

Committee(s):	Date(s):	Item no.
Epping Forest & Commons Projects Sub-Committee	5 November 2012 21 November 2012	CS 412/12
<b>Subject:</b> Options Appraisal - Jubilee Pond, Relining and Enhancement		<b>Public</b>
<b>Report of:</b> The City Surveyor		<b>For Decision</b>
<p><b><u>Summary</u></b></p> <p>Following a feasibility study and public consultation the original concrete lined “Model Yacht Pond” on Wanstead Flats was reinstated as a clay lined natural conservation pond and is now known as Jubilee Pond. The construction was completed in September 2002.</p> <p>Water loss at the pond was reported and several investigations have been undertaken to identify the reason and extent of the leakage in the clay liner.</p> <p>It has been identified that the installation of an impermeable liner is the best option to address the leakage. The City Surveyor has a budget of £200,000 in place under the 2010/11 additional works programme.</p> <p>A separate project to undertake landscaping at Jubilee Pond is scheduled for early 2013 through the Heritage Lottery Fund (HLF) Branching Out project. This work includes a new accessible trail, pond dipping deck, signage and information, and planting of vegetation to encourage a wider variety of wildlife.</p> <p>The additional works programme would fund the new lining. However there is an expectation in the local community that I will arrange for surface water to be captured, to supplement the borehole water supply. These improvements would be in addition to the HLF funded works.</p> <p>The works should make the pond watertight, to ensure that the City can remain within the terms of its water abstraction licence. Although the abstraction will continue as it is required to address evaporation. Relining will demonstrate to the Environment Agency responsible use of the aquifer.</p> <p>The use of a liner rather than relining with clay will save a considerable amount of earthworks and importing materials. The impermeable liner will be either a geosynthetic clay layer covered with a compacted layer of as dug material. Or a plastic, or rubber ‘geomembrane’, which would be installed in the same way and protected with as dug ballast. A geo-grid in the ballast may be installed to prevent puncturing the membrane.</p> <p>The relining project and the Branching Out landscaping will create and improve a healthy wetland habitat, which will emphasise City’s environmental sustainability commitments. The projects will also improve access to and the appearance of an important amenity for the local community. Wanstead Flats, on the south western edge of which Jubilee Pond is located, receives approximately 400,000 visits per year, making it one of the busiest areas in Epping Forest.</p>		

The relining works at Jubilee Pond were delayed, in order to accommodate the Police operation at Wanstead Flats for the London 2012 Olympics. It was agreed that the £170,000 payment by the Police for use of Wanstead Flats should be used for the benefit of Wanstead Flats and the public consultation favoured the Jubilee Pond repairs

The works identified to address the leakage need to be undertaken prior to the landscaping works to be carried out through the HLF funding. The Metropolitan Police funding is opportune.

<b>Description</b>	<b>£</b>
Works Costs	360,000.00
Fees	5,000.00
Staff Costs	5,000.00
<b>Total</b>	<b>370,000.00</b>
<b>Funding Strategy</b>	
Additional Works Programme	200,000.00
Metropolitan Police	170,000.00
<b>Total Funding Requirement</b>	<b>370,000.00</b>

### **Recommendations**

It is recommended that Epping Forest and Commons Committee and Projects Sub Committee:

- i. Approve in principle the relining of Jubilee Pond and undertake enhancements to improve the area, namely capturing surface water to supplement the borehole water supply.
- ii. Continue under the streamlined project procedure: Gateway 5 report, with the authority to start work delegated to the City Surveyor.

### **Next Steps**

The procurement strategy suggested for this project is a Design and Build contract.

Once the procurement process is concluded and a suitable contractor selected, it is anticipated that the works will commence on site before the end of 2012.

Due to the work previously undertaken on this scheme, the amount of officer time required to conclude the tender process will be minimal.

Consultation with local stakeholders will continue; once the new lining design solution is available all relevant stakeholders will be consulted.

## Overview

### 1. Evidence of Need

Following a feasibility study and public consultation, the original concrete lined "Model Yacht Pond" on Wanstead Flats was reinstated as a clay lined natural conservation pond and became known as Jubilee Pond. Construction was completed in September 2002.

Jubilee Pond is a 9,000m<sup>2</sup> pond on Wanstead Flats, the water supply is derived from a borehole.

- The original brief required a puddled clay liner due to the possibility of cattle grazing in the area.
- Annual permitted abstraction from borehole is 12,950m<sup>3</sup>.
- At design water level (14.09m) the volume of the pond is 8,400m<sup>3</sup>.
- Investigations into leakage reported to Committee March 2011 by the City Surveyor.
- Works identified to repair leakage involve the installation of an impermeable liner.
- Other landscaping works are to be undertaken around the pond as part of the HLF Branching Out project, after the relining has taken place.

Water loss at the pond was reported and several investigations have been undertaken, to identify the reason and extent of the leakage.

It has been identified that the installation of an impermeable liner is the best option to address the leakage. The City Surveyor has a budget of £200,000 in place under the 2010/11 additional works programme.

The Metropolitan Police set up a Muster, Briefing and Deployment Centre on Wanstead Flats for the Olympics. It has been agreed that its payment for use of Wanstead Flats of £170,000 is to be used for the benefit of Wanstead Flats. The public consultation favoured the Jubilee Pond repairs. This was approved by Epping Forest and Commons Committee on 9 January 2012.

Landscaping of Jubilee Pond is scheduled for early 2013 through the HLF Branching Out project. This work includes a new accessible trail, pond dipping deck, signage and information, and planting of vegetation to encourage a wider variety of wildlife.

The works identified to address the leakage need to be undertaken prior to the landscaping works being carried out through the HLF funding. The Metropolitan Police

	<p>funding is opportune.</p> <p>The works should help to ensure that the City remains within the terms of its water abstraction licence. Abstraction will continue to be required to address evaporation. Relining will demonstrate responsible use of the aquifer to the Environment Agency, particularly in the current drought conditions.</p> <p>If the lining works are not undertaken by the end of the 2012 financial year, it is likely they will adversely affect the HLF Branching Out landscaping programme.</p>
<p><b>2. Success Criteria</b></p>	<p>Maintain the water in the pond at a level which satisfies the original aspirations, without excessive abstraction from the aquifer.</p>
<p><b>3. Project Scope and Exclusions</b></p>	<p>The additional works programme would fund the new lining. However there is an expectation in the local community to undertake enhancements to improve the area. This is additional landscaping (on top of HLF works) and capturing surface water to supplement the borehole.</p> <p>The possibility of utilising surface water from the surrounding area for the pond will also be investigated during the tender process.</p> <p>The project will not include the design and implementation of measures to prevent cattle entering the pond. Should cattle be reintroduced to the area the pond shall be protected using methods utilised elsewhere in Epping Forest.</p>
<p><b>4. Link to Strategic Aims</b></p>	<p>SA3: To provide valued services to London and the nation.</p> <p>The development of Jubilee Pond matches the City Together vision of a “World Class City”, one theme of which seeks to protect, promote and enhance our environment with a specific objective of “conserving and enhancing biodiversity”.</p> <p>The project would be creating and improving a healthier wetland habitat, both of which are part of our environmental sustainability commitments.</p> <p>Adopting the outcome of the public consultation further demonstrates the City's commitment to consulting and engaging the community in the decision making processes.</p>

<p><b>5. Within which category does the project fit</b></p>	<p>Additional Works Programme - Revenue</p>
<p><b>6. What is the priority of the project?</b></p>	<p>B. Advisable</p>
<p><b>7. Governance arrangements</b></p>	<p>A Project Board is recommended for this scheme. Chaired either by the Director of Open Spaces or the Superintendent of Epping Forest.</p> <p>Members to include City Surveyor's, Open Spaces and representation for local community group (Lakehouse Lake Project).</p>
<p><b>8. Resources Expended To Date</b></p>	<p>Due to the work already undertaken on this scheme the amount of officer time required to reach outline option appraisal stage has been minimal and has been met from local risk budget.</p> <p>A Health and Safety consultant has been appointed to assist with the project. £1,320.00.</p> <p>Licence for lawful development application £1,700.00.</p>
<p><b>9. Results of stakeholder consultation to date</b></p>	<p>Open Spaces (Keepers, Ecologists, Volunteers, Branching Out) have been involved in the project by developing the Risk Register and reviewing tender documents.</p> <p>London Borough of Redbridge, have approved Licence for lawful development application.</p> <p>The Local Community Group, Lakehouse Lake Project, has assisted with the Risk Register and has been actively involved in the development of the project brief.</p>
<p><b>10. Commentary on the options considered</b></p>	<p>The installation of an impermeable liner is the best option to address the leakage. Therefore this is the only option which has been considered. It is recommended that a design and build contractor is appointed to ensure an appropriate solution is installed.</p> <p>Presently the pond is leaking a large amount of water provided through licensed extraction from underground aquifer, where continued extraction may not be guaranteed. Underground leaks could also pose other technical and ground condition concerns and should not be permitted to persist.</p> <p>A considerable amount of earthworks would be required to reline with clay.</p> <p>Therefore to reduce the total quantity of earthworks and the amount of imported material, a geosynthetic clay layer (GCL) could be used and then covered with a</p>

	<p>compacted layer of soil, possible the material “as dug” (removed from the pond).</p> <p>An alternative liner is a ‘geomembrane’ which is either a plastic, or rubber material. Again the liner would be installed in the same way as the GCL and protected with “as dug” material, possibly with a geo-grid in the soil to prevent anything puncturing the membrane.</p> <p>The advice of the specialist contractor will be sought during the tender process.</p>
<b>11. Consequences if project not approved</b>	<p>If the lining works are not commenced by the end of 2012, it is likely they will adversely affect the HLF Branching Out landscaping programme.</p> <ul style="list-style-type: none"> <li>• Reputation, if the new liner is not installed it is likely that the pond will eventually disappear.</li> <li>• Risk to wildlife if the relining is not carried out and the pond disappears.</li> <li>• Environment Agency may not renew abstraction licence post 2016, and if the repairs are not undertaken the pond could dry out. There is no guarantee that a new licence will be issued, however, previous discussions have proved positive, although no official commitment will be given yet by the Environment Agency.</li> <li>• Loss of valued local amenity, which is also the focus of active community engagement.</li> </ul>

**Information Common to All Options**

<b>12. Key benefits</b>	Maintain the water in the pond at a level which satisfies the original aspirations, without excessive abstraction from the aquifer.
<b>13. Programme and key dates</b>	<p>Obtain approvals (Gateway 3/4) November 2012</p> <p>Tender period complete November 2012</p> <p>Contract period December 2012 – March 2013</p> <p>Landscaping works February 2013 – March 2013</p>
<b>14. Constraints and assumptions</b>	It has been assumed that the project will be undertaken as a design and build contract. Appointment of a separate design consultant would add to the cost and would have implications on the programme.
<b>15. Risk implications</b>	Overall risk is low, as this is a technically straightforward project. Risks will need to be carefully

	<p>managed to mitigate their impact.</p> <ul style="list-style-type: none"> <li>• Cost variations prior to or during construction.</li> <li>• Overrun of pond relining would impact on schedule for landscaping, incur additional costs and impact on the relationship with the local community.</li> <li>• Possible damage to new lining if works are not coordinated properly.</li> <li>• Reputation, if local people are not involved in and informed of the process.</li> <li>• Reputation if the pond is left to dry out.</li> <li>• Environment Agency may not renew abstraction licence post 2016. Previous discussions have proved positive, although no official commitment will be given yet by the Environment Agency.</li> <li>• Licence might be withdrawn irrespective of the completion of the works.</li> <li>• Cattle grazing.</li> <li>• Risk to wildlife if the relining is not carried out and the pond disappears.</li> </ul>
<b>16. Stakeholders and consultees</b>	<p>Open Spaces (Keepers, Ecologists, Volunteers, Branching Out)</p> <p>Environment Agency</p> <p>London Borough of Redbridge</p> <p>Natural England</p> <p>Local Community Groups (particularly Lakehouse Lake Project)</p> <p>Chris Blandford Associates (Landscape Architects)</p>
<b>17. Legal implications</b>	Maintain standards of public open space
<b>18. HR implications</b>	Epping Forest staff will continue to manage the area
<b>19. Benchmarks or comparative data</b>	Wanstead Flats, on the south western edge of which Jubilee Pond is located, receives approximately 400,000 visits per year, making it one of the busiest areas in Epping Forest.
<b>20. Funding strategy</b>	<p>Additional Works Programme 2010/11 (£200,000)</p> <p>Metropolitan Police (£170,000)</p>
<b>21. Affordability</b>	It anticipated that the cost of the removal of the existing liner and implementation of an impermeable liner will be circa £300,000. Further enhancements such as

	additional vegetation, land drainage and a pond dipping area are possible within the budget.
<b>22. Procurement approach</b>	Design and Build contract. - 3 companies to be approached.



### **Options Appraisal Matrix**

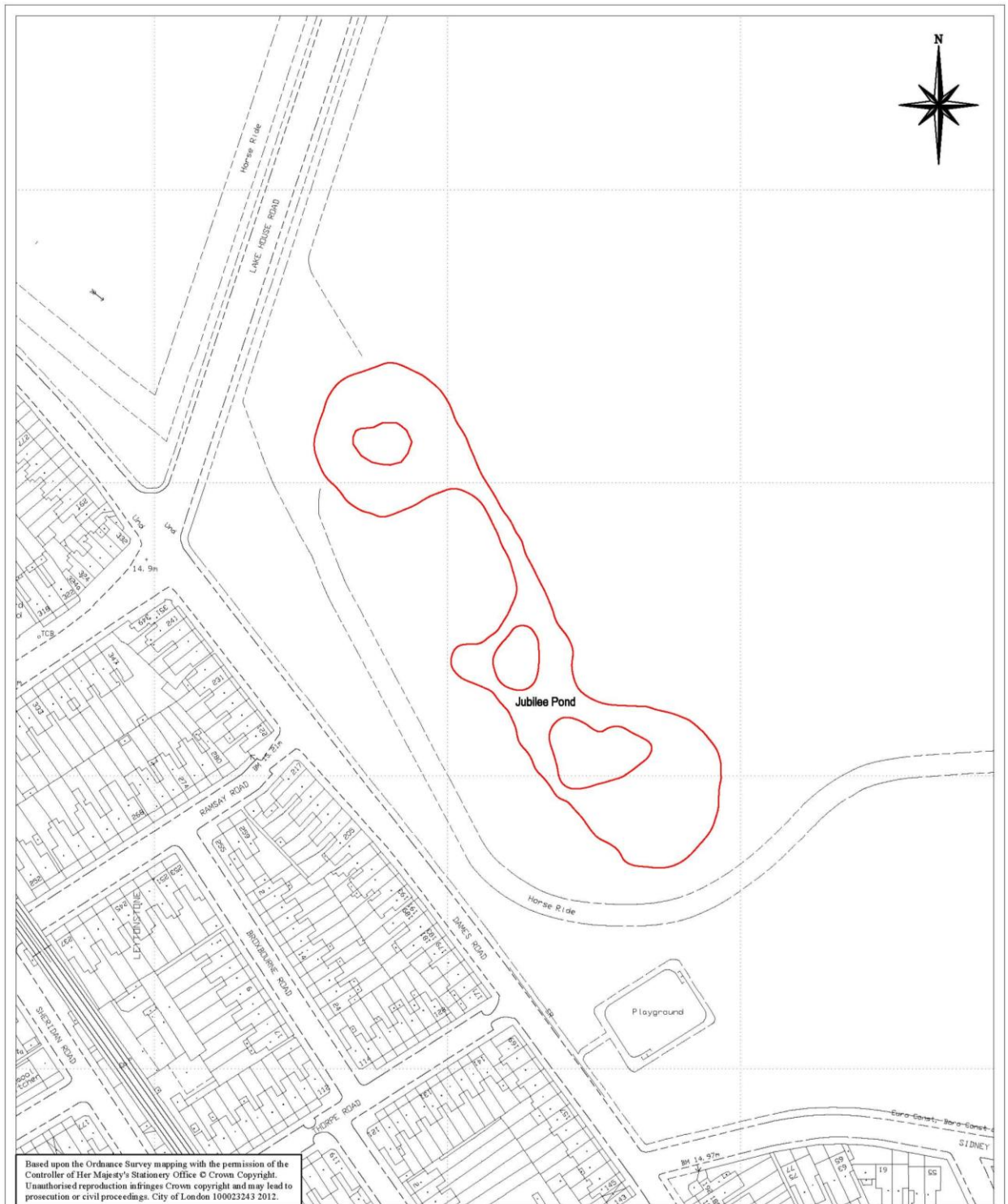
See separate document.

### **Appendices**

<b>Appendix 1</b>	Location Plan
<b>Appendix 2</b>	Proposed Layout

### **Contact**

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Project :	<b>JUBILEE POND</b>
Drawing :	<b>RELINING AND ENHANCEMENT LOCATION PLAN</b>



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Notes  
 Do not scale. All dimensions to be checked on site.  
 Errors to be reported to supervising officer.

Scale at A3 :	<b>1:1250</b>	Drawn by :	<b>S.B.</b>
Des :	<b>R.C.</b>	App :	
Date :	<b>JULY 2012</b>	Pro code	
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Revision			

