

Regulators' Alliance for Progressing
Infrastructure Development

December 2021



Strategic regional water resource solutions: Standard gate one final decision for Minworth Strategic Resource Option



Contents

1.	Introduction	3
2.	Solution summary	4
3.	Summary of representations	5
3.1	Representations received	5
3.2	Our Response	6
3.2.1	Transparency in cost estimates	6
3.2.2	Deployable Output assessments and stochastic flow data	7
3.2.3	Carbon costing	7
3.2.4	Minworth Source Capacity	7
3.2.5	Utilisation of gate one underspend at gate two	8
4.	Solution assessment summary	9
4.1	Solution progression and funding to gate two	9
4.2	Evidence of efficient expenditure	9
4.3	Quality of submission	10
4.3.1	Solution Design	10
4.3.2	Evaluation of Costs & Benefits	11
4.3.3	Programme and Planning	11
4.3.4	Environment	11
4.3.5	Drinking water quality	12
4.3.6	Board Statement and assurance	12

5. Proposed changes to partner arrangements	14
6. Actions and recommendations	15
7. Gate two activities	16
8. Incentives for gate two	17
Appendix: Actions and recommendations	18

1. Introduction

The purpose of this publication is to set out our final decision in respect of the Minworth SRO standard gate one assessment by solution sponsors Severn Trent Water and Affinity Water.¹ The solution includes two options, the first option is a deployable output of up to 100Mld discharged into the Grand Union Canal for downstream abstraction by Affinity Water, and the second option is a discharge of up to 115Mld into the River Avon to supplement the Severn to Thames Transfer SRO, with the possibility of a combination of both options being explored. The background and context of the Severn Trent Water and Affinity Water solution can be found in the Minworth Effluent Reuse SRO publication document on the Severn Trent Water and [Affinity Water](#) websites.

This publication should be read in conjunction with the final decision letter issued to each solution sponsor. Both this document and final decision letters have been published on our website today.

The assessment process is overseen by RAPID, with input from the partner regulators Ofwat, the Environment Agency and the Drinking Water Inspectorate. The Environment Agency together with Natural England and, where a solution impacts Wales, Natural Resources Wales, have reviewed the environmental sections of the submissions, and have provided feedback to RAPID. The Consumer Council for Water provided input to the assessment on customer engagement.

The solution sponsors and other interested parties had the opportunity to respond to the draft decision during the representation period, which followed the publication of the draft decisions on 14 September 2021. We have taken all relevant representations into account in making our final decision.

We would like to thank Severn Trent Water and Affinity Water for the level of engagement, collaboration, and innovation that they have exhibited during this stage in the gated process.

¹ Referred to in PR19 final determination as “Minworth Effluent Reuse Source”

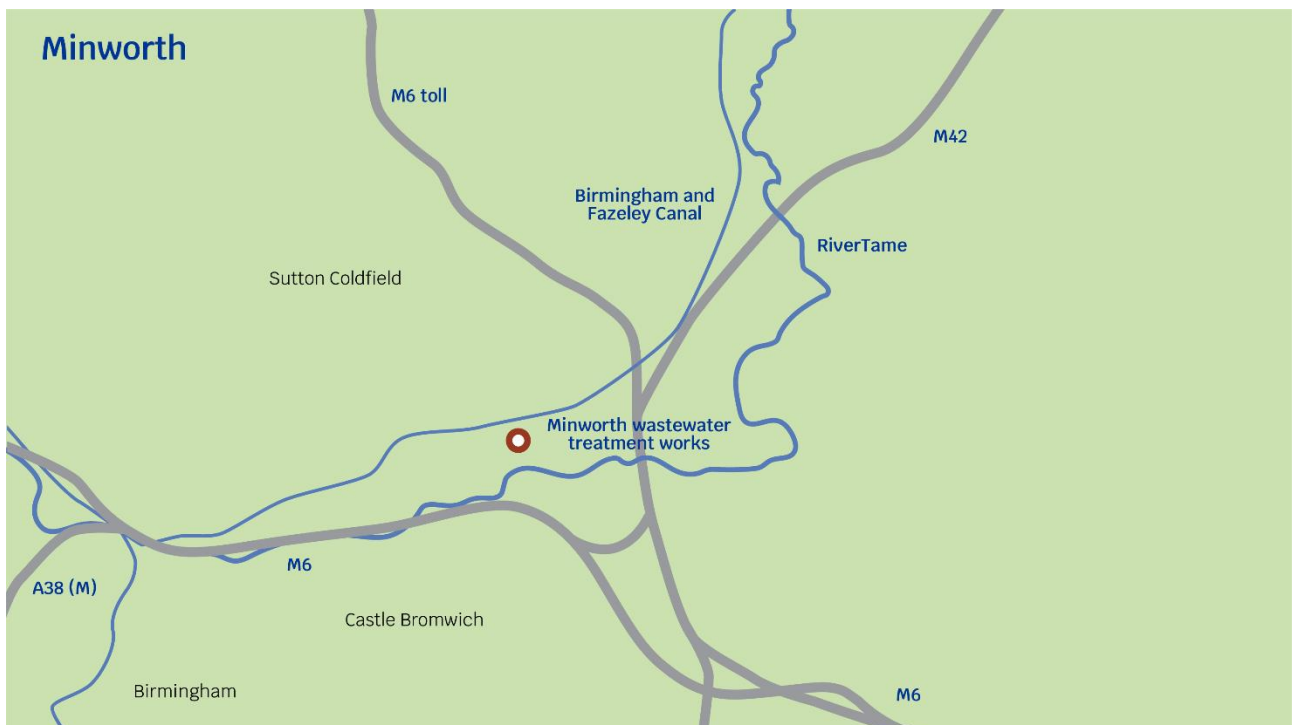
2. Solution summary

Minworth Reuse SRO could provide a source of raw water flow augmentation to support the Grand Union Canal (GUC) Transfer SRO, and/or Severn Thames Transfer (STT) SRO, by diverting treated wastewater currently discharged into the River Tame and, with some additional treatment, discharging it into the River Avon and/or the Grand Union Canal system.

There are three feasible raw water transfer options summarised below and represented in a schematic in Figure 1. The capacity for each of the options below will be further investigated at gate two.

- **1: GUC** – Potential to provide up to 100Mld treated wastewater to the Grand Union Canal system to supply Affinity water via a new or upgraded WTW.
- **2: STT** – Potential for up to 115Mld of further treated wastewater discharged to the River Avon to supplement flows to the River Thames forming part of the Severn to Thames (STT) transfer.
- **3: GUC / STT** – Potential to support both schemes from Minworth, with a combined output of up to 215Mld.

Figure 1 : Minworth Re-use



3. Summary of representations

3.1 Representations received

We have received the following representations relevant to Minworth Effluent Reuse SRO.

Table 1 Summary of representations

Representation from	Summary of representation
<p>Group Against Reservoir Development (GARD)</p>	<p>Transparency of cost estimates GARD cites concerns over a lack of transparency in solution cost estimates generally, requesting further detail to the level that was included in the Fens reservoir gate one report.</p> <p>Deployable output and stochastic flow data GARD is also concerned about a lack of transparency in deployable output (DO) assessments, suggesting the evidence should be made available for scrutiny of the assumptions, data, and outputs of the modelling.</p> <p>GARD have concerns over the reliability of stochastic river flow data, such as: inaccurate weather data for groundwater-dominated catchments; the stochastic weather base period not containing any long duration droughts; the base period excluding weather since 1997; and the geological difference in catchments not being reflected in the generated Thames and Severn flows.</p> <p>Carbon costing GARD asserts that the gate one reports are poor on the subject of carbon costing of strategic options and have shortcomings in the data presented.</p> <p>Minworth Source Capacity GARD expressed concern with restricting the use of the Minworth source to a maximum of</p>

	<p>215 Ml/d when the dry weather flow from Minworth STW is over 400 Ml/d.</p> <p>Proposed that options with greater use of Minworth STW for supporting the STT should be considered, particularly for options that use the 500 Ml/d capacity transfer from the Severn to the Thames.</p> <p>Suggested that investigations into the maximum use of the Minworth source should consider that only a small amount of the dry weather flow originates from the catchment of the River Tame. Therefore, the effluent discharge into the River Tame should be reduced for a more natural flow regime in the river. They should also consider diverting Minworth effluent back to the River Severn (from where it originated) via the River Avon rather than exporting it to the Tame and Trent.</p>
<p>Affinity Water and Severn Trent</p>	<p>Affinity Water and Severn Trent confirmed they have no concerns with the actions and recommendations from Ofwat/RAPID and intend to resolve each in gate two.</p> <p>Affinity Water and Severn Trent inquired about the possibility of utilising the underspend of their gate one allowance for gate two activities. The final and reconciled costs are £ 292,112 lower than those reported in the gate one submission.</p>

3.2 Our Response

We have taken the representations into account in our final decisions and set out below our response to the key points and issues raised.

3.2.1 Transparency in cost estimates

We do not consider information about solution costs to be material to gate one decisions. Gate one is a checkpoint and is the first opportunity to check the progress made by solution owners on investigations and development of solutions in the gated process. At gate one, all

solutions were expected to progress to gate two and continue to receive ring-fenced funding unless there was a clear reason why they should not.

Solution costs will be considered further from gate two onwards and in regional plans and water resource management plans. We will provide companies with guidance on presenting and publishing solution costs in their gate two submissions.

3.2.2 Deployable Output assessments and stochastic flow data

This solution does not have any direct deployable output benefit. The deployable output benefit is realised through the transfer solutions that it supports, Severn Thames Transfer and Grand Union Canal.

3.2.3 Carbon costing

Gate one assessment of solution submissions took account of the fact that assessments of the carbon implications of the solution would inevitably contain a significant degree of uncertainty given the stage of solution development. We consider that the level of information presented on carbon was sufficient for gate one. Solution development to gate two should follow the Water Resources Planning Guidelines for WRMP24 section 8.3.2 which states expectations for accounting for and reducing greenhouse gas emissions. The design should consider; build nothing, build less, build clever and build efficiently throughout the development of the solution, with offsetting only as a last resort. We expect all direct mitigations to be included in the solution costs. The solution should also be considered by the water company within their wider carbon plans.

We will require any carbon assessment annexes to be published alongside the submission at gate two.

3.2.4 Minworth Source Capacity

In response to GARD's comment that use of the Minworth source at capacities greater than 215 Ml/d should be considered to support the STT solution, the capacities of options considered within the RAPID process were developed by solution owners taking into account feasibility, output and environmental assessments in order to progress delivery of water resource management plans at WRMP19. We expect that any larger capacity options would be identified and assessed through the regional and company planning process at WRMP24 and an update to be provided on option capacities at gate two.

3.2.5 Utilisation of gate one underspend at gate two

Some solution owners raised concerns in their representations regarding whether gate two allowances would be sufficient for completion of gate two activities and suggested that gate one underspend should be carried forward to gate two. The percentage allocations to each gate in our Final Determination at PR19 were inherently imprecise and were based on our understanding of likely profile of activities to be carried out in progressing the development and investigation of solutions taking into account companies' proposals in this respect. We now have an improved understanding of the activities to be carried out at gate two and consider that it will be beneficial to allow funding allowance that has not been used at gate one to be made available to solution owners for carrying out gate two activities.

We have therefore decided to merge gate one and gate two allowances for this solution. This will allow any underspend on gate one activities to be used for gate two activities. We will continue to scrutinise expenditure to ensure that it is appropriate and efficient. Companies remain responsible for management of cost risk to meet gate requirements.

4. Solution assessment summary

Table 21 Final decision summary

Recommendation item	Minworth Effluent Reuse Strategic Resource Option
Solution sponsors	Severn Trent Water and Affinity Water
Should further funding be allowed for the solution to progress to gate two?	Yes
Is there evidence all expenditure is efficient and should be allowed?	Yes
Delivery incentive penalty?	No
Is there any change to partner arrangements?	No
Is there a need for a remediation action plan?	No

4.1 Solution progression and funding to gate two

The evidence suggests that the solution is a potentially valuable way of supplying water to customers. Based on our assessment of the potential solution costs and benefits we have concluded that the solution should progress through the gated process to gate two, and that further funding be allowed.

This solution's total allowance and gate allowances remain the same as the final determination.

We have decided to merge the gate one and gate two allowances. This results in a total allowance of £1.80m being available at gate two. Companies remain responsible for management of cost risk to meet gate requirements.

4.2 Evidence of efficient expenditure

The PR19 final determination specified that any expenditure on activities outside the gate activities for the identified solutions (or solutions that transfer in) will be considered as inefficient and be returned to customers. We will consider whether gate activity is efficient by considering the relevance, timeliness, completeness, and quality of the submission which should be supported by benchmarking and assurance.

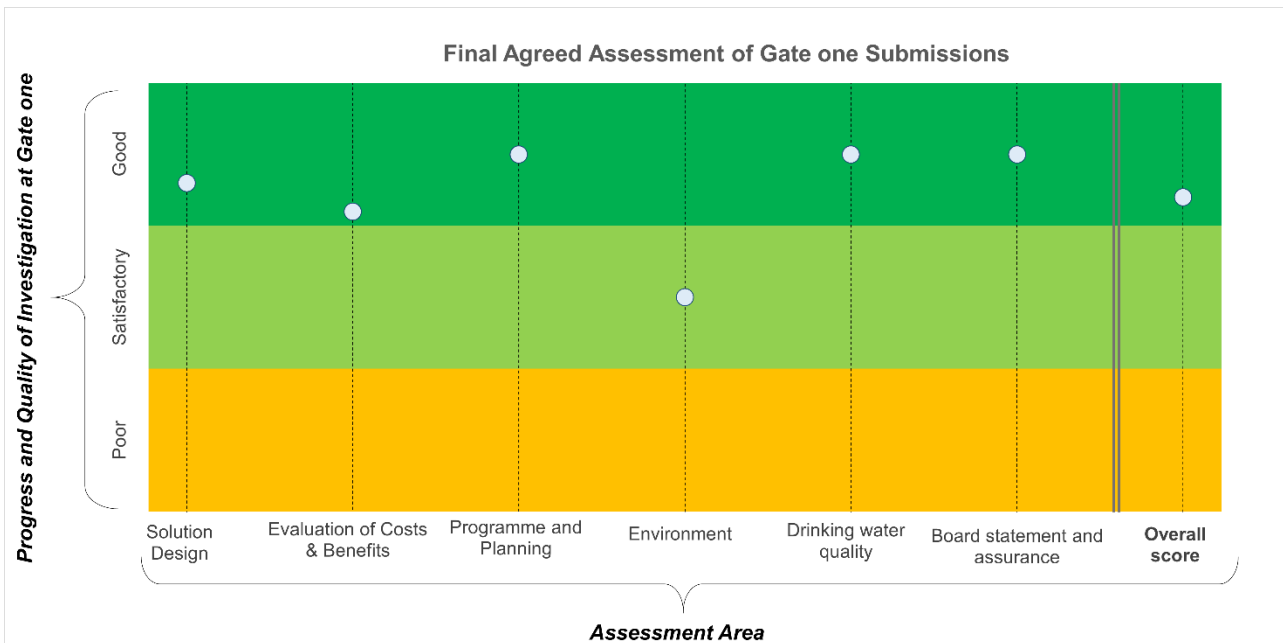
Our assessment of the efficient costs as spent on gate one activities results in an allowance for this solution of £0.45m (of £0.45m claimed). We have made no adjustments to the costs claimed. These costs reflect final and reconciled costs.

4.3 Quality of submission

The aim of the assessment was to determine whether appropriate progress has been made towards delivery of the solution. We recognise at this stage solutions may be at different development points and the assessment takes this into account.

Figure 2 shows our assessment of the work completed on the solution, which was presented in the submission. Our assessment was made against the criteria of robustness, consistency and uncertainty to grade each area of the submission as good, satisfactory or poor in accordance with our guidance published on 22 February 2021. We also assessed the Board assurance provided.

Figure 2 – Submission Assessment



Our overall assessment for the solution submission is that it is good (meets expectations).

4.3.1 Solution Design

Our assessment of the solution design considered the quality of the evidence provided on the initial solution and options; the anticipated operational utilisation of solutions; the interaction of the solution with other proposed water resource solutions and stakeholder and customer engagement. The assessment also considered whether information was provided on the context of the solution's place within company, regional and national plans.

We consider Affinity Water and Severn Trent Water to have provided good evidence of progress in developing the solution design for gate one, although there are some areas where this falls short particularly in relation to assessment of operation, utilisation and

interdependencies. Further work is needed to provide more detail in these areas following regional modelling, including interaction with other SRO and non-SRO options. Further work is required to put the SRO in context with company, regional and national plans and to understand the option's supply capacity and operational utilisation.

4.3.2 Evaluation of Costs & Benefits

Our assessment of the evaluation of costs and benefits considered the quality of the information provided on initial solution costs; the societal, environmental and economic cost and benefits, water resource benefits and wider resilience benefits. The assessment also considered whether evidence was provided on how the solution delivers a best value outcome for customers and the environment.

We consider that the sponsor companies provided good evidence of progress in developing the solution design for gate one, although we expect to see this expanded upon with more detail in the gate two submission.

4.3.3 Programme and Planning

Our assessment of the programme and planning considered whether Severn Trent Water and Affinity Water presented a programme with key milestones and whether its delivery is on track. The assessment also considers the quality of the information provided on risks and issues to solution progression, the procurement and planning route strategy and subsequent gate activities with outcomes, penalty assessment criteria and incentives.

We consider the evidence provided by Affinity Water and Severn Trent Water regarding the programme and planning, risks and issues and the procurement and planning route strategy for Minworth Effluent Reuse SRO to be of good detail and quality for gate one.

4.3.4 Environment

Our assessment of environment considered the initial environmental assessment; the identification of environmental risks and an outline of potential mitigation measures; the detailed programme of work used to address environmental assessment requirements and the initial outline of how the solution will take into account the carbon commitments.

We consider Affinity Water and Severn Trent Water to have provided satisfactory evidence of progress in the environmental assessment, potential mitigations, future work programmes and embodied and operational carbon commitments for gate one. The areas of shortfall identified relate to environmental assessments, the identification of environmental risks and

mitigation measures and a lack of detail in the presented programme of work to address environmental assessment requirements including monitoring.

Environmental assessments should be refined for gate two, including a review of scopes and further monitoring. There is a significant amount of further work required to understand the hydrological, water quality and geomorphological dynamics along the River Tame and River Trent and potential impact on ecology and environment is very important. In-combination reviews through statutory assessments will be crucial, as will the impact of any in-combination or interdependencies of other SROs. The sponsor companies must work with the Environment Agency and Natural England to ensure potential risks are addressed through a detailed work program, including scope and mitigation requirements for identified impacts.

The programme of work to deliver at gate two will be challenging.

4.3.5 Drinking water quality

Our assessment of drinking water quality considered drinking water quality and risk assessments; evidence that the solution has been discussed with the drinking water quality team and a plan for future work to develop Drinking Water Safety Plans (DWSPs).

We consider that the information provided in this submission on drinking water quality risks, stakeholder engagement and DWSPs for gate one was good. We expect to see further development of DWSPs, water quality monitoring, including for emerging contaminants, and wider stakeholder engagement with ongoing dialogue with the respective water quality teams in gate two.

4.3.6 Board Statement and assurance

The evidence provided relating to assurance has been assessed as good.

The solution sponsors have provided Board statements that indicate:

- their support of submission recommendations for solution / option progression;
- they are satisfied that progress on the solution is commensurate with the solution being construction ready for 2025-30;
- they are satisfied the work carried out to date is of sufficient scope, detail and quality as would be expected for a large infrastructure project of this nature at this stage; and
- that expenditure has been incurred on activities that are appropriate for gate one and is efficient.

These statements are accompanied by an explanation of the approach to assurance and a description of the evidence and information that the Boards have relied on in giving the statements.

5. Proposed changes to partner arrangements

There are no proposed changes to partner arrangements.

6. Actions and recommendations

Where the submission has not been assessed as 'meeting expectations' we have provided feedback on where we will seek remediation of the issues. We have also identified specific steps that solution owners should take in preparing for gate two.

We have categorised these remediation issues and steps into priority actions, actions and recommendations.

Priority actions are those that should have been completed at gate one and must now be addressed on a short timescale in order to make sure the solutions stay on track. They require urgent remediation in full and for this reason directly relate to the assessment of delivery incentives set out in this publication. The response to the priority actions will determine whether a delivery incentive is imposed; and the extent to which the delivery incentives can be mitigated by the solution sponsors. If all priority actions are satisfactorily completed, then the penalty will not be imposed. If one or more of the priority actions are not satisfactorily completed, then the whole of the penalty will be imposed.

We have also identified actions that should be addressed in full in the gate two submission. The response to these actions will influence the assessment of the gate two submission.

Recommendations are issues where additional information or clarification could improve the quality of future submissions.

No priority actions have been identified for Minworth Effluent Reuse SRO, therefore we do not require the solution sponsors to provide us with a remediation action plan. The full list of other actions and recommendations can be found in the appendix.

7. Gate two activities

The solution will continue to be funded to gate two as part of the standard gate track.

For its gate two submission, we expect Severn Trent Water and Affinity Water to complete the activities listed in the [PR19 final determinations: strategic regional water resources solutions appendix](#) as expanded on in its gate one submission.

8. Incentives for gate two

For gate two we maintain the same arrangements for incentives as applied in gate one – that is, a maximum penalty of 30% of company's total efficient gate funding that could be applied to solutions that have not made adequate progress, where work is of inadequate quality, or the submission deadline is missed.

Penalties will be determined on a case by case basis taking into account:

- the level of completeness and the overall quality of the work carried out in investigating and developing the solution based on the evidence summarised in the submission;
- the evidence and justification provided where aspects of the work carried out fall short of expectations; and
- the impact on the decisions and delivery of solutions, including the extent to which deficiencies adversely impact customers.

Penalties will be applied through the PR24 reconciliation mechanism, as described in '[PR19 final determinations: Strategic water resource solutions](#)'.


There will be no opportunity to remediate deficiencies identified at the assessment in order to defer penalties.

Appendix: Actions and recommendations

Actions – to be addressed in gate two submission		
Number	Section	Detail
1	Solution Design	This needs to be fully developed taking into account all scenarios to establish the best option. A catchment / multi-option overarching report should be provided for gate two to give full confidence that the complex interactions between these options has been fully assessed. We would expect this to be part of the in-combination assessment following the outputs of the regional plans.
2	Costs and Benefits	Ensure that assessment of costs and benefits take into account any environmental impact as a result of any diversion of effluent discharge. The solution needs to be included in Water Resources East regional plan if being utilised for South Lincolnshire Reservoir and/or Anglian to Affinity Transfer SROs.
3	Costs and Benefits	Ensure a best value analysis, following relevant guidelines and including environmental/societal/economic costs, is undertaken and presented for all of the options within this SRO.
4	Environment	The assessment considering the requirements of the Water Environment (Water Framework Directive)(England and Wales) Regulations 2017 needs to consider deterioration (including in-class deterioration) and pathway to Good. The Habitats Regulations Assessment (HRA) needs to consider indirect impacts on the River Mease SAC further and those protected species that may utilise it as functionally linked habitat from the Humber Estuary.
Recommendations		
Number	Section	Detail
1	Stakeholders	Produce a stakeholder engagement plan, including identification of wider / local stakeholders.
2	Costs and Benefits	Further consider social and amenity value, if this is limited due to type of solution, this can be explained in the submission.
3	Environment	Site features must be considered even outside of the designated site boundary, particularly in relation to migratory fish species as this functional linkage can extend throughout catchments.
4	Costs and Benefits	Carry out studies to investigate source option-specific wider resilience opportunities in gate two once regional modelling outputs are complete.
5	Drinking Water Quality	The risk assessment must consider the impact of influent on the treatment process at Minworth Wastewater Treatment Works (WwTW) and inclusion of a failsafe shut down to ensure that any partial or full treatment failure at Minworth WwTW does not lead to non compliant wastewater being discharged for abstraction/transfer to STT/GUC.

Standard gate one final decision for Minworth Strategic Resource Option
OFFICIAL

6	Drinking Water Quality	Review learning from previous drinking water quality events where changes in water quality has impacted on customer acceptability.
---	------------------------	--



Owat
Centre City Tower
7 Hill Street
Birmingham B5 4UA
Phone: 0121 644 7500

© Crown copyright 2021

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3.

Where we have identified any third party copyright information, you will need to obtain permission from the copyright holders concerned.

This document is also available from our website at www.ofwat.gov.uk.

Any enquiries regarding this publication should be sent to mailbox@ofwat.gov.uk.

OGL