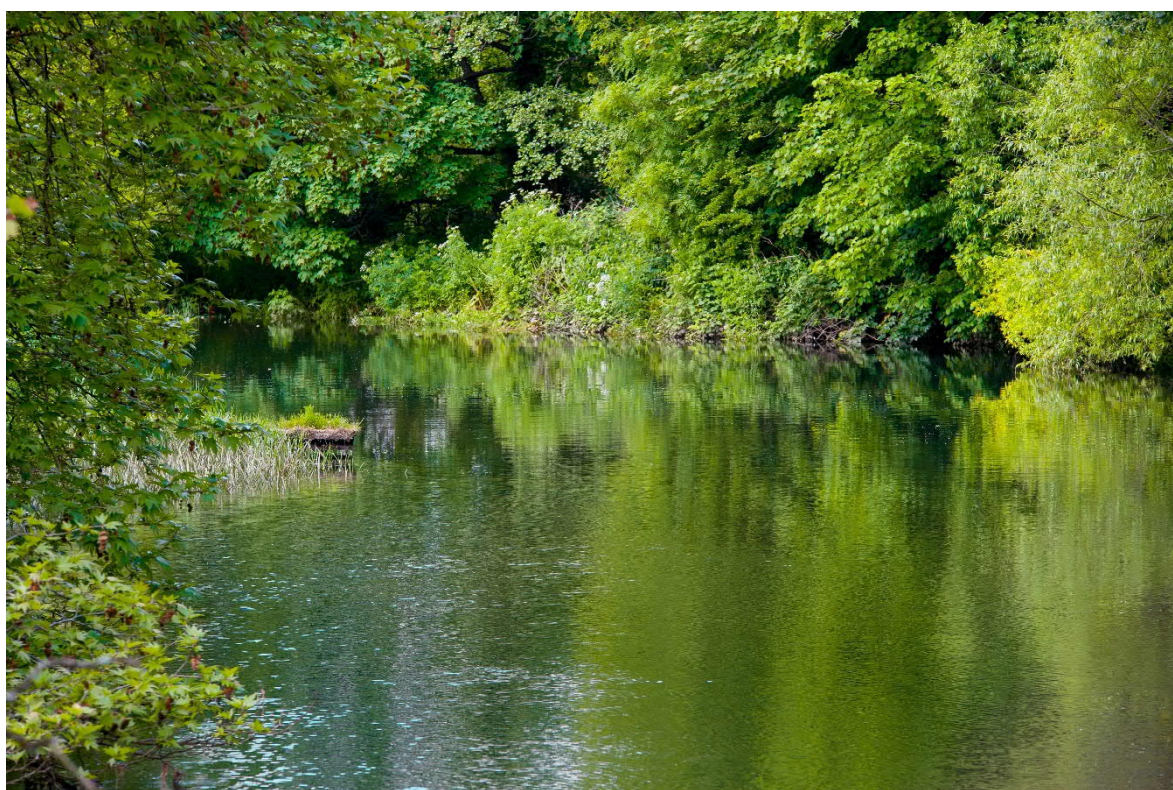


Strategic Regional Water Resource Solutions: Annex H Efficiency of Gate 2 Expenditure and Gate 3 Checkpoint 1 Planning Report

Standard Gate Two Submission for Thames to Southern Transfer (T2ST)

Date: November 2022



Thames to Southern Transfer Efficiency of Gate 2 Expenditure and Gate 3 Checkpoint 1 Planning Report

T2ST-G2-REP-15 (Annex H)

November 2022

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 Southern 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 Thames Water and Southern Water final Water Resources Management Plans, 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 Southern 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.*

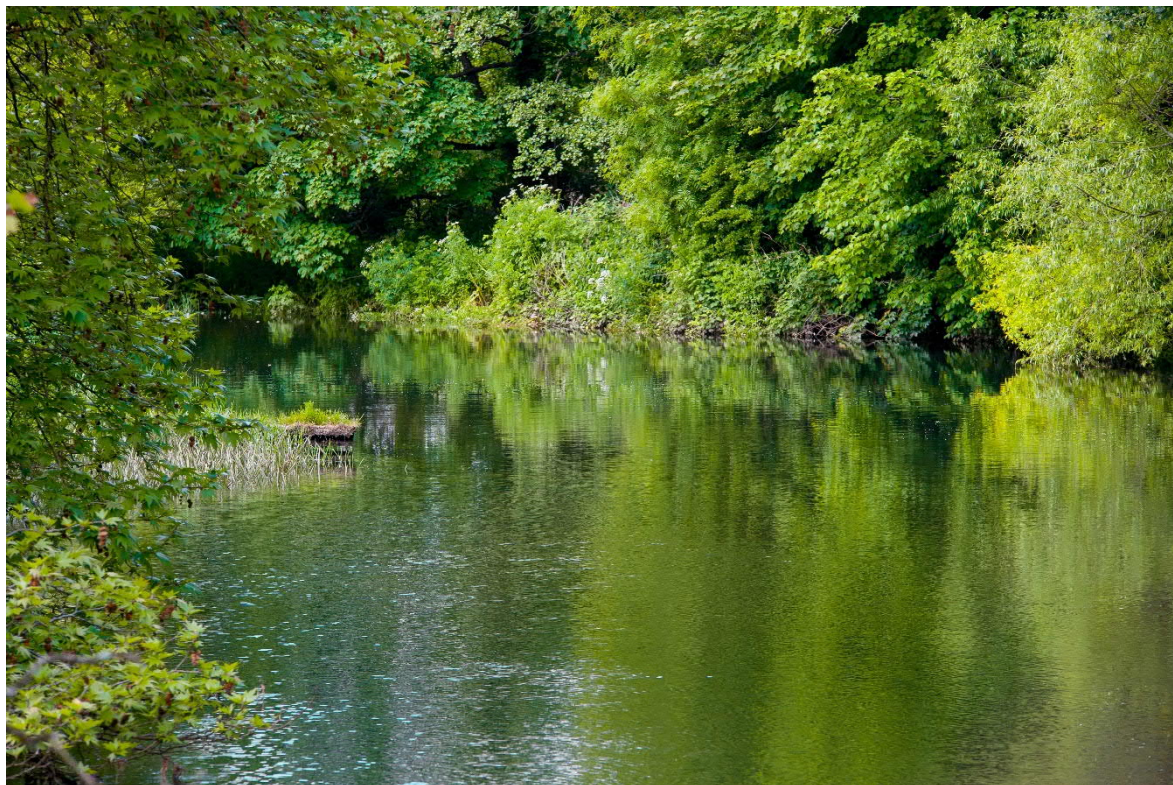
Disclaimer

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 Southern 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 Southern 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.

Thames to Southern Transfer
Efficiency of Gate 2 Expenditure and
Gate 3 Checkpoint 1 Planning Report

T2ST-G2-REP-15 (Annex H)

November 2022



THAMES TO SOUTHERN TRANSFER (T2ST)

Annex H Efficiency of Gate 2 Expenditure and Gate 3 Checkpoint 1 Planning Report

Ref: T2ST-G2-REP-15 (Annex H)

November 2022

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Executive Summary

Gate 2

The Final Determination allowance for T2ST was £15m, split equally between Thames Water and Southern Water, with a 15% allocation to Gate 2 equating to £2.25m (£1.125m per water company¹). Further to this, in RAPID's Gate 1 Final Decision, it was confirmed that any unspent Gate 1 funding could be utilised up to Gate 2. The Gate 1 underspend was £0.872m. Therefore, the Gate 2 budget available was £3.122m.

The total spend to Gate 2 is estimated to be £2.168m, representing 96% of the Final Determination Gate 2 allowance and 69% of the overall budget available including Gate 1 underspend. This is based on actual costs to the end of July 2022 and approximately £0.15m of forecast costs to the Gate 2 submission in November 2022. This represents a total saving across Gate 1 and 2 of £0.0954m. This is also in line with the estimated Gate 2 spend of £2.204m set out at Gate 1.

All costs have been split equally between Thames Water and Southern Water as per the Final Determination.

The work has built on work undertaken for WRMP19 and at Gate 1 and all expenditure relates to activities undertaken to develop and investigate this specific solution and does not include expenditure on water resources management planning and business planning activities that are baseline company activities. All key activities planned for Gate 2 have been completed.

For accurate comparison with the Final Determination allowance, and as requested by RAPID, actual costs are deflated back to a 2017/18 cost base using Thames Water's Internal Business Plan (IBP) deflationary factors.

A summary of all costs incurred across the different technical workstreams to Gate 2 is provided below in Table 1. The percentage spend on each work package has been benchmarked against a selection of other Thames Water SROs and found to be consistent.

¹ <https://www.ofwat.gov.uk/wp-content/uploads/2019/12/PR19-final-determinations-Strategic-regional-water-resource-solutions-appendix.pdf>

Table 1: Summary of Gate 2 costs incurred compared by work package (in 2017/18 prices)

Category	Activity	Expenditure (£, 2017-2018 prices)	% of Total Expenditure	Description of Activity
Programme & Project Management	Project, programme and commercial management of all SRO work to Gate 2. Includes all assurance activities.	349,508	16%	Includes external Programme Manager (part-time), Thames Water and Southern Water governance and oversight. Also includes all assurance activities, including some external second line assurance and all independent third line assurance.
Feasibility Assessment and Concept Design	Route and site selection work of preferred options from Options Appraisal outputs, including Concept Design of preferred options.	428,002	20%	Route and Site Selection detailed assessments based on the recommendations of the options appraisal study. This covers engineering, environmental and planning inputs. Also includes for the development of design and an updated Concept Design Report.
Option benefits development and appraisal	Updated Options appraisal, cost and carbon estimating, water resources analysis	243,293	11%	All work associated with the Gate 2 Options Appraisal. This covers engineering, environmental and planning inputs. All cost and carbon estimating.
Environmental Assessment	All desk-based environmental studies and assessments for Gate 2 by environmental lead consultant as well as licensing strategy work, hydro-ecological, river water quality and hydro-ecology assessments. Also includes all NAU costs.	433,230	20%	Environmental assessment work of preferred route corridors including Habitats Regulatory Assessment (HRA), Water Framework Directive (WFD) assessment, Strategic Environmental Assessment (SEA). All written up in Gate 2 Annexes along with an overarching Environmental Assessment Report (EAR). Licensing strategy work undertaken to better understand licensing issues in partnership with other SROs. Hydro-ecological, river water quality and hydro-ecology assessments of the River Thames, in partnership with other SROs. All third party costs for Natural England and Environmental Agency as part of engagement and reviews by the National Appraisal Unit (NAU).
Data Collection, Sampling, and Pilot Trials	All monitoring and sampling	390,574	18%	Includes water quality monitoring, aquatic ecological surveys
Procurement Strategy	Procurement and commercial strategy	75,628	3%	Commercial and procurement strategy for overall development of the scheme beyond Gate 2. The output of this work is summarised in the Commercial and Procurement Strategy Annex.
Planning Strategy	Planning and consenting strategy advice	77,397	4%	Planning and consent strategy advice for overall development of the T2ST scheme beyond Gate 2. Includes the Planning and Consents Strategy Annex.
Stakeholder Engagement	Stakeholder and customer engagement activities	75,182	3%	All stakeholder and customer engagement activities for Gate 2 including independent customer research.
Legal	All legal support to Gate 2 including internal and external legal advice	95,483	4%	Internal Thames Water and Southern Water legal costs as well as inputs from a Combined External Legal Team (CELT) working on behalf of both water companies.
Total		2,168,297	100%	
Gate 2 Allowance (including Gate 1 underspend)		3,122,000		
Gate Underspend		953,703		

Efficient spend has been ensured through:

- Collaborative working between partner companies to ensure no duplication in effort or costs, for example agreement of consistent methodologies with the ACWG and on combined environmental and resilience metrics across other SROs with WRSE;
- Ensuring alignment between the RAPID Gate 2 requirements, the work breakdown structure (WBS) and the work packages initiated;
- Agreement of a standardised procurement process across SROs, including combined procurement of work packages where possible;
- The continuation of suppliers who delivered efficiently and to a high quality for Gate 1, using competitively tendered framework rates;
- Where possible, the application of competitive procurement approaches, with benchmarking between suppliers, utilising established procurement routes which have demonstrated value for money (e.g. existing professional services frameworks with competitively tendered rates). The majority of all work packages (>70%) were competitively tendered at either Gate 1 or Gate 2. This provided benchmarking between competing consultants for each individual package of work within the programme and ensured the work was delivered efficiently;
- Efficient packaging of work with clear scopes, defined deliverables and agreed programmes;
- Robust change control processes and delivery to budget.

We have applied three key principles to ensure efficient procurement of the support services required for the Gate 2 submission:

- Agreement of a standardised procurement process across SROs.
- Continuation of existing suppliers, using competitively tendered framework rates, from Gate 1 where the continuation of work is deemed to provide efficiency. Application of competitive procurement approaches where new scope is needed or there is no clear advantage in the continuation of Gate 1 suppliers.
- Utilising combined procurement across SROs for aligned work packages, (e.g. commercial and procurement strategies) to ensure consistency and value.

Wherever practical, and where there was not a clear efficiency from continuing with suppliers competitively tendered for Gate 1, a procurement exercise was undertaken to ensure competitive costs and high-quality technical output.

Gate 3 Checkpoint 1

The total FD allowance for Gate 3 is £5.25m (35% of total allowance).

A Gate 3 Checkpoint 1 is proposed for T2ST beyond the Gate 2 submission in November 2022 based on the need to deliver the T2ST project by 2040 at the earliest. This scope is discussed further in the Project Delivery Plan Annex but is significantly reduced from the current RAPID Gate 3 requirements. An estimate for this Gate 3 Checkpoint 1 proposed scope has been compiled based on a bottom-up estimate of all recommended activities.

The Gate 2 work package leads have estimated the costs for these activities based on the level of effort required and actual costs for Gates 1 and 2. The estimated expenditure for this Gate 3 Checkpoint 1 is £1.899m (in 2017/18 base costs) and we are confident that the planned activities can be undertaken for this budget.

Due to the combined underspend of £0.954m across Gate 1 and Gate 2, and due to the proposal that T2ST does not need to be 'construction ready' in AMP8, it is proposed that this estimated £1.899m spend for the Gate 3 Checkpoint 1 comes from a combination of this underspend from Gates 1 and 2 as well as some of the Gate 3 allowance.

A breakdown of the proposed activities and spend to Gate 3 Checkpoint 1 in March 2024 is provided below in Table 2.

No detailed estimates have been developed beyond the Gate 3 Checkpoint 1 (i.e. to Gate 3 or 4) as the scope beyond that stage is not yet clear.

Table 2 Gate 3 Checkpoint 1 cost forecast compared to RAPID cost allowance (2017/18 prices)

Category	Activity	Expenditure (£, 2017-2018 prices)	% of Total Expenditure	Description of Activity
Programme & Project Management	Project management; assurance; governance, direction and guidance from within partner companies; procurement support	240,000	13%	Includes external Programme Manager (part-time), Thames Water and Southern Water governance and oversight. Also includes all assurance activities, including some external second line assurance and all independent third line assurance.
Feasibility Assessment and Concept Design	Derisking activities and focussed design development	485,000	25%	Further assessment at higher risk locations (above ground infrastructure; route pinch points); Ongoing design development; Development of connection points at abstraction location and connection into the Southern system; Review of opportunities; update of cost and carbon estimates for any significant changes.
Option benefits development and appraisal	Ongoing support to regional planning process and updates to options appraisal	101,000	5%	Continued assessment of preferred options
Environmental Assessment	Focussed environmental assessment at key areas	430,000	23%	Environmental screening Assessments at some locations; Inputs into design development; inputs into consultations
Data Collection, Sampling, and Pilot Trials	Site visits, focussed data collection	33,000	2%	Site visits
Procurement Strategy	Further development of commercial and procurement strategy with specific focus on programme for delivery and interaction with other schemes	145,000	7%	Further assessment of the proposed commercial and procurement strategy, including learning from the development of other Southern Water schemes being developed.
Planning Strategy	Focussed planning and consenting support to develop option	106,000	6%	Engagement with other SRO teams, development on consenting strategy amongst other schemes, including the source for T2ST. Preparation for Section 25 application.
Stakeholder Engagement	Ongoing stakeholder engagement similar to Gate 2	297,000	16%	Third party / Regulator costs; Further public engagement on WRSE and WRMP24 strategic water resource plans. Ongoing technical engagement with regulators; engagement with Local Planning Authorities, potential engagement with some key landowners
Legal	Focussed legal support	63,000	3%	Review of documents; legal counsel; planning for future Gates
Total		1,899,000	100%	

1. Introduction

This document is a supporting document to the RAPID Gate 2 report for the Thames to Southern Transfer (T2ST) SRO submission. The purpose of this document is to summarise the spend to Gate 2 and provide evidence of efficient spend against Ofwat's Final Determination allowance.

As part of the Gate 2 submission, Thames Water and Southern Water must provide evidence of efficient spend to the Gate 2 submission on all gate activities. This must include:

- The breakdown of costs for gate two
- Forecast of expenditure for following gates
- Early gate three expenditure must be clearly separated from gate two expenditure.

A summary of this supporting report is included in Section 11 in the RAPID Gate 2 report.

1.1. RAPID Gate 2 Allowance

The cost allowances to produce the Gate 2 submission were provided in Ofwat's Final Determination documentation². The allowances for T2ST are shown in Table 3 below, with costs split equally between Thames Water and Southern Water.

Table 3 RAPID cost allowances (based on 2017/18 price base)

Stage	Thames Water allowance (£M)	Southern Water allowance (£M)	Total (£M)
Gate 1	£0.75	£0.75	£1.50 (10%)
Gate 2	£1.125	£1.125	£2.25 (15%)
Gate 3	£2.625	£2.625	£5.25 (35%)
Gate 4	£3.0	£3.0	£6.00 (40%)
TOTAL	£7.5	£7.5	£15.00

The actual spend to Gate 1 was £0.628m, therefore £0.872m was left unutilised from Gate 1. In RAPID's Gate 1 Final Decision³, it was confirmed that any unspent Gate 1 funding could be utilised up to Gate 2. Therefore, the Gate 2 budget available was £3.122m.

1.2. Report Structure

The structure of this Report is as follows:

- Section 2 sets out the framework of agreements and processes followed by Thames Water and Southern Water to ensure efficiency of spend to Gate 2;
- Section 3 provides a breakdown of costs against activities undertaken and evidence of efficiency of spend;
- Section 4 provides a summary of the key activities to be undertaken for the proposed Gate 3 Checkpoint 1 in March 2024, including forecast costs for the completion of these activities.

The assurance of these costs is covered separately in the Gate 2 Report (Section 10).

² [PR19-final-determinations-Strategic-regional-water-resource-solutions-appendix.pdf \(ofwat.gov.uk\)](https://www.ofwat.gov.uk/wp-content/uploads/2021/12/Final-decision-publication-Thames-%E2%80%93-Southern-transfer-Cover.pdf)

³ <https://www.ofwat.gov.uk/wp-content/uploads/2021/12/Final-decision-publication-Thames-%E2%80%93-Southern-transfer-Cover.pdf>

2. Framework for Ensuring Efficient Spend

This section sets out the framework of agreements and processes followed by Thames Water and Southern Water to ensure efficient spend to Gate 2.

Efficient spend has been ensured through:

- Collaborative working between partner companies to ensure no duplication in effort or costs, for example agreement of consistent methodologies with the ACWG and on combined environmental and resilience metrics across other SROs with WRSE;
- Ensuring alignment between the RAPID Gate 2 requirements, the work breakdown structure (WBS) and the work packages initiated;
- Agreement of a standardised procurement process across SROs, including combined procurement of work packages where possible;
- The continuation of suppliers familiar with the project from Gate 1, using competitively tendered framework rates;
- Where possible, the application of competitive procurement approaches, with benchmarking between suppliers, utilising established procurement routes which have demonstrated value for money (e.g. existing professional services frameworks with competitively tendered rates). The majority of all work packages (>70%) were competitively tendered at either Gate 1 or Gate 2. This provided benchmarking between competing consultants for each individual package of work within the programme and ensured the work was delivered efficiently;
- Efficient packaging of work with clear scopes, defined deliverables and agreed programmes;
- Robust change control processes and delivery to budget.

These are discussed further in the following sections.

2.1. Collaborative Working Between Partner Companies

Thames Water and Southern Water signed a Memorandum of Understanding (MoU) which sets out an agreed way of working on the T2ST SRO following the RAPID gated process. This MoU includes a Procurement Support Letter (PSL) in which Thames Water and Southern Water agreed to appoint a “Nominated Purchaser” to make the appointment of a supplier in accordance with the relevant Thames Water or Southern Water procurement procedures and framework agreements.

For each package of works a qualitative review of Thames Water and Southern Water procurement routes was undertaken to identify the best procurement route that would ensure value for money would be achieved.

This process was followed for all Gate 2 activities and all procurement activities were undertaken by either Thames Water or Southern Water on behalf of both companies utilising these existing frameworks and procurement processes.

2.2. Project Management

A Programme Manager was appointed to jointly represent both Thames Water and Southern Water for the efficient delivery of Gate 2. For efficiency, the same Programme Manager who delivered Gate 1 was also responsible for leading on Gate 2. The Programme Manager has

been responsible for the management of all work packages to ensure the overall Gate 2 requirements were delivered to time and to budget.

A robust change control process was established to ensure that any changes in scope were justified and agreed in advance of any additional expenditure being incurred. This process ensured that any cost changes to a work package had approval from the Project Management Board (PMB) containing senior representatives from both Thames Water and Southern Water. All changes in technical scope were also discussed and agreed by the Technical Steering Group.

A Project Steering Group (PSG) consisting of Executive members from both Thames Water and Southern Water provided overall water company oversight and a potential escalation route from the PMB, if needed. The PSG met at key milestones throughout Gate 2.

It should be noted that the Programme Management costs include inputs into the Gate 2 report writing, authoring other Gate 2 documentation (such as this Efficiency of Spend report), stakeholder engagement, technical leadership and input to multi-company governance and all assurance activity. Therefore the project management costs are not necessarily comparable to a standard Capital Delivery project.

2.3. Defined Scope Aligned to RAPID Requirements

To ensure scope efficiency, all activities undertaken were aligned directly to the RAPID Gate 2 requirements in the Final Determination and the final Gate 2 submission.

A work breakdown structure (WBS) was adopted that directly aligns to these RAPID requirements and the associated work packages required to meet the Gate 2 requirements. The WBS utilised for Gate 2 is provided in Table 4 and aligns with the RAPID framework set out for reporting of costs to Gate 2.

Table 4 T2ST Gate 2 Work Breakdown Structure

WBS Ref	Level 1, Workstream
1	Programme & Project Management
2	Feasibility Assessment and Concept Design
3	Option benefits development and appraisal
4	Environmental Assessment
5	Data Collection, Sampling, and Pilot Trials
6	Procurement Strategy
7	Planning Strategy
8	Stakeholder Engagement
9	Legal
10	Other

All activities undertaken for Gate 2 can be directly mapped to the requirements in Ofwat's Final Determination. The Gate 2 requirements are summarised in Table 5 along with reference to where in the Gate 2 submission these requirements are met and where the associated costs were incurred.

Table 5: Final Determination Gate 2 activities

Ofwat's Final Determination Gate 2 Requirement	Reference to Gate 2 submission	Reference to Associated Costs by WBS
Detailed feasibility and data collection (with increased certainty) in a concept design report	Gate 2 Report: Section 3 Annex A2: Route & Site Selection Annex A3: Concept Design Report	2 – Feasibility Assessment and Concept Design
Develop procurement strategy including assessment for potential direct procurement for customers' delivery.	Gate 2 Report: Section 7 Annex E: Procurement & Commercial Strategy Report	6 – Procurement Strategy
Pre-planning application activity plan (land referencing, field surveys, environmental permitting plans)	Gate 2 Report: Section 7 Annex B1: EAR Annex G: Planning & Consent Strategy Report	4 – Environmental Assessment 7 – Planning Strategy
Full comparison of solutions' costs and benefits as tested in regional or national modelling with consideration of inter-regional options and systems impacts	Gate 2 Report: Section 3, 4 Annex A1: Options Appraisal Annex A4: Cost & Carbon	3 - Option benefits development and appraisal
Identification of mutually exclusive solutions	Gate 2 Report: Section 3 Annex A1: Options Appraisal	3 - Option benefits development and appraisal
External assurance of data and approaches supported by Board statement	Gate 2 Report: Section 10	1 – Programme & Project Management
Updated regional stakeholder engagement including customer preference studies	Gate 2 Report: Section 9 Annex D: Engagement Report	8 – Stakeholder engagement
Details of efficient spend to gate submission on gate two activities, including a breakdown of costs against activities and evidence of efficiency of spend (benchmarking or tenders) and assurance	Gate 2: Section 11 Annex I: Efficiency of Gate 2 Expenditure	1 – Programme & Project Management
Assessment of key risks to identify potential regulatory barriers, guidance or changes required for the solution to progress	Gate 2 Report: Section 7 Annex F: Project Delivery Plan	1 – Programme & Project Management
Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.	Gate 2 Report: Section 4	3 – Option benefits development and appraisal
Identification of any changes in solution partner (other water company) or solution substitutions	Gate 2 Report: Section 7	1 – Programme & Project Management
Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate	Gate 2 Report: Section 7 Annex F: Project Delivery Plan	1 – Programme & Project Management 10 – Other (Gate 3 Checkpoint 1 Preparation and Planning)
Proposals for gate three activity and outcomes, and penalty scale, assessment criteria and contributions	Gate 2 Report: Section 7 Annex F: Project Delivery Plan	1 – Programme & Project Management 10 – Other (Gate 3 Checkpoint 1 Update Preparation and Planning)

Work packages for the above scopes of work were developed at the start of Gate 2 by the Programme Manager and partner companies. These scopes of work built on the work undertaken by Thames Water and Southern Water on the T2ST scheme for Gate 1 and for WRMP19.

We have actively engaged with the National Appraisal Unit (NAU), Drinking Water Inspectorate (DWI) and RAPID throughout the Gate 2 process to ensure that the scope of work for key activities was commensurate with RAPID's requirements for Gate 2. Further information on this engagement is provided in Section 9 of the Gate 2 submission.

2.4. Procurement Efficiency

We have applied three key principles to ensure efficient procurement of the support services required for the Gate 2 submission:

- Agreement of a standardised procurement process across SROs,
- Application of competitive procurement approaches, wherever possible,
- Procurement across SROs, for aligned work packages, (e.g. commercial and procurement strategy, water quality and in-river investigations) to ensure consistency and value.

The MoU between Thames Water and Southern Water sets out a clear governance process to ensure all procurement has been undertaken following a prescribed and robust process.

In the initial stages of the Gate 2 programme it was established that common procurement principles would be required to ensure the efficient and timely securing of technical and professional support services. A common procurement approach was adopted across Thames Water SROs with the approval of the Programme Management Board (PMB). This common approach confirms that all procurement activity shall be undertaken in accordance with the prevailing legal agreements that were created between the parties, including the current Memorandum of Understanding and Procurement Support Letter.

A number of work packages were identified early in the programme as being common across SROs and as such all the Thames Water appointed Programme Managers worked closely in the development of scope and procurement to ensure consistency and efficiencies could be captured. An example of this was the Commercial and Procurement support (work package 08) provided by PA Consulting. The Algae sampling and monitoring by CEH and Atkins was also procured across a programme of Thames Water SROs for efficiency.

This included efficiencies through procuring one contract geographically across the five SROs that Thames Water was involved with, therefore removing duplication and providing efficiency in scale and mobilisation costs. An example of this was the water quality sampling and the environmental aquatic surveys which were undertaken by a single supplier across five SROs through a single, combined procurement process.

2.5. Procurement Approach

Due to much of the Gate 2 work being a direct continuation from Gate 1, some key packages of work such as engineering studies, environmental studies and the planning and consents packages were not retendered for Gate 2. Instead, scopes and costs were agreed using competitively tendered framework rates to allow the continuation of the technical expertise and stakeholder communication. The cost estimates were benchmarked against similar activities undertaken at Gate 1 and found to be commensurate. This was deemed to provide greater efficiency, from both a time and cost perspective, than retendering these work packages due to the potential additional mobilisation costs and time for a new supplier to take over from existing suppliers after Gate 1.

However, where there was not deemed to be a direct continuation from scope undertaken at Gate 1, a procurement exercise was undertaken to ensure competitive costs and high-quality technical output.

The potential of setting up new joint Thames Water/Southern Water frameworks was investigated but found to have limited benefits over the procurement approach agreed at Gate

1, therefore the procurement approach agreed for Gate 1 was continued to Gate 2. A review was undertaken of the potential existing Thames Water and Southern Water procurement routes that could be used to competitively tender packages of work. The Thames Water FA1300 professional services framework was largely utilised for this purpose as it covered all of the key services required and had the largest number of suppliers engaged.

A tender evaluation was undertaken for each procurement exercise and the evaluation scoring was decided depending on the work packages required. This competitive tendering exercise ensured contracts were awarded based on criteria covering quality and cost. The weighting of quality versus cost was decided for each package of work in accordance with standard water company procurement of similar activities.

The largest packages of work (environmental surveys, environmental studies, engineering, programme management and assurance) were all procured on a time and materials basis to a clearly defined scope, utilising tendered framework rates, working to a budget ceiling. The Programme Manager monitored actual costs on a regular basis with value of work done reported monthly to the Programme Management Board (PMB) including both Thames Water and Southern Water.

An explanation of how each work package was procured for Gate 2 is provided in Table 6.

Table 6: Summary of procurement routes for work packages

Work package	Procurement Lead	Procurement Approach
WP01 – Environmental Studies	Thames Water	Continuation of lead supplier from Gate 1 under existing Thames Water FA1300, Lot 3 framework using competitively tendered rates following competitive tender for Gate 1.
WP02 – Hydrological, river water quality and hydro-ecology assessments	Thames Water	Variation to SESRO SRO contract following competitive framework tender. Provided as a variation for efficiency due to overlap with other SROs.
WP03 - Water quality monitoring	Thames Water	Continuation of lead supplier from Gate 1 under existing Thames Water FA1300, Lot 3 framework using competitively tendered rates. This followed a Competitive mini-tender under existing framework (FA1300, Lot 3). Efficient procurement across multiple SROs covering wide survey area (Severn, Thames and Lee Valley) to benefit multiple projects.
WP04a – Environmental Monitoring – Fish and macrophyte surveys	Thames Water	Competitive mini-tender under existing Thames Water framework (FA1300, Lot 3), 3 tenderers. Efficient procurement across multiple SROs covering wide survey area (Severn, Thames and Lee Valley) to benefit multiple projects.
WP 04b – Environmental Monitoring – Aquatic invertebrate and INNS surveys	Thames Water	Competitive mini-tender under existing Thames Water framework (FA1300, Lot 3), 3 tenderers. Efficient procurement across multiple SROs covering wide survey area (Severn, Thames and Lee Valley) to benefit multiple projects.
WP05 – Environmental Monitoring – Algae monitoring and modelling	Thames Water	Direct award to specialist supplier based on existing knowledge and experience of undertaking similar work across five Thames Water SROs. Awarded due to consultant’s experience.
WP06 – Engineering	Thames Water	Continuation of lead supplier from Gate 1 under existing Thames Water FA1300, Lot 1 framework using competitively tendered rates following competitive tender for Gate 1.
WP07 – Water Resource Analysis	Thames Water	Direct award to existing framework supplier (FA1300, Lot 1) utilising tendered framework rates due to interaction with work already undertaken at a regional perspective. Awarded due to consultant’s experience with existing models.
WP08 - Commercial Analysis - Commercial	Thames Water	Competitively tendered award under FA1300. Combined procurement with three other SROs and costs split evenly to

Work package	Procurement Lead	Procurement Approach
and DPC advisory support		ensure efficiency. Two proposals received and awarded to lowest cost.
WP09 – Legal Support	Thames Water	Combined External Legal Team (BCLP and Pinsent Masons) appointed by Thames Water as part of a wider package across all 5 Thames Water SROs. Jointly appointed by Thames Water and Southern Water for T2ST.
WP10 – Planning	Thames Water	Continuation of lead supplier from Gate 1 under existing Thames Water Major Projects Planning Framework using competitively tendered rates.
WP11 - Stakeholder Engagement - Customer Engagement	Thames Water	Two separate packages for Customer Engagement let as competitive tenders, one through Thames Water framework and the other through Southern Water's framework. The procurement was on behalf of 8 regional water companies to ensure consistency and efficiency in delivery of work package. Costs subsequently assigned pro-rata across all companies and associated SROs.
WP12 – Programme Manager	Thames Water	Continuation of Programme Manager from Gate 1 on FA1300 professional services framework utilising tendered framework hourly rates. Programme Manager part-time (2-3 days/ week) to ensure efficiency.
WP13 – Third Party Assurance	Thames Water	Competitive tender under existing Thames Water FA1300 Lot 1 (Engineering) framework. 7 tenders requested and 3 bids received.
WP14 – Licensing Strategy	Thames Water	Competitively tendered under FA1300 Lot 1 (Engineering) framework. Combined with SESRO, T2AT and London Reuse SROs for efficiency. Two bids received.
WP15 & 16 – Stakeholder Costs, third parties - NAU	Southern Water	Environment Agency and Natural England Costs agreed directly with National Appraisal Unit (NAU)
WP17 – Environmental second line assurance	Thames Water	Competitive tender under existing Thames Water FA1300 Lot 3 (Environmental) framework. 4 tenders requested and 1 bid received.
WP18 – Cost and Carbon estimating	Southern Water	Undertaken by Southern Water's Cost Intelligence Team, including their lead consultant using competitively tendered framework rates

3. Breakdown of Gate 2 costs

3.1. Summary of Costs to Gate 2

The total spend to Gate 2 is estimated to be £2.168m, representing 96% of the Final Determination Gate 2 allowance and 69% of the overall budget available including Gate 1 underspend. This is based on actual costs to the end of August 2022 and approximately £0.15m of forecast costs to the Gate 2 submission in November 2022. This represents a total saving across Gate 1 and 2 of £0.954m. This is also in line with the estimated Gate 2 spend of £2.204m set out at Gate 1. These costs have been split equally between Thames Water and Southern Water.

Due to the timing of the Gate 2 submission, this summary of Gate 2 spend includes actual costs up to the end of August 2022 and then forecast spend to the Gate 2 submission in November 2022.

For accurate comparison with the Final Determination allowance, as requested by RAPID, actual costs are deflated back to a 2017/18 cost base using agreed deflation factors.

All costs on this project to Gate 2 were incurred in the 2021/22 and 2022/23 financial years (AMP7 Years 1 and 2). Therefore all of the costs presented below have been deflated based on the factors in Table 7.

Table 7: Inflation factors used

AMP7 years	Deflation Rates from 2017/18 financial year
Year 1 2020/21	0.9469
Year 2 2021/22	0.9283
Year 3 2022/23	0.9102

A summary of all costs incurred across the different technical workstreams to Gate 2 is provided below in Table 8.

Table 8: Summary of Gate 2 costs incurred compared by work package (in 2017/18 prices)

Category	Activity	Expenditure (£, 2017-2018 prices)	% of Total Expenditure	Description of Activity
Programme & Project Management	Project, programme and commercial management of all SRO work to Gate 2. Includes all assurance activities.	349,508	16%	Includes external Programme Manager (part-time), Thames Water and Southern Water governance and oversight. Also includes all assurance activities, including some external second line assurance and all independent third line assurance.
Feasibility Assessment and Concept Design	Route and site selection work of preferred options from Options Appraisal outputs, including Concept Design of preferred options.	428,002	20%	Route and Site Selection detailed assessments based on the recommendations of the options appraisal study. This covers engineering, environmental and planning inputs. Also includes for the development of design and an updated Concept Design Report.
Option benefits development and appraisal	Updated Options appraisal, cost and carbon estimating, water resources analysis.	243,293	11%	All work associated with the Gate 2 Options Appraisal. This covers engineering, environmental and planning inputs. All cost and carbon estimating.
Environmental Assessment	All desk-based environmental studies and assessments for Gate 2 by environmental lead consultant as well as licensing strategy work, hydro-ecological, river water quality and hydro-ecology assessments. Also includes all NAU costs.	433,230	20%	Environmental assessment work of preferred route corridors including Habitats Regulatory Assessment (HRA), Water Framework Directive (WFD) assessment, Strategic Environmental Assessment (SEA). All written up in Gate 2 Annexes along with an overarching Environmental Assessment Report (EAR). Licensing strategy work undertaken to better understand licensing issues in partnership with other SROs. Hydro-ecological, river water quality and hydro-ecology assessments of the River Thames, in partnership with other SROs. All third party costs for Natural England and Environmental Agency as part of engagement and reviews by the National Appraisal Unit (NAU).
Data Collection, Sampling, and Pilot Trials	All monitoring and sampling	390,574	18%	Includes water quality monitoring, aquatic ecological surveys
Procurement Strategy	Procurement and commercial strategy	75,628	3%	Commercial and procurement strategy for overall development of the scheme beyond Gate 2. The output of this work is summarised in the Commercial and Procurement Strategy Annex.
Planning Strategy	Planning and consenting strategy advice	77,397	4%	Planning and consent strategy advice for overall development of the T2ST scheme beyond Gate 2. Includes the Planning and Consents Strategy Annex.
Stakeholder Engagement	Stakeholder and customer engagement activities	75,182	3%	All stakeholder and customer engagement activities for Gate 2 including independent customer research.
Legal	All legal support to Gate 2 including internal and external legal advice	95,483	4%	Internal Thames Water and Southern Water legal costs as well as inputs from a Combined External Legal Team (CELT) working on behalf of both water companies.
Total		2,168,297	100%	
Gate 2 Allowance (including Gate 1 underspend)		3,122,000		
Gate Underspend		953,703		

3.2. Early Gate 3 Spend on Critical Activities

As set out in the letter from Thames Water to RAPID on 18th August 2022, some of this Gate 2 actual cost was for planning and preparation for activities required beyond Gate 2. This small number of activities were required to be started or commissioned in advance of Gate 2 either because of the need for long-term planning for the delivery of the scheme or as part of the preparation for meeting the proposed Gate 3 Checkpoint 1 in March 2024.

The total costs of the above Gate 3 planning activities are estimated to be £1k and are clearly separated out in the 'Other' category in Table 8. All costs incurred after Gate 2 in November 2022 will be allocated to the Gate 3 Checkpoint 1 expenditure.

3.3. Water Company Costs

Time spent by Thames Water and Southern Water staff directly in the involvement of the T2ST SRO has been allocated to the relevant workstream. This time was recorded through timesheets and allocated accordingly.

Company capital overheads have been calculated in accordance with company specific rules with overhead costs allocated to the relevant workstream in proportion to the value of spend.

All expenditure relates to activities undertaken to develop and investigate this specific solution and does not include expenditure on water resources management planning and business planning activities that are baseline company activities.

3.4. Regulator Costs

As agreed by the All Company Working Group (ACWG), costs for the National Assessment Unit (NAU) comprising Natural England (NE) and the Environment Agency (EA) are chargeable to the SROs. These costs have been reported at cost and follow on from similar involvement at Gate 1.

Table 9 Summary of EA and NE costs

NAU component	Costs, (21/22 prices)	Costs, £ (17/18 prices)
Environment Agency (NAU and Area teams)	£158,897	£147,504
Natural England	£36,000	£33,419

4. Benchmarking of Gate 2 Costs

The majority of all work packages (>70%) were competitively tendered at either Gate 1 or Gate 2. This provided benchmarking between competing consultants for each individual package of work within the programme and ensured the work was delivered efficiently.

We have undertaken a comparison across the Thames Water SROs for consistency in costs incurred for each work breakdown structure. This has shown that costs incurred on T2ST were comparable to other SROs and the spend to Gate 2 has been efficient.

5. Activities and Costs for Proposed Gate 3 Checkpoint 1

5.1. Introduction

This section summarises the proposed activities and forecasted spend for the proposed Gate 3 Checkpoint 1 in March 2024. The categorisation of costs utilises the WBS proposed by RAPID for Gate 2 and used for reporting of Gate 2 spend.

The proposed outcomes for the Gate 3 Checkpoint 1 are:

- Greater certainty on the route alignment and locations for above ground infrastructure for the proposed transfer focussed on potential corridor pinch points.
- We will have completed initial non-statutory consultation(s) to provide increased confidence in stakeholders' reactions to the options studies and current preferred options
- We will have made initial contact and had discussions with critical landowners affected by the scheme
- Further developed the interfaces with other schemes, such as either STT or SESRO as the source and Southern Water's Water for Life Hampshire (WfLH) schemes, to ensure the feasibility of any connections are confirmed.
- We will have fully assessed opportunities to maximise the potential from existing or other planned schemes to ensure we develop the most efficient and lowest impact T2ST scheme.
- We will have engaged with Defra on our proposed Section 35 application and prepared the necessary documentation to support the application.

The Gate 3 Checkpoint 1 will provide greater certainty on the scope and costs for the overall delivery of the scheme.

We propose that the update provided at the Gate 3 Checkpoint 1 is a relatively short document that refers only to significant updates and changes from this Gate 2 submission and will not include the wider supporting documentation submitted at Gate 2.

5.2. Cost Breakdown

The total FD allowance for Gate 3 is £5.25m (35% of total allowance).

A Gate 3 Checkpoint 1 is being proposed for T2ST beyond the Gate 2 submission in November 2022 due to the scheme not being required until 2040 at the earliest and the scheme not needing to be 'Construction Ready' in AMP8. This scope is discussed further in the Scheme Delivery Plan Annex but we do not propose to meet the RAPID Gate 3 requirements at this checkpoint. A cost estimate for the Gate 3 Checkpoint 1 proposed scope has been compiled based on a bottom-up estimate of all proposed activities.

The Gate 2 work package leads have estimated the costs for these activities based on the level of effort required and historical costs on similar activities for Gate 1 and 2. The estimated expenditure for this Gate 3 Checkpoint 1 is £1.899m (in 2017/18 base costs) and we are confident that the planned activities can be undertaken for this budget. These costs have been reviewed and agreed with both Thames Water and Southern Water.

A breakdown of the proposed activities and spend for the proposed Gate 3 Checkpoint 1 is provided in Table 10 below.

We will ensure value for money through this Gate 3 checkpoint process by only progressing tasks prior to Gate 3 Checkpoint 2 which materially support the long-term development of the project and help to derisk the project. The estimated budgets to continue this work through

Gate 3 Checkpoints 1 and 2 are not considered to be material when considering the overall capex of the scheme and will ensure the project is in a more certain place for planning and consenting when we choose to ramp up development to Gate 3.

Table 10 Gate 3 Checkpoint 1 cost forecast compared to RAPID cost allowance (17/18 prices)

Category	Activity	Expenditure (£, 2017-2018 prices)	% of Total Expenditure	Description of Activity
Programme & Project Management	Project management; assurance; governance, direction and guidance from within partner companies; procurement support	240,000	13%	Includes external Programme Manager (part-time), Thames Water and Southern Water governance and oversight. Also includes all assurance activities, including some external second line assurance and all independent third line assurance.
Feasibility Assessment and Concept Design	Derisking activities and focussed design development	485,000	25%	Further assessment at higher risk locations (above ground infrastructure; route pinch points); Ongoing design development; Development of connection points at abstraction location and connection into the Southern system; Review of opportunities; update of cost and carbon estimates for any significant changes.
Option benefits development and appraisal	Ongoing support to regional planning process and updates to options appraisal	101,000	5%	Continued assessment of preferred options
Environmental Assessment	Focussed environmental assessment at key areas	430,000	23%	Environmental screening Assessments at some locations; Inputs into design development; inputs into consultations
Data Collection, Sampling, and Pilot Trials	Site visits, focussed data collection	33,000	2%	Site visits
Procurement Strategy	Further development of commercial and procurement strategy with specific focus on programme for delivery and interaction with other schemes	145,000	7%	Further assessment of the proposed commercial and procurement strategy, including learning from the development of other Southern Water schemes being developed.
Planning Strategy	Focussed planning and consenting support to develop option	106,000	6%	Engagement with other SRO teams, development on consenting strategy amongst other schemes, including the source for T2ST. Preparation for Section 25 application.
Stakeholder Engagement	Ongoing stakeholder engagement similar to Gate 2	297,000	16%	Third party / Regulator costs; Further public engagement on WRSE and WRMP24 strategic water resource plans. Ongoing technical engagement with regulators; engagement with Local Planning Authorities, potential engagement with some key landowners
Legal	Focussed legal support	63,000	3%	Review of documents; legal counsel; planning for future Gates
Total		1,899,000	100%	

5.3. Cost Breakdown

The following assumptions and exclusions apply to the Gate 3 Checkpoint 1 cost estimate.

- No substantial Gate 3 Checkpoint 1 submission will be made, just an update on changes and progress since Gate 2 (without all supporting information/annexes)
- No external assurance will be required
- The T2ST scheme will not be required until 2040 at the earliest as per the draft WRSE regional plan. Therefore the scheme will not need to be 'construction ready' in AMP8
- Southern Water are the sole T2ST project Sponsor beyond Gate 2
- All costs are presented in 17/18 base prices
- Where possible, existing suppliers who have successfully and efficiently delivered to Gate 2 will be retained to ensure continuity and to avoid mobilisation of new suppliers
- Procurement is expected to be through Southern Water as the lead Sponsor (as the beneficiary of the scheme)
- Site visits and surveys only (i.e. no intrusive surveys to be undertaken) for the Gate 3 Checkpoint 1
- Only options B and C (preferred options at Gate 2) are being taken forward beyond Gate 2
- No T2ST-specific monitoring (ecology or water quality) required for the Gate 3 Checkpoint 1
- No third party costs other than NAU allowed for at this stage
- No allowances for the purchase of land or land access have been included in the budget allocation for Gate 3 Checkpoint 1
- No further assessment of the SEW spur has been allowed for.

5.4. Penalty scale, assessment criteria and contributions

No changes to the proposed penalty scale, assessment criteria, delivery incentives or contributions are proposed for Gate 3 Checkpoint 1.