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Committees: Corporate Projects Board - for decision under Urgency prior to meeting Projects Sub-Committee - for decision Corporate Asset Sub-Committee – for decision	Dates: Urgency for CPB 22 April 2020 01 April 2020
Subject: Guildhall Steam Plant Replacement Previously titled “Guildhall - North Wing - Heat Source - Boilers (Steam) Replacement” Unique Project Identifier: 12213	Gateway 2: Project Proposal Complex
Report of: City Surveyor Report Author: Mark Donaldson	For Decision
<h1>PUBLIC</h1>	

Recommendations

1. Next steps and requested decisions	<p>Project Description: Provide a long term solution to meet the humidification needs of the Guildhall Complex in the most cost-effective and environmentally beneficial way.</p> <p>Next Gateway: Gateway 3 - Outline Options Appraisal (Complex)</p> <p>Next Steps:</p> <p>Commission consultant building service engineers to undertake an outline options appraisal and supporting site/plant surveys and studies. This will inform the recommendation for the project scope (i.e. which areas to provide humidification to) and technical solution(s) (i.e. humidification technology). This will also further develop the project budget and costed risk register.</p> <p>Requested Decisions:</p> <ol style="list-style-type: none"> 1. That budget of £85,000 (excluding risk) is approved to reach the next Gateway and will be split across the three funds on an appropriate basis; 2. Note total estimate cost range of £1.012m (excluding risk) to £1.20m (including £189k of costed risk post-mitigation) will be split across the three funds on an appropriate basis; 3. That a Costed Risk Provision of £22,000 is approved to reach the next gateway (to be drawn down via delegation to Chief Officer in consultation with the Chamberlain) and will be split across the three funds on an appropriate basis.
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2. Resource requirements to reach next Gateway	Item	Reason	Funds/ Source of Funding	Cost (£)
	Project Manager	Specialist consultant engineer to manage Outline Appraisal	See below.	£12,000
	Quantity Surveyor	Outline cost plans and whole-life-cost analysis	See below.	£10,000
	Mechanical & Electrical design	Options development and technical feasibility	See below.	£30,000
	Structural Engineer	Plant/solution impact on building structure	See below.	£5,000
	Surveys	Condition, asbestos, etc.	See below.	£25,000
	Staff costs	Client-side project management	See below.	£3,000
	Total		See below.	£85,000
<p>The above £85,000 total will be funded as detailed in box 1 above. Appointments for these consultants will be made in consultation with City procurement and in line with the City of London's procurement code.</p> <p>Costed Risk Provision requested for this Gateway: £22,000 to be funded as detailed in box 1 above. This is to cover the risk of the additional technical surveys being identified and management of any asbestos found to enable survey work.</p>				
3. Governance arrangements	<ul style="list-style-type: none"> • Corporate Asset Sub-Committee. • Senior Responsible Officer: Dorian Price • The project will be managed by the City Surveyor's Major Projects Team from whom a Project Manager will lead subsequent Gateways. 			

Project Summary

4. Context	<p>4.1 The Guildhall Complex steam generators are approaching the end of their economic life and maintenance issues and the risk of failure is increasing.</p> <p>4.2 The steam generators provide humidification to ventilation systems throughout the Guildhall Complex.</p> <p>4.3 Humidification is essential for maintaining environmental conditions within best practice guidelines and insurance requirements for preservation of artefacts and fabric in publicly accessible or storage locations within the Art Gallery, Amphitheatre, and other areas.</p> <p>4.4 Humidification is also provided for non-essential areas (e.g. offices) to maintain comfort conditions when necessary.</p>
5. Brief description of project	<p>5.1 The project will review the different humidification needs across the site, whether humidification is still needed and to what degree.</p> <p>5.2 Replacement of the end-of-life steam generator plant with a solution which meets the long-term humidification needs of the site.</p> <p>5.3 The project will consider options for the entire system, not just the generation plant, to determine the best whole-system solution and</p>

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	<p>options for replacement in part or whole.</p> <p>5.4 Appraise the technology and system options to arrive at the optimum for whole-life-costs and other objectives.</p>
6. Consequences if project not approved	<p>6.1 As the existing gas generators are approaching the end of their economic life there is an increasing risk of failure, resulting in difficulty maintaining internal environmental conditions.</p> <p>6.2 Failure to meet safe humidification ranges will put the Corporation's artwork at risk in terms of insurance requirements for conservation of artefacts.</p> <p>6.3 There is also a business reputation risk to any significant loans from national galleries on temporary exhibition in the Guildhall Art Gallery, as the Corporation is bound by loan agreements to meet correct environmental conditions and failure to meet these conditions will damage the Corporation's reputation as a borrowing institution.</p> <p>6.4 It is likely that maintenance costs for the aging plant will increase.</p>
7. SMART project objectives	<p>7.1 By October 2022 a new humidification solution to be operational and anticipated to last at least 15 years.</p> <p>7.2 The solution meets the performance specification needs for the close-environmental control areas.</p> <p>7.3 The solution provides the lowest system whole-life-cost.</p> <p>7.4 The solution seeks to minimise future carbon emissions.</p> <p>7.5 The solution seeks to minimise local air quality impacts.</p>
8. Key benefits	<p>8.1 Fit for purpose facilities which preserves artefacts and meet insurance requirements.</p> <p>8.2 Lower future financial burden over system asset life.</p> <p>8.3 Supports the City of London Corporation's energy and carbon commitments.</p> <p>8.4 Supports the City of London Corporation's Air Quality Strategy and helps improve local air quality.</p>
9. Project category	7b. Major renewals, typically of a one-off nature (supplementary revenue)
10. Project priority	A. Essential
11. Notable exclusions	None.

Options Appraisal

12. Overview of options	<p>12.1 GW3 shall appraise and recommend the scope for humidification provision and the main technical solutions.</p> <p>12.2 GW4 shall appraise in more detailed the technical solutions for the selected scope to recommend a solution which best meets project objectives.</p>
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Project Planning

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13. Delivery period and key dates	<p>Overall project: approvals by: GW2 May-20, GW3 Jul-20, GW4 Oct-20, GW4a Feb-21, GW5 Apr-21, installation by Oct-21, GW6 Apr-22.</p> <p>Project completion will be Oct-21 but if there are programme delays then completion may need to be timed for Summer-22 (as summer is the ideal time for installation due to the low need for humidification at the site).</p> <p>Key dates: See Appendix 3 for additional details.</p> <p>Other works dates to coordinate: None.</p>
14. Risk implications	<p>Overall project risk: Medium</p> <p>The project costed risk post-mitigation is £188,500.</p> <p>A Costed Risk Provision of £22,000 is requested to cover the management of any asbestos found to enable the survey work and the risk of the additional surveys being required.</p> <p>After mitigation actions it is anticipated the remaining major risks will be:</p> <ul style="list-style-type: none"> • Partial or complete failure of existing steam system/plant prior to installation of replacement plant/system. • Tender return costs higher than requested project budget. • Disruption to existing live services (e.g. Fire & Security) as a result of change-over. • Brexit impact - Labour shortage and / or materials shortage or delays with deliveries due to the impact of Brexit • External security threat, including terrorist activity. <p>Further information available within the Risk Register (Appendix 2)</p>
15. Stakeholders and consultees	<p>Chamberlains, Corporate Property, Town Clerks, departments occupying or using the Guildhall.</p>

Resource Implications

16. Total estimated cost	Likely cost range (excluding risk): £0.250m - £1.012m				
	Costs are rough estimations at present. The lower cost is based on limiting the scope of humidification to essential areas only and based on a potentially more cost-effective (non-steam) solution. It should be noted that this is lower than set out in the Project Briefing as there is an option for the project scope to be limited to essential areas only. The higher cost is based on a full like-for-like replacement of the existing steam system.				
	Likely cost range (including risk): £0.439m - £1.200m				
17. Funding strategy	Choose 1:	Choose 1:			
	Partial funding confirmed	Internal - Funded wholly by City's own resource			
	<table><tr><th>Funds/Sources of Funding</th><th>Cost (£)</th></tr><tr><td>Central Funding: additional funding is requested (approved in principle)</td><td>£1.2m</td></tr></table>		Funds/Sources of Funding	Cost (£)	Central Funding: additional funding is requested (approved in principle)
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	<table border="1"> <tr> <td>Total</td><td>£1.2m</td></tr> </table> <p>This project received in principle funding of £1.2m from Resource Allocation Sub Committee meeting in December 2019 and will be split across the three funds on an appropriate basis. The release of funds is subject to approval by Resource Allocation Committee.</p>	Total	£1.2m
Total	£1.2m		
18. Investment appraisal	Whole-life-cost assessment will be undertaken. This will assess all the main capital and revenue costs over the anticipated life of the replaced assets.		
19. Procurement strategy/route to market	<p>The consultant appointments will be made in line with the City's procurement code and prior to the procurement of the Works.</p> <p>When we have further sight of the requirement for the Work, a Procurement Options Report will be provided at the next Gateway.</p>		
20. Legal implications	20.1 None.		
21. Corporate property implications	<p>21.1 Ensure no impacts to maintaining environmental conditions within close-control areas (Art Gallery).</p> <p>21.2 Consideration of desired comfort conditions within non-essential areas.</p>		
22. Traffic implications	22.1 None.		
23. Sustainability and energy implications	<p>23.1 Consideration to limit humidification to essential areas only.</p> <p>23.2 Highest efficiency plant, beyond compliance, should be considered.</p> <p>23.3 Zero emissions (non-combustion) plant should be considered to reduce air quality impacts and long-term carbon emissions.</p>		
24. IS implications	24.1 None.		
25. Equality Impact Assessment	An equality impact assessment will 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	Additional Project Details

Contact

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