

<p>Committees: Epping Forest and Commons Committee [for decision] Projects and Procurement Sub Committee [for decision]</p>	<p>Dates: 23 January 2025 04 February 2025</p>
<p>Subject: Rookery Wood Reservoir Remedial Works</p> <p>Unique Project Identifier: <i>PV ID confirmed post CPB via PMO.</i></p>	<p>Gateway 2: Project Proposal</p>
<p>Report of: Executive Director of Environment</p>	<p>For Decision</p>
<h1>PUBLIC</h1>	

Recommendations

<p>1. Next steps and requested decisions</p>	<p>Project Description: Combined project to carry out engineering and forest projects for synergy. To include culvert remedial works and potential improvements to the dam to satisfy the design flood conditions for the engineering team and to carry out removal of Poplar trees planted in the reservoir.</p> <p>Next Gateway: 3</p> <p>Next Steps:</p> <ul style="list-style-type: none"> • Appoint a consultant to undertake the options study for the reservoir and dam works. • Appoint a consultant to provide heritage feature and protected species guidance, prepare a specification and works information for the procurement of the contractor to remove the poplar from the reservoir. • Undertake further survey and investigation work. • Identify possible funding sources. <p>Requested Decisions:</p> <ol style="list-style-type: none"> 1. That budget of £142,000 is approved for Gateway 2 to reach the next Gateway. 2. Note the total estimated cost of the project at £2,500,000 (excluding risk).
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2. Resource requirements to reach next Gateway

Item	Reason	Funds/ Source of Funding	Cost (£)
Staff costs	Project management, site visits, etc.	CWP	15,000
Consultant Fees	Undertaking of options study and preparation of report with recommendations.	CWP	25,000
Contractor's Fees	Ground works to prepare site for survey	CWP	10,000
Consultant Fees	Advice on heritage features and protected species, preparation of specification to remove Poplar trees in and around reservoir.	CWP	40,000
Consultant Fees	Flood modelling of properties downstream.	CWP	30,000
Inspection by Panel Engineer	Advising and providing guidance.	CWP	2,000
Investigation	Extent of damage caused by Badger setts.	CWP	20,000
Total			142,000

	Costed Risk Provision requested for this Gateway: None
3. Governance arrangements	<ul style="list-style-type: none"> • The Epping Forest and Commons Committee is responsible for decisions in relation to the management of the buffer land adjacent to Epping Forest. • Under the Reservoirs Act 1975, Paul Monaghan has the defined role of the <i>Responsible Person</i>. • A Project Board is recommended to be established as the works, although relatively low risk, are essentially combining two cross divisional projects.

Project Summary

4. Context	<p>4.1. Rookery Wood is part of the larger Copped Hall Estate, which is a Grade II* landscape on the Historic England register. The Copped Hall Estate is buffer land, held by the City Corporation in its corporate capacity, and managed in support of Epping Forest. The reservoir is an historic large pond.</p> <p>4.2. The asset is currently in a state of dis-repair, particularly the two culverts in the dam structure and these should be remediated as they have been identified as cause for concern on the grounds of matters relating to health and safety.</p> <p>4.3. This reservoir does not currently meet the water storage volume limit of 25,000m³ that would mean it is deemed a statutory Large Raised Reservoir (LRR). Its volume is approximately 17,200m³. However, statutory provisions have been made to reduce the limit of LRR's to 10,000m³ in the future; those can be triggered (at potentially short notice) when the relevant part of the Flood and Water Management Act 2010 is brought into force.</p> <p>4.4. There is a significant plantation of Poplar trees that have been planted in the reservoir in a very systematic manner forming "parallel lines", which are coming to the end of their lifespan and pose a potential risk of falling and damaging historic Tudor earthworks associated with the 'square pond', which is essentially the current-day reservoir.</p>
5. Brief description of project	<p>5.1. Discussions between forest and engineering officers have taken place and officers have considered that full renewal of the dam is not acceptable at this time. Therefore, the primary objective is to refurbish or replace the existing two culverts and their associated headwalls. The first inspection under the Reservoirs Act 1975 dated</p>

	<p>October 2017 identified the aforementioned items as a matter of safety along with registering the reservoir with the Environment Agency as a Large Raised Reservoir and carrying out a Flood Study & Routing Calculations.</p> <p>5.2. The Flood Study has confirmed that the reservoir does not fall within the current limit of a LRR which is a reservoir greater than 25,000m³.</p> <p>5.3. The Corporation did register the reservoir as an LRR but have successfully de-registered it in October 2019, after ascertaining that the volume does not classify it as a LRR. This has removed the need to repair the culverts by October 2020, i.e. within a time limit of 3 years of the original inspection dated October 2017, however, it should be noted that the state of the dam and culverts and their headwalls continues to deteriorate.</p> <p>5.4. If it is not treated as an LRR, then work to satisfy the requirement of design flood condition are not immediately required. However, if the reservoir requires re-registration as an LRR in the future, then the creation of a spillway or strengthening the dam such that water could pass safely in the event of the design flood conditions must be undertaken in addition to the culvert works.</p> <p>5.5. It is known that there are badger setts on the dam. The extent of the damage that they have caused to the dam as well as the culverts and their associated outfalls is unknown and will be assessed under the further investigations proposed by this report. It is noted that both the badgers and their setts are protected by the Protection of Badgers Act 1992. Any potential future options in relation to the badgers will be considered against the requirements of that Act and will be brought to the relevant committees for consideration.</p> <p>5.6. This project also includes removal of the Poplar trees across the whole reservoir, some of which are growing next to and within the structure of the dam. The reservoir is an historic water body with Tudor and later features and falls within the Registered Park and Garden area. The earthworks have been assessed, following consultation with Historic England, as having high historic significance. The trees are mature and are a threat to the earthworks from rooting or falling. Historic England are keen for the trees to be removed, which would be best historic feature management practice. This will enable better management of the reservoir structures as well. The strengthening of the dam would be key to allow future management across the whole reservoir area to prevent regrowth of Poplar and other trees.</p>
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	<p>5.7. A permanent access road is proposed to be constructed for the dam remedial works and tree works as well as future access and maintenance. Current vehicular access is not possible or suitable for construction traffic. This road would need to be appropriately and sensitively designed given the heritage features, with any necessary planning or other approvals obtained before its construction.</p>
<p>6. Consequences if project not approved</p>	<p>6.1. The existing two culverts will continue to deteriorate and, if nothing is done, they will eventually collapse. There is a risk to safety of City Corporation staff and other appointed personnel, e.g. who manage the area generally and inspect the dam.</p> <p>6.2. There is no dedicated spillway for water in the event of a flood and nor is the dam designed to overtop safely. Therefore, if the culverts were to collapse, water would not be able to pass safely in the event of heavy rainfall or for the design flood conditions. The 2018 flood management survey identified that water escaping the dam would likely flow into the nearby brook ('Cobbins Brook'), thus potentially causing flooding in the area directly north and south of the dam. That study recommended that further investigations be carried out to assess any potential risks. The proposed further assessment and surveys recommended by this report will provide a better understanding of the potential implications for the surrounding areas in the event of unplanned water escape from the reservoir. We are aware, for example, that property owners have already had to undertake flood alleviation works to protect their properties from flood events at Cobbins brook.</p> <p>6.3. Poplar trees become unstable and fall, leading to damage to the historic earthwork in the reservoir. Risk that Historic England put the Registered Park on the At Risk Register.</p>
<p>7. SMART project objectives</p>	<p>7.1. To complete remedial works to both culverts and remove Poplar trees by Q4 2026/27.</p>
<p>8. Key benefits</p>	<p>(i) Improvement in the interests of safety of both the culverts after remedial works.</p> <p>(ii) Meeting the objectives of the asset owning department and recommendations of the Copped Hall Conservation Management Plan, which is to preserve this part of the historic landscape in its existing form as far as reasonably practical.</p>
<p>9. Project category</p>	<p>2. Statutory</p>
<p>10. Project priority</p>	<p>A. Essential</p>

11. Notable exclusions	None
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Options Appraisal

12. Overview of options	<p>The options for the remedial works to the culvert have their own options as follows:</p> <p>12.1 Repair both existing culverts 12.2 Repair both culverts with a new lining. 12.3 Replace both culverts with new culverts (not necessarily in the existing material)</p> <p>The tree removal element of the project does not require an options study.</p>
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Project Planning

13. Delivery period and key dates	<p>Overall project: <i>state length of project/expected completion</i></p> <p>Key dates: The reservoir is not deemed a Large Raised Reservoir (LRR) but the repair of the two culverts and removal of the poplar trees is recommended. The next gateway is proposed for presentation Epping Forest and Commons Committee on 23rd January 2025, to secure project approval and funding, upon which consultants will be engaged.</p> <p>Other works dates to coordinate: None.</p>
14. Risk implications	<p>Overall project risk: Medium</p> <p>Further information available within the Risk Register (Appendix 2).</p>
15. Stakeholders and consultees	<p><u>Internal</u></p> <p>Environment Department Chamberlains Department – Finance Team Chamberlains Department – Procurement Team Town Clerks Department – Project Management Office</p> <p><u>External</u></p> <p>Epping Forest District Council – Local Planning Authority (LPA) Historic England – (in relation to the Grade II* listing via the LPA) Natural England (in relation to the badger setts)</p>

	Forestry Commission (in relation to the tree felling under the Environmental Impact Assessment (Forestry) Regulations) Environment Agency (Enforcement body for reservoirs)
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Resource Implications

16. Total estimated cost	<p>Likely cost range (excluding risk): £500,000 to £2,500,000</p> <p>Likely cost range (including risk): The likely cost range will not be affected due to the total identified CRP of £150,000 in the Risk Register at this early stage of the project but will be revised when the Risk Register becomes more developed at the next stages of the project process.</p>															
17. Funding strategy	Choose 1:	Choose 1:														
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Funds/Sources of Funding</th> <th style="width: 30%;">Cost (£)</th> </tr> </thead> <tbody> <tr> <td>City Surveyor's CWP</td> <td style="text-align: right;">£142,000</td> </tr> <tr> <td>City Estates (2024/25 Capital Bid)</td> <td style="text-align: right;">£470,000</td> </tr> <tr> <td>Country Stewardship Scheme</td> <td style="text-align: right;">None confirmed</td> </tr> <tr> <td>Funding to be identified.</td> <td style="text-align: right;">£2,038,000</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td style="text-align: right;">Total</td> <td style="text-align: right;">£2,650,000</td> </tr> </tbody> </table>		Funds/Sources of Funding	Cost (£)	City Surveyor's CWP	£142,000	City Estates (2024/25 Capital Bid)	£470,000	Country Stewardship Scheme	None confirmed	Funding to be identified.	£2,038,000			Total	£2,650,000
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19. Procurement strategy/route to market	<p>19.1. It is recommended that this work be put out to the open market to be tendered and completed with the agreement of the appointed reservoirs Supervising Engineer.</p> <p>19.2. The existing term contract that the Corporation have for the appointment of the Supervising Engineer does not preclude the options study or any design work being tendered as a service independent of that contract.</p>															
20. Legal implications	<p>20.1. If Rookery Wood were to be classed as a LRR under the lower 10,000m3 capacity listed in the Reservoirs Act 1975, as varied by the Flood and Water Management</p>															

	<p>Act 2010, then it would fall within the LRR regime and the repair of the reservoir would be required under the relevant provisions of the 1975 Act. This would also require further oversight from the Environment Agency for the reservoir, including (but not limited to) the requirement to prepare, review and test an on-site emergency flood plan for the area. Under the LLR regime, if Rookery Wood were deemed a 'high risk' LRR, the City Corporation would be also required to appoint a supervising engineer, undertake any measures in the interest of safety or maintenance recommended by them, and would have to undertake inspections of the city at a minimum of every 10 years.</p> <p>20.2. The further investigations proposed by this report will consider whether badger setts are causing damage to the reservoir. It is noted that badgers and their setts are protected by the Protection of Badgers Act 1992 and any options for dealing with badgers at the site in the future will need to take into account (and comply with) the requirements in that Act.</p> <p>20.3. Under The Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1998 (as amended by The Environmental Impact Assessment (Forestry) (England and Wales) (Amendment) Regulations 2017), a forestry Environmental Impact Assessment may be required for the felling of trees across Rookery Wood. Additionally, Forestry Commission consent will also be required for the felling of trees.</p> <p>20.4. The status of Copped Hall Park and Garden as a Grade II* Listed Park under the National Heritage Act 1983 places certain protections and legal planning constraints on works undertaken on the property and the surrounding area. Any planning permission or other approvals required will need to be obtained before works commence.</p> <p>20.5. The works and assessments proposed in this report will help the City Corporation to assess whether there are potential risks to neighbouring properties in the event of water escape from the reservoir, and enable a better understanding of potential areas of liability going forwards.</p>
<p>21. Corporate property implications</p>	<p>There are no scope overlaps with works of the City Surveyor's Corporate Property team.</p>

22. Traffic implications	<p>22.1. No major traffic implications are envisaged.</p> <p>22.2. It should be noted however that there is no easy direct or indirect route to the dam and best access is via a private road. There is a distance of 500m approximately that would involve off-road driving.</p>
23. Sustainability and energy implications	<p>Sustainability and energy implications have been considered. Although the removal of trees will have an impact on the carbon sequestration capacity and energy used to remove the trees, it is a very small percentage of the City's carbon sequestration provided by its green spaces. The Tudor earthworks are a feature of high significance warranting its protection. The Forestry Commission will have to approve the felling licence application and may require compensatory tree planting which could be accommodated within the same Copped Hall estate (Buffer Lands).</p>
24. IS implications	None.
25. Equality Impact Assessment	An equality impact assessment will not be undertaken.
26. Data Protection Impact Assessment	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken.

Appendices

Appendix 1	Project Briefing
Appendix 2	Risk Register
Appendix 3	Photos

Contact

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