

Gate three query process

Strategic solution(s)	London Water Recycling
Query number	LWR011
Date sent to company	24/01/2025
Response due by	28/01/2025

Query

We have reviewed the gate report and Annex 2 and have been unable to identify any information on costs included in relation to environmental and water quality mitigations as stated in the Gate 3 guidance in Section 8. Please can you direct us to where this information has been included.

Solution owner response

This response has been written in line with the requirements of the RAPID Gate 3 Guidance and to comply with the regulatory process pursuant to Thames Water's statutory duties. The information presented relates to material or data which is still in the course of completion. Should the solution presented be taken forward, Thames Water will be subject to the statutory duties pursuant to the necessary consenting process, including environmental assessment and consultation as required. This response should be read with those duties in mind.

R1: Our approach through the RAPID gates and the ongoing development of Teddington DRA through the planning process has been to embed mitigation into our design wherever possible. This aligns with the Gate 3 guidance which states "cost of all environmental and water quality mitigations should be included". Our design is set out in Annex A1 - Teddington DRA concept design and this describes the scheme costed in Annex A2.

Our design and scheme costs therefore include mitigation measures to either avoid, minimise or reduce environmental impacts and the updated scheme estimates include for these environmental and water quality mitigations. We have also ensured appropriate costs are included within risk and optimism bias for potential additional mitigation measures if required.

Water quality mitigation embedded and costed into the design is set out in Annex A1 (section 3) which aims to achieve a quality of water for an Environmental Permit and a discharge that meets mixing, velocity and temperature requirements for no deterioration.

We have included in our design and costed scope (presented in Annex A2) for following process units and ancillary facilities:

- Chemical storage and dosing facility
- Moving bed biofilm reactors (MBBR)
- MBBR blowers
- Flocculation tanks
- Mechanical cloth filter (Mechanical Filter)
- Final effluent pumping station (for transfer of effluent to the TTP)

We have included in our costed risks the potential for enhanced treatment process / additional treatment units required over and above currently proposed. This reflects the fact the discharge permit conditions are not defined at this stage.

Environmental mitigations embedded and costed into the design are multifaceted and include measures that protect a range of environmental receptors. Scheme costs include for environmental management during construction works and environmental replacement and landscaping as these are built into the cost curves approach of using delivered scope cost basis.

We have also included for specific environmental measures as mitigations. These include:

- Measures such as creation of habitats in new locations and enhanced landscaping.
- Habitat creation to achieve at least 10% gain in biodiversity including both costs for creation of habitat and annual management costs for maintenance for a 30 year requirement
- Scheme development to reduce carbon emissions from operational energy by diverting sweating flow to the Mogden STW outfall during hot standby and removing need to pump the recycled water to the river discharge

Refer to Annex A1; Teddington DRA Gate 3 Concept Design Report, Section 5 Project Sustainability within which we have identified measures adopted within costed scope and risk for carbon reduction, renewable energy provision, resilience to climate change, circular economy and waste minimisation.

Refer also to Annex A2; Teddington DRA Cost and Carbon Report, Table 4.7 in which we identify carbon emissions reduction approaches the Project is to follow and confirm costs are incorporated into scope and/or risks.

Additionally, we have included other environmental mitigation measures in our costed risk (including opportunities) which includes:

- Additional management of risk to river contamination from construction
- Outfall structure amended due to ongoing discussions with the EA
- Risk of additional management of protected species
- Energy recovery turbine on recycled water feed to the conveyance tunnel, should it prove viable
- Increased project renewable provisions over those allowed for
- Limited opportunities for delivering BNG and enhancement due to the urban setting and lack of land availability potentially needing greater costs to secure partnerships for enhancement
- Increased WQ monitoring programme including analysis for emerging contaminants
- Ecological Disturbance - across package requiring additional management and mitigation
- Unforeseen archaeological discovery during tunnelling & shaft sinking activities
- More onerous ecological works required than originally anticipated

If you require any further information, please contact the strategic solution contact below.

Date of response to RAPID	28/01/2025
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