



ANNEX J

Gate 1 Decisions, Actions and Recommendations

This document has been written in line with the requirements of the RAPID gate two guidance and to comply with the regulatory process pursuant to Severn Trent 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, Severn Trent 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.

Annex J1: Minworth Gate 1 Decision Actions and Recommendations

We have addressed the Regulators actions and recommendations given on our gate 1 paper as shown below.

Table 1: Response to Regulator Actions

Nr	Section	Actions	Where is it addressed?	How is it addressed?
A1	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.	<ul style="list-style-type: none"> Gate 2 submission – Section 3 (Solution design, options and sub-options). Annex A1 Engineering CDR (Section 1.4 Sizing and Phasing). Annex A3 (ii) Process Options Report. 	<ul style="list-style-type: none"> Treatment and transfer options have been developed taking account of the support requirements of the inter-regional transfers and the environmental impacts on the existing and proposed receiving watercourses (Rivers Tame, Trent, Avon and Severn). Concept designs for four different flow profiles identified by Severn Trent have been developed to allow scalability and phasing of delivery to be considered by water resource modelling, to give the range of potential outcomes for the scheme. At the time of writing, WRSE is expected to publish its best value draft regional plan in Autumn 2022.
A2	Cost & 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 Anglican to Affinity Transfer SROs.	<ul style="list-style-type: none"> Gate 2 submission – Section 4 (Water Resource Assessment) Annex A5 – Evaluation of SRO Scheme Utilisation. Gate 2 submission – Section 6 (Environmental Assessment). Annex B1 Aquatic Ecology Monitoring Annex B2 Tame & Trent Modelling Annex B2 Flow Reduction Investigations Tame & Trent Annex B3 Environmental Assessment Tame & Trent, Joint Report for Minworth and SLR. 	<ul style="list-style-type: none"> Minworth's maximum total supply capacity has taken into consideration the need to avoid unacceptable environmental impacts on the River Tame and Trent STW have worked closely with the SLR SRO project team to understand River Trent interactions and the potential for a joint solution.
A3	Cost & 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.	<ul style="list-style-type: none"> Gate 2 submission – Section 3 (Solution design, options and sub-options) Annex A2 Pipeline Route Appraisal Report. Annex A3 (i) Process Basis of Design Report. Annex B5 Water Quality Modelling 	<p>The option assessment has considered the following factors in order to ensure a best value outcome of the analysis:</p> <ul style="list-style-type: none"> Engineering and design – construction risk, buildability, material choice, and hydraulic efficiency assessed. Pilot plant trials planned to optimise solution selection. Environmental impact – ecological impacts, embedded and operational carbon and flood risk assessed Social impact – impact and disruption to local communities assessed and initial stakeholder feedback considered Cost – comparison between estimated economic costs has been undertaken

Nr	Section	Actions	Where is it addressed?	How is it addressed?
				<ul style="list-style-type: none"> Programme – relative programme durations and ease of construction have been considered Value – wider environmental and societal value considered and assessed
A4	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.	<ul style="list-style-type: none"> Gate 2 submission – Section 6 (Environmental assessment). Annex B1 Aquatic Ecology Monitoring Annex B2 Tame & Trent Modelling Annex B2 Flow Reduction Investigations Tame & Trent Annex B3 Environmental Assessment Tame & Trent, Joint Report for Minworth and SLR Annex B3.1.4 Environmental Assessment – Minworth & SLR – River Mease SAC 	<ul style="list-style-type: none"> Our work in Gate 2 shows that the reduction of discharge into the River Tame and Trent system will not negatively impact environmental features, such as SSSIs, that adjoin the river system. The Gate 2 investigations and modelling undertaken regarding the River Mease SAC has supported a conclusion of no likely significant effect on the River Mease SAC, either alone or in combination with other projects and plans. In fact, any flow reduction in the River Mease may contribute to the SAC being more likely to achieve its flow targets. Impacts on the Humber Estuary SAC are uncertain at Gate 2 due to potential changes in fish pass operation caused by changes in water level. Work is underway to improve our modelling, including 2D modelling of the ‘at risk’ weirs. It is expected that this better quality information, available for Gate 3, will lead to a reduction in this risk.

Table 2: Response to Regulator Recommendations

Nr	Section	Recommendations	Where is it addressed?	How is it addressed?
R1	Stakeholders	Produce a stakeholder engagement plan, including identification of wider / local stakeholders.	<ul style="list-style-type: none"> Gate 2 submission – Section 9 (Stakeholder and customer engagement). Annex D – Stakeholder Engagement 	<ul style="list-style-type: none"> Our stakeholder engagement programme combines two strands of activity - engagement via the water resources planning process as well as engagement on specific scheme issues. We have commenced a dialogue with the wider stakeholder community and special interest groups to ensure there is a full understanding of concerns.
R2	Cost & Benefits	Further consider social and amenity value, if this is limited due to type of solution, this can be explained in the submission.	<ul style="list-style-type: none"> Gate 2 submission – Section 6 (Environmental Assessment). Annex B3 – Environmental Assessment – Minworth & SLR (Summary Report) – SEA, HRA, WFD, BNG & Nat Cap, INNS 	<ul style="list-style-type: none"> Opportunities for Natural Capital increases have been investigated, however there are limited improvements available as part of the core scheme engineering element; in the context of the broader catchment, benefits and mitigations identified on the Rivers Tame and Trent could bring significant net gain to the scheme.
R3	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.	<ul style="list-style-type: none"> Gate 2 submission – Section 6 (Environmental Assessment). Annex B2 Tame & Trent Modelling 	<ul style="list-style-type: none"> In terms of fish passage, the Gate 2 assessment suggests that the River Trent would not be impacted by any of the assessed flow reduction scenarios, however the assessment of fish passage which will continue through Gate 3 based on the results of on-going hydraulic modelling.
R4	Cost & Benefits	Carry out studies to investigate source option-specific wider resilience opportunities in gate two once regional modelling outputs are complete.	<ul style="list-style-type: none"> Gate 2 submission – Section 4 (Water Resource Assessment). Annex A5 – Evaluation of SRO Scheme Utilisation 	<ul style="list-style-type: none"> The key benefit of using Minworth SRO as a source for another SRO transfer is that wastewater is always produced and fed into Minworth STW for treatment. Therefore, it is very resilient to drought, which improves the resilience of the subsequent transfer SRO. At the time of writing, WRSE is expected to publish its best value draft regional plan in Autumn 2022.

Nr	Section	Recommendations	Where is it addressed?	How is it addressed?
R5	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.	<ul style="list-style-type: none"> Gate 2 submission – Section 3 (Solution design, options and sub-options). 	<ul style="list-style-type: none"> The proposed design incorporates a bypass to protect the STT / GUC SROs by enabling out-of-specification tertiary treated flow to be returned to the River Tame.
R6	Drinking Water Quality	Review learning from previous drinking water quality events where changes in water quality has impacted on customer acceptability	<ul style="list-style-type: none"> Gate 2 submission – Section 5 (Drinking water quality considerations). 	<ul style="list-style-type: none"> As this scheme does not directly provide drinking water there are no drinking water-based mitigations from the scheme. The proposed treatment at Minworth WwTW will substantially improve the quality of the water that is discharging and improves the water quality within the GUC; by improving the quality of the canal this scheme provides upstream mitigation for drinking water.