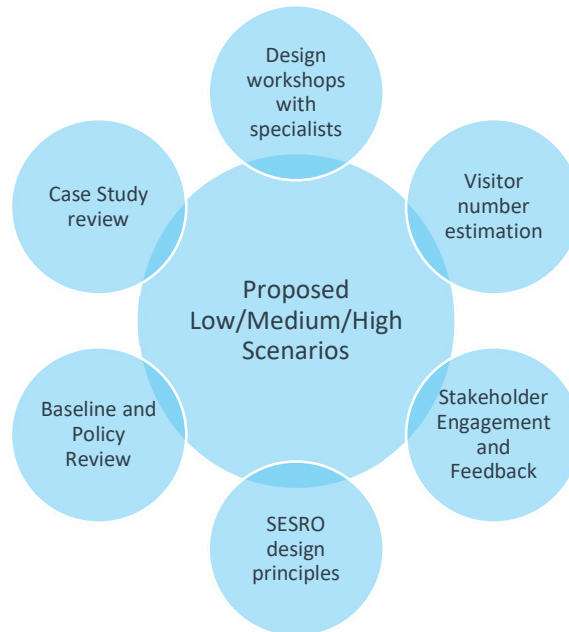


Figure 9.1: Approach to Scenario Development

9.2 Following the policy review it was identified that any facilities proposed for SESRO need to be carefully considered so that economic, social, and environmental benefits are delivered in such a way that they contribute to the social wellbeing of the area and maximise the wider economic, social, and environmental benefits. There has to be careful consideration of the trade-off between conservation aspects (e.g. habitat creation) and locating recreational facilities. All proposed scenarios have considered the location of recreational facilities to ensure that as the recreational intensity increases from the low to high scenario the proposed features are feasible.

9.3 A review of the existing environment highlighted the opportunities and challenges for conservation, access and recreation, and together with the policy and case study reviews formed a long list of options for SESRO (see Appendix A). As discussed in Section 6 stakeholder engagement has provided feedback on the different options proposed and has influenced the location and scale of options as they are presented across the three scenarios.

9.4 The long list was refined following feedback from key stakeholders as well as internal design workshops (engineering, land, ecology and wider benefits specialists) to discuss feasibility of the options and the balance of these options alongside required features of SESRO. Professional judgment has been used to determine if the option/use is suitable for the site given the engineering, landscape and ecology

constraints; requirements of the reservoir by Thames Water; space available to accommodate the use and whether the use is in keeping with the characteristics of the area. Appendix A indicates which of the long list options were shortlisted and the reasoning behind the decision. The short list of options (grouped by broad themes) could then be considered across the low, medium and high scenario which are presented in Section 9.

- 9.5 It should be acknowledged that all scenario options will remain under review as the project evolves through subsequent project stages. This includes review of the long list and the criteria used to shortlist these options/uses.

9.2 SESRO Design Principles

- 9.6 A set of SESRO design principles have been developed which are derived from the National Infrastructure Commission's Design Principles for National Infrastructure³⁹. The SESRO principles consider design under four headings: Climate, People, Places and Value. The details of the design principles are provided in document A1: Concept Design Report.

- 9.7 Although the SESRO design principles provide the basis for the concept design plans, they are still considered relevant to the CAR Strategy scenarios because they are specific to spatial design. i.e. those relating to physical infrastructure and its impact on specific places, people, flora and fauna. When developing the low, medium, and high scenarios it was ensured that the design principles were followed to present robust and realistic scenarios that align with design requirements.

9.3 Visitors Number Estimation

- 9.8 The three proposed scenarios have been modelled to understand the likely visitor numbers expected to and from SESRO once the recreational activities are considered to allow for the appropriate car parking provision. Certain recreational activities are likely to attract visitors from further afield and in larger numbers, therefore it is expected that the high scenario would attract a larger number of visitors than the low.

- 9.9 The CAR Strategy was drafted in parallel to the CDR. The CDR calculated the visitor number estimations which were influential in the scenario development. Visitor number data was taken from the 2020 ONS mid-year estimate data, while assumptions on typical visitor trip patterns were based on recreational assets of a similar scale to the low and high proposed scenarios. The facilities used were:

- Low trip example - Queen Elizabeth Country Park: This site is 350ha, located in a rural area to the north of Waterlooville, with a visitor centre with shop and café, venue hire for weddings, clubs and outdoor events, camping and seasonal

³⁹ National Infrastructure Commission (2022). Available at: <https://nic.org.uk/app/uploads/NIC-Design-Principles.pdf> [Accessed 01/04/2022]

activities and events. It has 304 unmarked car parking spaces and is located on the A3.

- High trip example - Lough Key Forest Park: The site is 323 ha, located northwest of Boyle with no residential dwellings in the surrounding area, with a visitor centre, camping facilities, adventure playground, tree canopy trails and paths within the forest. It has 450 car parking spaces with an overflow parking area of grass verge for up to 150 cars.

9.10 Table 9-1 presents the estimated visitor numbers for each scenario and the drive time for each scenario as identified in the CDR. Approximately 365,000 visitors are expected under a low scenario (within a 30-minute drive time), this increases by 40% for the medium scenario (60-minute drive time) and by 62% for the high scenario (60–90-minute drive time).

Table 9-1: Visitor Numbers for the CAR Scenarios

CAR Scenario	Drive Time	Visitor Number Estimation (from CDR)	Peak Visitor Number per day (from CDR)
Low	30 minutes	364,990	1,400
Medium	60 minutes	512,648	2,000
High	60 – 90 minutes	593,779	2,300

9.11 Each of the CAR Strategy scenarios are associated with a drive time. For example, the recreational activity proposed in the low scenario is expected to attract people within a 30-minute drive time. These drive times are shown in Figure 9.2 to highlight the different towns and cities that fall within each of the drive time zones.

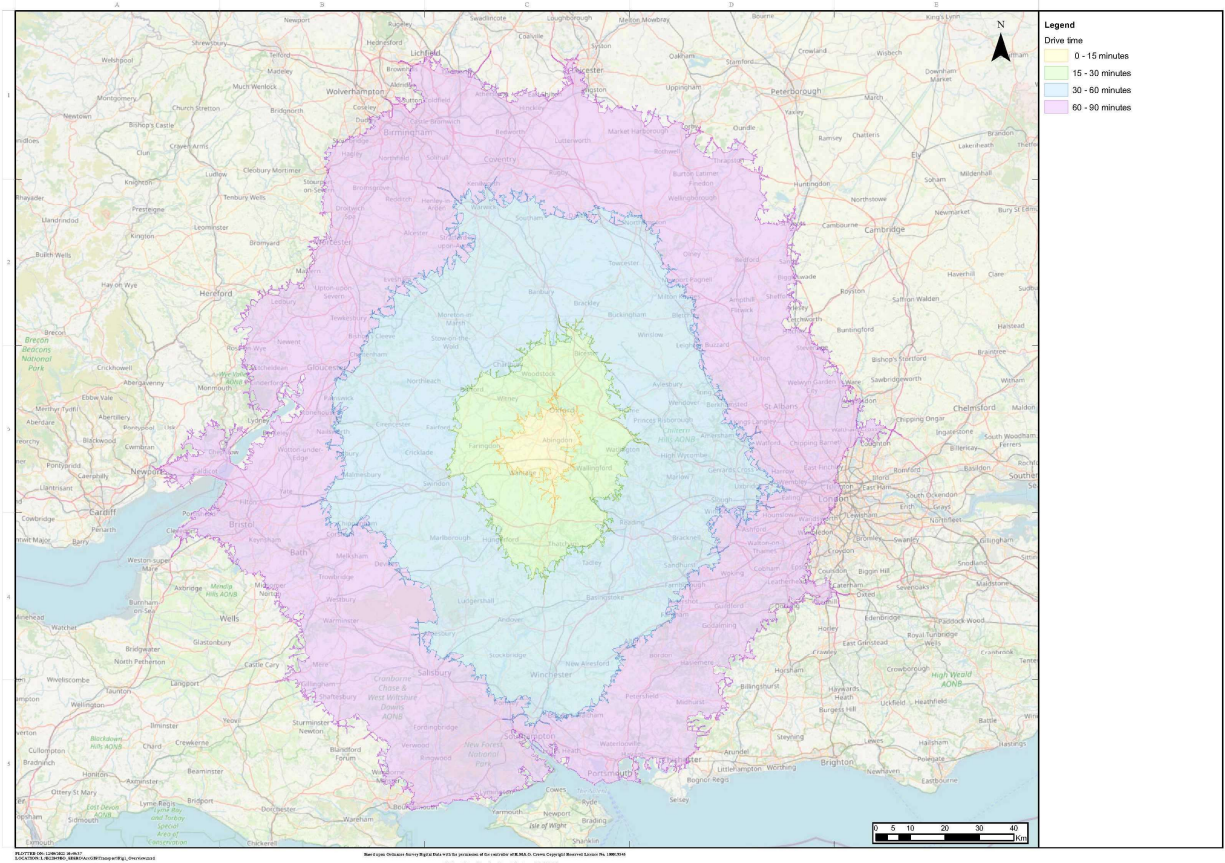


Figure 9.2: Drive time to SESRO

9.12 The CDR based future car parking provision on a busiest case scenario i.e. the peak visitor number of 2,300 in the high scenario. Therefore, car arrivals and departures have been considered within the 90-minute drivetime (purple area shown on Figure 9.1), with the starting location for the model at the access road on Marcham Road. This access road has been amended slightly from Gate 1 to the Gate 2 CDR.

9.13 A proposed car park of 660 spaces at the entrance to SESRO and 240 spaces at the foot of the embankment are proposed to accommodate a busiest case scenario. The car parking provision proposed within the low and medium scenarios were then scaled down from the high scenario car parking estimate.

9.4 Proposed Scenarios

9.14 The inputs discussed in Section 9.1 have influenced the potential scenarios for SESRO. The inputs have helped to determine the scale of the recreational activity as well as the location of habitat creation. Each scenario has been reviewed against the case studies in Section 5 to highlight similarities between the proposed scenario and an existing reservoir.

9.15 The workshop held in March 2022 presented the grouped short list to key

stakeholders. The general consensus amongst the stakeholders present was that intensive recreational activity that would attract a significant number of individuals to the site would be unwanted and that a balance should be struck between conservation and providing social value back to the communities. This has been taken into consideration in the development of the high scenario.

9.5 Details of Option across Scenarios

9.16 Table 9-2, Table 9-3 and Table 9-4 provide the detail of each scenario (low, medium and high), including a description of the broad themes from the short list and a potential location for the option/feature.

9.5.2 Low Scenario

9.17 The aim of the low scenario is to provide recreational activity that would accommodate visitors from the surrounding area, predominately within a 30-minute drive time zone (see Figure 9.2). Peak visitor numbers would be expected around 1,400 per day, particularly during summer weekends where the weather would be favourable. The low scenario proposes an enhanced walking and cycling network around SESRO and between the surrounding communities which could be used by residents in the local communities for leisure or commuting. The low level of recreational activity which would include a small visitor centre, café, playground and informal picnic tables. The habitat creation would have a benefit on local wildlife, likely attracting migrating birds to the area.

9.18 The review of the case studies suggest that the low scenario would have a similar recreational offering to Abberton Reservoir in Essex (see Case Study Number 2 in Section 5.7). Abberton's wetland habitat attracts a variety of bird species and is a Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site.

9.5.3 Medium Scenario

9.19 The aim of the medium scenario is to build on the low scenario and provide a larger number of recreational facilities while finding a balance with habitat creation and open space. Peak visitor numbers would be expected around 2,000 per day. The medium scenario, similar to the low scenario, proposes an enhanced PRoW around SESRO and between the surrounding communities which could be used by residents in the local communities for leisure or commuting.

9.20 The medium scenario offers an education centre which could be used by families and local schools for field trips, this is also likely to attract visitors from within a 1-hour drive (see Figure 9.2). An additional café is proposed on the embankment crest to provide views across the water. Space has been made available for a vegetable garden which visitors can walk around, and which could also be used by the cafés. A sailing club is proposed on the. A mini-golf course is proposed as an additional recreation feature and use of the land to the west of the reservoir (there is no mini-golf courses within 5km of the indicative location for SESRO).

9.21 The review of the case studies suggest that the medium scenario would have a similar recreational offering to Grafham Water (see Case Study Number 5 in Section 5.7) with the inclusion of fishing. Grafham water is a SSSI and has a 18ha bird sanctuary with seven bird hides providing views of wildlife and reservoir waterfowl.

9.5.4 High Scenario

9.22 The aim of the high scenario is to provide high intensity recreation activity by proposing a number of larger facilities including an adventure park, which could include a climbing/bouldering wall. An official camp site with formal BBQ facilities is proposed. In addition to the angling and sailing already proposed in the medium scenario, there would be opportunity for other water sports with the provision of a facility to store water sports equipment. This could be used by other societies and sports groups in the local area. A sculpture trail is proposed which could display work by local artists.

9.23 The high scenario is seen as a tourism destination that would attract a number of visitors from within a 60 to 90-minute drive time zone (see Figure 9.2). The high scenario also proposes cycle hire facilities (in addition to cycle storage) which could be utilised by cycle businesses in the surrounding area. The high scenario, similar to the low and medium scenarios, proposes a PRoW around SESRO and between the surrounding communities which could be used by residents in the local communities for leisure or commuting.

9.24 The review of the case studies suggest that the high scenario would have a similar recreational offering to Rutland Water Reservoir (see Case Study Number 3 in Section 5.7). Rutland also has a cycle hire partnership with Rutland Cycling as well as an aquapark and multiple cafes and picnic areas. Rutland Water is a SSSI, SPA and Ramsar Site.

9.6 Details of Option across Scenarios

Table 9-2 Short list of conservation options across the 3 scenarios

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
Habitat Creation	Description	Wetlands creation at replacement floodplain storage area - wetland habitat mosaic with reedbeds, species rich wet grassland and floodplain marsh Lagoons and floating islands Creation of woodland (retain ancient trees), including wet woodland, and scrub habitat Creation of ecology ponds and lakes Creation of grassland habitats and retention/creation of hedgerows	Wetlands creation at replacement floodplain storage area - wetland habitat mosaic with reedbeds, species rich wet grassland and floodplain marsh Lagoons and floating islands Creation of woodland (retain ancient trees), including wet woodland, and scrub habitat Creation of ecology ponds and lakes Creation of grassland habitats and retention/creation of hedgerows	Wetlands creation at replacement floodplain storage area - wetland habitat mosaic with reedbeds, species rich wet grassland and floodplain marsh Lagoons and floating islands Retention of ancient trees Given the limited space there may be room for creation of other habitat including wet woodland, scrub and grassland
	Location	Multiple	Multiple	Multiple
Butterfly Banks & reptile hibernacula	Description	Butterfly bank Reptile hibernacula/ log piles and brash piles	Butterfly bank Reptile hibernacula/ log piles and brash piles	Multiple butterfly banks Reptile hibernacula/ log piles and brash piles
	Location	North	North	Multiple

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
Ornithology	Description	Bird Hides located around SESRO in woodland habitats for bird watching Bat & Bird boxes Accompanying information boards Recommended Trails and Educational Challenges Kingfisher banks - specialist banks built for kingfisher to build their burrows	Bird Hides located around SESRO in woodlands habitats for bird watching Bat & Bird boxes Accompanying information boards Recommended Trails and Educational Challenges Kingfisher banks - specialist banks built for kingfisher to build their burrows	Bird Hides located around SESRO in woodlands habitats for bird watching Bat & Bird boxes Accompanying information boards Recommended Trails and Educational Challenges Kingfisher banks - specialist banks built for kingfisher to build their burrows
	Location	Multiple	Multiple	Multiple
Biosecurity Measures	Description	Signage, foot baths, targeted species management, screens Formalised dog friendly zones	Signage, foot baths, targeted species management, screens Formalised dog friendly zones	Boat wash down facilities, signage, foot baths, targeted species management, screens Formalised dog friendly zones
	Location	Multiple	Multiple	Multiple
Landscape	Description	Creation of new vantage points with seating for views towards AONB and Midvale Ridge	Creation of new vantage points with seating for views towards AONB and Midvale Ridge	Creation of new vantage points with seating for views towards AONB and Midvale Ridge
	Location	Multiple	Multiple	Multiple

Table 9-3 Short list of access options across the 3 scenarios

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
PRoW Network	Description	<p>Connection of SESRO loop around crest and toe of embankment to communities of Marcham, Frilford, Garford, East Hanney, Grove Wick and Steventon.</p> <p>Enhancements to PRoW network for use by walkers, cyclers and horse riders.</p> <p>Integration with the Wilts and Berks Canal</p>	<p>Connection of SESRO loop around crest and toe of embankment to communities of Marcham, Frilford, Garford, East Hanney, Grove Wick and Steventon.</p> <p>Enhancements to PRoW network for use by walkers, cyclers and horse riders.</p> <p>Integration with the Wilts and Berks Canal</p>	<p>Connection of SESRO loop around crest and toe of embankment to communities of Marcham, Frilford, Garford, East Hanney, Grove Wick and Steventon.</p> <p>Enhancements to PRoW network for use by walkers, cyclers and horse riders.</p> <p>Integration with the Wilts and Berks Canal</p>
	Location	Multiple	Multiple	Multiple
Walking and cycling	Description	<p>Walking and cycling trials on crest and at toe of embankment</p> <p>Path along canal linking to the National Cycle Network (NCN) and the Vale Way Long Distance Path</p> <p>Secure cycle facilities near visitor's centre (Shelter and Loops) for local cycle groups to utilise</p>	<p>Walking and cycling trials on crest and at toe of embankment</p> <p>Path along canal linking to the NCN and the Vale Way Long Distance Path</p> <p>Secure cycle facilities near scattered facilities (Shelter and Loops) for local cycle groups to utilise</p>	<p>Walking and cycling trials on crest and at toe of embankment</p> <p>Path along canal linking to the NCN and the Vale Way Long Distance Path</p> <p>Cycle hire partnership</p> <p>Secure cycle facilities near scattered facilities (Shelter and Loops) for local cycle groups to utilise</p>

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
		Wheelchair friendly walking routes Boardwalk over replacement floodplain storage area Provision of tow path along Auxiliary Drawdown Channel	Boardwalk over replacement floodplain storage area Wheelchair friendly walking routes Provision of tow path along Auxiliary Drawdown Channel	Boardwalk over replacement floodplain storage area Wheelchair friendly walking routes Provision of tow path along Auxiliary Drawdown Channel
	Location	Multiple	Multiple	Multiple
Car Parking Provision	Description	Large 500 space car park at entrance to SESRO Smaller 100 space car park at foot of embankment Disabled parking on embankment next to visitor centre Small car parks near East Hanney and Steventon (20 spaces each)	Large 600 space car park at entrance to SESRO next to the visitor centre Smaller 200 space car park at foot of embankment Disabled parking on embankment Car park and coach parking spaces at education centre Small car parks near East Hanney and Steventon (20 spaces each)	Large 660 space car park at entrance to SESRO next to the visitor centre Smaller 240 space car park at foot of embankment Disabled parking on embankment Car park and coach parking spaces at education centre Small car parks near East Hanney and Steventon (20 spaces each)
	Location	Multiple	Multiple	Multiple

Table 9-4 Short list of recreation options across the 3 scenarios

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
Visitor Centre / Café	Description	<p>Visitor centre (sustainably built) inclusive of:</p> <ul style="list-style-type: none"> • welfare facilities; • small café; • education boards (tactile and braille) linking to the reservoir infrastructure and local habitats; and • viewing platform to reservoir. 	<p>Visitor centre (sustainably built) inclusive of:</p> <ul style="list-style-type: none"> • welfare facilities; • educational/training facility which could be used by large groups. <p>Separate café on embankment crest with viewing platform to reservoir</p>	<p>Large multipurpose centre north of reservoir, facilities include:</p> <ul style="list-style-type: none"> • conference functionality, educational/training facility; • restaurant; • welfare facilities; and • gift shop. <p>Separate café on embankment crest with viewing platform to reservoir</p> <p>Additional café (south embankment)</p> <p>Café's using local produce from agricultural activities</p>
	Location	North-eastern embankment	North North-eastern embankment	North North-eastern and South embankment

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
Education	Description	Signage (tactile and braille) around reservoir habitats for educational purposes Paths for access around SESRO infrastructure with educational information boards	Education Centre (own parking/coach parking) Signage (tactile and braille) around reservoir habitats for educational purposes Paths for access around SESRO infrastructure with educational information boards	Education Centre (own parking/coach parking) Signage (tactile and braille) around reservoir habitats for educational purposes Paths for access around SESRO infrastructure with educational information boards
	Location	n/a	North	North
Farming	Description	No farming	Provision of space for vegetable garden	Provision of space for agricultural activities with an organic farm Social farms/Partnerships/ Schools collaboration
	Location	n/a	North	South
Outdoor BBQ and Picnic Facilities	Description	Informal picnic tables Informal designated BBQ areas	Picnic site with tables and informal BBQ areas Informal picnic tables	Official camp site with formal BBQ and welfare facilities east of reservoir Informal picnic tables and
	Location	North, South and East	North, South and East	Multiple
Water Based Recreation	Description	Sign posted formalised swimming areas	Sign posted formalised swimming areas	Sign posted formalised swimming areas

Broad Theme	Description and location	Scenario Options		
		Low	Medium	High
			Angling and sailing zones Sailing Club (with pier or jetty)	Angling centre Sailing Club (with pier or jetty) Official water sports zones Water Sports Storage/Facility (Canoes, Kayaks, Paddle Board etc.)
	Location	North and East of reservoir	North and East of reservoir	North and East of reservoir
Land Based Recreation	Description	Natural play/play park Informal open space for sports	Natural play/play park Outdoor fitness equipment Mini-golf Facility Informal open space for sports Orienteering	2 x Natural play/play park Outdoor fitness equipment Sculpture Trail supporting local artists Signage with proposed activities, and educational challenges linked to trails Large scale adventure park (bouldering, climbing, abseiling etc.)
	Location	Multiple	North and East	Multiple

9.7 Partnerships

- 9.25 There is an opportunity for new partnerships with local groups and societies to be formed as well as strengthening of existing relationships as part of the SESRO development.
- 9.26 All three scenarios present opportunities for education and therefore partnering with local schools and other educational establishments could be beneficial. Abingdon has a number of local schools which could make use of the site, but it is also possible that schools from across Oxfordshire County and Vale of White Horse District could travel to SESRO, this is even more likely in the medium and high scenarios which proposes an Education Centre to the north of the reservoir. Pupils would be exposed to specialist STEAM knowledge: engineering, science and environmental management through the construction and operation of the reservoir and its surrounding areas. Benefits to the area would include a generation of pupils with increased interest and knowledge of STEAM. It is documented that this type of engagement encourages STEAM uptake in higher education, in turn increasing labour supply and productivity of the population in the long run.
- 9.27 All three scenarios provide opportunity for leisure and recreational use for walkers, cyclists and horse-riders, either in the surrounding PRoW network, using the existing and enhanced PRoW network or using the crest or toe walk. Partnerships could be established with local walking and cycling groups to make use of the active travel network proposed for SESRO. Secure cycle facilities are proposed across all three scenarios with the medium and high scenarios also proposing a cycle hire facility as part of the visitor centre attraction.
- 9.28 The water sport opportunities may also attract university clubs and societies. It is likely that these would be created during the high scenario when more space would be made available for angling, sailing and other water sports.
- 9.29 Partnering with local wildlife groups could ensure that they have an active role in the conservation and habitat protection activities proposed for the area. These partnerships would be present across all three scenarios but particularly in the low scenario which focuses on low recreation activity.

10. The Final CAR Scenarios

- 10.1 This section presents the concept maps for the three CAR scenarios proposed for SESRO. The maps are formed from the short list of options provided in Section 1 in Details of Option across Scenarios
- 10.2 Table 9-2, Table 9-3 and Table 9-4. The maps show the different conservation, access and recreational features of SESRO using icons alongside some of the key features of SESRO from Gate 1.
- 10.3 The proposed scenarios range from a low visitor scenario where SESRO could provide an attractive recreational asset enjoyed by the local community to a high visitor scenario where SESRO and its amenities could be considered a tourism destination which may attract visitors from further afield.
- 10.4 It is important to acknowledge that the three scenarios are simply indicative representations of the many possible conservation, access and recreation scenarios that could be produced using any mix of the shortlisted future uses/options. As such, any of the uses or scale of uses within the three scenarios could be added to or removed from each scenario.

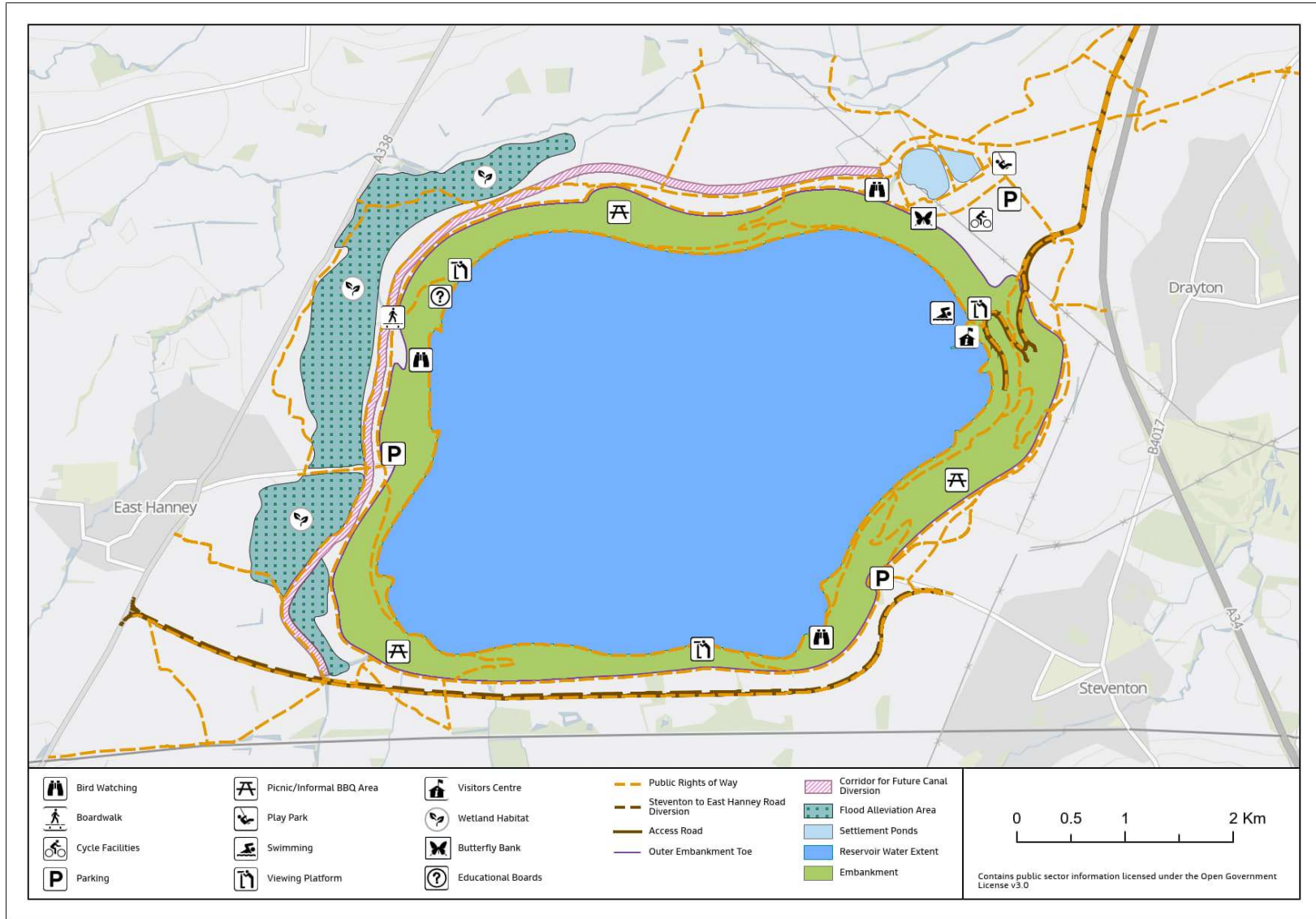


Figure 10.1: Low CAR Scenario

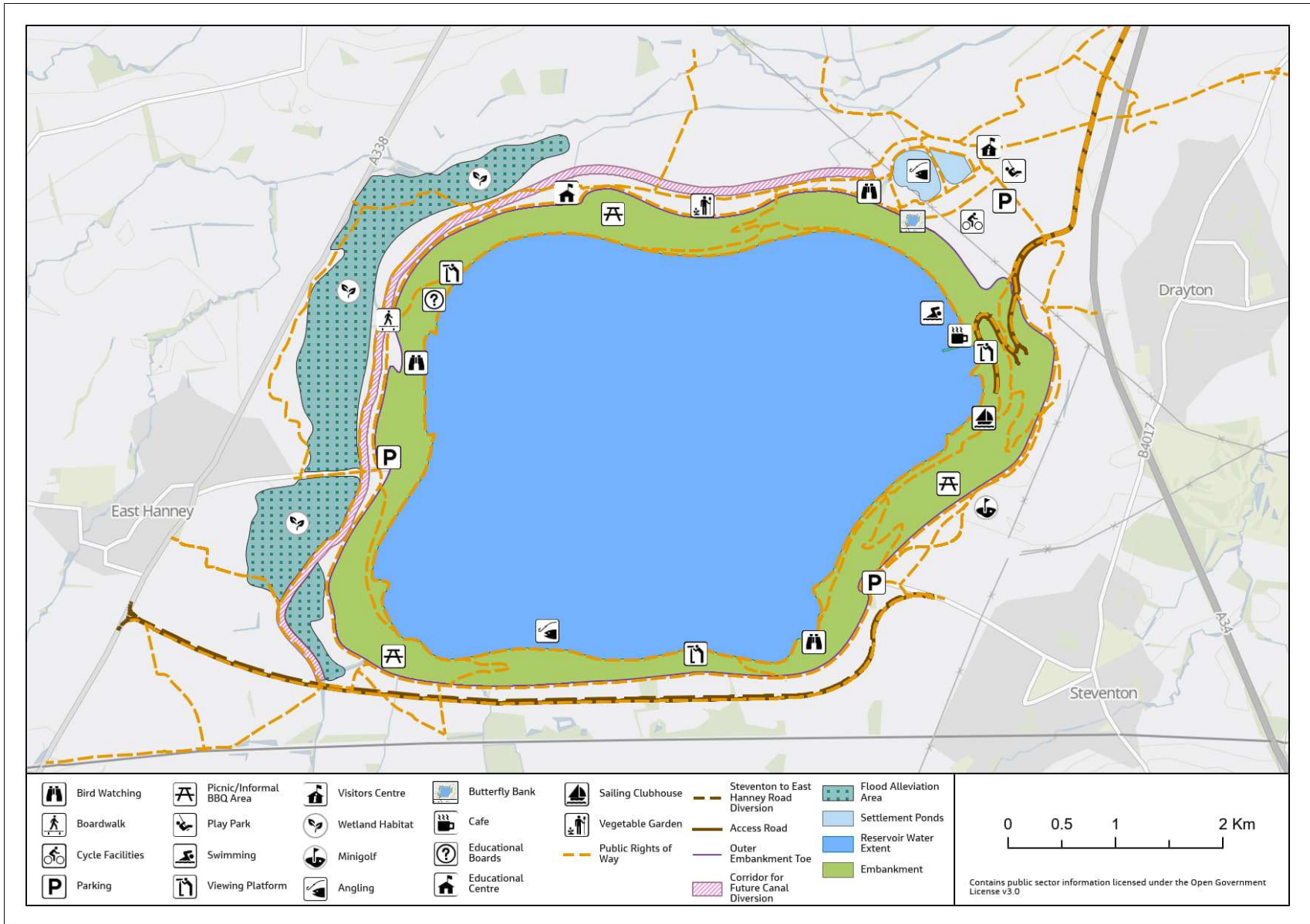


Figure 10.2: Medium CAR Scenario

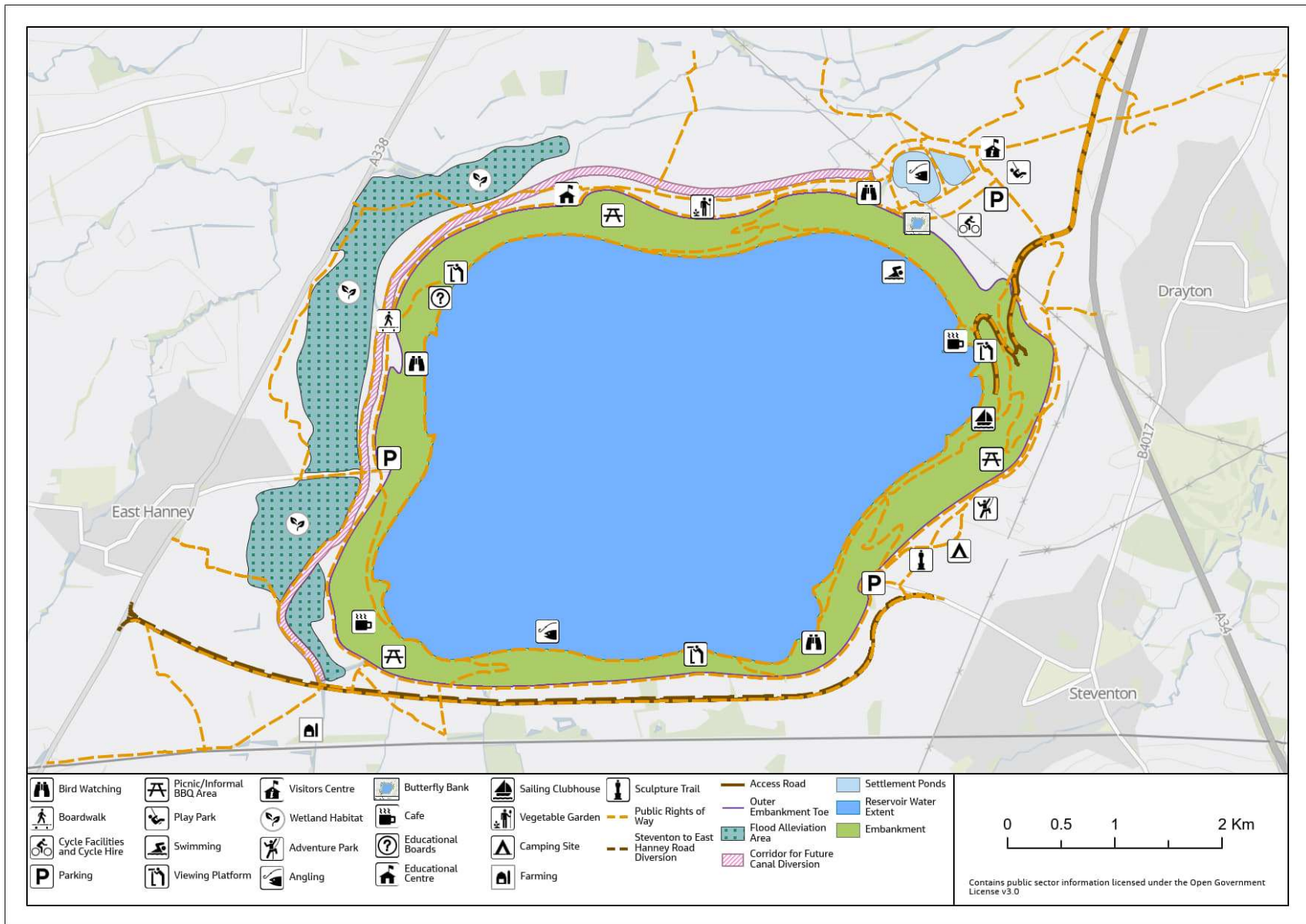


Figure 10.3: High CAR Scenario

11. Role in the Gate 2 Submission and Next Steps

- 11.1 The purpose of the CAR Strategy is to identify and explore potential uses of SESRO beyond its original function. The CAR Strategy aims to find the balance between conservation and recreation and highlight the potential opportunities for the local community.
- 11.2 The CAR Strategy is also intended to inform the SESRO concept design and cost estimation for the RAPID Gate 2 submission and realising potential biodiversity, amenity and recreational benefits.
- 11.3 The concept design required for the Gate 2 submission has considered the potential future uses for SESRO identified in this CAR Strategy, finding a mix of conservation, access and recreation features that work with other design elements. Figure 2.1 Landscape Design Strategy Plan in Technical Support Document B2 Environmental Appraisal Report (terrestrial), prepared for the RAPID Gate 2 submission, provides an illustration of the potential combination of conservation, access and recreation options for SESRO.

11.1 Next Steps

- 11.4 A number of recommendations have been identified in this report that should be considered at subsequent project stages. These include:
- Future stakeholder engagement should be more widespread and include local user groups who have an interest in SESRO as well as key stakeholders that have already been engaged to date. Engagement should be undertaken on the three proposed CAR scenarios with potential discussion on the long list of options to capture the thoughts of other stakeholders that were not engaged at Gate 2.
 - A review of any recent developments in close proximity to SESRO and a review of any changes to the existing environment should be carried out at subsequent project stages. This is to ensure that the proposed CAR options are still relevant and applicable. Consideration should be given to the proposed Wantage and Grove Train Station and the restoration plans for the Wilts and Berks Canal which both have the potential to be linked to SESRO.
 - Further consideration should be given on which PROWs would be designated footpaths or bridleways. This should be developed following community engagement and detailed site surveys to understand the frequency of use of the existing PROW network.
 - Funding of the CAR scenarios and the long-term management of the reservoir including management of the different features and assets proposed for the reservoir should be considered further as the project evolves.

Appendix A Shortlisting the Long List of Options

This appendix presents the long list of options that was created following the review of previous stakeholder engagement, existing environment, the policy review and case study review. These were grouped into broad themes and aligned to either conservation, access or recreation. Table A.1 indicates which of the long list options were shortlisted and the reasoning behind the decision. Where it is stated 'Not considered suitable for site', professional judgment has been used to determine if the option/use is suitable for the site given the engineering, landscape and ecology constraints; requirements of the reservoir by Thames Water; the space available to accommodate the use and whether the use is in keeping with the characteristics of the area.

Table A.1: Shortlisting the long list of options

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
1	Enhanced PROW, cycle trails, Bridleways and national trails	PROW Network	Access	✓	Aligned with policy requirements Outcome of stakeholder feedback
2	Greater integration of restored canal	PROW Network	Access	✓	Suitable for site, space available, if canal promoted. Aligned with policy requirements Outcome of Stakeholder feedback
3	Bridleways for horse riders	PROW Network	Access	✗	Detail to be considered at a later stage of development Outcome of Stakeholder feedback
4	Provision of tow path along Auxiliary Drawdown Channel	Walking and Cycling	Access	✓	Was considered suitable to integrate with potential future Wilts and Berks Canal Outcome of Stakeholder feedback
5	Cycling Circuit	Walking and Cycling	Access	✓	Suitable for site, space available Aligned with policy requirements
6	Bicycle shelter & parking	Walking and Cycling	Access	✓	Suitable for site, space available
7	Pedestrian/Cycle links on both sides of access road to site	Walking and Cycling	Access	✗	To be considered further in the CDR

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
8	Wheelchair friendly walking routes	Walking and Cycling	Access	✓	Suitable for site, space available
9	Boardwalk	Walking and Cycling	Access	✓	Suitable for replacement floodplain storage area
10	Cycle hire	Walking and Cycling	Access	✓	Recommended by Wider Benefits Specialist
11	Green Loop/Trail Around the Lake separation between walking and cycling	Walking and Cycling	Access	✓	Suitable for site, space available Outcome of Stakeholder feedback
12	Guided Walks with Walking Club	Walking and Cycling	Access	✗	Details of partnerships to be considered at a later stage of development
13	Countryside walk/trail	Walking and Cycling	Access	✓	Suitable for site, space available
14	Free car parking	Car Parking Provision	Access	✓	Required to accommodate visitor numbers
15	Improve local car parks to benefit residents	Car Parking Provision	Access	✓	Local car parking provision considered within the design
16	A railway station / link to proposed station	Rail	Access	✗	To be considered at a later stage of development Outcome of Stakeholder feedback
17	Passenger Ferry/Pleasure cruise	Ferry	Access/Recreation	✗	Not considered suitable for site
18	Floating islands	Habitat Creation	Conservation	✓	Recommended by Ecology Specialists Outcome of Stakeholder feedback
19	Creation of specialist habitats such heathlands, chalk grasslands, etc.	Habitat Creation	Conservation	✓	Recommended by Ecology Specialists Aligned with policy requirements Outcome of stakeholder feedback

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
20	Wetland creation	Habitat Creation	Conservation	✓	Recommended by Ecology Specialists Aligned with policy requirements Outcome of Stakeholder feedback
21	Woodland Enhancement	Habitat Creation	Conservation	✗	To be considered at a later stage of development
22	Meadow creation	Habitat Creation	Conservation	✗	Woodland and copse recommended within the Landscape Design Strategy
23	Recovery Zones to Support Wild Oxfordshire Nature Recovery Projects (Hedgerows and Wagtail)	Habitat Creation	Conservation	✗	To be considered at a later stage of development
24	Conservation/Retain Ancient and Veteran trees	Habitat Creation	Conservation	✓	Identified by Ecology Specialists
25	Margin Wetland (constant water level)	Habitat Creation	Conservation	✓	Recommended by Ecology Specialists Aligned with policy requirements Outcome of Stakeholder feedback
26	Arboretum	Habitat Creation	Conservation	✗	Not considered suitable for site
27	Rafts for breeding birds	Habitat Creation	Conservation	✓	Floating islands shortlisted
28	Butterfly banks	Butterfly Banks & reptile hibernacula	Conservation	✓	Suitable for site, space available
29	Reptile hibernacula/ log piles and brash piles.	Butterfly Banks & reptile hibernacula	Conservation	✓	Recommended by Ecology Specialists
30	Bat and Bird boxes installed on retained trees or new buildings (education centre)	Ornithology	Conservation	✓	Suitable for site, recommended by Ecology Specialists

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
31	Kingfisher banks	Ornithology	Conservation	✓	Suitable for site, space available
32	Partnered with ornithological society	Ornithology	Conservation	✗	Details of partnerships to be considered at a later stage of development
33	Bird hides (Binocular hire)	Ornithology	Conservation	✓	Suitable for site, space available
34	Grand house with “Capability Brown” landscape	Landscape	Conservation	✗	Not considered suitable for site
35	Restoration areas in line with Oxford Historic Landscape Characterisation	Landscape	Conservation	✗	Not identified in Landscape Design Strategy
36	Renewable energy generation, hydro power or wind	Renewable Energy	Conservation	✗	To be considered at a later stage of development
37	Floating Solar Panels	Renewable Energy	Conservation	✗	To be considered at a later stage of development
38	Capital Grant Scheme for Conservation Projects	Grant Conservation Projects	Conservation	✗	To be considered at a later stage of development
39	World Class Bioserve	Nature Reserve	Conservation	✗	To be considered at a later stage of development
40	Nature reserves	Nature Reserve	Conservation	✗	To be considered at a later stage of development
41	Nature Recovery Centre	Nature Reserve	Conservation	✗	To be considered as part of the Education Centre at a later stage of development
42	Partnership with local Wildlife Trust	Nature Reserve	Conservation	✗	Details of partnerships to be considered at a later stage of development
43	Country Park	Nature Reserve	Conservation/Recreation	✗	To be considered at a later stage of development
44	Fish farm	Aquaculture	Conservation/Recreation	✗	Not considered suitable for site

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
45	Water garden	Aquaculture	Recreation	✗	Boardwalks around wetland creation considered to achieve this
46	Waterfall feature	Aquaculture	Recreation	✗	Not considered suitable for site
47	Visitor/ Multipurpose centre / conference centre	Visitor Centre / Café	Recreation	✓	Suitable for site, space available, location of welfare facilities Outcome of Stakeholder feedback
48	Gift Shop/Shop	Visitor Centre / Café	Recreation	✓	Suitable for site, space available
49	Viewpoints / viewing platform with seating	Visitor Centre / Café	Recreation	✓	Suitable for site, space available
50	Restaurant /café	Visitor Centre / Café	Recreation	✓	Suitable for site, space available, location of welfare facilities
51	An Eden Project for Oxfordshire	Education	Recreation	✗	Not considered suitable for site
52	Accessible information boards (tactile and braille)	Education	Recreation	✓	Suitable for site, space available
53	Education and Research (education programmes)	Education	Recreation	✗	To be considered at a later stage of development, can be integrated within the Education Centre
54	Outdoor science museum	Education	Recreation	✗	Not considered suitable for site
55	Heritage/Archaeological centre	Education	Recreation	✗	Not considered suitable for site
56	Wildlife and nature, local school study centre	Education	Recreation	✓	Suitable for site, space available Aligned with policy requirements Outcome of Stakeholder feedback

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
57	Provision of space for agriculture	Farming	Recreation	✓	Suitable for site, space available
58	Organic farm, possibly incorporating rare breeds	Farming	Recreation	✗	Not considered suitable for site
59	Community Orchard / vegetable garden	Farming	Recreation	✓	Suitable for site, space available
60	BBQ Area	Outdoor BBQ and Picnic Facilities	Recreation	✓	Suitable for site, space available
61	Campsite	Outdoor BBQ and Picnic Facilities	Recreation	✓	Suitable for site, space available
62	Organic picnics, fish and pick your food for the pot	Outdoor BBQ and Picnic Facilities	Recreation	✓	Suitable for site, space available
63	Picnic areas	Outdoor BBQ and Picnic Facilities	Recreation	✓	Suitable for site, space available
64	Angling centre (with boat hire, including wheelyboats for disabled anglers)	Water Based Recreation	Recreation	✓	Suitable for site, space available
65	Outdoor recreation hub / water sport storage facility	Water Based Recreation	Recreation	✓	Suitable for site, space available
66	Scuba diving to a sunken 'wreck'	Water Based Recreation	Recreation	✗	Not feasible at reservoir
67	Partner with local sailing club	Water Based Recreation	Recreation	✗	Details of partnerships to be considered at a later stage of development

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
68	Water sports: Sailing, canoeing, kayaking, wind-surfing, scuba diving	Water Based Recreation	Recreation	✓	Suitable for site, space available
69	Pier/Jetty	Water Based Recreation	Recreation	✓	Considered a feature of the sailing club
70	Informal parkland	Park	Recreation	✗	General open space around the site is included in the Design Landscape Strategy
71	Land art	Land Based Recreation	Recreation	✓	Suitable for site, space available
72	Sculpture Trail / art exhibition	Land Based Recreation	Recreation	✓	Suitable for site, space available
73	Artificial Sand Beach	Land Based Recreation	Recreation	✗	Not considered suitable for site
74	Equestrian Centre/Pony trekking	Land Based Recreation	Recreation	✗	Not considered suitable given proximity to existing horse-riding centres
75	Events area / natural amphitheatre /opera	Land Based Recreation	Recreation	✗	Not considered suitable for site
76	Sports and Recreation Facilities (water and land based), possibly linked to a university	Land Based Recreation	Recreation	✓	Suitable for site, space available Outcome of Stakeholder feedback
77	Kite flying	Land Based Recreation	Recreation	✗	Considered an informal sport that visitors could do without a dedicated space

No.	Definition of use/facility	Broad Themes	Access/Conservation /Recreation	Shortlisted (✓/✗)	Reason
78	Orienteering	Land Based Recreation	Recreation	✓	Suitable for site, space available
79	Play Landscape be-MINE	Land Based Recreation	Recreation	✗	Not considered suitable for site
80	Adventure Park / Tree Top Trail	Land Based Recreation	Recreation	✓	Suitable for site, space available
81	Golf Course / mini golf	Land Based Recreation	Recreation	✓	Suitable for site, space available
82	Children's Outdoor Playground Area / natural playground	Land Based Recreation	Recreation	✓	Suitable for site, space available
83	Outdoor fitness equipment	Land Based Recreation	Recreation	✓	Suitable for site, space available
84	Skating	Land Based Recreation	Recreation	✗	Not considered suitable for site
85	Zoo	Land Based Recreation	Recreation	✗	Not considered suitable for site
86	Lookout tower	Asset	Recreation	✗	Not recommended by Landscape Specialist
87	Vineyard	Viticulture	Recreation	✗	Not considered suitable for site

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