Public Document Pack

Hampstead Heath Consultative Committee

Date: **MONDAY, 2 JUNE 2014**

Time: **7.00pm**

Venue: **PARLIAMENT HILL CONFERENCE ROOM, PARLIAMENT HILL STAFF YARD, PARLIAMENT HILL FIELDS, HAMPSTEAD HEATH, NW5 1QR**

Members:
Jeremy Simons (Chairman)
Virginia Rounding (Deputy Chairman)
Xohan Duran (Representative of People with Disabilities)
Colin Gregory (Hampstead Garden Suburb Residents' Association)
Michael Hammerson (Highgate Society)
Ian Harrison (Vale of Health Society)
Dr Gaye Henson (Marylebone Birdwatching Society)
John Hunt (South End Green Association)
Nigel Ley (Open Spaces Society)
Susan Nettleton (Heath Hands)
Akin Olukiran (Disability in Camden - DISC)
Helen Payne (Friends of Kenwood)
Mary Port (Dartmouth Park Conservation Area Advisory Committee)
Harunur Rashid (Black and Minority Ethnic Communities Representative)
Susan Rose (Highgate Conservation Area Advisory Committee)
Steve Ripley (Ramblers Association)
Ellin Stein (Mansfield Conservation Area Advisory Committee/Neighbourhood Association)
Richard Sumray (London Council of Sport and Recreation)
Simon Taylor (Hampstead Rugby Club)
David Walton (Representative of Clubs using facilities on the Heath)
John Weston (Hampstead Conservation Area Advisory Committee)
Jeremy Wright (Heath & Hampstead Society)

Enquiries: **David Arnold**
David.Arnold@cityoflondon.gov.uk

Dinner will be served in the Parliament Hill Café at the conclusion of the Committee

John Barradell
Town Clerk and Chief Executive

AGENDA

1. **APOLOGIES**

2. **MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**

3. **MINUTES**

   a) Minutes of the Hampstead Heath Consultative Committee Meeting held on 7 April 2014 (Pages 1 - 14)

   To agree the public minutes and summary of the meeting held on 7 April 2014.

   b) Minutes of the Sports Advisory Forum held on 12 May 2014 (Pages 15 - 20)

   To receive the public minutes of the Hampstead Heath Sports Advisory Forum meeting held on 12 May 2014.

   c) Minutes of the Ponds Project Stakeholder Group Seminar held on 13 April 2014 (Pages 21 - 26)

   To receive the public minutes of the Ponds Project Stakeholder Group seminar held on 13 April 2014.

   d) Minutes of the Ponds Project Stakeholder Group Seminar held on 24 April 2014 (Pages 27 - 28)

   To receive the public minutes of the Ponds Project Stakeholder Group seminar held on 24 April 2014.

   e) Minutes of the Ponds Project Stakeholder Group Seminar held on 10 May 2014 (Pages 29 - 34)

   To receive the public minutes of the Ponds Project Stakeholder Group seminar held on 10 May 2014.

4. **SUPERINTENDENT'S UPDATE**
   The Superintendent of Hampstead Heath to be heard.

5. **REPORTS OF THE SUPERINTENDENT OF HAMPSTEAD HEATH:-**

a) Gateway 4c - Detailed Design: Hampstead Heath Ponds Project (Pages 35 - 96)

Joint Report of the Director of Built Environment and the Director of Open Spaces.

Please note that Appendices 2, 3 and 4 are part of a Supplementary Pack.

b) Ladies' Pond Fatality Report (Pages 97 - 112)

Report of the Superintendent of Hampstead Heath.

c) Weddings and Civil Partnerships at the Hill Garden and Pergola (Pages 113 - 126)

Report of the Superintendent of Hampstead Heath.

d) Outdoor Triples Table Tennis Table (Pages 127 - 134)

Report of the Superintendent of Hampstead Heath.

e) Management Work Plan for Preacher's Hill (Pages 135 - 150)

Report of the Superintendent of Hampstead Heath.

6. **QUESTIONS**

7. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT**

8. **DATE OF NEXT MEETING**

The next meeting of the Hampstead Heath Consultative Committee will be on 3 November 2014 at 7.00pm in the Conference Room, Parliament Hill Staff Yard, Hampstead Heath

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HAMPSTEAD HEATH CONSULTATIVE COMMITTEE
Monday, 7 April 2014

Minutes of the meeting of the Hampstead Heath Consultative Committee held at Parliament Hill Conference Room, Parliament Hill Staff Yard, Parliament Hill Fields, Hampstead Heath, NW5 1QR on Monday, 7 April 2014 at 7.00 pm

Present

Members:
Jeremy Simons (Chairman)
Virginia Rounding (Deputy Chairman)
Xohan Duran (Representative of People with Disabilities)
Colin Gregory (Hampstead Garden Suburb Residents' Association)
Michael Hammerson (Highgate Society)
Ian Harrison (Vale of Health Society)
Dr Gaye Henson (Marylebone Birdwatching Society)
John Hunt (South End Green Association)
Nigel Ley (Open Spaces Society)
Susan Nettleton (Heath Hands)
Helen Payne (Friends of Kenwood)
Susan Rose (Highgate Conservation Area Advisory Committee)
Ellin Stein (Mansfield Conservation Area Advisory Committee/Neighbourhood Association)
Richard Sumray (London Council of Sport and Recreation)
David Walton (Representative of Clubs using facilities on the Heath)
John Weston (Hampstead Conservation Area Advisory Committee)
Jeremy Wright (Heath & Hampstead Society)

Officers:

Alistair MacLellan	-	Town Clerk's Department
Sue Ireland	-	Director of Open Spaces
Bob Warnock	-	Superintendent of Hampstead Heath
Declan Gallagher	-	Operational Services Manager, Hampstead heath
Richard Gentry	-	Constabulary and Queen's Park Manager
Jonathan Meares	-	Conservation and Trees Manager
Paul Monaghan	-	City Surveyor's Department
Richard Litherland	-	City Surveyor's Department
Katherine Radusin	-	Open Spaces Department
Esther Sumner	-	Open Spaces Department

In Attendance:

Steve Evison	-	Resources for Change
Nick Bradfield	-	Dartmouth Park Conservation Area Advisory Committee
Stewart Purvis	-	Vale of Health Society

1. **APOLOGIES**

Apologies were received from Mary Port and Simon Taylor. It was noted that Mary Port would be represented by Nick Bradfield.

2. **DECLARATIONS BY MEMBERS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**

There were no declarations.

3. **MINUTES**

The minutes of the meeting held on 20 January 2014 were approved as a correct record subject to the legislation being described as of 'secondary significance' (item 4), Ian Hammerson being corrected to Ian Harrison, where appropriate, 'size of new property' amended to 'size of new property, if any' (item 5.4) and the model farm being attributed to the former Caen Wood Towers (now Athlone House) rather than Kenwood House (item 5.4).

Matters Arising

London Borough of Camden Flood Warning Letter

The Chairman noted that this had been circulated to the Committee.

Hill Garden & Pergola

The Chairman noted that a report on proposals for marriages and civil ceremonies at this venue would now come to the June meeting of the Committee.

Ponds Project Correspondence

In response to a question from Ian Harrison, the Chairman stated that the City of London would be happy to make the correspondence between the City and the Heath and Hampstead Society between December 2013 – March 2014 public, subject to the agreement of the Society.

Planning – Athlone House

Susan Rose noted that an application to list Athlone House had now been submitted.

Storms

The Chairman noted that issues arising from winter storms would be dealt with under item 5.3.

Graffiti – Hill Garden Shelter

The Superintendent noted that the City Surveyor's Department would be inspecting the shelter at the end of April 2014 and would discuss the composition of the render with English Heritage.

Dog Control Orders (DCOs)

The Chairman noted that this issue would likely be submitted to the November 2014 meeting of the Committee. The Director of Open Spaces noted that the Epping Forest & Commons Committee had recently decided to proceed with

statutory consultation on implementation of DCOs at Burnham Beeches. Meanwhile the Anti-Social Behaviour Bill was progressing through the House of Lords and the measures arising from Parliament would be considered by the Open Spaces and City Gardens Committee, likely in June 2014. It was expected that Dog Control Orders would continue for a further 18 months before requiring to be converted into new Anti-Social Behaviour Orders.

The Good, The Bad, The Ugly
The Chairman noted this would be dealt with under item 5.7.

Parliament Hill Athletics Track Charges 2014/15
In response to a question from Richard Sumray on behalf of Simon Taylor, the Chairman confirmed that the Hampstead Heath, Highgate Wood and Queen's Park Committee had agreed to freeze the 2014/15 season ticket charges at 2013/14 level as a gesture of goodwill.

3.1 **Hampstead Heath Sports Advisory Forum Minutes**

The Committee received the minutes of the meeting of the Hampstead Heath Sports Advisory Forum held on 27 January 2014.

The Chairman noted that a report on the 2013 fatality in the Ladies' Pond would be submitted to the Forum before being reported to the Committee.

3.2 **Additional Work Programme Bids - 2015/16**

The Committee agreed to consider item 5.8 ahead of other reports to allow for the City Surveyor to depart the meeting early. It was therefore considered as item 3.2.

The City Surveyor introduced a report on proposed bids for the Additional Work Programme 2015/16 (AWP). He noted that these were cyclical works and recent examples included renovations to the tennis courts at Parliament Hill and renovations to the Parliament Hill Changing Rooms. He added that there were plans to renovate the shelter in the Hill Garden, and that planned works to the Belvedere in the Hill Garden had been delayed following the discovery of nesting bats.

He went on to clarify that the proposed bids for 2015/16 had not yet been approved, and represented an ideal list of works that had varying levels of priority. Proposed works included work on the paddling pool and more work to the Parliament Hill Athletics Track. He concluded by noting that the City Surveyor's Department worked closely with Hampstead Heath staff in drawing up planned works. He stressed that whilst works were cyclical in character, improvement works could be incorporated into the planned programme. Lastly he noted that all projects were drawn from the overall 20-year maintenance plan for the Heath.

Colin Gregory noted that it was difficult to respond to the request to comment on the proposed bids, given the bids before the Committee did not have any indication of their relative priority. For example, the Committee were not sure which of the 2014/15 projects would be proceeding. Moreover, it was difficult to gauge whether the £100k bid for works to the Pergola represented

the minimum needed to bring it up to standard, or if more monies were required to do so. The City Surveyor replied that any projects that were not accepted in each annual bid could be deferred to the following year, and that the Pergola would be the subject of a dedicated report that would be coming before the Committee. The Chairman added that feedback on the sums secured could be reported to the Committee.

In response to a question from Richard Sumray regarding what represented an ideal amount to be secured for 2015/16, the City Surveyor replied that the cyclical nature of the works meant that the ideal sum varied from year to year and that low priority projects could, as noted previously, be deferred until a following year.

In response to a question from John Hunt regarding the possibility of works associated with the Hampstead Heath Ponds Project being extended to include buildings associated with the Men's and Mixed Bathing Ponds, the City Surveyor replied that the City of London would not want the buildings to deteriorate, and therefore he would be consulting with the Superintendent on the issue.

In response to a comment from John Hunt that the paddling pool had been the subject of works a couple of years previously, the City Surveyor replied that this had indeed been the case but that the surface of the pool was now cracking and therefore it was proposed to install a rubberised surface to make the pool surface more resilient.

In response to a question from Gaye Henson regarding which ponds were subject to the £50k bid for dredging, the City Surveyor replied that this was for ponds outwith the scope of the Ponds Project.

In response to a request from Ian Harrison, the City Surveyor agreed that future AWP bid reports would include a map. The Superintendent concluded the item by noting that overall the bids represented good news for the Heath – the bids represented a three-year funding cycle and therefore any monies not spent could be carried over into future years.

The City Surveyor left at this point of the meeting.

4. **SUPERINTENDENT'S UPDATE**

Hampstead Heath Ponds Project

The Superintendent noted that the Partnering Contract between the City Corporation, Atkins, Capita and BAM Nuttall Ltd had been signed on 14 March 2014. BAM Nuttall had based their operations in the City of London's Kenwood Yard, and ground investigations had commenced on 24 March. The locations and dates the ground investigations are being carried out are mapped on the City of London's website. BAM had given a presentation to the Ponds Project Stakeholder Group (PPSG) on 24 March. Ground investigation work had been completed on the Ladies' Pond and the Stock Pond, and work had commenced on the Boating Pond. Trial pits would commence on 14 April, and surveys of bird nesting were being carried out to assess likely impact. Locations for bore holes had been changed and in some cases cancelled based upon the likely impact. Seminars would be conducted for the PPSG on 13 April and 10 May, with the 13 April seminar focusing on the upper chains of ponds.

Planning – Water House
The Superintendent noted that a review of the basement impact assessment had been carried out and submitted to Camden, and that the developer had been requested to respond to the assessment's conclusions before the documents are placed on the website.

Planning – Archway Tower
The Superintendent noted that he had met with the developer, Essential Living, to discuss the proposed conversion of Archway Tower from office to residential use. Proposals included the profile of the building to be set back, and aerials to be removed. The application would be considered by the Islington Planning Committee on 23 April, and the City of London had asked to be consulted on the eventual palette used for the façade of the building.

Planning – Athlone House
The Superintendent noted that the applicant had not responded to concerns raised with them regarding the likely impact of their proposals.

Planning – Garden House
The Superintendent noted that there was no further update from the January meeting of the Committee.

Planning – Swains Lane
The Superintendent noted that the City of London was objecting to the proposed scheme on grounds of its inconsistency with national planning policy guidelines and its lack of suitability to the character of the surrounding location.

Property - Parliament Hill Athletics Track
The works to replace the boilers and showers was progressing according to the programme. The Superintendent noted that he had liaised with the Highgate Harriers to secure electricity supply for their 10 April event. He expressed his appreciation for the club's co-operation whilst the works were progressing.

Lido
The Superintendent noted that the 14 February storm had caused a collapse of 25m of perimeter walling and works to remedy this were still progressing and forecast to continue for the time being. Thought was therefore being put into ensuring there would be additional space for users of the Lido on the sun terraces during the summer. He added that anti-climb paint would be applied to the hoarding surrounding the works.

Pergola Belvedere
The Superintendent, as per item 3.2, confirmed that an inspection would take place on the Belvedere on 21 April.

National Grid
The Superintendent noted that gas leaks had continued to be a problem during January-March 2014. Nevertheless the football pitches had now been restored and restoration works to the Education Centre Secret Garden were due to commence. The costs of the works would be charged to the National Grid.

Southern Counties Cross-Country Championships – 25 January 2014
The Superintendent reported that the cross-country championships held in January had been a great success and that the course was recovering well, due in part to a dry March. The Conservation Team had fenced areas of the course off to assist in the natural recovery of damaged areas. It was expected that the National Championships would take place on the Heath in 2015.

Hampstead Heath Diary 2014/15
The Superintendent noted that the new diary would be available from 14 April.

World War One Centenary
The Superintendent noted that a field of poppies would be planted in Golders Hill Park to mark the centenary of the Great War.

Christmas Tree Sales – East Heath Car Park
The Superintendent noted that a proposal had been received for the sale of Christmas trees on East Heath Car Park during the festive season and this was currently under consideration. A report would be submitted to the Committee in due course.

Hampstead Heath Constabulary Dogs
The Superintendent reported that one of four Constabulary Police Dogs has failed the Home Office Licence and has consequently been re-homed. Working with Constabulary and Queens Park Manager he has launched an informal consultation proposing a restructure of the Constabulary. The proposed structure comprises 2 Sergeants, 2 Constable/Dog Handlers and 8 Constables. This retains the Constabulary at 12 Officers but reduces the number of Constable/Dog Handlers to 2.

In response to a query from Richard Sumray over why a restructure was being considered, the Superintendent replied that it was felt that the Constabulary could operate effectively with two dogs rather than four. A reduction in the number of dogs would remove the issue of having to backfill a Constable's role whilst on the annual 16-day refresher training for dog handling.

In response to concerns that, given the Constabulary operated on a two-shift rota, there would be no dogs on patrol on the Heath for significant periods of time, the Superintendent replied that the deployment of dogs could be planned based on experience and knowledge of particular times of day when dog patrols would be most effective.

In response to a comment by Jeremy Wright that the Constabulary used to have six dogs to call upon if needed, the Superintendent replied that the reduction to two dogs was a proposal and that he was currently consulting staff on their professional views to establish if a reduction in the dog team was feasible.

Parliament Hill School – Partial Demolition
In response to a question from Susan Rose, the Superintendent confirmed he was aware of proposals to partially demolish Parliament Hill School and that

these were being monitored to assess how these proposals would affect the Heath.

Pitt Arch Sign
In response to a query from Helen Payne, the Conservation and Trees Manager confirmed he would investigate the issue of the Pitt Arch sign and report back to the Committee.

5. REPORTS FOR CONSIDERATION:-

5.1 Resources for Change - Ponds Project Consultation Results

Steve Evison of Resources for Change introduced the report on the recent Ponds Project Information Giving and Non-Statutory Consultation Exercise, noting the exercise's two key elements of sharing information to raise awareness of the project alongside consulting members of the public on their preferred option for the dams.

Mr Evison noted that overall the achievements of the exercise had been comprehensive, with 4,000 persons having been contacted face-to-face on the Heath, and a further 800 persons contacted face-to-face at off-site stands such as that at Hampstead tube station. A further readership of 120,000 persons had been reached through local media and information cards had been delivered to 79,000 households. Furthermore, stakeholders had been proactively contacted by email and a series of guided walks had been offered on the Heath itself.

Commenting on the information stands in particular, he noted that substantive face-to-face comments were more common at the stand located on the Heath itself, rather than those located off-site due to the fact persons at tube stations tended to prefer collecting hardcopy information rather than stopping to express an opinion. He added that for the number of persons that had been made aware of the project, the number of consultation responses received was relatively low. He noted that it was important to keep in mind that those with strong negative opinions were arguably more likely to express an opinion, with a significant number of persons who lacked a strong opinion or felt that the issue had been dealt with through the design process to date being less likely to engage with the consultation.

He continued by noting that a reasonable number of persons were totally opposed to the project, and based their opposition on legal, engineering and data-quality grounds. Some persons suggested alternative design solutions, e.g. concentrating works at either higher or lower ends of the pond chains; or that Thames Water improve sewage systems south of the Heath to cope with excess water in the event of a flood event. Some persons argued that better emergency response procedures be implemented, rather than improved dams.

Mr Evison continued by outlining further themes that had emerged from the consultation responses. These included the broad preference for natural design solutions over 'hard-engineering', but that paths should be properly surfaced to ensure they were safe to walk on in the event of poor weather. Some concerns had been expressed over health and safety for the public – both adults and children – in the event of major works being carried out. Some respondents had focused on the need to preserve existing views on the Heath as much as possible – both 'short' (in close proximity to new dams) and 'long'

(wider vistas from points overlooking new dams). Some respondents had commented on the potential the project offered to improve and enhance the environment of the Heath for wildlife, particularly around the Model Boating Pond.

He added that not many consultation responses had been option-specific, but that some comments had expressed a general liking for the improvement of the Model Boating Pond on the Highgate Chain, including the creation of an artificial island. Responses for the Hampstead Chain had been even less option-specific, except for some requests for more information on the Catchpit. There was some appetite for alternative engineering designs, and for the information-flow around the project to continue. He concluded by noting that the exercise had been particularly notable for the number of people who had been given an awareness of the Ponds Project.

The Superintendent noted that the information received through the information sharing and consultation process was very important and that it would assist Atkins in reaching a Preferred Design Solution.

The Committee proceeded to discuss the report, with the following points being made:

- Ellin Stein commented that the non-option-specific bias in consultation responses was probably due to poor visual information on the various options being provided. She added that the images provided needed to be clearer.
- Richard Sumray agreed that the exercise had been useful in terms of information sharing, and that he was not surprised on the lack of option-specific feedback, given the alternative options were quite narrow. He added that it was important that it was communicated clearly how the feedback received had helped inform the Preferred Design.
- Susan Nettleton agreed, noting that the consultation responses received seemed to be balanced and that feedback on how these informed the project was important.
- Colin Gregory said he welcomed the information sharing aspect of the exercise. He expressed disappointment that the report did not discuss how alternative themes could be considered – it gave the impression that the exercise was simply ‘tick-box’ in its approach.
- The Chairman suggested that there should be a mechanism to provide feedback on the opinions raised.
- Ian Harrison suggested that the City of London identify the main themes expressed in the consultation responses and respond to these on its website, and think of ways in which to communicate this feedback to the wider general public.
- In response to a query from Susan Rose regarding the timetable of the project from here on, the City Surveyor replied that the consultation feedback would be incorporated into the report on the Preferred Solution currently being drafted by Atkins.
- In response to a query from John Hunt over the term ‘non-statutory consultation’, the Ponds Project and Management Support Officer replied that this was intended to ensure the process was distinct from statutory consultation that took place during processes such as planning

applications. The Director of Open Spaces confirmed that it was to make clear there was no legal requirement for the consultation to take place.

- Richard Sumray suggested that the local media be used to communicate feedback to the public.
- The Ponds Project and Management Support Officer commented that improved images would be provided to the PPSG, and that whilst the project timetable from here on was indeed tight, Atkins had been provided with the consultation results as soon as they had been drafted and therefore work was well underway to incorporate the comments into the Preferred Design. Thanks were due to the staff who had manned the consultation stands during the consultation period.
- Michael Hammerson commented that it was important to make clear in any feedback that the opportunity to comment further on the project would come in the statutory planning consultation phase.

Steve Evison left at this point of the meeting.

5.2 **STEM and Policy Education Programme - Policy Initiatives Fund Application**

The Committee discussed a report of the Director of Open Spaces regarding a STEM and Policy Education Programme.

Richard Sumray noted that he was supportive of the idea and felt that it was excellent, no matter what one's personal opinion of the Ponds Project might be. John Hunt agreed, and suggested that the programme perhaps include a theme on conflict resolution. Jeremy Wright concurred and suggested that the Institution of Civil Engineers (ICE) be contacted to see if they wished to contribute to the programme in some way. The Ponds Project and Management Support Officer agreed and noted that the City of London was pursuing in-house contacts with the ICE.

Jeremy Wright noted that, if the programme proceeded, both sides of the argument should be presented fairly and equally to the children in question. Michael Hammerson noted that the ecological and archaeological impact of the project on the Heath should also feature in the programme. Richard Sumray suggested that young people also be asked to contribute to the development of the education programme.

In response to a question from Gaye Henson, the Ponds Project and Management Support Officer replied that the City of London was not aware of any peer examples of such a project. In response to a further question from Susan Nettleton, she confirmed that the schools immediately adjacent to the Heath would be among those contacted regarding the programme.

5.3 **Tree Management Update Report**

The Conservation and Trees Manager introduced a report on Tree Management during 2013. He outlined issues dealt with in the report, including evaluation of tree and woodland resources, the arboricultural skills resource across the North London Open Spaces, the growing threat of tree disease and impact on workload, recent storm damage and extreme weather events, and the impact of the Ponds Project on adjacent trees.

Colin Gregory welcomed the report and paid tribute to the dedication, skills and expertise of the Tree Team, and further welcomed the fact that succession planning was being carried out to ensure these skills were kept. He posed two questions regarding the difference between the iTree software package versus the Capital Asset Value for Amenity Trees (CAVAT) package; and over what thought was being put into replacement trees in the event of severe tree loss due to disease.

In response the Conservation and Trees Manager replied that replacement planting of elm had been conducted over the past few years to counter the effect of Dutch Elm Disease, and that a replacement programme of Wild Service Trees was also being implemented, mainly around hedgerows. Regarding planning for the event of a major outbreak of tree disease, he noted that current advice in the event of an outbreak of Ash Dieback was to leave trees in situ to avoid spreading the disease further by removing them.

He added that the iTree and CAVAT systems were distinct but complimentary – whilst the iTree system had been developed in the USA, CAVAT was a system designed by the London Tree Officers Association to secure political awareness of the value of trees. They would therefore likely be used in conjunction with one another.

In response to a comment from Jeremy Wright regarding the replacement of trees with species more likely to cope with climate change, the Conservation and Trees Manager replied that this was an issue that was being considered. Jeremy Wright expressed his appreciation for the work of the Tree Team and the hope that their expertise would be maintained.

Michael Hammerson noted that it was important to raise public awareness of the work of the team to ensure the public appreciated the importance of trees and the work that was required to maintain their place in public open spaces. The Chairman replied that reports such as the one under consideration were available online, and that the Tree Team would be the subject of his forthcoming column in the *Ham&High.* The Director added that the City of London had sponsored a conference in early 2013 on the management of tree disease in London and would be funding a small exhibit raising awareness of Oak Processionary Moth at the Chelsea Flower Show in May 2014.

In response to a request from Ian Harrison, the Conservation and Trees Manager agreed to define what constituted a ‘tree incident’ in a future report. Ian Harrison expressed his appreciation for the report overall and noted that should a tree be lost, a ‘like for like’ replacement should not be the default option – instead more thought should be put into what would benefit the landscape overall.

5.4 **Partnership Management of Bowling Green at Parliament Hill Fields**

The Committee discussed a report of the Superintendent of Hampstead Heath. In response to a comment from Jeremy Wright that he had seen no evidence of effort by the Bowling Club to increase their membership despite this being a requirement set out in the agreement, the Operational Services Manager replied that the club were actively recruiting. Ian Harrison agreed, noting that both the Bowls and the Croquet Clubs were taking their obligations seriously.

He expressed his appreciation for the support of the City of London in helping secure the partnership management of the Bowling Green.

Nick Bradfield noted that the parking arrangements on page 163 should be amended to Monday to Friday between 10.00am-12.00pm.

The Chairman thanked Richard Sumray for his role in helping secure the partnership management plan.

5.5 **Review of the Hampstead Heath Constabulary 2013**

The Constabulary and Queen's Park Manager introduced a report of the Superintendent of Hampstead Heath on the work of the Constabulary during 2013.

In response to a question from Richard Sumray, he confirmed that individuals caught attempting to carry knives on the Heath and attempting to access facilities such as the Lido would have the weapon confiscated before being excluded.

In response to concerns expressed by John Weston regarding the potential reduction in police dogs, the Superintendent reiterated that deployment of dogs would be based on data and experience of trouble spots.

In response to a query from Jeremy Wright, the Constabulary and Queen's Park Manager said that poor dog control on the Heath was often due to individual dogs rather than groups of dogs being exercised by commercial dog walkers.

In response to a query from Colin Gregory over what the proposed action plan for dog control would involve, the Constabulary and Queen's Park Manager replied that it would seek to improve engagement with dog walkers and commercial dog walkers. For example the Constabulary were aware around 30-40 commercial dog walkers used the Heath and therefore it would be useful to engage with them and work with them to ensure the Heath was used responsibly.

In response to a query from John Hunt, the Superintendent replied that the City of London was investigating whether to license commercial dog walkers.

In response to a question from Susan Rose, the Constabulary and Queen's Park Manager replied that the increase in reported dog incidents was due to improved reporting processes.

In response to a question from Michael Hammerson, the Constabulary and Queen's Park Manager replied that metal detecting was not a problem on the Heath.

5.6 **Update on Hampstead Heath - Public Sex Environment Outreach Work 2013**

The Constabulary and Queen's Park Manager introduced a report of the Superintendent of Hampstead Heath on public sex environment (PSE) outreach work carried out during 2013.

In response to a question from Colin Gregory, he replied that litter remained a problem but that it was often concentrated in specific areas that, in liaison with frontline staff, could be cleared quickly. The Superintendent replied

that there was an associated issue of drug abuse which he has asked the Terrence Higgins Trust to help address within their outreach programme.

In response to a question from Jeremy Wright, the Constabulary and Queen's Park Manager replied that there had been some increase in the geographic area of the PSE, but no increase in the number of persons involved.

Helen Payne commented that she often walked her dog each morning across the area in question and that there had been a noticeable increase in litter in recent years, and therefore she wished to express her thanks to the efficient litter-pickers.

The Constabulary and Queen's Park Manager endorsed the excellent work being done by the small and dedicated team responsible for this area, and the Committee went on to endorse the continuation of the partnership work with the Terrence Higgins Trust during 2014.

5.7 **Proposal for the Temporary Installation of The Good, The Bad and The Ugly at Parliament Hill Fields**

The Chairman introduced a report of the Superintendent of Hampstead Heath regarding the temporary installation of artwork at Parliament Hill Fields.

Ellin Stein commented that, whilst she had liked the Writer and the Visitor, this proposal was poor by comparison and that Jake and Dinos Chapman had run out of creative steam a long time ago.

John Hunt felt that it was a fantastic proposal but expressed concern that the location would affect neighbouring trees. The Operational Services Manager replied that it would not, and that the location had been selected in liaison with the Hampstead Heath Ecologist.

Colin Gregory noted that he was in favour of the proposal.

Jeremy Wright reported that the proposal had been discussed at great length by the Heath & Hampstead Society (HHS). He noted that the HHS was supportive of appropriate artwork on the Heath in the right place and for the right period of time. In considering if the proposal was artistically appropriate, the HHS was of the majority view that it was ugly and not child-friendly. It would be more suited to the more municipal surroundings of Golders Hill Park. Its proposed location on Parliament Hill Fields was on the cusp of where the more municipal part of the Heath gave way to its natural aspect, and that it would be better sited on the southern slopes, nearer the athletic track. Moreover, a one year installation was unacceptable and a six-month installation would be more appropriate.

Susan Nettleton noted that people had managed to climb over the 9-metre tall Writer, and therefore were likely to climb over the much smaller proposal under consideration. The metal looked sharp and dangerous.

Helen Payne commented that the pieces would be vulnerable to graffiti. Jeremy Wright agreed, noting that the pieces were corten steel, which is designed to rust evenly. This would make cleaning graffiti incredibly difficult.

The Operational Services Manager commented that the installation would require the use of a crane, hence the decision to avoid Golders Hill Park where access would be difficult. The reason for the cusp location on Parliament Hill Fields was at the request of the artists, who wanted the pieces to be displayed in a semi-rural location – moreover the Hampstead Heath Consultative Committee had agreed to the use of the location in question in

principle, at one of its past meetings. In their current location, adjacent to the Gherkin, they have been barriered off, but this was to stop shortcutting not for safety reasons. Susan Nettleton commented that it was more likely teenagers would attempt to climb them rather than young children.

5.8 **Education and Play Activities on Hampstead Heath**

The Superintendent of Hampstead Heath introduced a report on education and play activities on the Heath. In response to a question from John Hunt he confirmed that Wild About Hampstead Heath remained a partnership project led by the Royal Society for the Protection of Birds.

Richard Sumray commented that, in keeping with many of the reports before the committee, it would be useful if the information they contained be communicated more widely to the general public.

Jeremy Wright expressed his congratulations to the Hampstead Heath Education Service for the quality of their work.

6. **QUESTIONS**

There were no questions.

7. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT**

There was no other business.

8. **DATE OF NEXT MEETING**

The next meeting will be held on Monday 2 June 2014 in the Parliament Hill Conference Room, Parliament Hill Fields, Hampstead Heath, NW5 1QR at 7.00pm.

The meeting ended at 9.15 pm

Chairman

Contact Officer: Alistair MacLellan
alistair.maclellan@cityoflondon.gov.uk

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HAMPSTEAD HEATH SPORTS ADVISORY FORUM

MONDAY 12 MAY 2014

MINUTES OF THE HAMPSTEAD HEATH SPORTS ADVISORY FORUM HELD AT THE STAFF YARD, PARLIAMENT HILL FIELDS, LONDON NW5 ON MONDAY, 12 MAY 2014 AT 6:30PM.

Present

Members:

Richard Sumray (Chairman)	-	Hampstead Heath Consultative Committee (London Council for Sports and Recreation)
Nigel Robinson	-	Camden Council (Head of Sport and Physical Activity)
Rudolph Benjamin	-	HH tennis coach
John Carrier	-	Camden CCG
Richard Priestley	-	Highgate Harriers
Simon Taylor	-	Hampstead Rugby Club
Marc Hutchinson	-	HH Winter Swimming Club/ Heath & Hampstead Society
Jeff Gooding	-	Camden Schools' Association

In attendance

Jeremy Simons (Hampstead Heath, Highgate Wood and Queen's Park Management Committee Chairman)

Officers

Natasha Cendrowicz	-	Note taker (also Highgate Harriers)
Bob Warnock	-	Superintendent, Hampstead Heath
Declan Gallagher	-	Operational Service Manager,
Paul Maskell	-	Leisure & Events Manager, Hampstead Heath
Katherine Radusin	-`	PA to Superintendent

1. **Apologies**
Apologies were received from Dave Bedford, Dave Walton and Virginia Rounding.

1A. **Chairman's Welcome**
The Chairman welcomed Katherine Radusin to her first meeting and gave thanks to Natasha Cendrowicz for previous minutes
.

2. **Minutes of the last meeting**
The minutes of the last meeting held on 27 January 2014 were agreed as a correct record.

3. **Matters Arising**
There were no matters arising for these minutes.

4. **Fatality at Kenwood Ladies' Pond**
A report (prepared by Bob Warnock) setting out the measures taken in response to the fatality at the Kenwood Ladies' Pond in August 2013, was considered. The Sports Forum was asked to comment on the six recommendations set out in Appendix 3 of the report. It was noted that this report had already been discussed by the Swimmers' Forum and had been referred to the Chairperson of the Kenwood Ladies' Pond Association.

A discussion took place regarding the extent to which the lifeguards would be expected to inquire about underlying health issues with unfamiliar swimmers and what to do with such information. The hazards relating to cold water swimming needed to be made more apparent on signage at the swimming ponds. The proposal to refresh blackboards with relevant information everyday was supported. However, the onus of responsibility should be on swimmers to acknowledge whether they had the competency to handle cold water swimming.

The number of lifeguards in attendance was dependent on swimmer numbers. During busy times, when numbers exceed 50, a mobile lifeguard would be required to patrol the further reaches of the ponds.

The recommendation to remove fishing from the mixed and men's ponds was then discussed. This was supported, provided enhanced alternatives were provided. Bob Warnock suggested that it might not be possible to remove all fishing from the men's pond, but there would be advantages in removing all carp (such as better water quality) and thereby only offering course fishing at the men's pond.

Paul Maskell provided an update on the recent annual review by Peter MacGregor, a Risk Management Consultant. Overall, Mr MacGregor was happy with the way that the safety review had been implemented, although improving signage was one area that needed to be addressed.

Finally the Sports Forum discussed the extent to which the design of the jetty at the Ladies' Pond could be improved. It was noted that the current configuration meant that swimmers could swim underneath the concrete platform and therefore out of sight of the lifeguards. Whilst it would be difficult to make part of the platform transparent, options to stop swimmers swimming under the platform were welcomed.

Changing the height of the platform was not supported, but adding a handrail above water level and more raked ladders was supported. John Carrier requested that consideration be given to installing another static platform at the far end of the ponds for the lifeguards, in particular at the men's pond.

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RESOLVED: That;-

i) the recommendations set out in Appendix 3 of the report be supported; and

ii) additional consideration be given to lifeguards taking health details of swimmers new to the ponds and second static platforms with a report back to the next meeting.

5. **Progress with the Charging Policy**

A report (prepared by Bob Warnock), providing comparative information about the Parliament Hill Fields (PHF) and nearby athletics tracks, was considered. Bob Warnock explained that comparative information about these various tracks would help to assess how greater usage of the PHF track could be encouraged. The Chairman added that while the economics of running an athletics track were complex, he did not want to see this becoming an indeterminable exercise.

The different charging models were discussed. John Carrier inquired whether a per capita model could be introduced for schools. Paul Maskell explained that no school meeting involved less than one hundred children and overall, school athletics days generated the most income for the track. Jeff Gooding added that the lack of cover deterred schools from using the track outside the busy June and July period. Primary school curriculums were so tight that one off (rather than regular) usage of the track was unlikely. Richard Priestly requested that information about secondary school usage be provided. In response to a question by Nigel Robinson, Paul Maskell explained that the £3 charge was not time limited and included use of the facilities all day. Simon Taylor stated that enforcement was weak, due to the lack of card readers and ease with which users could jump over the perimeter fence.

Willesden, Battersea and Mile End tracks might also provide useful comparative information. It was noted that Finsbury Park track was not certified. Nigel Robinson referred to a fees and charges almanac (that used to be circulated by Paul Minton annually) although now slightly out of date, could also provide useful comparative information. Bob Warnock welcomed the chance to collate this information so that a better understanding of the subsidy provided for both the athletics track and lido, could be made.

RESOLVED: That further comparative information about nearby athletics tracks (Mile End, Battersea and Willesden), inform a future report about fees and charges.

6. **Lido**

Bob Warnock provided an update about measures to restore the north east boundary wall of the Lido, which had collapsed on 14 February. He added that the majority of these works would be covered by insurance.

The Chairman shared with the Sports Forum a series of architectural drawings setting out ambitious improvements to the Lido, initiated by the GLC in 1984. He welcomed the opportunity to consider long term options for the Lido. Bob Warnock explained that the Lido cost £125,474 to run last year taking account of staff costs, expenditure and income. Income between 2009 & 2013 varied from £116,000 to £258,000. Infrastructure spending on the fabric of the building formed part of the City Surveyor's Annual Work Programme and is in the region of £100,000 per year.

A discussion took place regarding whether some of the undercover areas could be better used to generate income. For instance, the Education Centre could be relocated and that room could be used as a dance studio instead. In response to a question by the Chairman, Jeremy Simons confirmed that the City of London was not wanting to embark on any further large infrastructure projects. However, private investment options could be explored.

RESOLVED: That:-
i) efforts be made to copy and circulate the GLC architectural plans to the Sports Forum; and
ii) options for redevelopment of the Lido area be further explored that would also include reducing the revenue costs to the Corporation.

7. **Update on 'Give it a Go'**

A report (prepared by Paul Maskell), regarding a proposal to install a triples table tennis table on the Parliament Hill side of Hampstead Heath, as a precursor to the forthcoming 'Give it a Go' festival, was considered. He added that he hoped to attract top table tennis players to the launch event and that Camden Council had now withdrawn from the '.Give it a Go' festival. John Carrier recommended contacting The Times journalist Matthew Syed, who used to compete for GB in table tennis. Use of the triples table would be free and a nominal fee for hiring out balls and bats would be exercised.

RESOLVED: That the proposal to install a triples table tennis table on the Parliament Hill side of Hampstead Heath, be supported.

8. **Update on Bowls Club and Croquet**

Declan Gallagher provided an update on the new five year lease to the Bowls and Croquet Clubs. Five key performance indicators to encourage take up and participation had been agreed with both clubs.

Declan Gallagher would be meeting regularly with both clubs to ensure they continued to address their targets.

RECEIVED.

9. **Verbal Feedback on the Night of the 10,000m event (10 May)**
Richard Priestley thanked staff at the athletics track for all their hard work in helping to prepare for this event. The athletic endeavours and large audience estimated at about 1,400, belied the unfavourable weather on the night. Winners in both championship races had achieved qualifying times for the Commonwealth and European Championships. Feedback had been overwhelmingly positive. It was noted that the City of London had contributed towards the running costs, and it was hoped that British Athletics would be a more active sponsor next year. In response to a question by Natasha Cendrowicz, Richard confirmed that the date for this event had been chosen by event organiser, Ben Pochee. Bob Warnock added that a lot of effort had been put into ensuring that the showers worked on the night.

The organisers were congratulated by the Forum with the hope expressed that this could continue to develop as an annual event.

RECEIVED.

10. **Update from PAC**
Nigel Robinson provided an update on Pro Active Camden campaign (PAC). He referred to a £1.3m investment programme in seven schools in Camden to increase physical activity and engage with local communities. Jeff Gooding noted that a number of schools over the years had adopted less robust play designs for their playgrounds, with less emphasis on running around and more on quiet garden space. These investments reversed that trend. While acknowledging that sport had to compete with other academic subjects, children needed to be encouraged to pursue less sedentary past times. It was noted that those secondary schools in close proximity to Hampstead Heath were not included in this programme. Responding to a question by Rudolph Benjamin, Nigel confirmed that these enhanced playgrounds would be available for wider community use outside of school hours. He concluded, by inviting the Sports Forum to attend an open evening at UCL on 3 July.

RECEIVED.

11. **Verbal Presentation by Jeff Gooding on Camden Schools' Association**
Jeff Gooding gave a presentation on the work of the Camden Schools' Sports Association (CSSA) to engage primary schools across the Borough in a range of different sport competitions. Funding for sport in primary schools had recently improved and Ofsted guidance had changed to require schools to justify how they were spending sports

premium money. His programme required all schools to enter girls' teams alongside boys' teams. As the CSSA was a voluntary organisation, there was limited capacity for growth. In response to a question by the Chairman, he explained that a few individual Head Teachers were less supportive of his programme, which accounted for three of the thirty eight Camden Primary schools.

RECEIVED.

12. **Any other business**

i) Swimmers' Forum The Chairman reported that he was trying to forge closer links with the Swimmers' Forum and suggested that a representative from the Swimmers' Forum attend Sports Advisory Forum meetings. This was agreed.

ii) Rugby Trophy Simon Taylor reported that Hampstead Rugby Club had been awarded a trophy as winners of the County Development Club of the year. Congratulations were given to him and the club.

13. **RECEIVED.**

. **Date of Next Meeting**

RESOLVED: That the next meeting be held on 22 September 2014 starting at 6:30pm.

The meeting closed at 8:23pm.

CHAIRMAN

Contact: Natasha Cendrowicz
tel. no. 07952096201
e-mail: natasha @cendrowen.freeserve.co.uk

Ponds Project Stakeholder Group
Sunday 13 April 2014, 10am
Parliament Hill meeting room

Present:

Karen Beare	KB	Fitzroy Park RA (Acting Chair)
Jeremy Simons	JLS	City of London elected member (Deputy Chair)
Nick Bradfield	NB	Dartmouth Park CAAC
Lynda Cook	LC	Heath & Hampstead Society
John Dollar	JD	Highgate Men's Pond Association
Michael Hammerson	MH	Highgate Society
Ian Harrison	IH	Vale of Health Society
Neil Goulding	NG	Environment Manager, BAM Nuttall
Muriel Mitcheson	MM	West Hill Court RA
Ed Reynolds	ER	Oak Village RA
Bob Warnock	BW	Superintendent of Hampstead Heath
Armorer Wason	AW	West Hill Court RA
Peter Wilder	PW	Strategic Landscape Architect
Jennifer Wood	JW	Communication Officer, City of London (notes)

Alternate members observing

Harley Atkinson	HA	Fitzroy Park RA
Armorer Wason	AW	West Hill Court RA

Officers observing:

Philip Everett	PE	Project Board Director, City of London
Declan Gallagher	DG	Operations Service Manager, Hampstead Heath
Paul Monaghan	PM	Assistant Director of Engineering, City of London
Peter Snowdon	PS	Project Consultant, City of London
Esther Sumner	ES	Ponds Project and Management Support Officer

Presenters:

Ben Jones	BJ	Engineer, Atkins
Neil Manthorpe	NM	Landscape Architect, Atkins
Ian Morrissey	IM	Aquatic Ecologist, Atkins

Apologies

Prem Holdaway, Tom Brent, Mary Port, Rachel Douglas, Susan Rose, Harriet King, Janis Hardiman Jane Shallice, Rachel Douglas, Virgina Rounding

Approval of note of previous meeting

- KB – have any amendments been made to previous note?
- JW – yes LC asked for her whole statement from PW's brief to be added in and MH asked for some clarification on points he made on archeology.
- LC – can notes be sent out not blind copy so members of group can have discussion?
- JW – City have advised that due to data protection groups should not be emailed except using blind copy.
- IH – can an exception be made if all members of group give express permission?

- BW – we will check on this and update the group.

Introduction by PW

- PW introduced the day and went through the agenda**.**
- LC – Is it correct that hydrology and flood modeling are not going to be discussed today or on 10 May or on 19 May?
- PW – that is correct – discussion is now moving forward to the topics the PPSG can influence.

Design Overview

- BJ, NM and IM gave a presentation on design overview and the environmental masterplan of each of the upper ponds.

Questions asked and points raised:

- JLS – can Mixed Pond causeway be raised by 1 meter with loss of only one tree?
- BJ – we are working on this and will have more information at the next Seminar dealing with the lower ponds.

Vale of Health

- IH- there are only a few routes into the Vale of Health and track along the top of the dam has been used by emergency vehicles in the past and should remain an emergency access route.
- LC – when will PPSG get to see engineering drawings?
- PM – they should be available for the next seminar – 10 May.
- NB – will there be a dip in the path over the spillway?
- BJ – yes, there will be a 1 in 12 slope. Spillway will be reinforced with inca mat. The location of the spillway has been chosen to avoid the Giant Sequoia.
- KB – what is the category of tree that is to be removed?
- NM – category B.
- LC - how wide is the spillway?
- BJ - 5m at base and 12m at top
- IH – what is depth of spillway?
- BJ – 10cm.
- IH – this is a major access route onto Heath and anything that impedes this will not be welcome.
- NM – spillway can be raised in different ways and we want to get views – it could be a kerb or the entire path could be raise.
- KB – are you looking to raise the crest by 0.25m or by 0.5m?
- BJ – crest restoration to 0.5m – but this can be 0.25m raise and 0.25m kerb.
- IH – how far does this need to be finally decide before planning?
- BJ – there will be further opportunities when in detailed design phase (after planning).
- LC – will Atkins accept comments at future dates.
- BJ – yes.
- KB – further details will be discussed at walk on site.

Viaduct

- Spillway will be 4m wide at base and there will be no tree removal. Pond will be de-silted to remediate water quality problems.
- LC – how long does it take to de-silt?
- IM – it is proposed that a suction technique be used which is less invasive. It will take around 3-4 days.
- MH – what are the implications for vehicle movements?
- NG – silt can be removed in a 6 inch pipe so no need for vehicle movements. A vehicle will be required to bring pump in.
- IH – will whole pond be de-silted?

- IM – yes. At top corner, silt will be re-used to create planting.
- IH – important to retain open water, particularly north of Viaduct Bridge.
- PW – notice wood piles on map. These should be located away from ponds and paths.
- IM – yes – this is a good way to reuse material and creates good places for invertebrates to live.
- KB – what is happening with the sheet-piling?
- IM – the sheet piling is clad with timber but some of that has eroded – so we intend to repair this cladding.
- BW – this has historically been a fishing pond but due to poor water quality and low fish stock it has not been used recently. We may want to put pegs out into the ponds to take the anglers off the path.

Catchpit
- LC – how will it be accessed during construction?
- BJ – there will be routes from both sides. Hope to win fill from the sports pitch so most of the access will be required here.
- LC – how many trees will have to be removed?
- NM – approximately 60 however the location has been decided to avoid the veteran and important trees. Most removed here are category C.
- ER – note says it has been curved to avoid tree loss but it does not look curved.
- BJ – there is a very slight curve to avoid an important tree – can't see it very clearly on plans.
- KB – contours need to be more clear on plans.

Stock Pond
- LC – how many trees lost here?
- NM – total at risk is 22. These are located in or adjacent to the spillway but working with BAM Nuttall to try and reduce this number.
- MM – where there is a big area of ground affected which has no public access, what about the impact to small animals?
- NM – we have an ecologist on site who will be working up a plan to mitigate any impact to animals and all wildlife.
- KB – how many significant trees?
- NM – they are all category B.
- KB – we need to be clear how the sight lines into Ladies Pond will be affected by tree removal in this area.
- NM – we will look at this on site.
- PW – an aerator is mentioned on this plan – is this necessary? Will noise be disturbing?
- IM – we have chosen the quietest aerator and it possibly will not be required all of the time – just good to have it as an option.
- KB – it is one of the quietest spots on the Heath.
- LC – agree it is the most tranquil spot on Heath.
- MH – there may also be visual intrusion from equipment in the pond.
- IM – there is the possibility of having mobile aerators which can be brought in when needed.

Kenwood Ladies Bathing Pond
- LC – is the existing building outline marked on the proposed map?
- BJ – apologies this is a mistake it should say 'proposed'
- MM – path currently gets very wet – could a causeway help here?
- BJ – there is currently a leak which adds to this problem. It will hopefully be fixed after the work has taken place.

Bird Sanctuary

- LC – how will the channel be dredged and how long will this take?
- IM – it will be cut using a small mechanical excavator – which should take between 1 and 2 days.
- IH – will channel stay open and not just silt up?
- IM – it will silt up eventually but with management it should be fine.
- LC – any tree loss here?
- NM – none.
- IH – contour lines need to be clearer.

Walk on Site

The following points were made during the site walk to the upper ponds:

Vale of Health
- Can spillway not be more diagonal, rather than curved, and still avoid all of the significant trees? Under current proposals it would seem there needs to be more excavation.
- Route must still be able to be used for emergency access to Vale of Health
- Vale of Health Society would support the replacement of current fencing
- 0.25m raising and 0.25m kerb (which could be hidden by vegetation) generally supported.
- Path needs to be made of material which can withstand vehicles but not tarmac.

Viaduct
- Potential to have four fishing pegs.
- Group happy with proposal to repair cladding with similar timber.
- IH & LC not happy with encouraging fishing on pond.
- Group generally happy with mis-matched fencing as it is although IH said fence at top left is visually intrusive.
- Current path surface gets very muddy – could it be a self-draining path.
- AW raised the point about proposed walls at Highgate No. 1 and Men's Bathing Pond being made of a similar red brick to that of Viaduct Bridge.
- IH said the new pond margins should not encroach too far into the pond so that expanse of water is lost.

Catchpit
- Group happy that no fencing should be used here.
- At bottom of Catchpit, pipe will discharge water which could make areas muddy (as it is now) – would a boardwalk be appropriate here? There was some debate whether a boardwalk here would encourage more people to use this path, which might not be popular with Mixed bathers. Group agreed to see how it goes and this decision could come later.
- AW asked about longevity of Hybrid Black Poplar. Jonathon Mears thinks it could last another 40 years.

Stock Pond
- Group agreed tress loss at Stock Pond will have no impact to Ladies Pond as there are more trees further down creating an effective screen.
- LC wanted more details on which exact trees would be affected.
- Group agreed fencing should remain the same and keeps dogs out of the water.
- Tarmac path to be retained as this is an important vehicular access route from Kenwood Yard.
- Stock Pond will be de-silted.

Ladies Bathing Pond

- Consultation with representatives from Ladies Bathing Pond taking place.
- 12 trees at risk at this pond.

Bird Sanctuary

- No spillway here. Minimum intervention.
- Scrapes to the west of pond to be added – these provide good habitat and reduce silt entering the pond from the stream entering the pond from the west
- NB – could Bird Sanctuary be extended to stop people cutting through and making path extremely muddy – path inaccessible without welly boots.
- AW – some people like this route.

7. Next Meetings

- Saturday 10 May (seminar)
- Monday 19 May

- KB – can people let JW know of attendance.
- Seminar will follow same format as today - 10am until 4pm.

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Ponds Project Stakeholder Group
Thursday 24 April 2014, 2pm
Parliament Hill meeting room

Present:

Janis Hardiman	JH	Vale of Health Society
Prem Holdaway	PH	Anglers Society
Harriet King	HK	Brookfield Mansions RA
Charles Leonard	CL	EGOVARA
Rob Mitchell	RM	Brookfield Mansions RA
Susan Rose	SR	Highgate Society
Jane Shallice	JS	Kenwood Ladies Bathing Pond Association
Esther Sumner	ES	Ponds Project and Management Support Officer
Jennifer Wood	JW	Communication Officer, City of London

Introduction
This meeting was a shortened re-run of the seminar which had taken place originally on April 13

Presentation

- ES and JW talked through the presentation given by Atkins at the first seminar.

Questions asked and points raised:

- HK said it would be helpful to see a cross section of the entire chain to scale.
- HK and SR asked what sort of detail would be available before the 5 June DMF. They said it would not be fair to host an event when people had not been allowed to see the full details.
- SR said much more detail must be made available, including dimensions of spillways and trees which are at risk.
- Group said markers on site of spillways and dam heights were helpful and should be left out on site for everyone to look at.
- Contours on maps should be the same on existing and proposed.
- RM wondered if there was a catchment for each pond.
- JS said marking trees that are at risk would be helpful.

Vale of Health

- PH asked if existing overflow was being replaced.
- There is a proposal for an additional overflow pipe in addition to existing pipe.
- JH reiterated what IH had said about shape of spillway – it should be diagonal and not loop around.
- Group wondered why spillway needs to be so wide.
- HK asked for height of spillway above typical water level at each pond.

Viaduct

- Group wanted clarity of location of spillway as there looked to be a good location which would take the water down a current path and would avoid trees and shrubs. It was suggested that the spillway should follow the line of the existing path.
- The meaning of the thicker black line of the Environmental Masterplan was questioned.

- It was suggested that it may be possible to create some additional storage in the valley above the Viaduct Pond.

Catchpit

- It was suggested that the fence around the existing Catchpit could be re-used elsewhere on site

Stock Pond

- Group wanted reasons why spillway had been located where it was. Would a straight spillway in the center of the dam not make more sense? This would avoid more tree removal.

Kenwood Ladies Bathing Pond

- CL wants an area west of Ladies Bathing Pond investigated as an area to store water.

Bird Sanctuary

- SR said existing overflow from Bird Sanctuary into Model Boating Pond is enjoyed by many – good place for children to play and to wash wellies.
- SR did not feel that island should be used as a nature reserve in Model Boating Pond as this was not required and felt that additional planting would disrupt views
- PH and SR expressed concern about the impact of reeds on model boating.

Information requests

- HR and CL requested further details on the spillways for each pond. They would like to know the frequency at which the spillway comes into use and how this compares to current overtopping. They would like to have details on spillway level and depth, including how this compares to the current embankment level.

Ponds Project Stakeholder Group
Saturday 10 May 2014, 9.30am
Parliament Hill meeting room

Present:

Karen Beare	KB	Fitzroy Park RA (Acting Chair)
Jeremy Simons	JLS	City of London elected member (Deputy Chair)
Nick Bradfield	NB	Dartmouth Park CAAC
Tom Brent	TB	South End Green RA
Simon Briscoe	SB	Highgate Society
Lynda Cook	LC	Heath & Hampstead Society
Tony Gilchick	TG	Heath & Hampstead Society
Janis Hardiman	JH	Vale of Health
Prem Holdaway	PH	Angling Society
Richard Harvey	RH	Highgate Men's Pond Association
Charles Leonard	CL	Oak Village RA
Ed Reynolds	ER	Oak Village RA
Jean Rohart	JR	Highgate Men's Pond Association
Bob Warnock	BW	Superintendent of Hampstead Heath
Armorer Wason	AW	West Hill Court RA
Peter Wilder	PW	Strategic Landscape Architect
Jennifer Wood	JW	Communication Officer, City of London (notes)

Officers observing:

Tom Creed	TC	Engineer and project liason, City of London
Philip Everett	PE	Project Board Director, City of London
Declan Gallagher	DG	Operations Service Manager, Hampstead Heath
Ian Grant	IG	Site Manger, BAM Nuttall
Paul Monaghan	PM	Assistant Director of Engineering, City of London
Peter Snowdon	PS	Project Consultant, City of London
Esther Sumner	ES	Ponds Project and Management Support Officer

Presenters:

Liz Brown	LB	Landscape Lead, Atkins
Tom Dell	TD	Arboriculturist, Atkins
Ben Jones	BJ	Engineer, Atkins
Ian Morrissey	IM	Aquatic Ecologist, Atkins

Apologies

Rachel Douglas, Jane Shallice, Michael Hammerson, Susan Rose, Harriet King, Ellin Stein, Mary Port, Rob Mitchell

Approval of note of previous meeting

- NB raised point again of area behind Bird Sanctuary being too muddy and impassible.
- LC – ambiguity in tree figures which have gone up since the last seminar. i.e. Stock now has 26 trees lost while at earlier seminar figure was 22 trees.
- KB -tree loss would be discussed during the seminar.

Introduction by PW

- PW introduced the day and went through the agenda**.**
- BW updated on Ground Investigation and that Panel Engineer had completed annual inspection.

Model Boating Pond

- LC – wants clarification on which trees are to be removed.
- KB – can they be marked on the plans?
- ACTION: It was agreed that plans would be issued with trees at risk of removal clearly marked.
- TG – how will people sail model boats now there are more reeds and less access to water?
- BJ – there is still access to water at points all round the pond and no planting on east side.
- SB – Highgate Society is strongly opposed to planting around the pond so people do not have access to water. MBP is currently only pond where people can get close to water and feel it should remain this way
- IM – reed planting is just proposal at moment, not set in stone.
- SB – loss of causeway to island also means more of pond – another 20% -will be inaccessible. Other ponds on Heath have ecological features, not necessary on MBP.
- PW – over the past couple of years discussions have taken place and there was agreement amongst the PPSG that MBP could have its margins softened as it is the most municipal pond.
- NB – looks like a lot of extra paths. How will they be surfaced?
- LB – all will be surfaced but some may look more informal. This will be discussed in the next section of the seminar.
- LC – when western slope is dug out to create the island, will the new slope not be too steep and dangerous?
- BJ – slope is currently 1 in 10, under current proposals it will be 1 in 5 or 1 in 7. This is not too steep.
- LC – will people be able to sit on it?
- LB – yes it will be like the slope on the opposite side of the pond.
- SB – Sketch-up drawing is misleading. There is a lack of clarity over what the proposal will look like.
- PH – what will happen when a child loses its model boat in the reeds?
- IM – planting shelf will be able to be walked on for someone to retrieve a boat. They will be designed with safety in mind.
- KB – cross sections of the planting shelves would be useful.
- PH – what about the excavated hillside getting waterlogged and causing a landslide?
- BJ – we will do slope stability analysis. Changing it from a 1 in 10 to a 1 in 5 should mean it is still a stable slope.
- CL – how big is the gap between the island and the shore? Worried it will be a temptation for children to jump the gap.
- IM – the gap will be around 5m and 1.5m deep.
- CL – why was the idea of a causeway dropped?
- BW – there was a preference to making it an island so it could be a nature reserve for nesting birds.
- RH – does not agree the slope on the west side will be similar to that on east side. Feels west side will be dangerously steep.
- BJ –slope will have steeper parts but will be very similar to east side.
- AW – will sheet cladding on east side of pond be hidden to be consistent the whole way round the pond? This would be welcomed.
- IM – they could be clad in timber.
- CL – what is the gap between the paths?
- BJ – between 5 and 6m

- PS – is there a consensus on whether a causeway to the island is a good idea?
- TG – thinks it should be accessible for model boating.
- BW – it could have a wet causeway so people could wade out and collect model boats.
- SB – cross sections are misleading as they are two different scales.
- LB – apologies – it was not intended to mislead.
- KB – not fair to say Atkins are deliberately misleading however finds it frustrating that various information is not available or is presented poorly despite constant requests. The information provided must be reliable.

Men's Bathing Pond

- JR – how high will wall be?
- BJ – maximum of 1m – a little lower than the current fence. New spillway will be 0.25cm above current water level.
- JR – will spillway be a drain or a sluice?
- BJ – it will be an open gap in the wall and the spillway will look like a grassy slope.
- BJ – because of information discovered during GI (that top of the dam is made from rubble) sheet-piling may have to be used to strengthen dam but it should not change the outward appearance of the dam too much.
- CL – what level is base of spillway?
- BJ – the spillway is about the same level as the current pond level.
- NB – this will open up the corner so people can see in over pond. Will there be opportunities to open up the western bank for views?
- LB – we have received mixed feedback on this – it is more of a City management issue.
- BW – new spillway will need to have a fence so people cannot access water from this area
- LC – where is leak and how long has it been there?
- PM – leak is quite high in dam which is why it is not always an issue. It has been there a few years and is being monitored. The fact the top if the dam is not made of clay could explain why there is a leak.
- RH – the trees removed in this area are still important even if category C. It would be counterproductive to cut trees back which over-hang ponds as they provide good nesting locations for birds.
- IM – these comments will be taken into account. Cutting trees back does help water quality as it reduced the amount of leaf litter that falls into pond, but de-silting further up the chain will also help.
- KB – it would be good to look on site. It is important we are not too formulaic.
- JH – can we see the trees which are proposed for removal when we go on site?
- BJ – yes.
- KB – it would be helpful if the trees could somehow be identified on site. People need to know.
- AW – also need to see the tree survey.
- LB – it is still incomplete.
- SB – most people will not understand the tree grading. People need to know what it will look like.
- LC – I led a walk and when I explained which trees would be going people were appalled. The fact the numbers are changing is very worrying.
- PE – we will provide clearer information on trees for the next meeting on Monday 19 May.
- AW – a wall with timber cladding has been discussed but the preference from West Hill Court and Millfield Cottage is a brick wall.

Highgate No. 1

- AW – what trees are to be removed?
- TD – two limes and an alder but still working with the engineers to hopefully reduce this.

- AW – there is an area on dam where there are trees which are of particular interest to West Hill Court. When will we know whether they will be affected? We accept there may be some tree loss and are not against this.
- BJ – should have that information in next few weeks.
- PH – where does water go when it comes off the spillway?
- BJ – currently there is a low spot in the garden of Brookfield Mansions but the building sits higher up. We will have more detailed information when we have the survey results.
- KB – we should wait for the survey results before we discuss this further. It will not be a meaningful discussion without these results.
- CL – are Atkins aware of the proposal for a second overflow pipe?
- PE – we have done survey work to find out what happens to the water now, the situation will not be made worse after the project takes place.
- LC – if this pond is good ecologically why is there so much work taking place?
- IM – there are no proposals to do lots of work here, only extending marginal reedbeds.
- AW – tawny owls live here and are missed off the bird survey. They are important as they help control the rat population.
- IM – we will pass this on to the terrestrial ecologist.

Hampstead Chain

Mixed Pond
- PH – this is the only pond on this chain with wheelchair access for anglers. If there is to be no angling here, is there to be provision elsewhere?
- LB – yes possibly on Hampstead No. 2.
- BW – disabled angling will also be retained on Model Boating Pond.
- TB – causeway solution (with 0.5m raising and 0.5m bund) proposed by Atkins is good and will improve the area as it is now.

Hampstead No. 2
- TB – could the culvert be burrowed under the Plane tree so it could possibly be saved?
- BJ – there is an engineering issue with burrowing into a dam as it can cause internal erosion.
- TB – the curve in the avenue of plane trees is one of the best features. It would be a great shame to lose trees on this curve.
- BJ – will discuss with Panel Engineer about possibility of moving culvert further over to avoid tree roots.
- JR – is proposal to build dam at Catchpit still happening?
- BJ – yes this is still the proposal. We can show engineering drawings.
- KB – it is important to recognize that there is significant negotiation with Panel Engineer taking place.
- BJ – we are constantly in discussions with him.
- PE – this is correct. The pipe at Hampstead no. 2 has become curved (to avoid trees) after negotiations and we can go back to Panel Engineer with the idea of curving it even more.

Hampstead No. 1
- CL – is it correct that box culvert will start passing water at 1 in 1,000? Is this the same as Highgate?
- BJ – yes they are both the same standards of protection.
- TB –can the new outflow be screened with reeds?
- IM – yes we can look at planting to screen.
- TB – could the pond be de-silted?
- IM – it is not on the list to be full de-silted but there will be some localized de-silting. The silt can be used to build a planting platform.

- TB – whole dam is very visible after some tree clearance. Could replanting/screening be considered?
- TD – the stumps of the trees which have been taken down still remain, so good chance they will regrow.
- PH – why not increase the size of the existing outflow pipe?
- BJ – the existing pipe cannot be increased enough to mean we won't need a second culvert, so as we are putting in a new culvert it makes sense to do all of the work here rather than in two places. This minimizes the intervention.
- TB – could the rectangular culverts be turned the other way round?
- BJ – yes but they would need to be put in deeper into the bank.
- JH – can trees for removal be identified by paint?
- KB – perhaps not paint but a temporary mark would be useful.

Design Approach and Landscape Treatment

- KB – is there a Design Approach document for the lower ponds? If so, can this be circulated.
- LC – important PPSG get to look at engineering drawings as they have not had any influence on this aspect.
- PW – the PPSG has had significant impact over the engineering over the past two years.
- TB – materials palette is complicated but helpful document. Over the years the Heath has gradually shifted towards a civic landscape and I think it should be shifted back. If paths get muddy, then so be it. Asphalt should be avoided.
- TG – can this document (materials palette) be emailed on Monday?
- SB – this needs more explanations. I want an explanation of why MBP is going to be nearly all surrounded by reeds.
- PW – since the beginning of discussion with PPSG there has been support in softening the edges of MBP which is currently the most municipal.
- AW – there is a balance that needs to be found so people with buggies etc. can access paths.
- TB – prefer walls to be overgrown.
- AW- my preference is for the walls to have a brick finish – not trying to hide what they are.

What happens next

- PW – we all share the Heath and we need to get the right balance.
- On 19 May we will have another chance to discuss the plans. We will also hear from BAM Nuttall about construction.
- Looking for feedback on the materials palette by 19 May.
- Thursday 26 June – we will look at the final scheme before a planning application is submitted on July 4. We will look at how the scheme has progressed.

Walk on Site

The following points were made during the site walk to the lower ponds:

Mixed Bathing Pond

- Fishing to be removed.
- Fence should be the absolute minimum required for safety and also to prevent swimming from causeway.
- Surface is tar and chip – needs to be strong enough to take large vehicles.
- Edge of pond will be reinstated to bring environmental benefits. Any vegetation which is cut back will be done in consultation with City ecologists.
- Pond will be de-silted.

Hampstead No. 2

- Currently losing two Plane trees.
- Fishing to be retained and disabled access for fishing could be possible on decking over culvert.
- PH – not sure this is the best spot in pond for fishing and it limits the disabled person.
- Path over causeway is tar and chip.
- Existing fencing to be retained.

Hampstead No. 1

- Culvert has been located to avoid plane trees on cathedral avenue.
- Current picket fence is to be moved to other side of trees as part of Heath Management plan.

Model Boating Pond

- Tar and chip surface on larger path – it is a busy access route.
- Hoggin path currently next to pond – does this create an issue with water quality – run-off going into pond?
- IM – not as worried about this when it is not on a hill.
- KB – should the surfaces be porous?
- BW – not always durable and need edging.
- AW – timber cladding should be kept consistent around the whole pond.
- Fishing could be moved out on platforms to avoid clash with those using paths.

Men's Bathing Pond

- Removal of a group of small trees at spillway location will open up the pond for some views.
- BW – we will need some sort of fencing to prevent people accessing water.
- The wall could look different on both sides.

Highgate No. 1

- TG – could low shrubs be grown to disguise the wall?
- LB – we will check this with Panel Engineer.

Next Meetings

- Monday, 19 May
- Thursday, 26 June

Committee(s):		Date(s):
Hampstead Heath Consultative Committee	For discussion	2 June
Hampstead Heath, Highgate Wood & Queen's Park Committee	For decision	9 June
Projects Sub Committee	For decision	17 June
Subject: Gateway 4c – Detailed Design: Hampstead Heath Ponds Project		**Public**
Report of: Joint report of the Director of Built Environment and the Director of Open Spaces		**For Decision**

Summary

Having previously approved Preferred Options for public consultation, that public consultation having been duly undertaken and the Design Team having received the preliminary results of the Ground Investigations, Members are now asked to approve a Chosen Option for each chain of ponds and to authorise officers to submit a planning application on this basis.

It is recommended that Option 6 on the Highgate Chain, which concentrates works at the Model Boating Pond thereby reducing the height of the dam at Men's Bathing, is approved as the chosen option; and that on the Hampstead Chain, Option M which has the lower dam height at the Mixed Bathing Pond but puts an additional tree at risk at Hampstead No.2, is approved as the chosen option.

The design development is a highly iterative design process based on dialogue between engineers, landscape architects and the constructor. At the very start of the design process it was determined that the designs should satisfy the industry standard engineering requirements set out in *Floods and Reservoir Safety*[1] whilst minimising as far as possible any negative impact on the Heath's landscape, amenity and ecology in compliance with the Hampstead Heath Act 1871. Option 6 and Option M are recommended because they meet the said engineering requirements and are considered to preserve the natural aspect and state of the Heath in the most effective manner.

The designs have been continually developed to reduce the impact on the Heath environment. In particular it has been possible to make progress in terms of minimising tree loss. The tree loss indicated within this report is a worst case scenario so Members can be fully cognisant of the potential impact while noting that designs continue to be refined and construction techniques considered to minimise tree loss.

[1] *Floods and Reservoir Safety*, (3rd edition, 1996) Institution of Civil Engineers

It is important to understand that the Ponds Project is a response to the City's statutory duties under reservoir legislation, and it is specifically concerned with preventing dam breach. The primary concern is that in a flood event, water could overtop the dams causing erosion and ultimately failure. To prevent overtopping a combination of increased dam heights and the introduction of reinforced grass-covered spillways is proposed. Spillways transfer water either around the crest of the dam or over the top (where it has been purposely reinforced). The provision of spillways which transfer water downstream means that water still flows off the Heath from the bottom of each chain of ponds in some flood events. However as an additional outcome of the proposed works, the frequency of surface water flooding during extreme rainfall events and the volume of the flow is reduced. The Preferred Options for both chains of ponds would provide a standard of protection against surface water flooding from at least a 1:1,000 year flood event (i.e. the spillways would not come into use during a lesser flood event). This reflects the fact that the scheme is concerned with dam breach rather than preventing surface water flooding.

Members are asked to note the current budget position. As the designs have not yet been finalised, we are not yet in the position of having an "Agreed Maximum Price". There are also a number of project risks at Ladies' Bathing Pond, Men's Bathing Pond, and also with Japanese Knotweed and the availability of materials, all of which have cost implications (up and down) which have not yet been finalised. Final costs will be reported to Members at Gateway 5 – Authority to Start Work in January 2015.

The possibility that the City's decision today will be the subject of a Judicial Review by those opposing the scheme, in particular the Heath & Hampstead Society remains. While acknowledging this potential delay to the project, officers continue to recommend that the City adopt the recommendations set out below because of the continued possibility that our Panel Engineer will otherwise issue a Section 10 Notice, and the agreed need for the City to mitigate the risk to lives and property downstream from dam collapse (Strategic Risk 11).

A glossary has been included at Appendix 6.

Recommendations

It is recommended that Hampstead Heath Consultative Committee considers this report, and the views and comments of the Hampstead Heath Consultative Committee be conveyed to and received by the Hampstead Heath, Highgate Wood & Queen's Park Committee.

It is recommended that the Hampstead Heath, Highgate Wood & Queen's Park Committee and Projects Sub Committee:

- Approves the selection of Option 6 on the Highgate Chain (crest restoration works at Stock Pond and Ladies' Bathing; a 2.5m raising of

the dam at Model Boating Pond; 1m raising of the dam at the Men's Bathing Pond, 1.25m raising of the dam at Highgate No.1; spillway works at all ponds and associated environmental mitigation measures)

- Approves the selection of Option M on the Hampstead Chain (crest restoration and spillway works at the Vale of Health and Viaduct Ponds; a new 5.6m flood storage dam at the Catchpit; 1m dam raising at the Mixed Bathing Pond; installation of culvert spillways at Hampstead No. 2 Pond and Hampstead No. 1 Pond and associated environmental mitigation measures)
- Authorises the submission of a planning application to Camden Council for these works (due for submission on 4th July 2014)
- Notes that detailed design will continue in preparation for construction
- Notes the current budget position of a provisional estimated outturn cost of £17.39M (which remains within the agreed budget of £15.2M +/- 20% at 2010 prices) and further notes that a more accurate estimated outturn will be reported together with the approval Agreed Maximum Price at Gateway 5 – Authority to Start Work
- Approves an increase in the fees budget of £428,500
- Delegates authority to the Director of the Built Environment to release up to £500,000 from the construction phase of the budget to fund enabling works prior to approval of Authority to Start Work by your Committees
- Delegates authority to the Town Clerk in consultation with the Chairman and Deputy Chairman of your Committees to approve the option for the Ladies' Bathing Pond facility
- Delegates authority to the Town Clerk in consultation with the Chairman and Deputy Chairman of your Committees to approve any substantive changes to the scheme in advance of the submission of the planning application
- Delegates authority to the Director of the Built Environment to take such steps as maybe necessary to give effect to the Recommendations

Main Report

Background

1. The Ponds Project was initiated following hydrological studies[2] that revealed that in the event of a severe storm, there was a risk that the reservoirs on Hampstead Heath could overtop, potentially leading to erosion and dam failure. Following the approval of the Court of Common Council in July 2011, Atkins, the City's design and engineering consultancy, has been developing

[2] The first study was undertaken by the City's then Supervising Engineer, CARES in 2009. A further study was undertaken by Haycocks Associates in 2010, which was subsequently peer reviewed by Aecom in 2011. Most recently Atkins conducted their own Design Flood Assessment in March 2013. All reports are available at cityoflondon.gov.uk/ponds project under "Reports"

options for both the Highgate and Hampstead chains of ponds. The aims of the Ponds Project as set out in July 2011 are to reduce the risk of pond overtopping, embankment erosion and failure; to comply with the Reservoirs Act 1975 and the Flood and Water Management Act 2010; and to improve water quality. The City's existing obligations under the Reservoirs Act 1975, and expected additional obligations under amendments introduced by the Flood and Water Management Act 2010, are explained in more detail later on in this report. It has in addition always been recognised that the City has statutory obligations under the Hampstead Heath Act 1871 that are relevant to the Ponds Project. The relationship between these different pieces of legislation is again examined in more detail later on in this report.

2. Since July 2011 an iterative process has been followed which included:

- 17 meetings of the Ponds Project Stakeholder Group since July 2012, including three full day workshops to refine the options
- The appointment of a Strategic Landscape Architect to work with the Ponds Project Stakeholder Group to champion the interests of the Heath within the project
- Design Review Method Statement (December 2012)
- An initial public consultation in January-February 2013 about what was most important to protect during the project
- Design Flood Assessment (May 2013)
- Constrained Options Report (June 2013)
- Shortlist Options Report (August 2013)
- Interim Quantitative Risk Assessment (August 2013)
- Strategic Landscape Architect Review (October 2013)
- Preferred Options Report (October 2013)

3. This iterative process started with the establishment of key objectives that any option for either chain of ponds would:

- Improve the safety of all dams within the chain
- Maintain (or increase) the standard of protection downstream in other flooding scenarios (where there is no dam failure)
- Not increase the rate of flow discharged from the last dam in the chain in any flood event compared to the flows expected in the existing scenario
- Preserve the natural aspect of the Heath as far as possible

4. The objectives set out in the second and third bullet points do not arise from the City's statutory obligations under the Reservoirs Act 1975. However a decision was taken very early on that it would be unacceptable to increase the risk of surface water flooding to communities downstream as a result of the Ponds Project. This approach should also avoid any possibilitye of the City incurring tortious liability for damage caused by surface water flooding.

However, although all of the Preferred Options do increase the level of protection from surface water flooding, it is important to note that fundamentally the Ponds Project is concerned with protecting those downstream from the potential for dam breach – it is not a flood alleviation scheme. The City is acting in its capacity as a reservoir undertaker whereas the London Borough of Camden is the Lead Local Flood Authority for the area with statutory responsibilities in relation to surface water flooding. The City would also have to consider its legal obligations under the Hampstead Heath Act 1871 before sanctioning any additional engineering works on the Heath solely for the purpose of alleviating surface water flooding.

5. As part of the design development process, a number of design principles were then established following consultation with the Ponds Project Stakeholder Group to ensure the integration of the Ponds Project into the character of the Heath. These principles are set out in Atkins' Preferred Solution's report (Appendix 1), and can be summarised as follows:

    - Each chain of ponds to be considered as a whole system so that increases in storage capacity can be focused in the least sensitive locations in order to minimise increases in dam heights at more sensitive ponds and reducing residual works required elsewhere
    - Each dam must be able to pass the design flood inflow safely, in accordance with Table 1 of 'Floods and Reservoir Safety' (ICE, 1996). For all dams, this is the Probable Maximum Flood (PMF) as the three current large raised reservoirs are all Category A dams where "a breach could endanger lives in a community downstream" and it is anticipated that all of the ponds in the two chains will be designated as high-risk once the Flood and Water Management Act 2010 is fully implemented. A community is defined in 'Floods and Reservoir Safety' as 10 people or more;
    - Tree loss to be minimised[3]
    - The creation of a passive system without reliance on any mechanical system or human intervention
    - To balance the various aspects of the engineering intervention to minimise impact on the landscape – taking into account of the need to develop spillways, to prevent overtopping where it would not be tolerable and recognising the trade-off between dam heights and spillway widths

6. A passive system (bullet point 4) is proposed to avoid the risk of system failure and is a requirement of the Supervising Engineer as the City does not have appropriately qualified or experienced staff to manage a system that would require intervention.

7. The Atkins' Preferred Solution Report which is appended to this report at Appendix 1 summarises the options development process and explains how the designers responded to the aims of the project; how these aims were translated into deliverable outcomes (the key objectives); and how in consultation with stakeholders and officers design principles and a design

[3] Potential tree loss is illustrated at Appendix 3

philosophy was developed which would enable the necessary works to be integrated within the character and natural aspect of the Heath. One of the key relationships between engineering and landscape was that the flow of water over a spillway should be sufficiently slowed to allow a softer engineering design for the spillways, so they could be grass covered rather than plain concrete, better in keeping with the natural aspect of the Heath.

8. The risk posed by the possibility of overtopping leading to dam breach is reflected in Corporate Risk 11 on the Corporate Risk Register. As previously reported to the Audit & Risk Committee, a number of measures are in place, including telemetry, weather monitoring and an on-site plan, to mitigate the risk as far as practically possibly until the conclusion of the Ponds Project. These measures should assist in a faster identification of possible problems thereby allowing the City to take appropriate steps, including contacting the London Borough of Camden and Police so they can initiate their own off-site emergency plan if appropriate. These measures however fall short of the requirement to ensure that the dams are not at risk from breach and so the City is continuing with the Ponds Project in line with the recommendations of our Supervising Engineer.

Options

9. Following Committee approval in November 2013, the two Preferred Options for each chain of ponds were subject to public consultation. These options were:

Highgate Chain

Option 4	**Option 6**
Crest Restoration works at Stock Pond and Kenwood Ladies' Bathing Pond	
2m raising of the dam at Model Boating Pond	2.5m raising of the dam at Model Boating Pond
1.5m raising of the dam at Men's Bathing Pond	1m raising of the dam at Men's Bathing Pond
1.25m raising of the dam at Highgate No.1 Pond	
Spillway works at all ponds	

Hampstead Chain

Option M	**Option P**
Crest Restoration works and spillway works at Vale of Health and Viaduct Ponds	
Build a new 5.6m high flood storage dam (with a 300mm pipe) at the Catchpit area	
1m dam raising at Mixed Bathing Pond	2m dam raising at Mixed Bathing Pond

Install letterbox culvert spillways and Hampstead No.2 Pond and Hampstead No.1 Pond	0.5m dam raising at Hampstead No.2 Pond with wall Install letterbox culvert spillways and Hampstead No.2 Pond and Hampstead No.1 Pond

Proposals

10. Having conducted public consultation on the two options (the results of which were considered by the Hampstead Heath Consultative Committee and the Hampstead Heath, Highgate Wood & Queen's Park Committee in April 2014), undertaken further design work and started to receive the results of the Ground Investigations it is now recommended that Members approve the selection of a Chosen Option for each chain of ponds and authorise the submission of a planning application.

11. The Preferred Options for each chain of ponds were very similar due to the design principles and philosophy followed. Both options on each chain were felt to meet the original objectives of the project and the agreed design principles. The main difference on the Highgate Chain was in the balance of the heights of the dams at Men's Bathing Pond and the Model Boating Pond. On the Hampstead Chain the difference was between the height of the dams at the Mixed Bathing Pond and Hampstead No.2, and the risk to trees by the width of culverts required at Hampstead No.1.

12. In considering our recommendation to Members regarding the Chosen Option for each chain of ponds, officers considered the following hierarchy of factors:

    1. Works are concentrated at the least sensitive locations, so that the impact on the more sensitive ponds and Heath ecology is minimised
    2. Dam heights are minimised
    3. As few trees as possible are lost – with consideration given to age, condition, quality and the contribution to landscape made by particular trees

13. In considering the preservation of the natural aspect and state of the Heath, officers have decided to recommend that minimising increases in dam heights is of a higher priority than minimising tree loss because:

    1. Dam heights are permanent changes to the landscape of the Heath; even long-living trees are impermanent and part of the ever changing character of the Heath
    2. Dam heights will have a greater visual and landscape impact

14. Full details of the recommended chosen options are appended to this report as the Atkins' Preferred Solutions Report (Appendix 1) . The environmental mitigation measures are illustrated on the appended Environmental Masterplans (Appendix 2). The potential tree loss is illustrated at Appendix 3.

Highgate Chain

15. On the Highgate Chain it is proposed that Option 6 is selected. This option concentrates the works at the Model Boating Pond which reduces the works required at the Men's Bathing Pond. This is felt to be an appropriate balance as the Men's Bathing Pond is considered to be a more sensitive location than the Model Boating Pond, which has the most formal appearance of any of the ponds on the Heath and will be softened and naturalised as part of the project. The Model Boating Pond is also less ecologically sensitive than the Men's Bathing Pond and has greater potential for landscape mitigation due to the ability to merge the dam form into the landscape. Consultation with stakeholders demonstrated support for concentrating works in less sensitive locations and revealed the very strong desire of the Men's Pond users to minimise works at that location.

	Dam	**Spillway and overflow pipes**	**Trees Loss (worst case scenario)[4]**	**Ecological impact and mitigation**
Stock	Crest restoration by up to 500mm.	New grass lined spillway at the western end, 21m wide at the base, with side slops of 1:12. Two new 900mm overflow pipes to run parallel with the existing overflow pipe	A: 0 B: 11 C: 15 U: 0	Pond to be de-silted. New marginal planting on eastern bank Woody debris to be used to construct check dams Japanese Knotweed to be managed
Kenwood Ladies' Bathing	Crest restoration by up to 300mm	New grass lined spillway at the western end, 24.6m wide at the base, with side slops of 1:3	A: 0 B: 3 C: 12 U: 0 (Trees loss will not	Pond to be de-silted A number of trees will need to be removed on the path of the spillway.

[4] Trees are categorised as being A: large, high quality, veteran trees; B: smaller, not particularly high quality trees. However these trees still make a significant impact on the environment and have a significant life expectancy; C: smaller trees or those considered of low quality; they may have a limited life expectancy of contribute little to amenity; U: poor condition. Tree loss is illustrated at Appendix 3.

			impact on screening)	Potential to enhance screening of the pond along the western perimeter through under planting with holly.
Bird Sanctuary	Crest restoration	No spillway but the slope downstream to the Model Boating Pond is to be smoothed and lined with a turf reinforcement mat. Relocation of the two overflow pipes	None	Additional channel to be dug to enhance wetland area. Development and extension of existing reed bed New wetland scrapes
Model Boating	Dam raised by 2.5m with an earth embankment upstream of the existing dam	New upper spillway over the raised dam and lower spillway over the existing at the western end	A: 0 B: 3 C: 6 U: 0	Partial de-silting New island with a causeway to be formed around the preserved lime trees New marginal planting Continued access to the water's edge by a new footpath across the upstream face of the raised dam and a footpath along the new western edge
Men's Bathing	Raising of the dam by 1m, using sheet piling, clad according to Heath stakeholder preference	New reinforced grass spillway at existing ground level at the western end, 25m wide.	A: 0 B: 0 C: 15 U:0	Wetland scrapes, marginal planting and a small reed area in the North West corner
Highgate No.1	Raising of the dam with a 1.25m high wall	New grass lined spillway at the western end, 64m wide. Return wall	A: 0 B: 4 C: 1	Extension of the existing reed beds on the

		along one side	U:0	Northern bank

Stock Pond

16. Further ecology surveys have identified the presence of Japanese Knotweed in the area of the proposed spillway. The Design Team are currently working with BAM Nuttall to establish a plan for the management of the Knotweed during construction. However, due to its location it is possible that the Knotweed will have to be removed from site, with potential cost implications. Although the quantity of Knotweed is small, any removal would increase cost and possibly impact on the construction programme.

Model Boating Pond

17. There have been a number of design iterations of the Model Boating Pond. Early in the process an island was proposed to reflect stakeholder desire to preserve the lime trees. There have been a number of discussions as to whether the retained lime trees should be on an island or a causeway and what the access arrangements to this area should be. Having considered these issues with designers, stakeholders and staff, it is proposed that the lime trees be retained on an island with a causeway. This reflects stakeholder preference for the island to be accessible to allow people to retrieve model boats. It also reflects a concern by the stakeholders that an inaccessible but close to the shore island would encourage people to attempt to jump across.

18. Consideration has also been given to the alignment of paths around the extended pond. The latest design iterations include paths on top of the new raised dam, as well as in front of it by the water's edge, enhancing access to the water as currently but also providing new views both up the chain and across London looking south.

Ladies' Bathing Pond Facility

19. In the early stages of the project, it was assumed that it would be necessary to replace the facilities at the Ladies' Bathing Pond as they are located on top of the dam crest. Provision was therefore made in the budget for a full replacement of the facilities, including the replacement or extension of the existing concrete slab. However as designs progressed and the spillway was moved on to the edge of the dam, it became clear that it may be possible to keep the existing slab in place, and potentially the existing facilities. It will be necessary to make some changes in layout and refurbishment due to the removal of part of the concrete apron behind the main building in order to open up the dam crest for ongoing monitoring. In addition the positioning of the spillway creates a new access to the water which is not visible by lifeguards from the existing building as the building itself blocks the view of the water.

20. Two further options for the facility are now being developed: 1) a refurbishment with an extension of the existing building on the existing

concrete platform and 2) the provision of a new building on the existing concrete platform.

21. The previous two options which had been developed were to provide a new building and new concrete slab in the current location and a new building and new concrete slab to the western end of the dam have now been discounted due to buildability, sustainability and cost implications. In order to build a new slab it would have been necessary to crane building materials over the trees and into the pond. The crane required to do this would have been large and expensive and would have required a temporary access road which could have caused damage to the Heath.

22. In order to keep this part of the project on track for submission with the rest of the planning application on 4 July, it is requested that authority be delegated to the Town Clerk in consultation with the Chairman and Deputy Chairman of the Hampstead Heath, Highgate Wood & Queen's Park Committee and Project Sub Committee to approve the option for the Ladies' Bathing Pond facility.

Men's Bathing Pond

23. There has been a leak in the Men's Bathing Pond dam for some time. Preliminary Ground Investigation results have revealed that this is likely to be because the top 2.5m of the core of the dam contains mixed building waste materials (loose aggregates and bricks) rather than the high quality clay required for dam construction. Further investigations are underway to understand why this has occurred but the design is being changed to integrate the repair of this leak with the construction of the new wall along the dam. This is likely to be done using sheet piling which will provide hydraulic "cut-off" between the new wall and the better quality dam core below. The sheet pile could be clad with timber as so to appear like a wall where it forms the 1m raising of the dam.

24. A further design iteration is required to reflect the need to install this sheet piling, and the cost implications of the piling works required need to be ascertained.

Hampstead Chain

25. It is proposed that Option M is selected on the Hampstead Chain. This option has a lower dam at the Mixed Bathing Pond and has crest restoration rather than a 0.5m raising at Hampstead No. 2 but puts an additional London plane tree at risk. In accordance with the previously stated hierarchy of factors, officers are recommending that dam height be prioritised above tree loss because it is considered that dam heights will have a greater visual and landscape impact.

	Dam	**Spillway**	**Trees Loss (worst case scenario)** [5]	**Ecological mitigation**

[5] Trees are categorised as being A: large, high quality, veteran trees; B: smaller, not particularly high quality trees. However these trees still make a significant impact on the environment and have a significant life

Vale of Health	Crest restoration up to 560mm achieved by 300mm of fill and 260mm containment kerb	New spillway at the western end where the dam is currently lower, 5m wide. Additional overflow pipe, 500m to run parallel to the existing pipe	A: 0 B: 1 C: 0 U: 0 Robinia removed to protect the Redwood	Marginal planting on South-eastern bank
Viaduct	Crest restoration up to 180mm	New spillway at the eastern end, 4m wide, 1:12 slide slop New overflow pipe 500mm diameter	A: 0 B: 0 C: 4 U:1	Removal of silt Marginal planting on the Eastern edge
Catchpit	New flood storage dam 5.6m high at the lowest point in the valley and 40m wide at the widest point. Crest of the dam approximately 100m. Slopes 1:3 upstream and 1:4 downstream	Spillway along the whole crest of the dam. 900mm pipe under the dam to pass normal flows. Second pipe running parallel to existing pipe but this could be omitted in favour of establishing an overland flow (stream) and the creation of a wetland area	A: 0 B: 12 C: 49 U:10	Two new silt collection ponds upstream of the dam. Reed beds to be planted to gravel beds. Tree removal within footprint of the dam – approximately 60 non-mature, self-seeded trees at risk. Scrub to be planted on upstream face
Mixed Bathing	Dam raised by 1m, creating a new crest surface path 4m wide. 1:1 slope of the upstream face, 1:3 on the downstream	Spillway over the majority of the crest of the dam Existing overflow pipe extended further	A: 0 B: 0 C: 7 U: 0	Silt removal New marginal planting on the north pond edge and along the crest of the dam

expectancy; C: smaller trees or those considered of low quality; they may have a limited life expectancy of contribute little to amenity; U: poor condition. Tree loss is illustrated at Appendix 3.

	slope. Downstream slope to be reinforced with a mat.	in to the pond		
Hampstead No. 2	Crest restoration with a 0.2m high edging (this is a change since the preferred options and was introduced to allow a reduction in the width of the box culvert, reducing risk to trees)	A new overflow formed with two precast concrete box culverts at the western end with a drop inlet	A: 2 B: 0 C: 0 U: 0 Culvert route & width redesigned so that the London Plane trees on the dam, visible from Mixed Bathing Pond are preserved	Marginal planting on West pond bank
Hampstead No. 1	No raising	New box culvert overflow over the embankment at eastern end	A: 0 B: 0 C: 5 U: 1	Marginal planting on Southern and Eastern pond banks

Catchpit

26. Over the course of the design, the location and shape of the new Catchpit dam has been modified in order to protect veteran trees, reduce visual impact and to minimise materials. The current location over the current Catchpit and with a slightly curved shape is felt to be the optimum location for the dam, protecting the veteran trees to the South.

27. A more recent design iteration has been the treatment of water under natural flow conditions from the dam into the Mixed Bathing Pond. Currently there is a pipe which takes water from the Catchpit to the next pond but it is now proposed to abandon the pipe and allow a natural overland flow. The route of this flow will follow the path of one of the original tributaries to the River Fleet. This will create new wetland areas through the creation of new pools and scrapes which will enhance ecological diversity on the Heath and improve water quality downstream through bio-filtration.

Hampstead No.2

28. Substantial progress has been made to the designs for the culverts on Hampstead No.2 with the aim of reducing the landscape impact of tree loss.

When the designs were originally subject to public consultation it was thought that a number of the London plane trees across the top of the dam were at risk. As these trees make a significant landscape contribution to the Heath, the landscape architects and engineers worked closely together with the constructor to consider innovative construction methods to reduce the potential impact on these trees. It is now proposed that curved culverts be introduced and innovative construction methods utilised. While this will still result in the loss of two London plane trees (the only Category A tree loss associated with the scheme) those trees along the crest of the dam in an avenue which provide an important view will be preserved. There will be minimal impact on the line of trees visible from the Mixed Bathing Pond.

Impact on the Heath

29. Throughout the project consideration has been given to the preservation of the landscape, ecology and recreational value of the Heath in accordance with the City's duties under the Hampstead Heath Act 1871, and its wider statutory management functions under The London Government Reorganisation (Hampstead Heath) Order 1989. The Ponds Project Stakeholder Group highlighted the importance of Heath users being able to access the water – whether in terms of walking close to it, feeding ducks, angling, model boat sailing or dog swimming – and this has been recognised in the designs.

Benefits and ecological mitigation

30. From the outset of the project, a key objective has been to improve water quality in order to meet the requirements of the EU Bathing Directive. This will be achieved through de-silting five ponds and increasing bio-filtration through planting of reed beds as part of the mitigation strategy.

31. As part of the mitigation strategy required for the planning application, a diverse range of high quality habitats are being provided to mitigate tree loss associated with the project. All the pond enhancement designs have been developed in liaison with Heath Staff in terms of the management of the Heath, and consideration given to the various pond uses. The design is built on a detailed understanding of the baseline conditions, environmental constraints, stakeholder and user requirements. Management and maintenance of the pond habitats will be included in a new section of the Hampstead Heath Management Plan, the cost of which is met from North London Open Spaces Local Risk Budget.

32. The decision was taken to provide diverse habitats including wet woodland, scrub and vegetation along pond edges rather than re-planting trees, in line with the Hampstead Heath Management Plan which highlights the fact that removal of trees can enhance biodiversity by allowing light through and encouraging diverse ecological regeneration. These solutions will maintain and importantly improve the existing ecological value of the Heath. The Heath has approximately 20,000 trees, and while trees are precious, the ecological impact of providing diverse habitats will be greater. Overall the scheme puts 162 trees "at risk". The Design Team will be working to reduce this number – but Members should be aware of this potential tree lost, which will be included in the Environmental Impact Assessment.

33. As part of the sustainable design approach the pond enhancement works have been designed to provide:

- 'system wide' effective management of factors e.g. water quality and sediment ingress, that are currently acting to constrain the ecology of the ponds within each chain
- opportunities to increase the complexity and range of habitats and species supported on the Heath.

<u>The sustainable design approach includes the following key components:</u>

34. De-silting of key ponds in the upper chains and bathing ponds to remove nutrients, which have accumulated in the sediment, thus reducing the likelihood of water quality deterioration associated with periods of low dissolved oxygen concentrations.

35. The reuse of materials within the proposed marginal planting areas and pond margins is integral to the design. This includes the use of silts from pond dredging works and brushwood arising from required scrub clearance and tree management activities to form the marginal planting platforms. In addition, it is proposed to use reclaimed timbers (i.e. from re-cladding works at Viaduct Pond) and woody debris from tree felling to create valuable hibernacula and material for use in check dams. This will act to reduce the carbon footprint of the works through the reduced need for material imports/exports and vehicular movements.

36. The ecological benefits of the pond enhancement works will be maximised through design, including such components as the use of hazel faggots at the front of the planting platforms to provide cover for juvenile fish and aquatic invertebrates and egg laying sites for amphibians. The planting palette will include a diverse array of native wetland species.

37. The protection of existing pond habitats and species and plants, where possible, that ensures improvements in ecological value, such as the landward extension of the reed beds on Bird Sanctuary Pond and the creation of a new wetland channel.

38. The creation of new, and the maintenance of existing reed bed margins, at key locations in the ponds to control the delivery of sediment to the ponds and to provide uptake of nutrients to improve water quality at the point of inflow e.g. at the top end of Stock Pond and Viaduct Pond. This will also over time create additional habitat of intrinsic ecological value as well as providing habitat/cover for breeding birds, fish, invertebrates and other biota.

39. The installation of measures along feeder streams e.g. wetland pools, washland areas, online reed beds and check dams, to provide control of sediments and improve water quality prior to the point of pond entry i.e. as proposed at Bird Sanctuary Pond, Ladies' Bathing Pond and Men's Bathing Pond. These features will provide multiple benefits through the additional habitat that is created.

40. The establishment of marginal planting areas with only native wetland planting to maintain ecosystem integrity, whilst also increasing the diversity of plant species supported on Hampstead Heath and the aesthetic value of the ponds.

The use of local provenance seed and plant stock will reduce the risk of failure of establishment within newly created habitat areas.

41. Provision will be made to ensure that all valuable marginal plants which could be affected by the works will be translocated to a suitable receptor site on the pond chain. The wider environmental measures will provide significant compensatory measures for the loss of habitats associated with the wider design.

Wildlife preservation during works

42. Full consideration is being given to the protection of wildlife (such as fish, swans and geese) during the works. Further details will be provided at Authority to Start Work, but Members may like to note that officers have already started to make contact with relevant agencies in preparation.

Current Position

Stakeholder engagement and consultation

43. Since the approval of two Preferred Options for each chain of ponds for public consultation in November 2013, the City has conducted a non-statutory consultation exercise, completed Ground Investigations and continued the iterative design process. The results of the consultation exercise[6] were reported to the Hampstead Heath Consultative Committee and Hampstead Heath, Highgate Wood & Queen's Park Committee in April 2014. Unsurprisingly, there was a quite high degree of dissatisfaction with the proposed options – with only 8-12% stating that they were most satisfied with any of the options and 60-66% stating that they were dissatisfied with the options, with a number of respondents questioning the basis of the project. The most frequent comments related to: interpretation of the law and the necessity of the project; the visual impact; ecological impact and impact on amenity and recreation.

44. While there was no clear preference between the various options consulted upon, there were a number of themes about design which emerged from the comments received and these have been fed into the design process to date and will be taken forward as part of detailed design:

- Preference for earth banks over walls
- Preference for natural style landscaping of dams and features over 'man-made' constructions.
- Paths to have proper surfacing
- The importance of accessibility and safety for children and families, especially but not exclusively for the Model Boating Pond
- The need to maintain the present visual rural / countryside landscape and current (or improved) amenity across the Heath

[6] The results of the consultation exercise are available on the Ponds Project website: http://www.cityoflondon.gov.uk/things-to-do/green-spaces/hampstead-heath/ponds-project/Documents/HHPP%20Information%20and%20Consultion%20Report%2019%20March%202014COMBI.pdf

- Opportunities to create and enhance wildlife habitat should be taken where possible
- As far as possible views should be maintained.

45. The project has continued to engage with local stakeholders both through the Ponds Project Stakeholder Group and by meeting particular interest groups. Recently officers met with the Hampstead Heath Angling Society, representatives of the Kenwood Ladies' Bathing Pond Association and representatives from Brookfield Mansions (located immediately adjacent to Highgate No.1).

46. Members will be aware that there has been significant local media interest in the project at various points. A number of local politicians have also expressed a variety of views on the project.

Contractor appointment and Early Contractor Involvement

47. BAM Nuttall have been appointed as constructor and the partnership agreement between them, the City (client), Capita (cost consultants) and Atkins (designers) was signed on 14th March 2014. Project management has been transferred from Capita to an experienced project manager already employed on the project.

48. The Ground Investigation was started on site at the end of March 2014. This was undertaken to inform the designers of the existing dam construction and their ability to accommodate the proposed works and to establish the suitability of soil on the Heath for use in construction (reducing the amount of material that would need to be brought in, thereby reducing the environmental/amenity impact of truck movements on the Heath and our neighbours) and the size and location of the borrow pits for this material. The aim is to reinstate the borrow pits using material removed from the ponds during de-silting. An Environmental Permit to Work scheme was established to ensure the protection of wildlife. Reinstatement has been carefully monitored and weekly meetings were conducted between BAM Nuttall and Heath staff. The Ground Investigation has also been a useful opportunity to familiarise the constructor with the Heath environment and staff.

49. As highlighted by Atkins in their Preferred Solutions Report, BAM Nuttall have been contributing to the design development process since their appointment. They have already proposed innovative methods for de-silting the ponds and have provided challenge to the engineers in terms of new construction techniques. One of their aims is to minimise the use of in-situ concrete. For example, where new walls need to be constructed, they have proposed options to use precast segments or plastic sheet piling to minimise the construction disruption on the Heath. At Hampstead No.2 Pond they have proposed a new way of installing a culvert which will reduce the working area and required area for excavation, thereby reducing the impact on tree roots (which would put the trees "at risk").

50. The full results of the Ground Investigation are not yet available, but the early indications from the contractor are that the results have been positive in terms of being able to source material on site, as both the boreholes and trial pits

have found clay. The GI also revealed that the construction of the Men's Bathing Pond dam is not clay – it is rubble (which may explain the persistent leak) and a solution to the leak is being developed as part of the design process.

51. Alongside the results of the public consultation and emerging Ground Investigation results, City officers, the Design Team at Atkins and BAM Nuttall have continued to refine the options. This is outlined in the appended Atkins' Preferred Solutions Report.

Next steps

52. The City's Design Team will complete and submit a full planning application for the Ponds Project with an Environmental Impact Assessment by 4 July 2014. The City has signed one Planning Performance Agreement with Camden and is negotiating the second. Assuming that Camden are able to fulfil the agreed timetable and that no external factors impinge on the timescales, it is expected that a determination of the planning application can be made at the end of October 2014. This would enable the contractor to mobilise to start preparatory works at the beginning of 2015 before the bird nesting season and to commence works in Spring 2015.

53. Due to the bird nesting season, the July submission date is critical as missing this would push determination of the planning application back to December 2014 due to the intervention of the summer recess. This would result in the programme being delayed by a season. Similarly, any refusal of planning permission or significant delay in determining the planning application would severely impact on the programme.

54. A programme is attached at Appendix 4. This programme is based on a submission of the planning application in July 2014 and its determination as outlined in the Planning Performance Agreement signed with Camden. Officers acknowledge that there are a number of external risks to the project – principally the manner of Camden's determination of the planning application and the possibility of Judicial Review. These two external factors are interrelated, as although the institution of Judicial Review proceedings would not as a matter of law by itself prevent Camden from determining the planning application (unless an application for interim relief were successful), this may raise issues which prompt them to seek additional information. It is also possible that Camden's planning determination could be subject to a separate Judicial Review.

55. Officers anticipate bringing a Gateway 5 – Authority to Start Work report back to your Committees in January 2015. This will include a confirmation of the Agreed Maximum Price with the constructor as well as details of any additional planning conditions.

Enabling Works

56. In order to start the main works on site to programme, it will be necessary to carry out a degree of enabling works to avoid significant programme delays from environmental constraints such as the bird nesting season. By carrying out this work between December 2014 and February 2015, it will allow the

contractor to complete the main works as efficiently as possible, minimising the disruption to the Heath. The exact extent of these works will not be known until the completion of the detailed design.

57. It it is proposed that the Director of the Built Environment be given authority to release up to £500,000 from the works budget to undertake enabling works including tree clearance.

Opposition to the project

58. Members will be aware that the Ponds Project has caused some controversy with communities local to the Heath and regular Heath users. There are two organised anti-Ponds Project Campaigns: "Protect Our Ponds" - http://www.protectourponds.org.uk/ and "Dam Nonsense" - http://www.damnonsense.org.uk/ which is the campaign organised by the Heath & Hampstead Society. In broad terms, these campaigns assert that the Ponds Project is not required by law and if implemented would be in contravention of the Hampstead Heath Act 1871. These stakeholders believe that a range of lesser measures such as dam strengthening and an Emergency Action Plan are sufficient to ensure safety.

59. The City has undertaken dialogue with the Heath & Hampstead Society, including two meetings with both parties' legal representatives in attendance and more recently a meeting between representatives of the Society and the Chairman of the Policy & Resources Committee and the Chairman of the Hampstead Heath, Highgate Wood & Queen's Park Committee. There has been an exchange of letters between the Society and the City on the legal issues involved and the most appropriate mechanism for determining those issues. The parties now agree that Judicial Review appears to be the most appropriate mechanism should the Society wish to bring the matter before a court.

60. Conversely, there are other groups of local residents downstream of the dams who are urging the City to do more. They would like to see a higher standard of protection from the bottom dam – Highgate No.1 (i.e. that the spillway should come into action less frequently than an 1:1,000 year event as per the recommended chosen options) and would also like to see additional flood storage capacity introduced on the Heath to help alleviate surface water flooding in Camden. The City has also conducted dialogue with these residents.

Risk

61. The top project risks relate to traffic movements, the potential for legal challenge, the planning process and swimming capacity. Officers have to date been impressed by the initial performance of BAM Nuttall on-site and their understanding of the Heath environment. This gives the Project Board confidence in their ability to manage the project risks that have transferred to them.

62. Of those risks which remain with the City, these are divided between those which are external factors (planning and legal challenge), design risks and those which are related to the management of the Heath during the project.

63. The Risk Register is a live document and a risk workshop is due to take place shortly to reflect the changes that have occurred now that the contractor has been appointed and the Design Team are moving towards detailed design.

Planning application

64. The City has signed one Planning Performance Agreement (PPA) with Camden and is currently negotiating the second. The PPA sets out an agreed timescale in relation to the consideration of the application. Officers are particularly keen to ensure that a Panel Engineer (as requested by Camden) is appointed promptly by Camden to review the scheme to ensure that the application is progressed without delay.

65. Officers have been meeting Atkins weekly to monitor progress on the preparation of the application, and we are on programme to submit a planning application and Environment Impact Assessment on 4 July 2014.

Judicial Review

66. The potential for Judicial Review is discussed more fully under legal implications. Officers have been aware of this risk for some time and accordingly the Partnership Contract includes a clause which would allow us to halt works if necessary. However due to the need to mitigate the risk of dam overtopping, officers recommend that design works continue while any legal proceedings are resolved.

Swimming capacity

67. Since the inception of the project, officers have been aware that the project has the potential to impact upon the availability of the swimming ponds. There is a particular operational concern that this could lead to unauthorised swimming in ponds which are not lifeguarded. BAM Nuttall stated in their bid that they would keep at least one swimming pond open at all times and consideration will be given to minimising the impact upon swimming in programming the works.

Traffic movements

68. Traffic movements will be minimised as part of the Construction Management Plan and strict controls will be in place to minimise conflict between Heath users and construction vehicles. All vehicles will adhere to the Heath's safely standards which include moving at walking pace with hazard lights on. Officers were satisfied with BAM Nuttall's performance during the Ground Investigation works and believe that adequate controls for this risk are in place.

Japanese Knotweed

69. Japanese Knotweed has been found at a number of locations on the Heath, including on one of the dam crests where the spillway will be located. Any earth containing knotweed is classed as Category A (the highest

classification) hazardous/contaminated waste and needs to be managed accordingly. Officers are currently exploring options with BAM Nuttall and Atkins and will need to include the costs for this disposal within the Agreed Maximum Price at Gateway 5.

Clay and other materials

70. The early results from the Ground Investigations have been positive but there is still a significant challenge to retain a neutral cut/fill balance across the Heath. It is hoped that most of the clay required for the catchpit dam and the raising of Model boating will be sourced from areas adjacent to the worksite, minimising logistics costs and disruption to the Heath. However, the balance of clay and silt will only be truly apparent when the clay is excavated during the works. The results of the Ground Investigation will inform the earthworks strategy and will feed into the Agreed Maximum Price at Gateway 5.

71. There is currently a significant provision within the budget for "armorflex" – a type of reinforced concrete cell mat used to line spillways, which can then be covered with grass. As we move into detailed design, the final amounts of "armorflex" required will be defined and this will impact on costs.

Ladies' Bathing

72. As indicated earlier in the report, the provision of facilities at the Ladies Bathing Pond has not yet been defined. However, following Atkins' design development; it became apparent that the new spillway could be constructed without the need for the existing building slab to be altered. The contractor's input also identified that the two options previously considered would have significant constructability issues.

73. The Design Team is now looking at the option of retaining the existing slab and carrying out significant improvement works to the existing facility. Although officers suspect that the costs of provision or refurbishment of the facilities on the existing concrete slab will be cheaper than the original options of a new concrete slab we are not yet in a position to give a fuller indication on cost as the architects are still outlining their designs. The Ladies have so far been presented two options for new buildings on the site which would accommodate the hydraulic requirements and enhance the operational function.

Men's Bathing

74. There has been a leak on the Men's Bathing Pond for some time which the City has continued to monitor as part of the regular inspection programme. The early results of the Ground Investigation have shown that the top section of the dam is made up from demolition material which is not suitable for dam construction. It is thought that this is likely to be the cause of the ongoing leakage. Atkins are currently working closely with BAM to refine the design solution for this dam. It is expected that the design of the wall will change, from a clad pre-cast concrete wall to clad sheet piling. This will allow the leakage to be stopped, whilst raising the level of the crest to cope with the design flood. The updated design solution will be included in the budget and programme at Gateway 5.

Budget

75. The current budget position is attached at Appendix 5 (Non-Public). Below is a summary of the proposed budget adjustments and revised estimated cost:

	Estimated Cost At Issue Report, January 2014 (£)	Proposed Budget to be Approved at this Gateway (£)	Revised Estimated Total Project Cost (£)
Preliminary Evaluation Costs	271,000	271,000	271,000
Works[b]	12,293,000	-	12,293,000
Fees	2,935,000	3,434,000	3,434,000
Staff Costs	802,000	802,000	802,000
Pre-construction	663,000	593,000	593,000
Total	**16,964,000**[a]	**5,100,000**	**17,393,000**

a. Of these total costs, only the Preliminary Evaluation Cost, Fees, Staff Costs and Pre-construction works have been approved.

b. The works cost remains an estimate

76. The Project Team is working towards an "Agreed Maximum Price" (AMP) with BAM Nuttall, the contractor. This depends on the finalisation of the detailed design which is still on going and may be impacted by any additional conditions imposed as part of the planning process. Officers expect to be able to report back on the AMP as part of the Gateway 5 – authority to start work report in December 2014/January 2015.

77. Members will note that the approved budget for this project has been £15.2m +/-20% at 2010 prices since July 2011. Officers had been hoping to provide a greater clarity on the expected outturn at this point, but as illustrated in this report, there are a number of issues outstanding that may impact on budget: the Ladies' Bathing Pond, the presence of knotweed on site and an outstanding question on the quantity and quality of clay across the Heath. The total revised estimated cost remains within the tolerance granted in July 2011.

78. To ensure that the project continues to progress following the planning approval process, it is proposed that some enabling works be brought forward from the so far unapproved works budget to cover these costs. This is to allow some of the early work such as tree clearance to be completed before the bird nesting season in March 2015. It is therefore proposed that the Director of the Built Environment be authorised to release a sum up to £500,000. If the clearance work is not completed before March 2015, there is a high risk of significant programme delays as a result of the environmental constraints.

79. The anticipated cost of fees has increased since the last report. This is mainly due to the extension of the programme as a result of the prolonged

consultation previously reported. The second tranche of these costs was not previously recommended for approval as it relates to the programme delay associated with the period now being reported on.

80. Within the increased fee budget is also the ongoing cost of maintaining the Document Management System until project completion. An initial £11,000 had been approved for the initial set up of the system. The system has now been fully adopted and is proving to be a valuable tool for sharing project information. An additional £36,500 is requested to pay for the system and further training for staff members until the end of the project.

81. An additional figure of £15,000 has been included for the assessment fees associated with entering the project for a CEEQUAL award (the equivalent of BREEAM for buildings). CEEQUAL is an industry-wide sustainability assessment for Civil Engineering projects and we have asked all parties in the Project Team to sign up to the process. It is a demonstration of the City's determination to deliver the project in the sensitive and sustainable way that the Heath requires. The assessment of the project will start immediately and continue until project completion.

82. It is proposed that a figure of £70,000, previously approved for additional survey work is transferred from BAM Nuttall's pre-construction services to Atkins' design budget. As a result of the slight delay in BAM's appointment, it was necessary for us to instruct Atkins to carry out the work in order for the surveys to be carried out within the environmental time constraints.

83. There is an outstanding Early Warning Notice from Atkins relating additional fees of £71,000 as a result of a perceived change in design effort from what was tendered for. The City has rejected this claim and discussions with Atkins are ongoing. This figure has not been included in the anticipated total project cost.

84. There are also some opportunities emerging for making some savings in the fees budget which have not yet been quantified. Firstly the pre-construction services contract with BAM Nuttall was slightly delayed. Although most of the tasks required of BAM remain, the timeframe has been truncated. We are therefore in discussions with BAM to quantify the savings which the City should experience as a result.

85. The Client Representative Role has now been taken away from Capita and brought back to the City's Project Team. Whilst there are several aspects of this role which the City will continue to require Capita's assistance in and an inevitable increase in staff costs, there should also be a saving as a result of this move. We are currently working with Capita to agree the value of this saving.

Legal Implications

<u>The Reservoirs Act 1975 ("the 1975 Act")</u>

86. Under the provisions of the 1975 Act, the Hampstead No 1, Highgate Men's Bathing Pond and Model Boating Pond are designated as large raised reservoirs due to the volume of water (more than 25,000 cubic metres) stored above natural ground level.

87. The 1975 Act requires that all large raised reservoirs must be inspected and supervised by a panel engineer. Panel engineers are a group of specialist civil engineers appointed to particular panels by the Secretary of State. It is the responsibility of the undertaker (the City) to appoint a panel engineer (at its own cost). There are three types of panel engineer relevant to this project – inspecting, supervising and construction. The Supervising Engineer is retained to monitor, report and advise on the condition and safety of the dams. The City's Supervising Engineer is an 'all panels' engineer and therefore qualified to carry out all three panel roles.

88. The Supervising Engineer can call for an inspection by the Inspecting Engineer at any time under section 12(3) of the 1975 Act. Under section 10(3) of the 1975 Act the Inspecting Engineer can make any recommendations he sees fit in the interests of safety. If the City fails to comply with the recommendations of the Inspecting Engineer, the enforcement authority (the Environment Agency) have the power to issue an enforcement notice under section 10(7) of the 1975 Act, and to carry out the works in default and to recharge the City under section 15 of the 1975 Act. Failure to comply with a recommendation of the Inspecting Engineer is also a criminal offence under section 22 of the 1975 Act. It is possible for an undertaker to refer a disputed recommendation to an independent qualified civil engineer under section 19 of the 1975 Act, and to appeal a requirement in an enforcement notice to the First-tier Tribunal in accordance with regulations made under section 19A of the 1975 Act.

89. There are currently no outstanding recommendations under section 10 of the 1975 Act, but the Supervising Engineer has stated that if the necessary works pursuant to the Ponds Project are not progressed he will call for a statutory inspection, with the resulting recommendations in the interests of safety. The duties of the City under the 1975 Act to comply with the recommendations of the Inspecting Engineer are only triggered by such a report. However Leading Counsel has advised that the City can properly and ought to do that which the Supervising Engineer states to be required for other reasons e.g. to avoid the risk of tortious liability, or if it reasonably anticipates that an inspection would result in recommendations equivalent to those made by the Supervising Engineer.

90. In making this assessment it is important to note that the City's Supervising Engineer is highly qualified and experienced. To date the City has decided to follow the expert advice of this specialist, retained for that purpose – it might well be found to be unreasonable not to do so. The City has sought a second opinion regarding the works that are necessary, from another panel engineer, and his views are in agreement. The City's own engineer confirms these views. The Supervising Engineer is also following standard industry guidelines that have been applied to large raised reservoirs nationwide, in the form of *Floods and Reservoir Safety*, (3rd edition, 1996) Institution of Civil Engineers ("ICE"). Leading Counsel has advised that it would be difficult to criticise the Supervising Engineer for following professional guidelines as to what safety requires, unless good reason existed for doing less than the guidelines proposed – which it does not. The authoritative nature of ICE guidance is recognised by DEFRA in its report on Reservoir Safety in England and Wales dated 19 July 2013.

91. If the City were to wait for a section 10 inspection, compliance with the resulting recommendations might require much cruder interventions relating only to the three existing large raised reservoirs, and on a tighter timescale. This might prove even more disruptive to Heath users, especially to water-users, and leave the Heath with less landscape-friendly dams. By taking the initiative, the City has been able to consider each chain of ponds as a whole. Opting for a scheme which upgrades all the ponds (as opposed to one which only includes improvements to the three ponds currently designated as large raised reservoirs) additionally mitigates against the risk of dam failure at all of the ponds. It also reduces the visual impact of the works at any one pond by spreading the impact across all of the ponds rather than concentrating an engineering solution on just the three large raised reservoirs designated under the 1975 Act. This spreading of the impact means that the solution proposed better preserves the natural aspect and state of the Heath in accordance with the City's obligations under the Hampstead Heath Act 1871.

The Flood and Water Management Act 2010 ("the 2010 Act")

92. Under amendments to the 1975 Act enacted in the 2010 Act, but not yet fully brought into force, the minimum size of a large raised reservoir will be reduced to 10,000 cubic meters. It is anticipated that new regulations will also provide for all ponds in a chain that have a combined volume of 10,000 cubic metres to be classed as large raised reservoirs, which would include all of the ponds in the Hampstead and Highgate chains. It is also anticipated that these ponds will be assessed as high-risk reservoirs - the new designation for large raised reservoirs that are subject to the most rigorous safety and inspection regime.

93. Although not yet fully in force, the Ponds Project being pursued by the City is intended to satisfy the anticipated safety requirements arising from the 2010 Act, relating to all of the ponds in the two chains, as well as the current requirements under the 1975 Act, relating only to the three existing large raised reservoirs. "Future proofing" the Ponds Project ensures that further works will not be required at a later date. This is more cost efficient and means less disruption for Heath users. Leading Counsel has advised that the City can take account of these anticipated legislative requirements in carrying out the works, especially given the other advantages of doing so.

The Hampstead Heath Act 1871 ("the 1871 Act")

94. The City exercises functions under the 1871 Act by virtue of The London Government Reorganisation (Hampstead Heath) Order 1989. Under section 16 of the 1871 Act the City "…shall at all times preserve, as far as may be, the natural aspect and state of the Heath, and to that end shall protect the turf, gorse, heather, timber and other trees, shrubs, and brushwood thereon." Leading Counsel is of the view that the ponds were considered by the draughtsman in 1871 to be part of the natural aspect and state of the Heath. However he has also advised that the City's duty under section 16 of the 1871 Act is a qualified duty – note the words "as far as may be" – which does not prohibit works that are necessary; for example under another statutory duty, or in the interests of safety. Clearly however, if there are two design options, equally efficacious from the safety perspective, then the section 16 duty

requires the selection of that option which better preserves the natural aspect and state of the Heath.

Other relevant legislation and potential liabilities

95. The City's potential liability is not limited to the 1975 Act and those ponds classed as large raised reservoirs or high risk reservoirs. If the dams for any of the ponds were to fail, leading to injury or loss of life, there would be the possibility of a criminal prosecution under other legislation: for example such as the Health and Safety at Work etc Act 1974 ("the 1974 Act"), if the City failed to take all reasonably practicable steps to protect the public; or even under the Corporate Manslaughter and Corporate Homicide Act 2007 ("the 2007 Act"), if there was found to be a gross breach of a relevant duty of care. Leading Counsel has advised that, so long as the City takes the planned works forward with reasonable expedition, it should avoid criminal liability. However, mere reliance on the absence of an obligation under the 1975 Act, in the form of extant safety recommendations from an Inspecting Engineer, would not necessarily by itself provide a defence. If the City proceeds with the upgrades approved, pursuant to fully reasoned recommendations in July 2011, it will in Leading Counsel's view have satisfied the test of reasonable practicability for the purposes of the 1974 Act. Similarly, in relation to the 2007 Act, if the City did nothing in the face of advice received, and the hypothesised catastrophe occurred, then the offence might be made out, but if it acts as planned he does not consider that it could be said to have been grossly negligent, if indeed negligent at all. His advice to the City remains – continue to implement the approved recommendations with all deliberate speed.

96. In terms of civil liability the Rule in *Rylands v Fletcher* provides that, "The person who for his own purpose brings on his lands….anything likely to do mischief if it escapes, must keep it at his peril and is prima facie answerable for all the damage which is the natural consequence of its escape." This Rule would apply to all of the man-made ponds on the Heath, and strict liability would attach to the City if a dam breached and water escaped and caused damage to property. This means that the City would be liable without any need to prove there had been a wilful act, default or negligence in tort, provided that the damage caused was reasonably foreseeable. Other types of civil suit could also be pursued against the City in appropriate circumstances in the event of dam failure, for example actions in negligence or nuisance.

Judicial review and other legal challenge

97. The Heath & Hampstead Society have indicated since the inception of the Ponds Project that they may pursue a legal challenge. They have confirmed in recent correspondence with the Comptroller & City Solicitor that they are intending to proceed with a judicial review application. It is agreed between the parties that an early resolution of the legal issues would be preferable. The Comptroller & City Solicitor has indicated to the Society that, if a decision is taken as a result of this report to approve the Chosen Options, and to grant authority to submit a consequential planning application, this may be an

appropriate decision against which, if still so minded, the Society could direct its challenge.

98. Based on previous statements, it is likely that such a challenge would focus on the relationship between the Reservoirs Act 1975 and the Hampstead Heath Act 1871, and the assessment of risk and appropriate safety standards under ICE guidelines, on which the project is based. The Society contend that a court would hold that the safety standard envisaged by the 1975 Act is one of reasonable safety only. They further contend that such a standard is not compromised by considering during the process of the design of the works how to reduce the adverse consequences of dam collapse by taking into account practicably available measures such as early warning; and the balancing of the scale of the proposed works against their impact on the Heath, its users, the local community and the environment. The view of the Society is that the duties of the City under the 1871 Act must influence at an initial stage any decision as to the works that are required under the 1975 Act. The City is proceeding on the basis that the 1871 Act should not influence any decision as to the works that are required in the interests of safety under the 1975 Act although, as previously stated, any works should be undertaken in the way that is most sympathetic to the natural aspect and state of the Heath. Any legal challenge may also focus on perceived shortcomings in the decision-making process.

99. Any grant of planning permission by Camden could also be the subject of legal challenge by way of a judicial review application.

Advice from the Panel Engineer

100. As previously stated, the Supervising Engineer has not called for a section 10 inspection because, in his opinion, the City is progressing the necessary works in a sensible way within a realistic timescale – he continues to indicate that, if the works are not progressed, he will call for such an inspection.

101. The last 10 year inspection report in 2007 recommended a downstream impact assessment and flood study be carried out to establish whether any increase in overflow capacity would be necessary. Accordingly a Flood Risk Assessment was produced in 2009[7]. A further study in January 2011[8] established the probable maximum flow which the ponds should be designed to cope with and considered what measures would be necessary to mitigate the downstream impact identified by the Flood Risk Assessment. The probable maximum flow was higher than previously estimated and resulted in the pond overflows and embankments being identified as inadequate to meet current requirements under the 1975 Act. The embankments are deemed highly vulnerable to erosion as a result of predicted overtopping which may result in collapse. It was further discovered that if there were to be a failure of the pond embankments during a major storm and no public warning had been given, the likely loss of life on the Hampstead Chain would be in the region of 400 people and around 1000 people on the Highgate Chain. There would

[7] The CARES report
[8] The Haycock report, which was peer reviewed by Aecom

also be inundation and damage to local properties, roads and the railway lines to Kings Cross.

102. The three current large raised reservoirs are all classed as Category A (highest risk). In relation to Category A dams, page 7 of *Floods and Reservoir Safety* states, "It is considered that public opinion will not accept conscious design for a specific threat to a community, even though it tolerates to an extent both random and accidental loss of life. Consequently, no dam above a village or town should be designed knowingly with a finite chance of a disastrous breach due to the under-provision of spillway capacity. A community in this context is considered to be not less than about 10 persons who could be affected."

103. On page 8 of *Floods and Reservoir Safety* it is made clear that, "Table 1 sets out the standards which are appropriate for the wide variety and scale of dams in Britain." Page 9 goes on to explain that, "Table 1 is designed to take account of those factors which are weighed together by panel engineers both for the design of new dams and for dam inspections. Its main intentions are to ensure that, where a community could be endangered by the breach of a dam, the risk of any breach caused by a flood is virtually eliminated. However, where there is no community at risk, expenditure on safety works should be kept to a scale justified by the risk." In other words, safety comes first. It is only where no community is at risk that economic factors, and possibly other factors such as environmental factors, may be taken into account.

104. It is only in relation to Category D (lowest risk) dams that *Floods and Reservoir Safety* states on page 8 that, "Many small reservoirs with low earth dams may cause no real problem, except that of replacement, if they wash out. These special cases, many of which are ornamental lakes kept full for aesthetic reasons, are given a separate category where they pose no significant threat to life or property. A flood intense enough to cause failure of a dam would create some damage even if the valley were still in its natural state; the additional damage caused by the release of stored water may well be insignificant if the lake is small."

105. Therefore the design flood for Category A reservoirs as set out in Table 1 is the Probable Maximum Flood ("PMF") and the dam is required to pass the routed outflow of the PMF. The PMF has been used as the benchmark for Category A dams since, if this extreme low probability event can be safely accommodated, it is reasonable to state that the probability of collapse has been virtually eliminated. The PMF is just that – a calculation of the maximum flood that could occur, based on the maximum amount of water that can be stored in the atmosphere, the size and topography of the catchment area, ground conditions, etc. It is difficult to predict the probability of such an extreme event – the Interim Quantitative Risk Assessment estimated this to be 1:400,000 years. This has attracted a lot of public comment and, from some quarters, criticism. However this is simply another way of saying that dams that pose a high risk must not be allowed to fail as a result of any flood event. The PMF is simply the extreme end of the graph.

106. It should be noted that the recently implemented part of the 2010 Act has revised the categorisation of reservoirs to those that are "high-risk" and those

that are not “high-risk”. One of the criteria for designating a large raised reservoir as high-risk is that at least one person could be endangered by an uncontrolled release of water. It is anticipated that all of the ponds in the Hampstead and Highgate chains will in due course be designated as high-risk. The ICE guidelines are currently being updated to reflect the new high-risk designation and it is anticipated that the new safety standards will be in line with current Category A standards.

107. Overtopping, with the associated risk of embankment erosion and failure, currently begins to occur on the Hampstead chain in a 1:100 year flood event at Mixed Bathing Pond and Hampstead No.2, and on the Highgate Chain in a 1:5 year flood event at Stock Pond and a 1:20 year flood event at Ladies Bathing Pond and Bird Sanctuary Pond. This is an unacceptably high risk of overtopping and failure of the dams and thus the need for remedial works.

Corporate & Strategic Implications

108. The Ponds Project supports Key Policy Priority 5: Increasing the impact of the City’s cultural and heritage offer on the life on London and the nation by supporting the provision of “safe, secure and accessible Open Spaces”. The Ponds Project will ensure compliance with the current and anticipated requirements of the Reservoirs Act 1975 and deliver the concluding mitigation of Strategic Risk 11. The project also supports the City Together Strategy – “supports our communities”, “protects, promotes and enhances our environment” and “is vibrant and culturally rich”.

Conclusion

109. The options recommended to your Committees (Option 6 and Option M) represent the culmination of a highly iterative process, reflecting a careful and considered response to the risk of dam erosion and collapse at Hampstead Heath caused by overtopping. The options recommended met the engineering requirements set out in *Floods & Reservoir Safety* and are considered to preserve the natural aspect and state of the Heath in the most effective manner. Members should take into account all relevant matters, as set out in this report.

Appendices

- Appendix 1 – Atkins’ Preferred Solutions report
- Appendix 2 – Environmental master plans
- Appendix 3 – Tree loss plans
- Appendix 4 - Programme
- Appendix 5 – Budget (non-public)
- Appendix 6 – Glossary

Ponds Project Background Papers:

- CARES Flood Risk Study report
- Haycock Hydrology Improvements Detailed Evaluation Process (HiDEP): Hydrology and Structure Hydraulics and Recommendations Report
- Aecom Peer Review
- Design Review Method Statement
- Design Flood Assessment
- Constrained options report
- Shortlist Options report
- Interim Quantitative Risk Assessment and accompanying Position Paper
- Preferred Options report
- Strategic Landscape Architect Review
- Ponds Project public consultation report

All background papers are available at www.cityoflondon.gov.uk/pondsproject

Previous committee reports are available at: www.cityoflondon.gov.uk/committees

Esther Sumner | Ponds Project & Management Support Officer

T: 0207 332 3130
E: esther.sumner@cityoflondon.gov.uk

Thomas Creed | Engineer

T: 0207 332 3913
E: thomas.creed@cityoflondon.gov.uk

Edward Wood| Principal Legal Assistant

T: 0207 332 1834
E: edward.wood@cityoflondon.gov.uk

Hampstead Heath Ponds Project
Preferred Solution Report 5117039/62/DG/182 Rev 1

Contents

Executive Summary

The purpose of this report is to put forward the case for the preferred solution for each chain of ponds, and to give updates on refinements to the engineering design following environmental reviews, and the non statutory process of information giving and public consultation.

The report will describe the design development process that has been carried out since the Preferred Options Report of October 2013, including the development of environmental mitigation design. It will explain how new information, surveys and ideas have contributed to the development of the design.

The current version of the design is a complete cascade solution for each chain, drawing on feedback from both phases of the consultation (with the Ponds Project Stakeholder Group (PPSG) and with the wider public).

A brief outline of the preferred solution for each of the Highgate and Hampstead chains of ponds is provided below**:**

Note:
'Left hand' and 'right hand' describes the location of a feature of a dam when looking downstream, usually south, so 'right hand' usually means 'west end'.

Highgate Chain of Ponds: Option 6

- Stock Pond: Restoration of the dam crest and a new open grass spillway at the right hand end of the dam;
- Kenwood Ladies' Bathing Pond: Restoration of the dam crest and a new open grass spillway over the right hand part of the dam. Potential options for refurbishing or replacing the existing changing room building are being considered separately, pending a structural assessment of the adequacy of the existing building slab, beams and piles;
- Bird Sanctuary Pond: Minor restoration of the dam crest and relocation of the overflow pipe to the right hand end of the dam;
- Model Boating Pond: Raising of the existing dam by 2.5m with an earth embankment on the upstream side and a new open grass spillway over the raised and existing dams at the right hand end;
- Men's Bathing Pond: Raising of the existing dam with a maximum 1.0m high wall and a new open grass spillway at the right hand end;
- Highgate Pond No.1: Raising of existing dam with a maximum 1.25m high wall, and a new open grass spillway at the right hand end.

The preferred solution for the Highgate chain of ponds has been chosen because locating the major works at Model Boating Pond minimises the dam raising works required at Men's Bathing Pond and Highgate No.1 Pond which are more ecologically sensitive ponds.

Option 6 is preferred over Option 4, because the wall to raise the dam at Men's Bathing Pond is closer to the height of the existing fence than the 1.5m wall in Option 4, so the impact on views and the character of the pond is minimised.

Hampstead Chain of Ponds: Option M

- Vale of Health Pond: Restoration of the dam crest and a new open grass spillway at the right hand end of the dam:
- Viaduct Pond: Restoration of the dam crest and a new open grass spillway at the left hand end of the dam;
- Catchpit area: new flood storage dam up to 5.6m high, with an open grass spillway along the whole crest of the dam
- Mixed Bathing Pond: Existing dam raised by 1.0m, with a spillway over the majority of the crest of the dam;

- Hampstead No. 2 Pond: Restoration of the dam crest with 0.2m high edging, a new box culvert overflow at the right hand end with a dropshaft inlet
- Hampstead No. 1 Pond: A new box culvert overflow through the top of the embankment near the left hand end of the existing dam, and buried in the downstream slope.

The main amendment to Option M since the Preferred Option Report (October 2013) is the addition of the 0.2m high edging along part of the dam at Hampstead No.2, combined with a dropshaft inlet with the new box culvert overflow. These elements allow the reduction in total width of the new box culvert overflow by 50%. This is the most appropriate solution to minimise the impact on a number of plane trees whose roots would otherwise be potentially affected by the works at Hampstead No.2 Pond.

Option M has been selected as the preferred solution for the Hampstead chain because there is less dam raising involved. The 1m raising of the dam at Mixed Bathing Pond in Option M has less impact on views and the character of the pond than the 2m raising proposed in Option P, which would have required either retaining walls or encroachment into the pond. Similarly, a 0.5m high wall on the dam at Hampstead No.2 pond is avoided in Option M.

The key elements of Options 6 and M, such as the heights of raising the dams, are substantially the same as the Options presented in the Preferred Options Reports and at the non-statutory information giving and public consultation between 26th November 2013 and 17th February 2014.

However, some sub-options (such as alternative spillway locations) have since been investigated and the preferred sub-option selected, and these decisions will be explained in this report.

The reader is referred to the Constrained Options, Shortlist Options, Preferred Options Reports on the City of London's Hampstead Heath Ponds Project website for detail on the option development and design process leading up to this report.

Hampstead Heath Ponds Project home page:
http://www.cityoflondon.gov.uk/things-to-do/green-spaces/hampstead-heath/ponds-project/Pages/default.aspx

The following webpage is dedicated to the Preferred Options Report, issued in October 2013, and includes links to the comments and a log of questions and answers from the stakeholders, and wider public:
http://www.cityoflondon.gov.uk/things-to-do/green-spaces/hampstead-heath/ponds-project/Pages/Preferred-Options-Report.aspx

A glossary of terms is included on the Hampstead Heath Ponds Project home page: http://www.cityoflondon.gov.uk/things-to-do/green-spaces/hampstead-heath/ponds-project/Pages/default.aspx

The results of the non-statutory public consultation are summarised in a report at:
http://www.cityoflondon.gov.uk/things-to-do/green-spaces/hampstead-heath/ponds-project/Pages/Information-Giving-and-Consultation.aspx

1. Overview of Options Development Process

As in previous options reports, an overview of the process of engagement with stakeholders, Heath Staff, and the wider public, and how this has informed the options development, is shown in the flow chart in Appendix A **(Overview of Preferred Solution Development Process).** The process started with the problem definition stage, and has then progressed through three iterations of option development with stakeholders, the Heath Staff, and the wider public, culminating in a 12 week non statutory process of information giving and consultation by the City of London Corporation between 26th November 2013 and 17th February 2014.

While there was no clear preference between the various options consulted upon, there were a number of themes about design that emerged from the comments received, and these have been fed into the design process to date and will be taken forward as part of detailed design.

Problem Definition

The problem definition can be summarised as follows:

- Industry standard best practice guidelines state that the City of London should ensure the dams can pass the flows associated with the PMF safely. Moreover, the modelling showed that most of the dams will also be overtopped in very much smaller return period floods, from as low as a 1:5 year return period events. **Any size flood event, whether 1 in 20, 1 in 1,000 or the Probable Maximum Flood, could theoretically happen tomorrow**;
- This the capacities of the existing overflow pipes at each pond are too small, and the storage capacities of each pond, between the overflow level and the dam crest level, are not sufficient to deal with the floods without floodwater flowing over the dam crests onto the downstream faces;
- In most cases, overtopping of the dams is not acceptable because of the speed of flow and duration of overtopping, and also because of the tree cover on the downstream slopes of the dams which could concentrate water flow paths and could lead to erosion of the dam. There is therefore an unacceptably high risk of a breach of the dams leading to an uncontrolled escape of the stored water in the ponds;
- To make the ponds safe, spillways are required which would pass the excess floodwater safely round the dams. The design standard for these spillways is the Probable Maximum Flood, according to established industry best practice (Floods and Reservoir Safety, Institution of Civil Engineers, 1996).

Atkins have developed a preferred solution that virtually eliminates the risk of any dam breach caused by a flood within the Highgate and Hampstead chains of ponds, and the attendant risk to life and property downstream, in order to meet the City's existing obligations under the Reservoirs Act 1975, and expected additional obligations under amendments introduced by the Flood and Water Management Act 2010, whilst preserving the natural aspect and state of the Heath as far as possible, in accordance with the Hampstead Heath Act 1871.

Key Objectives

The preferred solutions meet the key objectives of the project identified in the options reports:

- They improve dam safety on all the dams in the chains;
- They maintain (or increase) the standard of protection downstream. In other words, the frequency of overtopping of the proposed spillways on the last dams will not be more than the frequency of floods that would cause overtopping of the existing dams;
- They do not increase the rate of flow discharged from the last dam in any flood event, compared to the flows expected in the existing scenario;
- They preserve the Heath as a natural open space.

Design Principles and Design Philosophy - An Overview

The project design principles and design philosophy have informed the development of the preferred solutions. The design principles and design philosophy summarised in the previous options reports have been retained and developed with feedback from engagement with stakeholders, Heath Staff, and the wider public, including the non-statutory public consultation, and having regard to the environmental considerations of each pond and the need to preserve the natural aspect and state of the Heath as far as possible, whilst ensuring that dam safety requirements are met.

These considerations include:

- Maintaining existing water levels and the distinctive character of the Heath and key views, and minimising the scale of intervention, and impact on visual amenity and the use of the Heath for all users – including swimmers, anglers, walkers and nature enthusiasts;
- Environmental management is an integral part of the project. In addition to improving water quality the project must ensure that, following construction work, reinstatement of the Heath's natural aspect takes place as soon as possible. The collaboration between technical specialists has already ensured that none of the options being considered preclude pond and terrestrial habitat reinstatement and restoration. The use of appropriate and natural materials and minimal intervention will be used to preserve the natural aspect and state of the Heath as far as possible.

Design Principles

Design principles that apply to the preferred solutions to enable integration of the dams with the Heath character include:

- Each chain of ponds is considered as a whole system, so that any significant increases in storage capacity are focused in the least sensitive locations, minimising the increases of dam height at more sensitive ponds, and reducing the impact of residual works required elsewhere;
- Each dam must be able to pass the design flood inflow safely, in accordance with Table 1 of 'Floods and Reservoir Safety' (ICE, 1996). For all dams, this is the Probable Maximum Flood (PMF) as they are all Category A dams where "a breach could endanger lives in a community downstream". A community is defined in 'Floods and Reservoir Safety' as 10 people or more;
- Tree loss is to be minimised to retain the character and natural aspect, of the Heath;
- Each preferred solution has been designed as a passive system to improve the resilience of the dams without reliance on any mechanical system (such as valves or pumps) or human intervention. The passive system of each preferred solution has been designed to pass excess flood water at each dam following these principles:

    1 A spillway is required at most ponds that will pass as much as possible of the PMF, depending on whether overtopping is tolerable (see Table 1 of 'Floods and Reservoir Safety', ICE, 1996.)
    2 Where overtopping of the dam crest is tolerable (which only applies to the dams at Mixed Bathing and Bird Sanctuary Ponds), and excess floodwater up to the PMF still needs to be passed over the dam crest, reinforcement works to the downstream face will be required to allow flow over part or all of the width of the dam crest.
    3 Where the overtopping of the dam crest is not tolerable, which applies to the majority of the dams (due to the number of trees on the crests and downstream slopes), some works to raise or restore the dam crests and create natural open grass spillway channels are proposed, to pass the PMF in order to minimise risk of dam failure. There is therefore a trade off at each pond between the amount of dam crest raising, and the width and depth of the spillway required to pass the PMF safely.

The design is constrained by these principles, which have a basis in legal requirements and standard dam safety guidelines.

Design Philosophy

The design philosophy of the preferred solutions is strongly influenced by the requirement to comply with the Hampstead Heath Act 1871, the City's Vision for the Heath, and the Hampstead Heath Management Plan. The solutions have also been influenced by feedback from engagement with stakeholders, Heath Staff and the wider public from engagement with stakeholders and the wider public, including the non-statutory public consultation.

The design philosophy includes:

- More storage capacity, which has been added in the middle of each chain of ponds for the preferred solutions to reduce the rate of flow of floodwater to the downstream ponds. The amount of works required to increase the resilience of the dams to overtopping has therefore been reduced in scale;
- Reinforcing the whole dam crests (and removing all trees on the dams) would not be required in most cases. Similarly works would only be required to install spillways, therefore preserving the majority of the trees on the dams;
- The water level has been retained in each pond to protect the visual amenity and character of the Heath. Any new spillway has been set above the typical water level of the pond in question, so that it would be normally dry and allow the spillway surface to be covered in grass. The nature of the grass mix (either plain 'amenity' grass, or 'native wildflower' grass mix) will depend on the expected speeds of water flows down the spillway in each case;
- 'Naturalised' spillways have been proposed in the optimum locations around the ends of dams, to minimise tree loss and visual impact. In addition to grass seeding on spillways, other environmental mitigation measures identified to integrate the works, and to retain the distinctive character of the Heath and key views, include planting on the upstream face of the dams and marginal planting eg reedbeds on the pond perimeter;
- The preferred solution design development has been constrained and informed by the existing environmental considerations and an overriding aim identified for each pond to reflect the unique landscape character of the pond. These distinct characteristics have informed the landscape design strategy to include earthmodelling and planting to integrate and soften the appearance of the dams and will be used to develop a planting list and materials palette that considers the type and finish of materials e.g. the potential type, colour, design etc. of potential cladding as the design progresses.

The ponds and pond margins provide diversity in aquatic and terrestrial habitat. These habitats need protection and monitoring to minimise the risk of habitat loss/damage and the risk of harm/disturbance to animals including the spread of invasive species. Where any potential detriment to these habitats is identified this requires mitigation and reestablishment to achieve a balanced ecology around the ponds.

Environmental mitigation* and compensation** measures have been considered collectively across the chains and are proposed as an integrated part of the options, including consideration of the engineering works (ie the permanent works) and the temporary construction impacts on the ponds. All pond restoration will be integrated with the existing form and function of each individual pond, and the approach to improve water quality.

Four approaches have been proposed to restore the ponds, whilst retaining each of their individual traits (so not all these treatments have been proposed for all ponds):

- Softening the edges and banks in their current locations;
- Softening the edges and banks by creating new margin in the pond;
- Softening the edges and bank by excavating new margin set back from the pond;
- Restoring by adding new islands or internal margins.

Note
**Environmental mitigation measures provide the environmental restoration local to construction, for example, replacement of lost waterside margin.*
***Environmental compensation involves measures in other ponds remote from the main work areas and may include sediment removal and creation of marginal habitats in other ponds.*

In addition to the pond restoration measures, further feasible water quality improvements have been identified for each pond to help comply with the Water Framework and Bathing Water Directives. These directives can be found under:

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0007

Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC

These include:

- The removal and consolidation of sediment, which can be relocated within islands, pond margins, and borrow pits excavated for dam material;
- The provision of reedbeds at the upstream end of each pond to trap sediment and stop it moving down the pond chain;
- Selective pruning back of overhanging trees to reduce seasonal leaf litter;
- Aeration of the ponds to improve dissolved oxygen content;
- Precipitation of phosphorous from the water column (a standard water treatment process) or locking of phosphorous in the sediment.

Incorporation of Suggestions from Consultation with Stakeholders, the Heath Staff, and the Wider Public

A number of suggestions have been considered as feasible and have influenced the design of the preferred solution for each chain of ponds. These include:

- Providing extra storage capacity by building a flood storage dam at the Catchpit Area in order to minimise works at the most sensitive ponds;
- Keeping the Kenwood Ladies' Bathing Pond changing rooms in the centre of the dam;
- Desilting ponds at the same time as the dam safety works. Complete desilting is currently planned for Stock, Viaduct, Mixed Bathing, Ladies Bathing and Men's Bathing Ponds. Partial desilting is planned for Model Boating Pond;
- Retaining the group of trees on the west bank of the Model Boating Pond and turning the area into a peninsula;
- Traffic management ideas, such as prohibiting the use of Millfield Lane or traffic across the Heath from one pond chain to the other;
- Modelling of options to reduce the loss of plane trees at Hampstead No 2 Pond;
- Adding an overflow pipe to Model Boating Pond, in order to reduce the spillway width;
- Widening the proposed reinforced spillway at Mixed Bathing Pond to reduce the dam raising;
- Relocating the overflow pipe between Bird Sanctuary Pond and Model Bating Pond.

Feedback from the Non-Statutory Public Consultation

There was a 12 week non-statutory process of information giving and consultation carried out between 26th November 2013 and 17th February 2014. The consultation sought views on the two preferred options for each chain of ponds.

Based on the responses received from those who completed a questionnaire (mainly people who live close to the Heath and who are regular users of the Heath) there is a strong body of concern about the whole project. These concerns are to do with increases in dam height and perceived negative impacts on the Heath's amenity (especially for swimmers), it's landscape or wildlife.

However, respondents from the downstream area in potentially impacted communities said that they supported the improved safety the work would bring. There are also a number of people who feel that the proposed works could create an opportunity for improvements to the Heath, especially for wildlife.

The comments received do help to develop a set of design criteria that are informing the preferred solution for the Highgate and Hampstead chains of ponds:

- Preference for natural style landscaping of earth banks and natural features over walls wherever possible;
- Paths to have proper surfacing;
- Access and safety of children, families and the disabled needs to be shown, especially, but not exclusively for the Model Boating Pond;
- The need to maintain the present visual rural / countryside landscape and current (or improved) amenity across the Heath;
- Opportunities to create and enhance wildlife habitat should be taken where possible;
- As far as possible views should be maintained.

These messages will be factored into the design wherever possible, and will continue to exert influence as we progress to detailed design.

Appointment of the Contractor

The contractor (BAM Nuttall) has recently been appointed. Their early involvement has already assisted the design process by providing positive contributions in relation to the buildability of designs, the assessment of construction impacts and the planning and execution of the ground investigation. Their proposals have evolved since the tender stage and have included developing the methods for removing silt from the ponds for use in landscaping and minimising tree loss at Hampstead No 2 Pond during construction. More details have been provided in Section 2.

The contractor has also started to assist Atkins through the provision of construction information for the preparation of the Environmental Impact Assessment (EIA) that will support the planning application. This construction information includes traffic management, working areas, delivery routes, vehicles and equipment, and methods of working.

The ground investigation commenced on the 24th March 2014 and is programmed to last approximately 10 weeks on site. While analysis of the results of these investigations will not be complete before the submission of the planning application, the initial findings from boreholes, window samples and trial pits will provide answers to key questions that affect the EIA and the planning statement, namely:

1. The suitability of the soil on the Heath for use in construction of the raising of Model Boating Pond dam and the Catchpit dam;
2. The size and location of potential borrow pits which will provide the material for the raised dams; and
3. The stable slopes, and therefore the plan areas (footprints), of the raised dams.

However, it is reasonable to expect that the land west of the Highgate chain ponds will be underlain by London Clay, volumes required have been calculated, and the current assumption is that all the fill material for the works can be obtained from sources on the Heath.

The final location of borrow pits cannot yet be decided, as the decision would be based on many factors including: proximity to construction areas to reduce transportation impacts, environmental considerations and the amenity of users and nearby residents.

Samples obtained during the GI are also being looked at by Museum of London Archaeology Services.

Further Survey Data

Since the Preferred Option Report (October 2013), new information informing the design of both dam safety works and environmental mitigation has included the following:

- A new topographical survey, covering larger areas than the previous survey, and providing more details on the locations of trees. When combined with the information from the tree survey undertaken to BS5837, this allowed the creation of root protection plans and informed decisions, including the exact position of spillways;
- Bathymetric surveys of the ponds, picking up hard and soft (silt) bed levels. This allowed the estimation of silt volumes;
- Silt testing in all ponds, indicating that all contaminants were inert or at non-hazardous levels, which informed the assumption that silt from the ponds can be disposed of within the Heath, subject to the granting of licenses from the Environment Agency;
- Species surveys, including roosting bats, bird nesting, great crested newts, and fungi, the results of all of which are informing the Environmental Impact Assessment (EIA);
- Cultural Heritage – assessment of the archaeological / built environment;
- CCTV survey of existing overflow and scour (outlet) pipes, which will allow detailed decisions on the future of pipes and the need for new pipes.

2. Details of Preferred Solution

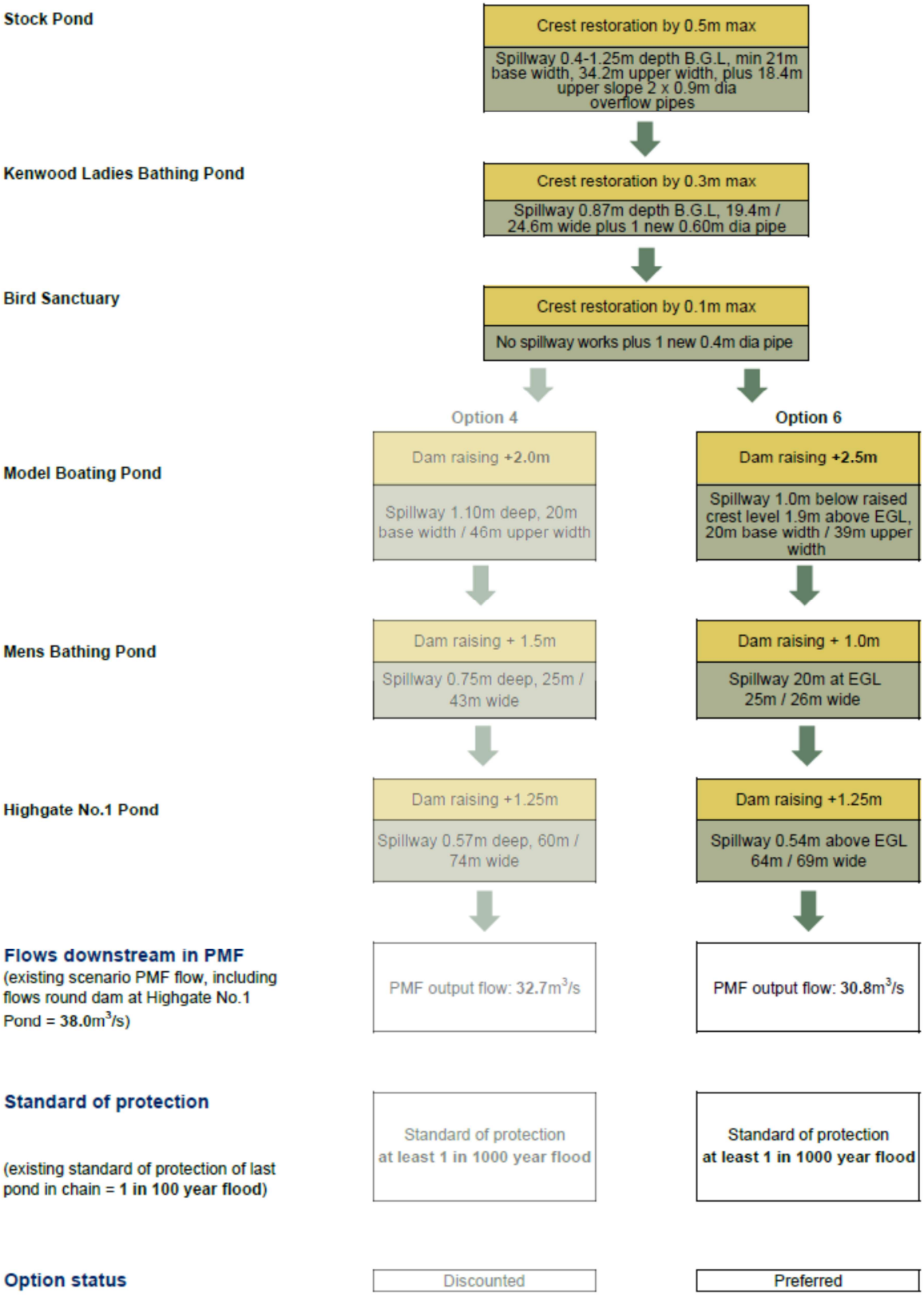
In this section, the preferred solution for the Highgate and Hampstead chains of ponds is described in a way which is consistent with the format of the previous options reports, but with some updates to details. These updates are informed by the development of the outline design and the results of the non-statutory information giving and public consultation.

Preferred Solution: Highgate Chain: Option 6 (2.5m raising at Model Boating Pond)

An options flowchart for the Highgate chain is shown below. This shows the same two options (4 and 6) that were selected for further development at the preferred options stage, but with some updates to spillway dimensions. These have been adjusted following amendments to the design which have been incorporated into the hydraulic model created in the earlier options appraisal stage in 2013.

Highgate Chain - Modelled Options flowchart

Preferred solution as at 14/05/2014



Stock Pond

Proposed works would include:

- Crest restoration of the dam. To limit the loss and pressure on trees on the upstream face, the crest height would be restored by up to 0.5m using fill (earth with stone surfacing). This would match the cover level over the outlet pipe, and continue that same level along the length of the dam until the transition point with Millfield Lane. At the left hand end of the dam a shallow bund would help tie the path in with the existing access and keep the works away from the root protection areas of the veteran trees on the western edge of Millfield Lane. To ease pressure on the trees on the upstream edge, the path along the crest would be shifted slightly to the south and retained along the downstream edge;
- An open channel, grass lined spillway, 21m wide at the base, would be located around the right hand end of the dam. The side slopes would be gentle at a maximum of 1:12 to maintain access along the footpath on the crest of the dam;
- Two new 0.9m overflow pipes, to run parallel to the existing overflow pipe;
- Removal of the silt.

The presence of Japanese Knotweed in the vicinity of the existing dam will require reducing / controlling as a consequence of the alignment of the spillway and raised section. By locating the spillway at the right hand end of the dam, the slope of the spillway would be reduced, and, therefore, the velocity of any overflowing water would also be reduced. This means that the lining material under the spillway can be thinner, and therefore would require shallower, less intrusive works.

Kenwood Ladies' Bathing Pond

Proposed works involve:

- Crest restoration by up to 0.3m using fill (earth with stone surfacing);
- Removal of the section of concrete slab on the dam crest, to provide a clear view of the dam crest;
- An open channel, grass lined spillway is proposed on the right hand part of the dam, adjacent to the building platform. The spillway would have sides sloping at 1:3, with an overall upper width of 24.6m;
- Potential options for refurbishing, or replacing, the changing room building are being considered separately, pending a structural assessment of the adequacy of the existing building slab, beams and piles. The design of this building is still being developed following consultation with the Kenwood Ladies Pond Association, and will be described in full in a separate feasibility report;
- Removal of the silt.

In either sub-option, the spillway would be excavated about 0.7m deep into the dam crest and the existing footpath to the western access gate potentially retained at the same level, approximately half way down the slope of the dam. The spillway would be lined with concrete cellular mats, which would be covered with topsoil and grass seeded, except along the existing footpath where the stone surface would be reinstated. A number of trees would be potentially removed from the dam along the cut, but not from the perimeter of the pond as these screen the pond from the other parts of the Heath.
The bathing pond would have to be temporarily closed for the works. However, the contractor has made suggestions for minimising this closure, including the use of prefabricated elements for both the above and below ground structures.

Bird Sanctuary Pond

Works at this pond have been minimised by raising the dam at Model Boating Pond (see below), so that the dam at Bird Sanctuary Pond would be submerged in large flood events. A new spillway would therefore not be needed, and engineering works would be limited to:

- Removal of the concrete outlet slab to the overflow pipe, and the part of the pipe which extends above the surrounding ground;
- A new overflow pipe to pass around the right end of the dam, to discharge into the widened part of the Model Boating Pond;

- Regrading (smoothing) of the grass downstream slope (on the Model Boating Pond side of the dam), and lining of the slope with a shallow topsoiled and seeded, turf reinforcement mat.

Model Boating Pond

The preferred solution is to maximise storage at this pond, by raising the dam by 2.5m, in order to minimise works at Men's Bathing Pond. It is preferable to raise the dam at Model Boating Pond because it is ecologically less sensitive than the other Highgate chain ponds, with fewer trees, so it has an open character allowing more space for the raised dam. It is the only pond where the perimeter is completely lined with sheet piles.

The works would include:

- Raising the existing dam by 2.5m. This raised dam would be built upstream of the existing dam, into the pond, and the ends of the raised dam would tie into high ground either side of the pond. The downstream face of the embankment set back slightly from the existing footpath would be 1:3 whilst the upstream face would be varied and graded between 1:3 and 1:6;
- An upper open grass lined spillway which would be formed by creating a lower section of the raised dam (i.e., the base of the new spillway is higher than the existing ground);
- A lower spillway which would be formed by lining the topsoil with a shallow topsoiled and seeded, turf reinforcement mat and a low earth bund to run down the slope of the existing dam between the trees. This bund would train flows away from the existing dam and over natural ground into Men's Bathing Pond;
- An excavation of the west bank of the pond. The primary purpose of this excavation would be to provide the majority of the material needed to raise the dam. The excavation would go around the group of lime trees on the west bank, to form an island. The deepest and widest part of the excavation would be at the northern end of the pond, where the ground is flattest;
- The lower footpath at the water's edge would be re-routed to encircle the widened pond that could connect with a new footpath on the raised dam crest;
- The upper footpath on the west bank would be re-routed to pass above the new spillway and the island;
- Removal of part of the silt, to create a firm foundation for the raised dam.

The sheet piles would be removed from the west bank to enable the excavation to take place, and on the south bank they would be buried by the raised dam. The sheet piles would be reinstated along the western edge and an intermittent platform created for marginal planting.

The cross section of the raised dam at Model Boating Pond shows how new footpaths on the water's edge and along the crest of the raised dam would allow continued enjoyment of views north across Model Boating Pond and south across Men's Bathing Pond and further to London. Access to the water's edge, which many people value as a unique feature of Model Boating Pond, would be maintained with a new footpath along a platform on the upstream face of the raised dam. This footpath would be at the same level (relative to the typical water level) as the existing one, and the clear views across the pond would be maintained by only planting short sedge grasses in a platform just below the water's edge, to retain the feeling of closeness to the water.

There is a potential to use the silt removed from the southern part of Model Boating Pond and treat it in geotextile bags by compression, drainage and addition of flocculants to separate out the silt particles. These silt bags when firmed could be used to create the planting platform just below water level. The use of these silt bags will be further investigated and confirmed at the detailed design stage.

The works will require part draining down of the pond, in order to build the raised dam. This would be achieved with a cofferdam (a temporary dam, formed of either sheet piles or an A-frame covered with tarpaulin). This would extend across the downstream (southern) end of the pond.

Informal public access to the island formed around the lime trees will be provided via a wetland causeway as discussed with stakeholders in May 2014 so that the island can be managed as a wildlife sanctuary.

The City of London, in consultation with the Anglers, is reviewing the fishing offer on Hampstead Heath to determine the ponds suitable for fishing, access requirements and stocking arrangements.

Men's Bathing Pond

The works would involve:

- Raising the dam with a maximum 1.0m high wall on the dam crest, to follow the line of the existing fence. This wall would be constructed using sheet piles, potentially either steel or plastic, and will be designed to be deep enough to reduce the leak, which may be related to the high proportion of gravel and brick fill found in the dam. The wall would be clad to the preference of the Heath users. This could for example, be timber cladding, which might be sourced from the Heath;
- A low (max 0.75m high) reinforced earth bund, at the right hand end of the dam. This would be steep on the upstream (pondside) face, but could have a gentler slope on the downstream side to blend with the natural ground;
- An open channel, grass lined spillway, which would be essentially a gap between the raising wall and the earth bund, and would be located at the right hand end of the dam. The base of the spillway would be at the existing ground level with some lowering of the natural ground at one end to form a 25m wide flat area. The spillway would be lined with a shallow turf reinforcement mat;
- A return wall, to retain and train flows over the spillway. To minimise effects on a large crack willow on the dam, this wall could be formed with H-section posts with timber panels, so that the posts would miss the structural roots of the tree;

To maintain the existing boundary fence across the spillway a fence will be designed to fail when loaded with floodwater. This design will be investigated at detailed design stage.

Option 6 has less impacts on Men's Bathing Pond in two ways. Firstly, the raising wall would be smaller in this option, at a maximum 1.0m above the existing dam crest level, and would therefore have less impact on the landscape and character of the pond. Secondly, the spillway is less intrusive since the spillway base will be closer to the existing ground level.

Highgate No.1 Pond

The works would include:

- Raising the dam with a 1.25m high clad wall along the dam crest on the south-east and north-east banks of the pond;
- An open channel, grass lined spillway, which would be formed by filling in the low spot between the west end of the dam and the hill to the west. This spillway would have a shallow lining of turf reinforcement mat, which would be laid just below the topsoil. The footpath to the west of the pond would be raised by around 0.3m with a gently sloping ramp. The base of the spillway would be 64m wide, with part formed above the dam crest and part formed by lining the natural ground as it slopes up from the dam;
- A return wall would form one side of the spillway, following the existing fence down the slope. This wall would be formed with H- posts and timber to avoid tree loss on the other side of the fenceline.

Some trees would have to be removed where they are on the part of the spillway that it passes over the dam, but not on the natural ground where the roots are clear of the dam.

Not all the excess floodwater is stored in the PMF event by Option 6. However, by filling in the low spot, raising the dam, and creating flood storage capacity in this and two upstream ponds, floodwater will flow over the spillway at Highgate No.1 Pond less frequently, and with less volume and velocity, than is currently the case.

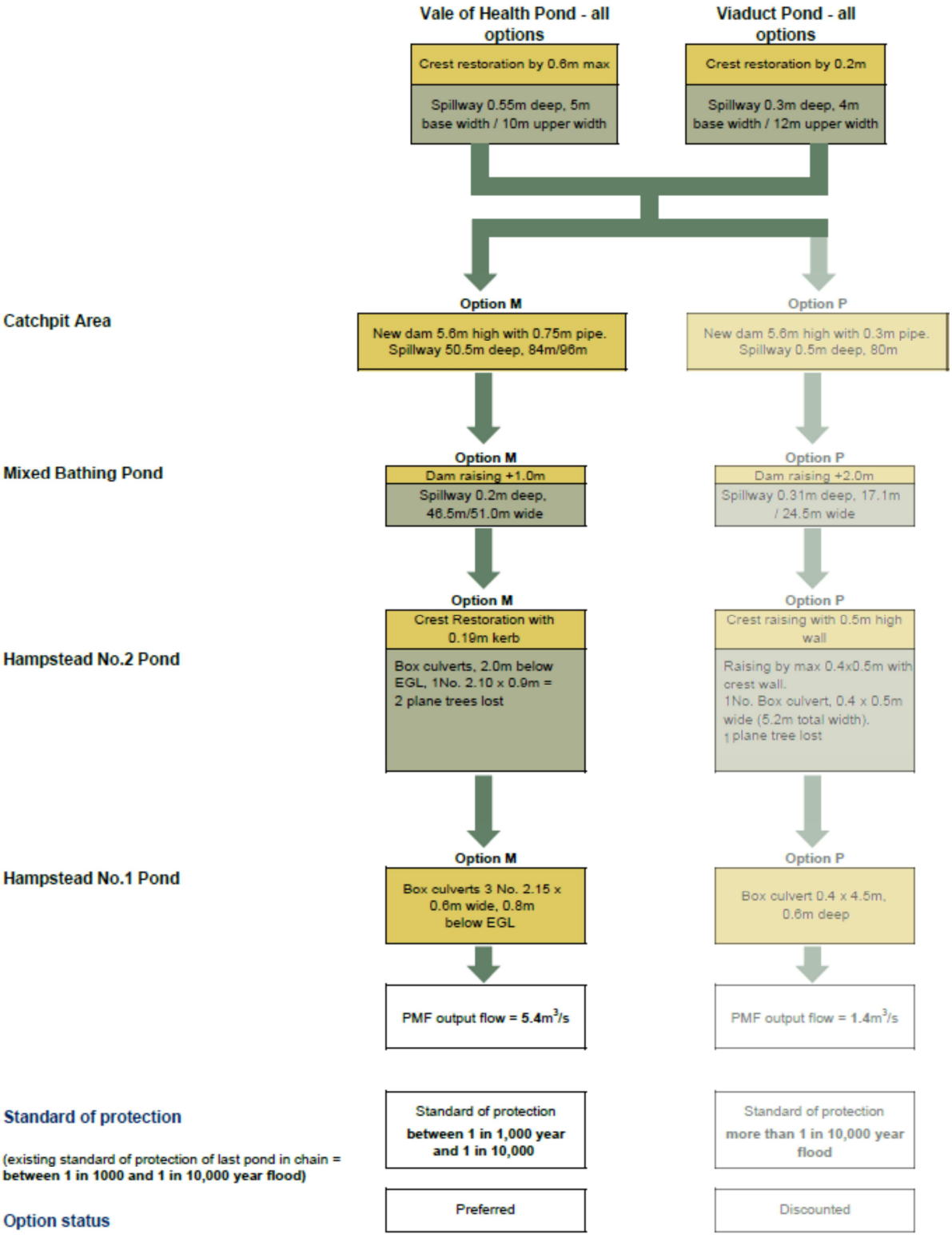
Preferred Solution: Hampstead Chain: Option M

An options flowchart for the Hampstead chain is shown on the next page. This shows the same two options (M and P) that were selected for further development at the preferred options stage, but with

some updates to spillway dimensions. These have been adjusted following amendments to the design which have been incorporated into the hydraulic model created in the earlier options appraisal stage in 2013.

Option M has been selected as the preferred solution for the Hampstead chain because there is less dam raising involved. The 1m raising of the dam at Mixed Bathing Pond in Option M has less impact on views and the character of the pond than the 2m raising proposed in Option P, which would have required either retaining walls or encroachment into the pond. Similarly, a 0.5m high wall on the dam at Hampstead No.2 pond is avoided in Option M.

Hampstead Chain - Modelled Options flowchart
Preferred solutions as at 14/05/2014



Vale of Health Pond

Works would include:

- Crest restoration by a maximum of 0.56m, along just over half of the dam. This would be achieved in two stages, comprising of 0.3m of fill added to the crest and the top 0.26m of a kerb;
- An open spillway, 5m wide at the base, located at the right hand end of the dam;
- An additional overflow pipe, 0.5m diameter, to run parallel to the existing overflow pipe.

The spillway would be located at the southern end of the dam (on the right hand side when looking downstream), in preference to the northern end, for the following reasons:

1. The dam is much lower at that end, so the spillway would only require a cut of around 0.1m below the existing ground level.
2. The views at the north end of the dam are more valuable.
3. A spillway at the left hand end would have required the removal of an English Oak (on the upstream edge of the footpath), and would have affected the roots of another larger tree on the downstream side. A spillway at the right hand end would require the removal of a Robinia, but this would allow the Coastal Redwood (also known as the giant sequoia) to be avoided.

The kerb could be buried under topsoil or clad. The stone and tarmac surface to the path would be reinstated.

Viaduct Pond

Works here include:

- Crest restoration by a maximum 0.18m of fill material along part of the dam;
- A new open spillway, 4m wide at the base, located at the left hand end of the dam;
- A new overflow pipe, 0.5m in diameter, to be buried under the spillway;
- Works to improve the inlet structure to the existing overflow pipe;
- Removal of the silt that is affecting water quality. There is potential for this silt to be treated and relocated within the borrow pit for the Catchpit dam.

The slope of the spillway as it crosses the dam crest footpath would be a maximum of 1:12 on the west side, to maintain access across the spillway base. However, the east slope of the spillway would merge into the existing ground, which is at a slope of around 1:3. Currently, access to the area near the east end of the dam from the viaduct footpath is down a set of steps which stop short of the dam crest. There is a possibility of continuing these steps down the valley sides and into the spillway, to improve the connectivity of access onto the dam from that side.

Catchpit area

This is the main area of major works planned for the Hampstead pond chain, and includes:

- A new flood storage dam, built of clay, 5.6m high at the lowest point of the valley. This would be located partly over the existing catchpit, which is a concrete lined pond that will be removed and filled in. The slopes of the dam have been assumed to be 1:3 upstream, 1:4 downstream (the Mixed Bathing Pond side). At these slopes the dam would be 40m wide at its widest point. These slopes are provisional, subject to the findings of the ground investigation, and have been assumed based on similar flood storage dams where the downstream slopes are gentler than the upstream slope in order to reduce flow velocities during overtopping. The crest of the dam will be approximately 100m long;
- A pipe, 0.75m diameter wide, to pass normal stream flows under the dam. The upstream end of the pipe will have a small concrete inlet structure with a debris screen, allowing the raking out of debris from standing above the headwall. The downstream end of this pipe would be allowed to discharge over land. The pipe under the dam would be encased in a steep sided

mass concrete block, allowing compaction of the clay fill material around the pipe to avoid seepage paths forming outside the pipe;
- The existing pipe (that runs from the manhole chamber to an outlet in the trees near the Mixed Bathing Pond) could either be repaired or replaced with a wetland area with a boardwalk to provide access across the valley bottom;
- Two new silt collection ponds, formed by two low stone check dams 1m deep, upstream of the main flood storage dam. Reedbeds will be planted on gravel beds on the upstream ends of the ponds. Small (0.2m diameter) pipes will pass low flows through the check dams to avoid stagnation in the ponds;
- A footpath down from the existing footpath along the right hand side of the valley. This would allow access to remove silt by hand from the new ponds and remove debris from the inlet screen;
- A new open silt collection area on the downstream side of new dam providing an opportunity for the creation of a new wetland habitat.

As described in the Preferred Options Report, the dam has been moved upstream by about 50m to avoid the large mature trees (such as oaks, hybrid black poplars and hornbeams) either side of the wide grass path that runs across the valley.

The flood storage reservoir would usually be empty, so tree removal will only be necessary within the footprint of the dam and a close working area around it. The trees in the new flood storage area would only be affected by floodwaters for short periods.

The dam crest would be designed to be overtopped, although this would only occur in extreme events, or if there is a blockage to the pipe inlet. The dam would therefore need to be covered in closely cut grass, with no other planting on the downstream side. Whilst this slope would appear uniform, it would be hidden from view (particularly from the Mixed Bathing Pond) by the trees to be retained downstream.

The grass crest of the dam would be lined to protect the crest from erosion due to walkers who are likely to use the dam to cross the valley. However, the crest would not be directly connected to the formal footpaths along the valley sides.

Mixed Bathing Pond

Proposed works would involve:

- Raising the causeway dam by 1m all the way along its length, with fill built up from the path along the crest. The new crest surface path would be 4m wide. The fill would have a 1:1 slope on the upstream face, and a 1:3 slope on the downstream face, which would merge with the existing downstream slope;
- Reinforcing the existing downstream slope of the dam with a turf reinforcement mat;
- Extending the overflow pipe further out into the pond;
- Removal of the silt, including excavation at the upstream end of the pond where the silt has solidified.

The works at the dam have been remodelled to avoid a separate spillway. Almost all of the crest of the dam would be overtopped, i.e. flood waters would flow over the clear width between the large trees at either end of the dam. By extending the length of dam to be overtopped, the velocities of overtopping water would be reduced, so that the reinforcement material in the downstream slope can be a shallow mat within the topsoil layer.

By having a steep slope on the upstream side, the works are contained within the width of the road, without affecting the trees growing in the dam on the west side, and without needing the draining of the ponds either side. Views across the Mixed Bathing Pond from the raised path would be unchanged while unauthorised access to the pond from the dam would be diminished. Stakeholders expressed a preference for raising the dam by 1m instead of 2m as in Option P, because there would be less impact on views from the dam looking upstream, from the pond looking towards the dam, or from the dam on Hampstead No.2 Pond. No large or mature trees would be

affected by the raising works, however, a group of smaller hawthorns at the eastern end (the left hand side looking downstream) would need to be partially cut back to allow the overflow inlet to be moved clear of the footprint of the raised footpath.

Pedestrian access across the causeway would be maintained throughout construction. This could be achieved either by building up the fill in two halves, or by providing a temporary walkway on a platform supported off the downstream slope, with the works to install topsoiled and seeded, turf reinforcement matting left until the raised footpath is surfaced.

Hampstead No.2 Pond

Works at the dam would include:

- A new overflow formed with one precast concrete box culvert, 2.1m wide (internally) x 0.9m deep, set within the dam at the right hand end. This culvert curves round to the west, in order to avoid the plane trees on the dam which can be seen from the dam at Mixed Bathing Pond.
- A drop-shaft inlet structure to the culverts. This inlet would extend approximately 1.5m out from the existing sheet piles into the pond, and be 6m wide. The structure would be concrete, and would be clad. A security screen would be fitted across the top to stop entry.
- Rerouting the existing overflow pipe.
- Crest restoration with 0.2m high edging, on the edge of the dam crest above the sheet piles. This would extend for about 70m of the 102m length of the dam.

The culvert works would require the removal of two of the London Plane trees, but not the same two trees shown previously in visualisations. The development of the drop-shaft inlet structure, combined with the kerb above, allows a smaller and lower culvert. These changes maximise the head of water which would drive flows through the culvert, so that the culvert can be made narrower than the versions described in the outline proposals. (Previously the overflow was formed by 3 sets of 3m wide culverts, forming a total width including walls of around 9.6m). While the number of trees to be removed is the same, the above amendments would reduce the number of trees at risk, and affect different trees thereby reducing the impact on the view from Mixed Bathing Pond.

The box culvert would be approximately 26m long along in order to take flood flows past the existing dam. The culvert would then open out into a grass surfaced open channel which would drop into Hampstead No.1 Pond.

There may be an opportunity to cover the inlet to the drop shaft by extending a wooden viewing platform from the footpath out over the shaft, with the underside of the platform set above the peak water level expected in a PMF event.

Services in the dam crest (one gas main and two electricity cables) may require diverting, although it may be possible to route these services over the top of the culverts now that they have been lowered.

Hampstead No.1 Pond

Works would include:

- A new spillway, formed with a precast concrete box culvert, 0.5m deep x 7.2m wide, with the invert 0.84m below the existing dam crest level. The culvert overflow would pass through the dam crest at the east end of the dam (left hand side looking downstream).
- A culvert, same dimensions as the spillway inlet, to continue the flows down the downstream slope of the dam. This culvert would be buried under topsoil to reinstate the downstream slope profile as existing.
- A reinforced concrete stilling basin at the downstream toe of the dam, buried under a sacrificial layer of topsoil.

When floodwater flows into the culvert, it will push away the topsoil on the stilling basin, so this would require replacement after extreme events.

The culvert has been located at the east end of the dam, as far away as possible from the public footpath that runs along the west bank of the pond. The exact location has been amended in order to avoid the London Plane trees that run along the Cathedral Walk near the downstream toe of the dam. The current location requires removal of two lesser trees on the dam bank (a Common Ash and a Cherry), and a group of small trees (Hawthorn, Cherry and Sycamores) just downstream. These trees have been assessed as low value by an arboriculturist.

Topsoil would be reinstated above the box culvert, and planting either side of the box culvert inlet (e.g. with native shrubs) could substantially hide the inlet from the view of the public footpath on the west side of the pond.

3. Discounted options

Highgate Chain: Option 4

Option 4 involved raising the dam at Model Boating Pond by 2.0m. With the additional storage capacity reduced at Model Boating Pond, a 1.5m wall would be required to raise the height of the dam at Men's Bathing Pond in order to make up for the shortfall. The option was discounted for the following reasons:

- The raising wall would have been around 0.5m higher than the existing fence on the dam and would have been difficult for many people to see over when standing next to it.
- The spillway crest level at Men's Bathing Pond would have been 0.5m higher than the spillway in Option 6, most of which is at existing ground level. The extra 0.5m would have required more obtrusive landscaping of the natural ground between the pond and the pathway, and higher training walls or bunds to form the sides of the spillway coming away from the dam.
- Option 4 led to higher flows coming from the last spillway at Highgate No.1 Pond in the PMF event.
- If fishing is to be maintained at Men's Bathing Pond, access over the spillway and to the pondside would be easier in Option 6 where the spillway crest is lower.
- While 2.0m is less than 2.5m, it would have still blocked the view from standing on the crest footpath on Model Boating Pond. By providing a footpath along the crest of the new dam, the view over both ponds from a 2.5m dam would be reinstated. Therefore, the extra 0.5m at Model Boating Pond would make less of an impact than the extra 0.5m at Men's Bathing Pond.

Hampstead Chain: Option P

Option P involved raising the dam at Mixed Bathing Pond by 2.0m. This change in height was deemed unacceptable by many in the stakeholder group, particularly the Mixed Bathing Pond Association, due to the impacts on views and the character of the pond. While the option could have reduced the loss of plane trees at Hampstead No.2 Pond from two to one, the impact on views of a 2.0m raising would have been more significant. To achieve the extra 2m would have involved either retaining walls if works were confined to the existing crest path, or encroachment into one of the ponds.

The effect of the loss of the extra storage capacity associated with the 2.0m raising has been largely mitigated by the refinements in the design of the inlet structure, depth and route of the box culvert overflow, as detailed above.

4. Next stages

This report is intended to provide information to the City of London that will allow them to prepare their own report for the Hampstead Heath Consultative Committee, and the Hampstead Heath, Highgate Wood, Queen's Park, and Project Sub Committees.

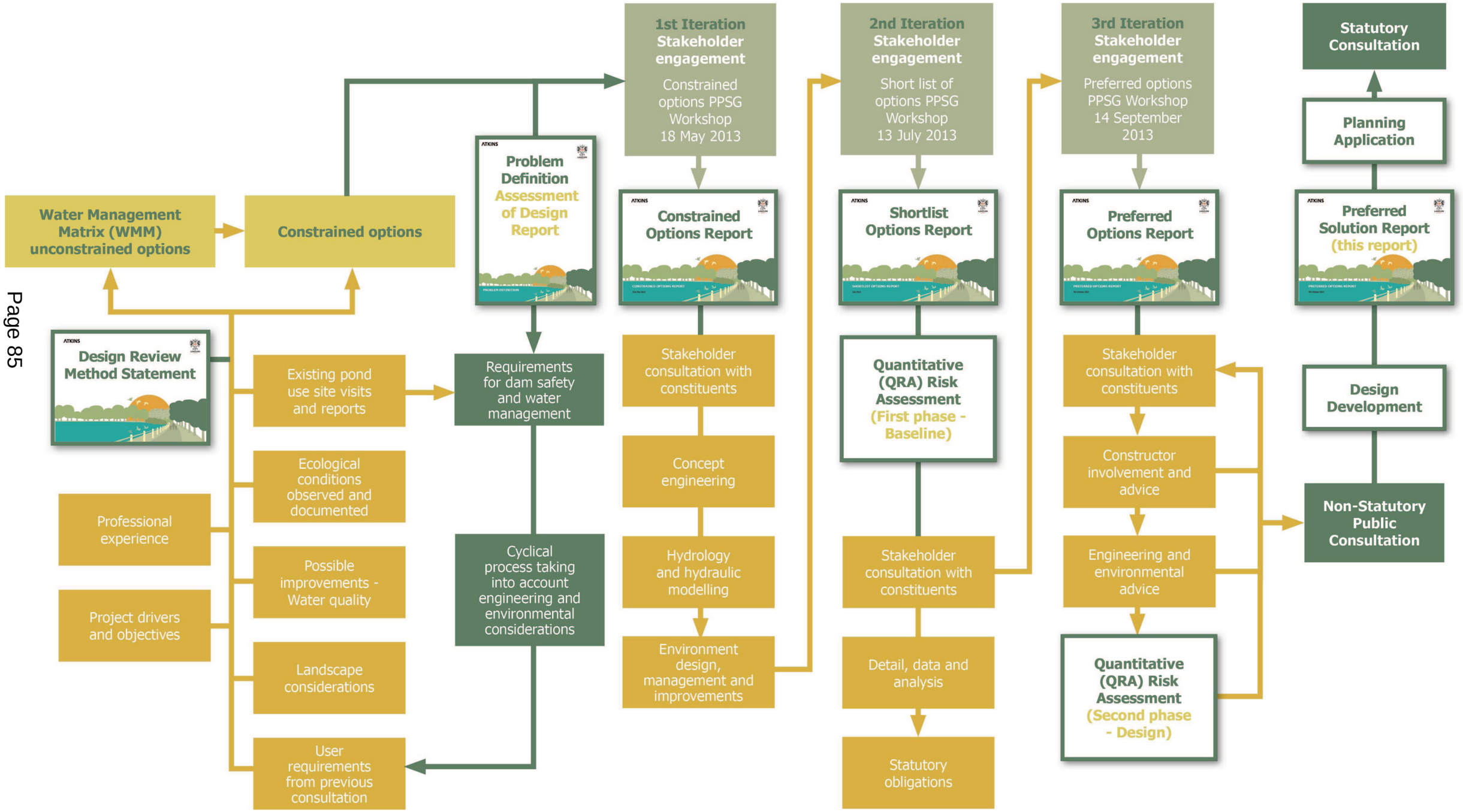
Approval of the Preferred Solution will be required from the Hampstead Heath, Highgate Wood, Queen's Park, and Project Sub Committees, drawings will be prepared to accompany the Planning Application. This will be supported by the Environmental Impact Assessment (EIA), Flood Risk Assessment, Transport Statement and Planning, Design and Access Statement. The drafting of the EIA has already begun with the compilation of baseline information from species surveys, the historical environment assessment and other surveys. The contractors have started to provide information which will inform the EIA and will assist with the assessment of construction traffic impacts (dust, noise, community etc).

The plans will be presented to the wider public at a Development Management Forum and Member's Briefing scheduled for 5th June 2014, just prior to submission of the application.

The submission of the Planning Application to the London Borough of Camden is programmed for 4th July 2014.

A statutory consultation will commence after this date, normally over a 21 day period following validation of the application.

Overview of preferred solution development process



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Hampstead Heath Ponds Project

Glossary

Glossary of Terms

ORGANISATIONAL

City of London Court of Common Council: The Court of Common Council is the City of London's primary decision-making body, and meets nine times per year. It works through committees, but it is unique in that it is non-party political. Its main business focuses on the reports of committees, motions and Members' questions.

City of London Members: The geographical area covered by the City of London is divided into 25 wards. Each ward elects one Alderman and two or more Common Councilmen (collectively referred to as Members), depending on its population. There are 100 Common Councilmen and 25 Aldermen serving as elected representatives, representing public interest and informing how the City of London Corporation should carry out its various activities.

Client Representative: better known as Project Manager, individual represents the client, in this case The City of London, on the Design Team.

Construction Contractors: building professionals who construct the final design.

DEFRA: Department of Environment, Food and Rural Affairs

Design Team: consists of Hydrologists, Landscape Architects, Ecologists, Engineers, Communication and Planning experts who together are responsible for the design of the project.

Hampstead Heath Consultative Committee: consists of representatives from 25 local organisations and User Groups who together make representations to the Hampstead Heath Management Committee on any matter that affects the Heath.

Hampstead Heath, Highgate Wood & Queen's Park Committee: responsible for the implementation of policies and programmes of work in relation to the Heath and directs the staff in regard to that management.

Health and Safety Executive (HSE): The Health and Safety Executive (HSE) is a non-departmental public body responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare.

Landscape Architect: a professional expert trained in the planning and design of a landscape, garden, or other space.

Panel Engineer: all reservoirs under the Reservoirs Act 1975 must be designed, constructed, inspected and supervised by a panel engineer. This person is a highly qualified professional engineer approved by DEFRA who is technically competent to give advice on the management of reservoirs. Appointments of panel engineers are

made by the Secretary of State after consultation with the Institution of Civil Engineers.

Strategic Landscape Architect: an independent landscape architect employed to act as a champion of the Heath's landscape. This individual will work closely with stakeholders to feed their views and concerns into the design process and challenge any design if necessary.

Reservoir Undertaker: someone who owns and is responsible for a reservoir, in this case it is the City of London.

Ponds Project Stakeholder Group: a working group of individuals who represent local organisations, Heath user groups and residents providing views and advice on the project, this input being fed into the Hampstead Heath Consultative Committee.

LEGAL

1871 Hampstead Heath Act: The founding legislation that brought the original Heath into public ownership with a series of obligations.

1975 Reservoirs Act: the legal framework to ensure the safety of UK reservoirs that hold at least 25,000 m3 of water above natural ground level.

The Local Government Reorganisation (Hampstead Heath) Order 1989: The Order which gives effect to the transfer of the management of Hampstead Heath from the London Residuary Body to the City of London Corporation.

2010 Flood and Water Management Act 2010: A piece of legislation which has been enacted but not brought into force. The Act will provides for more comprehensive management of flood risk for people, homes and businesses, helps safeguard community groups from unaffordable rises in surface water drainage charges and protects water supplies to the consumer.

Annual Inspection: an inspection of dams which takes place yearly by the Panel Engineer

Judicial Review: legal review by a Court of Law of the actions of a government official or entity or of some other legally appointed person or body or the review by an appellate court of the decision of a trial court.

LLOL: Likely loss of life. A term used in dam failure risk assessment.

PAR: Population at risk. A term used in dam failure risk assessment

Quantified Risk Assessment: a structured approach to identifying and understanding the risks associated with hazardous situations, it requires an assessment of potential hazards, their likelihood, and consequences.

Section 10: an inspection required by law and carried out by a Panel Engineer who reports on the general condition of the reservoir paying special attention to the dam wall and dam crest, potentially including (legal) "Recommendations in the Interests of Safety" that an Undertaker is obligated to implement.

SCIENCE & GEOGRAPHY

1 in 10,000/1 in 1000/1 in 100/1in 25 year event: Statistical rainfall events that occur on average one in 10,000 years, one in 1000 years etc.

Absorption: the way in which rainwater soaks into the ground

Aeration: the process of how air/oxygen is circulated, mixed or dissolved in water.

Aquatic ecology: the study of the relationships between organisms in water ecosystems.

Chain/Cascade: a succession of ponds linked together with a flow of water between them

Compaction: the compression of the earth on the Heath giving it a denser mass and meaning it can absorb less water

Convective storm : storm generated by the heating of the earth and with deep moisture. The three key ingredients are, lift, moisture and instability. They produce, hail, strong winds and heavy rains.

Cloud burst: A sudden rainfall which is often heavy

Design Flood: The size of flood the dams must be engineered to withstand

Flood: an overflowing of water onto land that is normally dry.

Hydrology: the study of properties, distribution and effects of water.

Hydrogeology: the study of water movement through rock.

Infiltration: downward movement of water through soil.

LIDAR data: Data collected using airborne light detection and ranging. Produces accurate images of landscape.

Reed bed: a wetland habitat formed in waterlogged conditions, dominated by *Phragmites* reeds

Run-off: Water that does not soak into the ground and therefore, runs off the Heath.

Terrestrial ecology: the study of the relationships between organisms in land ecosystems.

Wetland: a habitat saturated with water, either permanently or seasonally, such reed beds, marshes, bogs and fens.

DAM ENGINEERING

ALARP (As Low As Reasonably Practicable): This term arises from UK legislation, particularly the Health and Safety at Work etc. Act 1974, which requires "Provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health". The phrase So Far As is Reasonably Practicable (SFARP) in this and similar clauses is interpreted as leading to a requirement that risks must be reduced to a level that is As Low As is Reasonably Practicable (ALARP).

Attenuation: to reduce the volume of water flowing downstream by holding it back so allowing it to be released gradually.

Breach: to make a hole in or break through.

Bund: the area within a structure designed to prevent a flood or breaches of various types

Causeway: a road or path elevated across a body of water.

Conduit: A closed channel to convey the discharge through or under a dam. Usually pips constructed of concrete or steel.

Controlled discharge: When water is released in a controlled manner from a pond or reservoir.

Crest: the highest point or peak of a dam constructed at right angles to the downstream flow.

Dam: a barrier above normal ground level constructed across a waterway to control the flow or raise the level of water.

Dam breach modeling: a technique used to examine at what point a dam might overtop or fail and the consequences of this.

Dam category:

Dam heel: The junction of the upstream face with the foundation surface.

Dam raising: increasing the height of a dam to help with attenuation of water.

Dam toe: The junction of the downstream face of a dam with the natural ground surface

Drawdown: The resultant lowering of water surface level due to release of water from the reservoir or pond.

Dredging/De-silting: the removal of silt and mud from the bottom of ponds.

Earth-fill dams: also called **earthen dams**, or simply **earth dams**, are constructed as a simple embankment of well compacted earth.

Erosion of dam: the process of a dam wearing away or disintegrating.

Inflow: The water that arrives in a pond or reservoir usually from another body of water and through a pipe.

Inundation (flood): a flood of water

Outflow: The water that leaves a pond or reservoir usually through a pipe into another body of water or a sewer.

Outlet: An opening through which water can be freely discharged from a pond or reservoir.

Overtopping: when water passes over the top of a dam.

Probably maximum flow: the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions in an area.

Quantum(in respect of hydrology):the amount of rainfall and its subsequent impact

Spillway/Natural Spillway: A spillway is a structure used to provide the controlled release of flows from a dam into a downstream area. Spillways release floods so that the water does not overtop and damage or even destroy the dam. Except during flood periods, water does not normally flow over a spillway. A natural spillway is on covered in grass and made to look natural.

Reservoir: an artificial lake, storage pond or impoundment from a dam which is used to store water.

Reservoir routing: in hydrology, routing is a technique used to predict the changes in shape of water as it moves through a river channel or a reservoir. In flood forecasting, hydrologists may want to know how a short burst of intense rain in an area upstream of a city will change as it reaches the city. Routing can be used to determine whether the pulse of rain reaches the city as a deluge or a trickle.

Total failure: when a dam collapses

TECHNICAL & GENERAL ENGINEERING

Construction Management Plan: the overall planning, coordination, and control of a construction project from beginning to completion.

Global Positioning System (GPS): a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites

Hydrological modeling: simplified, conceptual representations of a part of the water cycle. They are primarily used for prediction of what way water will flow and for understanding hydrologic processes.

Receiving Sewer Capacity: the volume of water a swear can take

Revetment: a facing added to a structure that provides additional support

Sheet piling: dams can be reinforced by sheet piling them with a metal such as iron

Telemetry: the system used to monitor the water levels in the ponds

Valve gear: the equipment that links ponds in a chain together and is used to maintain water levels in ponds

Vortex: this is produced when water whirls together and can speed up erosion of a dam.

CONSULTATION & PROCESS

Competitive Dialogue: the tendering process the City is using to appoint the construction contractor

Constrained List: a list of technically feasible options available to protect dams from failing.

Detailed Planning Permission: the permission required in the United Kingdom in order to be allowed to build on land, or change the use of land or buildings.

Environmental Impact Assessment: is an information gathering exercise and assessment carried out to understand the potential environmental effects of a development and inform the decision as to whether and how the development should take place.

Fundamental Review/Design Review: The first piece of work undertaken by the Design Team to review the hydrological data which forms the basis of the project.

ISOS (Invitation to Submit Outline Solutions): A document used in the Competitive Dialogue procurement process.

Long list of unconstrained options: all the potential options available to protect dams from failing.

Project Partnering Contract(PPC): a type of contract used in construction projects where there is a multi-party contract relating to a single project whereby the client, constructor and the client's appointed advisers work together under the same terms and conditions.

Preferred option: the design options that achieves the best outcome in terms of protecting the Heath landscape whilst ensuring the dams will not fail releasing the impounded water and causing damage to people and property in the downstream community.

Short list of options of constrained options: see short list of options.

Unconstrained list: a list of all options available to protect dams from failing.

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Committee(s):		Date(s):
Hampstead Heath Sports Advisory Forum	For Information	12th May 2014
Hampstead Heath Consultative Committee	For Information	2nd June 2014
Hampstead Heath, Highgate Wood and Queen's Park Committee	For Information	9th June 2014
Subject: Ladies' Pond Fatality Report		**Public**
Report of: Superintendent of Hampstead Heath.		**For Information**

Summary

This report reviews the fatality that occurred at the Ladies' Pond on the 4th August 2013, and gives details of the response to this incident by the City of London.

Recommendations

- That the Hampstead Heath Consultative Committee notes the contents of this report.
- That the comments of the Hampstead Heath Sports Advisory Forum are conveyed to the Hampstead Heath Consultative Committee at their meeting on 2nd June 2014.

Main Report

Background

1. Hampstead Heath has numerous open-water sites, including three that are designated for swimming. The Highgate Men's and Kenwood Ladies' Bathing Ponds are open all year, and the Mixed Bathing Pond is open for swimming from May to September. The Ponds provide a highly valued and much-loved resource to the local user groups and are supervised by qualified Lifeguards.

2. Peter MacGregor, an independent Risk Management Consultant, undertakes an annual Water Safety Audit across all the open-water sites on Hampstead Heath, including the Bathing Ponds and Lido. The Audit also reviews the Hampstead Heath Water Safety Policy, including written Normal Operational Procedures (NOP) and Emergency Action Plan (EAP).

3. At closing time on 4th August 2013, Lifeguards found clothing and a mobile telephone in the changing rooms of the Kenwood Ladies' Pond. A call was made to the last dialled number, which was answered by the daughter of the telephone's owner. She informed the Lifeguards that her mother had gone swimming at the Ladies' Pond on Hampstead Heath earlier that day.

4. The Hampstead Heath Constabulary and the Metropolitan Police Service (including air support unit) carried out an initial search of the facility and surrounding area on the evening of the 4th August 2013. However, the search was abandoned due to fading light.

5. The next day, the Marine Policing Unit Dive Team retrieved a body, which was later confirmed as that of Sussie Ahlburg. A Police investigation immediately took place, the Lifeguards who had been working at the Ladies' Pond on 4th August were interviewed, and statements were taken.

6. At the request of the Superintendent of Hampstead Health and the Director of Open Spaces, Peter MacGregor was instructed to undertake an independent review of the lifeguarding and infrastructure arrangements at the Ponds in general and the Kenwood Ladies' Pond in particular – Appendix 1. In addition, an internal health and safety report was undertaken by the City of London Health & Safety Manager (Property) – Appendix 2.

7. A Coroner's inquest was held on 19th December 2013 at St Pancras Coroners Court. The Senior Swimming Facilities Supervisor and the two Lifeguards on duty on 4 August 2013 were called to give evidence at the inquest. The Coroner concluded a verdict of accidental death, owing to the deceased having suffered a cardiac arrhythmia caused by cardiomyopathy of undetermined type. Lifeguards at the Kenwood Ladies' Pond have received overwhelming support from the various user groups during this difficult period.

8. The summer of 2013 was an extremely busy period at all three bathing ponds on Hampstead Heath. Lifeguards had made numerous in-water rescues over the summer period prior to the fatality.

Current Position

9. On 7th October 2013, Peter MacGregor presented his draft report at the Swimming Facilities Forum, which was attended by City of London Officers, members of the United Swimmers Association, Parliament Hill Lido Users Group, Hampstead Heath Winter Swimming Club, Kenwood Ladies' Pond Association and Men's Pond Association.

10. Peter MacGregor's report – which was fully endorsed by the City of London Health & Safety Manager (Property) – made six recommendations, three of which may form part of the Hampstead Heath Ponds Project in the future. An update of actions taken so far by the City of London is appended to this Report – Appendix 3.

11. Peter MacGregor is scheduled to undertake his annual review of all the open-water sites on Hampstead Heath on 7th May 2014, prior to the start of the busy summer season, which will include the Bathing Ponds and Lido.

12. Full-time Lifeguards continue to carry out monthly training sessions in line with the Royal Life Saving Society's on-going Competence & Assessment Programme, while fixed-term contract and casual staff receive at least two hours' training each month. All Lifeguards have the National Pool Lifeguard qualification, which is renewed every two years. Parliament Hill Lido is an

accredited training centre that is verified each year by the Institute of Qualified Lifeguards.

Corporate and Strategic Implications

13. The management of the swimming facilities on Hampstead Heath supports the **City of London Corporate Plan 2013-17: Key Policy Priorities (KPP4)** *"Maximising the opportunities and benefits afforded by our role in supporting London's communities"* and **KPP5** *"Increasing the impact of the City's cultural and heritage offer on the life of London and the nation."*

14. One of the three strategic objectives in the **Open Spaces Business Plan 2014-17** for the forthcoming financial year involves *"Successfully developing and managing hydrology projects at Hampstead Heath and Epping Forest."*

15. The management of swimming facilities supports the **Overriding Policy S1** in the **Hampstead Heath Management Plan Part 1 – Towards a Plan for the Heath 2007-2017**: "*Work collaboratively in maintaining and developing the existing sports facilities and activities in response to changing demands, ensuring appropriate provision for all sections of the community*".

16. The main piece of safety legislation is the **Health and Safety at Work etc Act 1974**. This Act places duties on the City of London to ensure (so far as is reasonably practicable) the health, safety and welfare of its employees at work, and that visitors to the Heath are not exposed to risks to their health or safety.

Conclusion

17. This "*accidental death*" was the first to occur in over 37 years at any of the swimming facilities on Hampstead Heath, while Lifeguards have been on duty.

18. Peter MacGregor's independent report states that the City is meeting its 'Duty of Care' to swimmers, taking into account the best practice guidance provided by the Health & Safety Executive.

19. The City of London Health and Safety Report by the Health & Safety Manager (Property) similarly comments that the safe enjoyment of the Ponds is achieved through a partnership approach between swimmers and the City. The City does all it reasonably can to control the natural hazards present at the Ponds and swimmers take responsibility for their decision to swim where such hazards are present.

Appendices

Appendix 1: Peter MacGregor Report.

Appendix 2: Report of the City of London Health & Safety Manager (Property).

Appendix 3: Kenwood Ladies' Pond Action Plan.

Contacts:

Bob Warnock | *bob.warnock@cityoflondon.gov.uk* | 020 7332 3322
Paul Maskell | *paul.maskell@cityoflondon.gov.uk* |020 7332 3772
Declan Gallagher | *declan.gallagher@cityoflondon.gov.uk* |020 7332 3771

City of London Corporation Open Spaces Department- Hampstead Heath

Review of the lifeguarding and infrastructure arrangements at the swimming ponds following a fatal incident at the Kenwood Ladies' Pond 4th August 2013

Peter MacGregor –Risk Management Consultant F.I.Fire.E,

CMIOSH, MIEW. August 2013

Contents

1. Executive Summary

The cause/s of the tragic incident involving Sussie Ahlburg on Sunday 4th August are, at the time of this report, still unknown and by the very nature of drowning incidents this may never be fully understood.

This report has reviewed the lifeguarding arrangements, physical arrangements and control of swimming numbers at the three swimming ponds on Hampstead Heath with a view to understanding if additional refinements need to be made to the existing Risk Assessments (RA), Normal Operating Procedures (NOP) and Emergency Action Plans (EAP).

In the authors opinion, the COL is meeting its 'duty of care' to swimmers taking into account the best practice guidance provided by the HSE to assist in the development of Risk Assessments.

However in the light of the inconclusive circumstances of this incident and that, it is the first drowning in 37 years in the lifeguarded facilities, I feel it is important to review the existing procedures and controls with particular reference to the unique nature of the swimming ponds.

The observations and recommendations which follow are an opportunity to further enhance the already excellent safety record of these lifeguarded ponds.

2. Introduction

Following the incident involving Sussie Ahlburg (SA) at the Hampstead Heath Ladies' Pond on Sunday 4th August 2013, I was requested by the Superintendent of Hampstead Heath Simon Lee to undertake a review of the lifeguarding and infrastructure arrangements at the ponds in general and the Ladies' Pond in particular. The purpose of the review was not to apportion blame but to learn from any lessons identified, staff interviews were approached on the basis of this principle.

I was asked by Sue Ireland, Director of Open Spaces for the City of London Corporation (COL) who was coordinating the COL's response, to address the following issues:-

- Were there any higher risk areas, which could have led to the incident?
- Should the COL ask potential swimmers about their medical conditions?
- Am I satisfied about the arrangements for monitoring water quality and are there any issues relating to the alleged length of time SA was in the water.

These and other issues are addressed in the body of the report.

3. Background

There are no swimming pool specific health and safety laws; however swimming pool operators must comply with general duties under the HSWA 1974 and associated regulations. Operators must make suitable and sufficient risk assessment of the risks to make staff and users safe. The law does not state what safety measures should be in place - judgements are by each operator based upon particular local circumstance.

Guidance has been produced- **Managing Health and Safety in Swimming Pools HSG 179**- *to help pool operators comply with health and safety law, although not mandatory they are free to take other action based upon local risk assessment. The guidance is meant for swimming pools used by the public but also covers segregated areas of rivers, lakes, the sea and other* ***non-standard swimming facilities.*** *It applies anywhere swimming is actively encouraged.* ***However, it does not apply to swimming in open water*** *(e.g. a lake or* ***pond****), which is* ***not maintained as a swimming facility****.*

The decision to designate the ponds, used as such since Victorian times, as **swimming ponds** was decided in conjunction with the Amateur Swimming Association. That decision led to control measures being put in place using the guidance published in - **Managing Health and Safety in Swimming Pools HSG 179** and guidance provided by the **Institute of Sport and Recreational Management.** This advice introduced amongst other controls the introduction of Royal Life Saving Society (RLSS) trained lifeguards, documented risk assessments, Normal Operating Procedures (NOPs) and Emergency Action Plans (EAPs).

These arrangements were regularly reviewed and expanded in the late 1990s in the development of a general water safety policy for the Heath to include all areas of open water. The water safety policy has been annually audited by the author since that time and the policy is constantly developed in line with best practice and the results of accident investigations in other places. It is worthy of note that although there have been a number of deaths on the Heath, there have been no drownings involving the monitored swimming facilities in the last 37 years in the lifeguarded ponds.

4. Report

This section of the report reviews the existing NOPs, EAPs and physical arrangements at the ponds, relating to swimmer safety.

4.1 Lifeguarding Arrangements

The NOP-EO1.5 Kenwood Ladies' Pond reflects the thorough training for COL lifeguards that apply to all the designated swimming areas on the Heath. All permanent lifeguards undergo the RLSS –National Pool Lifeguard Qualification and are assessed at least every two years; temporary /casual staff are assessed on a monthly basis during the summer. Training is carried out by the COL's own lifeguards who are qualified assessors by the Royal Lifesaving Society (RLSS) who in turn are annually audited by the RLSS. Lifeguards carry out additional on-going induction training which highlights the specific hazards on the ponds and the additional rescue equipment and techniques that are in place to address these.

The effectiveness of this training is reflected by the fact there have been no drownings of swimmers in any of the ponds during the last 37 years and that there have been very effective responses to rescues. During the recent heat wave there were over 18 rescues carried out by lifeguards across the ponds.

The design of the Kenwood Ladies' Pond in particular does create more hazards around the ladders, where swimmers can swim underneath the jetties. The lifeguards are very aware of these areas and actively monitor them, in particularly by very specific observation. During peak periods these areas are taped off, to prevent swimmers entering the ponds at these points.

The opaque nature of the water makes observation of the swimmers at all times critical and although the lifeguards use recommended RLSS observation techniques, together with a very mobile approach to their role, I have made additional recommendations (see below) to further enhance this.

All lifesaving equipment is in good condition and fit for purpose and relative to the risks presented by the ponds.

The lifeguards in the Ladies' and Men's Pond know their regular swimmers very well. If they know an individual has a problem which could affect their ability to swim, they would intervene, providing informal advice. However, it is a swimmer's personal responsibility to determine their fitness to swim, including obtaining any medical advice from their doctor or qualified medical practitioner. It is not recommend that the COL adopts a policy of asking about medical conditions.

The entrance information boards provide comprehensive advice to swimmers and the potential risks to swimmers. Unsupervised children, poor or non-swimmers are not allowed to swim in the lifeguarded ponds. It is recommended (see 5.1 below) that signage is positioned in the changing areas at each pond stating:-

'Help us to look after you! - tell us if you are going swimming.'

It is noted that there are specific arrangements for monitoring the winter swimming.

4.2 Control of Swimmer Bathing Load.

There is a clear policy which states that there is a maximum bathing load (in the water) of 100 persons at peak times applicable to each pond. However there could be many other persons at the facilities, sun bathing and generally using the facilities as a base for their

other recreational activities and taking advantage of secure cycle parking and changing facilities. For these peripheral activities there is a maximum limit of 1000 in the Kenwood Ladies' Pond and 200 for both the Mixed and Men's Ponds.

There is always a minimum of 2 lifeguards on site, with one lifeguard always on deck when there are up to 10 swimmers. Two lifeguards are always on deck when there are more than 10 swimmers. The Duty Lifeguard will then determine whether to call in additional lifeguard support as bather loads increase. Depending on the circumstances at the ponds lifeguard numbers are regularly increased to 3 or 4 when the weather is good and bather numbers are high. This can be increased to 5 or 6 lifeguards if the Duty Lifeguard deems it necessary. On the day in question there were 2 lifeguards on duty who indicated that there was a steady load of swimmers throughout the day but that at no time did swimmer numbers exceed 10. Records indicate that at 18.30 the late shift was increased to 3 lifeguards due to an increased bathing load.

The nature of the ponds lead to very poor visibility and it was noted on the day of the review that water clarity was totally obscured 6'' from the surface. Although there are robust procedures in place for controlling numbers in the ponds and increasing lifeguard cover as necessary within your NOP, however consideration should be given to adding mobile patrols. Providing a lifeguard with a different vantage point to assess the situation when there are larger number of people swimming would improve the scanning opportunity. Numbers in the water are assessed by a physical head count; however I have made a recommendation (see 5.2 below) to further enhance the accuracy of this procedure.

4.3 Physical Arrangements and Infrastructure for the Ponds

The general arrangements for the swimming ponds have remained unchanged for many years. However the recent incident has identified that there are a number of issues that should be reviewed as part of the changes to the Ladies' Pond facilities, during the wider Ponds Project.

The major issue with the Kenwood Ladies' Pond is that the jetties are very high above the water (in some cases 2 metres, dependant on water levels) creating potential hazards:-

a) There is no hand rail for swimmers to hold onto whilst waiting to exit the pond. This has led to situations where swimmers have had to wait 10 minutes to exit the water by one of the two raking ladders.

b) The height of the jetty doesn't prevent swimmers from getting underneath the jetty.

c) The design of the current facilities doesn't significantly separate the lifeguard observation area from swimmers or observers. The lifeguards report that at the Kenwood Ladies' Pond, their attention can be seriously distracted, by 'chatty' swimmers.

Although specific lifeguarding techniques and observations have been developed to address these hazards I have made a number of recommendations (see 6.3 – 6.8 below) which I feel should be considered.

Water quality results are now carried out monthly by the Environment Agency (EA) and the results published for users to read. The last promulgated reports are for June although the EA took further sampling on 8/08 2013 (3 days after the incident) which were acceptable-

these results have not yet been made known. The Superintendent will be approaching the EA to see if the delay in reporting results can be addressed.

In view of the unknown cause of the incident, it is recommended that the opportunity is taken to totally separate fishing and swimming and that fishing is banned from the Men's and Mixed Pond areas, with all fishing pegs removed. This would remove any potential issue that might distract the lifeguards.

5. Recommendations

As identified elsewhere in this report, the Normal Operating Procedures and Emergency Action Plans have been developed following risk assessment on each site using the guidance in the approved code of practices (ACOP):-*Managing health and safety in swimming pools* and guidance for the Institute of Sport and Recreational Management (ISRM). However, the opportunity has been taken in line with normal risk assessment protocols to review the existing arrangements and risk assessments following the incident, to see if any additional control measures or lessons need to be put in place. The recommendations which follow are designed to form a basis for discussion with the stakeholders so that an informed view can be taken:-

1. It is recommended that signage be positioned in the changing areas at each pond stating, ***'****Help us to look after you! - tell us if you are going swimming.'*

2. It is recommended that you revise your NOP to reflect that when the additional lifeguards are called in they are specifically tasked to carry out mobile patrols both on and off the water, to further improve the scanning of persons in the water.

6. Recommendations for the future:-

3. It is recommended that the ponds project considers a redesign of the Ladies' Pond jetty to make it much easier for swimmers to enter and exit the water.

4. It is further recommended that to improve visibility of swimmers potentially under the jetties, that you install a surface that can be seen-through, as well as being non-slip.

5. It is recommended that in any redesign of the jetties that there is separation between the lifeguard observation area and the area provided for swimmers and spectators.

6. It is recommended that the opportunity is taken to totally separate fishing and swimming and that fishing is banned in the Men's and Mixed Pond areas and that the fishing pegs are removed.

Peter MacGregor 18.08.2013

Report author	Matt Green. Health & Safety Manager (Property)
Date of report	23rd October 2013
Date of site visit	26th September 2013
Building name	Ladies' Pond. Hampstead Heath
Report requested by	Sue Ireland. Director Open Spaces
Reason for the report	Overview of safety at Hampstead Heath Ponds

Contents

Background information

On Monday 5th August 2013, tragically the body of Suzie Ahlberg (deceased) was discovered in the Ladies' Pond on Hampstead Heath.

The cause of death remains unclear; however as part of the City of London's (the City) commitment to safety, external consultant Mr Peter MacGregor (who has particular competency in swimming pool safety) was commissioned to carry out a review of safety arrangements.

The purpose of this report is to take an overview of safety arrangements at Hampstead Heath swimming ponds.

Observations

The swimming ponds at Hampstead Heath provide a unique and highly valued resource to the local community and the Health and Safety Team within the City is committed to do all we can to support the use of the ponds by swimmers.

As with any natural swimming experience, the ponds pose natural hazards which are clearly identified through signage. It could be argued, and it is an important consideration that it is the presence of these hazards which makes using the ponds attractive as they provide a 'natural' swimming experience.

The main piece of safety legislation covering the ponds is the Health and Safety at Work Act 1974. The Act places duties upon the City to ensure (so far as is reasonably practicable), the health, safety and welfare of employees and those not in the City's employment but affected by the City's undertaking (swimmers). It is in consideration of this legislation and the duties it places upon the City that this report is written.

Mr McGregor's Report

It is not the intention of this report to critique Mr McGregor's report or recommendations but provide advice on how the report should be taken forward. However it should be noted that Mr McGregor's report is highly supportive of safety arrangements at the ponds and comments that the City is 'meeting its *'Duty of Care' to swimmers taking into account the best practice guidance provided by the HSE.'*

While extremely positive, Mr McGregor does make a number of suggestions to be considered. It is important that local management consider the recommendations in light of

local knowledge and in consultation with relevant stakeholders. This process should be documented outlining for each recommendation whether it is accepted, rejected or partially accepted and why.

General observations / discussion

The safe enjoyment of the ponds is achieved through a partnership approach between swimmers and the City. The City does all it reasonably can to control the natural hazards present at the ponds and swimmers take responsibility for their decision to swim where such hazards are present.

Responsibilities of each side can be summarised as:

The City of London

- Through risk assessment, identify hazards that the ponds pose to swimmers and employees and take all reasonably practicable steps to ideally eliminate or if not possible reduce and control them.
- Clearly advertise the natural hazards that swimming in the ponds pose to swimmers.
- Ensure staff are appropriately trained to deal with emergencies.
- Provide suitable equipment to enable employees to carry out their duties effectively.

Swimmers:

- Comply with on-site instructions, including those given by life guards.
- Undergo health checks to ensure that swimming in the ponds is appropriate to their level of fitness and health.
- Accept there are hazards inherent in swimming in the ponds which are outside of the reasonable control of the City of London, including:

    - Variable water temperature which can become particularly cold in winter.
    - The presence of water borne pathogens.
    - The poor clarity of the water makes visibility difficult.
    - The ponds are deep with no shallow areas where swimmers can stand and rest.

The professionalism and commitment of the staff is to be commended and the number of rescues over the recent hot summer indicates that swimmers can underestimate the hazards the ponds present.

Recommendations

- Local management consider the recommendations made by Mr McGregor in light of local knowledge and in consultation with relevant stakeholders. This process should be

documented outlining for each recommendation whether it is accepted, rejected or partially accepted and why.

- Local management continue to balance the needs of swimmers to use the ponds with the City's duty to protect its employees (lifeguards).

Matt Green MSc BSc (Hons) Env Man CMIOSH
Health & Safety Manager (Property)
Operations Group, City Surveyor's Department
City of London
PO Box 270, Guildhall, London EC2P 2EJ

Tel: 020 7332 1347
Mobile: 07860 785352

www.cityoflondon.gov.uk

REPORT END

APPENDIX 3 – KENWOOD LADIES' POND ACTION PLAN

No	Recommendation	Actions Taken	Lead	Review Date
1	It is recommended that signage be positioned at strategic positions around all the Ponds stating, 'Help us to look after you - tell us if you are going swimming and when you leave the water.'	It was agreed at the Swimming Forum on 07-10-2013 that the Lifeguards would put up blackboards with daily safety messages. Also the various swimming groups will relay the messages to users via their newsletters.	Senior Swimming Facilities Supervisors Chair persons of user groups	07-05-2014
2	It is recommended that the City revises its NOP so that when additional Lifeguards are called in, they are specifically tasked with carrying out mobile patrols both on and off the water to improve still further the scanning of persons in the water'	Senior Swimming Facilities Supervisors and Leisure & Events Manager have been reviewing NOPs & EAPs, which will be finalised on 30 April 2014.	Senior Swimming Facilities Supervisors and Leisure & Events Manager	07-05-2014
3	It is recommended that the Ponds Project considers a redesign of the Ladies' Pond jetty to make it much easier for swimmers to enter and exit the water.	On-going as part of the Hampstead Heath Ponds Project (HHPP).	Assistant Director Engineering	July 2014
4	It is further recommended that to improve visibility of any swimmers potentially under the jetties, the City installs a see-through, non-slip surface.	On-going as part of the Hampstead Heath Ponds Project (HHPP).	Assistant Director Engineering	July 2014
5	It is recommended that in any redesign of the jetties, there is separation between the Lifeguard's observation area and the area provided for swimmers and spectators.	The Kenwood Ladies' Pond Association, Lifeguards and Peter MacGregor are all being consulted as part of the proposals to replace/refurbish the changing facilities at the Ladies' Pond. This is particularly in relation to the configuration of the Lifeguard's observation platform and access/egress to the Pond for swimmers.	Assistant Director Engineering	July 2014
6	It is recommended that the opportunity is taken to separate totally fishing and swimming activities, that fishing is banned in the Men's and Mixed Pond areas, and that the fishing pegs are removed from these.	Superintendent has met with the Hampstead Heath Angling Society and has opened discussions regarding removing fishing from the Mixed Pond and restricting fishing on the Men's Pond.	Superintendent	July 2014

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Committee(s):		Date(s):
Hampstead Heath Consultative Committee	For Information	2nd June 2014
Hampstead Heath, Highgate Wood and Queen's Park Committee	For Decision	9th June 2014
Subject: Weddings and Civil Partnerships at the Hill Garden and Pergola		**Public**
Report of: Superintendent of Hampstead Heath		**For Information**

Summary

A licence has been granted by the London Borough of Camden to establish the Hill Garden and Pergola as a licenced venue for marriages and civil partnerships. As well as making this wonderful location available for such ceremonies, this will provide opportunities to generate additional income.

This Report sets out the proposals for how such ceremonies will be managed in order to protect the site and minimise disruption to visitors, while providing a unique location for couples wishing to book the venue.

Recommendation(s)

- That the Hampstead Heath Consultative views be received on:

  •The proposals for the management of ceremonies.
  •The charging structure, policy, and Terms and Conditions for bookings.

- That the views of the Hampstead Heath Consultative Committee are conveyed to the Hampstead Heath, Highgate Wood and Queen's Park Committee.

Main Report

Background

1. As part of the Hampstead Heath Management Plan "Towards a Plan for the Heath" 2007-2017, the feasibility of using the Hill Garden and Pergola for marriage ceremonies was proposed.
2. At the time the criteria for obtaining a licence meant that this would have been very difficult to achieve, without making a number of changes to the infrastructure of the site.

3. Given that the venue is very unusual, in that it is not a self-contained building but an Open Space with fixed structures that will enable ceremonies to take place within it, it would only be possible to offer the venue for wedding/civil partnership ceremonies and not for receptions.

4. It may however be possible to offer a limited range of drinks and canapés following a ceremony, as noted below.

Current Position

5. The London Borough of Camden made a direct approach to the Superintendent of Hampstead Heath, encouraging an application for the site to be granted a licence. The Business Manager met with the Superintendent Registrar from the London Borough of Camden, who was satisfied that the venue met the necessary criteria, and a licence was granted in September 2013.

6. In addition to booking the venue, each couple must make a booking with the Registrar. They will need to satisfy the legal criteria and will also have to pay the relevant fee for the Registrar to attend the venue to carry out their service.

7. There has already been an encouraging level of interest from couples wishing to receive further information and hopefully book the site for their ceremony.

8. Areas for storage and the necessary infrastructure adjustments have been identified and investigated, with assistance from the City Surveyors Department. These include storage for chairs and the desk required by the Registrar, an area for the Registrar to meet the couple (either individually or together) and the provision of toilet facilities. All these requirements can be accommodated from the current on-site provision, with just some minor adjustments. Provision of the service will be kept under constant review and a formal review will be brought back to Committee in the spring of 2015 if these initial proposals proceed.

9. A detailed policy, together with the Booking Terms and Conditions appended to this Report (Appendix 1), will be discussed with all prospective couples to ensure they fully understand the basis on which the site is offered. This will ensure that there is clarity for those who wish to book and use the venue, so that each event runs smoothly and is a success for the couple, their guests and the City.

10. Although the law now states that ceremonies can take place at any time, the prescribed opening times of the park are from 7.30am to dusk, with 4.30pm being the earliest winter closing time. The proposed 10am to 3pm period for ceremonies would therefore provide a booking window suitable for all times of the year. The terms of the venue licence state that the marriage licence must be displayed at least one hour prior to the ceremony and during the proceedings.

11. Given the high level of interest already expressed in the venue and that bookings for such ceremonies are made a long way in advance, a bookings diary will need to be opened as soon as proposals are agreed and the Terms and Conditions are in place. The Hill Garden and Pergola represents a unique venue and the level of bookings is consequently difficult to predict.

Proposals

12. There are three licenced areas in which ceremonies can be held:

    a. The Hill Garden Shelter, with the guests seated on the area outside the Shelter. This area would be the main offer, accommodating a maximum of 100 guests.

    b. Belvedere, which is at the western end of the Pergola. This is a small area, which would accommodate 10-15 guests.

    c. The Rotunda, which is located east along the Pergola, towards Inverforth House. This area could accommodate 25-30 guests, depending upon the set-up decided upon by the couple.

13. It is recognised that the offer of the site as such a venue is secondary to its primary role as an Open Space. With this in mind, and in order to maintain the exclusive and special status of such an unusual venue, it is proposed to limit the number of bookings that will be taken. Only one event per day can be booked, with a maximum of two bookings per week and of only two Friday and two weekend ceremonies in any one month, and none on Bank Holidays, capped to a maximum of 40 ceremonies per year, ensuring that the site remains primarily an Open Space.

14. Whilst it will not be possible or in keeping with the terms of the venue licence to close off the site completely during ceremonies, the relevant area will be roped off by means of stands and cords, such as those used in theatres. This will provide a defined area for the ceremony, while also allowing the site to remain accessible to the public. In addition a red carpet will be installed for the ceremony to form an aisle if required, following discussions with the couple, and will vary in location depending upon the desired set-up and number of guests attending, as the couple will each be able to make their entrance via a choice of routes into the venue.

15. Due to the nature of the site, vehicle access to the venue is not available. Instead, parking spaces will be made available in the nearby Jack Straw's car park, as part of the package offered to couples. A number of spaces will be included in the package, with further permits made available for an additional cost. For weddings, access for the Bride/Groom will be via the gated access off North End Way, supervised by a member of the Golders Hill Park Keepering team. There may also be the option of using one of the City's vehicles, such as a Bradshaw electric vehicle, to transport the Bride/Groom.

16. Subject to the availability of the Hill Garden Head Gardener, it may be possible to offer a tour of the Hill Garden to wedding and civil partnership guests. This opportunity would be discussed at the booking stage and could take place while the photographs are being taken. It would provide a valuable opportunity to promote the site, as well as having educational and entertainment value, and would represent added value for the couple.

17. There will be a need for staff to be on-site in order to prepare and take down the event space, as well as providing a presence to answer questions and direct guests. There are a number of experienced staff with a high level of customer care skills, who will be rostered to be on duty when ceremonies are taking place. Casual staff will be used if necessary to provide back-up cover for any other services that need to be carried out.

18. The licence issued by the London Borough of Camden is that of approved premises as a venue for marriages and civil partnerships. One of the conditions of approval is a requirement for a designated Responsible Person, who must be on-site at least one hour prior to and during the proceedings. It is necessary for this person to be a senior member of staff, who is in a position to ensure compliance with the conditions of the licence. In many cases this person will be the Business Manager, who is the named holder of the approval. A Deputy will be appointed from the Support Services team, while in the case of a weekend event, the Duty Site Manager will be in a position to step in if necessary.

19. As there are no directly comparable venues, it has been difficult to benchmark costs for venue hire. Below are the venue hire costs for a number of local sites of a similar nature:

    Lauderdale House – £1,160 (3 hours, including set-up, cleaning, ceremony fee, 1 Steward)

    Hylands Park – £1,200 (ceremony only)

    Keats House – £2,000 (proposed figure)

    Kenwood House – £3,500 (5 hours venue hire)

20. It is proposed to set the initial venue hire price at between £1,500 and £2,000 for the Hill Garden, depending upon the day of week. This will include the set-up and use of the venue for photographs, allowing 2 hours for the event, with set-up and dismantling time either side. The couple may wish to have their florist bring additional displays onto site, and this will also be accommodated in the price. Additional requirements which involve extra staff time and resources will be charged accordingly.

21. It is proposed to offer the smaller sites of Belvedere and The Rotunda at the hire price of between £1,200 and £1,500, depending upon the day of the week, as there will be less labour needed for the set-up, though the staff presence on-site is still a requirement.

22. Fees will be reviewed annually in the autumn, in line with the City of London's annual review of charges for Hampstead Heath, Queen's Park and Highgate Wood.

23. A non-refundable deposit of 20% of the hire fee is proposed, which will be payable at the time of booking. This is in recognition of the limited booking opportunities which will be available and to deter people from making a reservation that they later cancel, preventing that 'slot' from being offered to another couple. The proposed maximum cap of 40 ceremonies per year, together with the suggested limit of only two events per week and only two per month on Fridays and weekend days, will provide exclusivity and create demand for the venue.

24. This is a new project and although likely demands can be anticipated, it is not possible to know precisely what the uptake will be or what capacity this will require to administer. As weddings and civil ceremonies are often booked a long way in advance, the opportunities for 2014 may be limited. A target of three or four ceremonies is therefore proposed for this year, which will act as a 'soft opening' and provide an opportunity to gain further understanding of the operational requirements. In recognition of this, a reduced fee will be

charged for the venue hire during 2014, which will be £1,250 for the Hill Garden and £1,000 for the other spaces. For 2015, with the benefit of a clearer understanding of the requirements and procedures, the aim would be to increase this to ten bookings, which would act as a pilot with any charges being in line with the proposed structure.

25. As required by the conditions of the licence, all ceremonies will be supervised, with a senior member of staff who will be on duty at the site, along with two members of the Keepering team who will be on hand to assist. Additional staff costs of up to approximately £200 per ceremony may also be incurred, should overtime working be involved, for example.

26. For the soft opening in 2014, it is anticipated that the chairs will be hired, with the barriers, ropes and carpet being purchased. For the 2015 pilot season, an investment of approximately £2,000 will be required to purchase chairs; this could be met from local risk budgets, with the income generated from bookings during the soft opening phase potentially covering this expenditure.

27. Some provision for sheltering guests in the event of inclement weather would also be needed. Pop-up gazebos (3m x 6m) are available to hire at a cost of £110 each, including delivery and collection. The purchase cost of this item has been researched, which suggests a heavy-duty pop-up gazebo can be obtained for £260 – it may therefore prove more cost-effective to purchase two of these, which could be used for other events and therefore represent an investment. As guests are unlikely to be in the ceremony for long, heaters are thought to be unnecessary, but should they be required, there are heaters available within the division that could be used during the soft opening period. City of London umbrellas will also be available to lend to guests if needed and all the arrangements for adverse weather will be discussed with the couple during the booking meeting.

28. As the venue is an Open Space, it will only be possible to offer it for the ceremony and not as a venue for receptions. However a drinks and canapés package could be offered to couples, which would be provided by the Golders Hill Park Licenced caterer. The booking would be taken as part of the package and a 10% administrative charge added to the quote offered to the customer. In addition, as a Turnover Rent payment is part of the lease agreement, associated income for the City is likely to increase.

29. As enquires have already been received, there appears to be little need to market the venue on a wide scale as yet. To retain its exclusivity, the intention is to offer the venue via the Camden Registration Services brochure and website, as well as on the City's website and in the Hampstead Heath Diary, which should generate sufficient interest, at least for the initial phases. Approximate marketing costs of £500 per year are anticipated.

30. Couples will be given a tour of the venue in advance of any booking, so that they will be fully aware of the landscape of the site, as well as the access and parking arrangements.

31. Access for people with disabilities will be discussed with the couple and arrangements made where possible to assist them with access.

32. Projected net income from wedding and civil partnership ceremonies for the 2014/15 limited soft opening is estimated at £2,000, and a sum in the region of £10,000-£13,000 for 2015/16.

Corporate & Strategic Implications

33. This proposal links to the Hampstead Heath Management Plan, and the objective to generate additional income, along with providing an additional use for a space within the site.

34. The proposed arrangements for weddings and civil partnerships at the Hill Garden and Pergola support the **Overriding Policy S1** in the **Hampstead Heath Management Plan Part 1 – Towards a Plan for the Heath 2007-2017:** "*Work collaboratively in maintaining and developing the existing … facilities and activities in response to changing demands ensuring appropriate provision for all sections of the community*".

35. The proposal also supports the **City of London Corporate Plan 2013 – 17: Key Policy Priorities (KPP2)** *"Maintaining the quality of our public services whilst reducing our expenditure and improving our efficiency",* **KPP4** *"Maximising the opportunities and benefits afforded by our role in supporting London's communities",* and **KPP5** "*Increasing the impact of the City's cultural and heritage offer on the life of London and the nation*.".

36. Under **Article 8 of the Greater London Parks and Open Spaces Order 1967** the City *"may let such grounds, open air facilities and attendant buildings as it thinks fit to any person on such terms and conditions as to payment or otherwise as it considers desirable."*

Implications

37. As the site is primarily an Open Space, the balance between its use as a venue for weddings and civil partnerships and as a tranquil space within Hampstead Heath is paramount. By limiting the number of bookings and ensuring that couples have a clear understanding of the unique nature of the venue, together with its limitations, the special nature of the site can be preserved.

38. The ceremonies will be controlled and restricted by means of the policy and Terms and Conditions of bookings. These will be clearly explained and clarified in advance, to ensure that there is total understanding before any booking is taken. This is critical, since this approach will underpin the way in which the venue is managed and thereby the Open Space protected.

Conclusion

39. The provision of the Hill Garden and Pergola as a venue for the celebration of marriage and civil partnerships has been a long-term aspiration, and is contained in the Hampstead Heath Management Plan. By recognising that the venue is primarily an Open Space, and this fact being made clear to interested couples from the start, it will be possible to provide a very special ceremony and experience for all the participants. Restricting the number of bookings will ensure that the venue remains exclusive and in turn will protect the asset both physically and financially.

40. The policy and Terms and Conditions of booking will ensure that expectations are clear for all involved, avoiding disappointed couples or issues arising at an event. As the events will be managed by experienced staff, effective on-the-

spot decisions can be made in order to minimise disruption and resolve any issues. Every event will be individual, while each will be in keeping with the site and personal to the couple.

Appendices:

- Appendix 1 - Proposed Policy and Terms and Conditions for bookings
- Appendix 2 - Proposed Charging Policy

Contacts:

Bob Warnock | *bob.warnock@cityoflondon.gov.uk* | 020 7332 3322
Yvette Hughes | *yvette.hughes@cityoflondon.gov.uk* | 020 7332 3977

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Hill Garden and Pergola Venue Hire
Marriages and Civil Partnerships
Policy, Terms and Conditions of Booking

1. Only one booking per day will be taken.

2. Only two bookings per week will be taken, excluding Bank Holidays, with a limit of two Fridays and two weekend dates within any one month.

3. There will be a limit of only 40 events per year.

4. Bookings will be taken for ceremonies between 10am and 3pm.

5. The venue hire charge are as follows:

   Hill Garden
   Monday – Thursday - £1,500
   Friday - £1,750
   Weekends - £2,000

   Belvedere & Rotunda
   Monday – Thursday - £1,250
   Friday - £1,350
   Weekends - £1,500

   This provides a maximum 2 hours (subject to closing times) at the venue for the ceremony and photographs. Additional time may be possible, and can be discussed, but may be subject to additional charges depending on staffing requirements.

6. Initial interest to hold a ceremony at the venue will be registered with the Hampstead Heath Business Manager, at which point a provisional date will be pencilled into the diary and a viewing arranged.

7. Before a booking can be made, the couple must visit the site to view it with a member of City of London staff, to ensure that there is a clear understanding of the nature of the site. A holding reservation of a date will be taken once a viewing is booked and this will be held for 48 hours after the viewing, after which time the date will be made available to be booked by others.

8. A 20% deposit will be required at the time of booking; this is non-refundable in the case of cancellation. A booking will not be considered confirmed until the requirements for the day have been discussed and agreed and the deposit paid. An event sheet will be completed during the viewing meeting and a copy will be provided to the couple, to check and sign: once this is returned, a confirmation will be provided. This will include details of where photographs will be permitted on-site, acknowledgement that the site is public Open Space and that members of the public will not be prevented from entering the location.

9. It is the responsibility of the couple to make contact with the London Borough of Camden to arrange for the necessary legal aspects to be

formalised and for the Registrar to be booked to attend the ceremony. The cost of the Registrar is payable directly to the London Borough of Camden and does not form any part of the payment to the City of London.

10. A final meeting will take place 4-6 weeks before the event, at which the details for the day will be confirmed, including required set-up for the day, numbers, photographer's details, florist's/decorator's details and proposals, along with an outline of the day with respect to timings and activities.

11. Any changes made to the arrangements following the final meeting may be subject to a 5% amendment fee.

12. The final balance payment for venue hire must be paid 4 weeks before the event. This can take place at the final meeting or made separately. An event will not be able to take place without receipt of the final payment.

13. A representative from the City of London will be on-site before and during your event. You will be provided with contact details for this person in advance and they will be available to assist you on the day.

14. The site is an Open Space and therefore is in the open air and subject to a range of weather conditions. These cannot be forecast and therefore you may wish to consider insurance in the event of a significant weather event. Pop up gazebos will be made available to offer some protection, if required. Umbrellas will also be made available on a loan basis.

15. Vehicle access is limited at the site and parking permits at Jack Straw's car park will be available as part of the booking. Location maps will also be provided, along with direction signage on the day of the event. There is no access for vehicles on the Heath itself, including for the couple.

16. Decorations can be brought onto the site, but these cannot be placed in trees. Details of the decorations proposed must be provided at the time of the final meeting, which will take place 4-6 weeks before the event.

17. No candles or naked flames can be permitted on-site.

18. Due to the nature of the site, no amplified music will be permitted at events. The only music permitted will be from a string quartet or single acoustic guitarist.

19. No confetti or rice is permitted to be thrown, due to the nature of the venue.

20. No dogs are permitted on-site.

21. Your booking will include time for photographs to be taken and your photographer will be issued with a license to do so as part of your package. The closing time of the venue will be confirmed at the final meeting, to ensure that you and your guests are aware and can plan accordingly.

22. Although no reception facilities are available on-site, the provision of drinks and canapés for your guests while your photographs are being taken can be discussed with the City's approved caterer, details of which can be provided at the time of booking. This will be subject to a separate license agreement.

23. The Hampstead Heath bye laws which cover this site will apply. A copy of these will be provided with this document.

24. The Hampstead Heath Business Manager will contact the couple 30 days after the event to seek their feedback on the arrangements.

25. The City of London complaints procedure will be used to manage any complaints. Copies of this are available on the City of London website.

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Weddings and Civil Partnerships
at
The Hill Garden & Pergola

Charging Policy

The venue hire charge for use of the Hill Garden and Pergola as a venue for Weddings and Civil Partnerships and what is included in a package is detailed below:

Location	Cost	Capacity
Hill Garden	£1,500 - £2,000	100
Belvedere	£1,250 - £1,500	15
Rotunda	£1,250 - £1,500	30

Package

- 2 hour venue hire – with only your event booked that day.
- Licence for photography, including pre-wedding shoot, if required.
- Set up of venue as discussed during arrangement meetings.
- Seating for guests.
- Facilities for Registrar to perform the Ceremony.
- Parking permits for vehicles (20 for Hill Garden, 10 for other locations), with the option to purchase additional permits at a cost of £5 each.
- Tour of garden (subject to availability of Head Gardener)
- Named point of contact throughout arrangements and on the day
- Keepering staff on-site throughout the period of hire

Additional options may be available at extra cost and will be subject to terms and conditions of hire and availability.

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Committee(s):		Date(s):
Hampstead Heath Sports Advisory Forum	For Information	12th May 2014
Hampstead Heath Consultative Committee	For Information	2nd June 2014
Hampstead Heath, Highgate Wood and Queen's Park Committee	For Decision	9th June 2014
Subject: Outdoor Triples Table Tennis Table		**Public**
Report of: Superintendent of Hampstead Heath		**For Information**

Summary

At the 2013 'Give It A Go' Festival, the UKs first indoor triples table tennis table was launched and proved very popular. This Report sets out a proposal to purchase, install and launch the world's first Outdoor Triples Table Tennis Table at the 2014 'Give It A Go' Festival. The table will then remain a permanent feature on Parliament Hill, and will help us to engage with younger audiences in an exciting new sport that promotes social interaction and well-being.

The new table will cost £2,700, discounted from £3,600, but we expect the positive benefits of the table for our local community, as well as the substantial enthusiastic media attention it will attract, to far outweigh the initial costs.

Recommendations

- That the Hampstead Heath Consultative Committee supports the proposal to purchase and install the world's first Outdoor Triples Table Tennis Table as a permanent feature at Parliament Hill.
- That the comments of the Hampstead Heath Sports Advisory Forum are conveyed to the Hampstead Heath Consultative Committee at their meeting on the 2nd June 2014.

Main Report

Background

1. Outdoor table tennis, or ping pong, is growing in popularity across the UK. Many Open Spaces now house permanent tables, including four in the North London Open Spaces managed by the City of London. Tables in Queen's Park and Golders Hill Park are very popular with our harder-to-reach groups, including young families and young people.

2. Table tennis is a well-used tool for engaging with young audiences and is popular in the youth sector, including youth clubs, sports engagement organisations, and play practitioners.

3. In March 2014, the Hampstead Heath Consultative Committee visited Golders Hill Park, where they were shown the standard doubles table tennis tables. The Committee asked the Leisure and Events Manager to explore the possibility of purchasing table tennis tables for the Parliament Hill area as a way to engage with younger audiences. At the time, the Leisure and Events Manager was in negotiation with the T3 Company to evaluate the possibility of hosting a triples table. This Report looks at how best to achieve this.

Triples Table Tennis – T3

4. The triples (3-a-side) version of ping pong is currently only played in a town called Wollongon in Australia, where the game's inventor Gunter Arnt lives. There were no tables available for purchase until 2013, when the design and construction of the T3 table was pioneered in London by the T3 Company (Appendix 1).

5. Six players compete in two teams of three around a circular table. Its unusual design and specially constructed nets are the foundations of a game that can be fast and fierce. Triples ping pong allows players a far greater range of shot directions, exciting angles and longer spectacular rallies. The table can even accommodate 12 players if required (Appendix 2).

6. The T3 *indoor* table was officially launched at the Parliament Hill 'Give It A Go Festival' on the 8th September 2013. This was the first time triples ping pong had been seen or played in the UK and it proved to be a show-stopper. The success of the launch confirmed that there was a gap in the sport for this innovative new game (Appendix 3).

Current Position

7. While table tennis is popular at many other Open Spaces managed by the City of London, no provision for the growing sport exists in the Parliament Hill area.

8. T3 tables have many advantages over traditional doubles tables, including inclusivity – the ability to accommodate more players – and as a result, they are highly sociable. They provide an excellent method for involving our local community in an exciting new sport, which promotes social interaction and well-being, particularly for young families and young people who are often under-represented on the Heath.

9. The Hampstead Heath Sports Advisory Forum were consulted on the 12th May 2014 and fully endorsed the proposal, especially recognising the benefits that it will offer to young people and families.

Proposals

10. The proposal is to site the T3 table next to the tennis hut and to the left of the tennis courts at Parliament Hill. This location will ensure that the T3 table is in keeping with its surroundings.

11. The table will be supplied and installed by the T3 Company, a local London organisation. The installation will be overseen by the Leisure and Events

Manager and the Operational Service Manager to ensure minimal disruption to our services.

12. The table will be installed in time to be launched at the 2014 'Give It A Go' Festival on 20th July. The launch will brand the table as the 'World's First Outdoor Triples Table Tennis Table'. The launch and lead-up promotion will be supplied by the T3 Company, working in partnership with Wonderberry Marketing. The PR promotion will include a 13-week social media lead-up campaign, as well as celebrity endorsements and presence on the day.
13. The proposal also allows us to build on the success of the 2013 'Give It A Go' Festival, which provides an ideal legacy for this year's event.

Corporate & Strategic Implications

14. This proposal supports the **City of London Corporate Plan 2013-17 Key Policy Priorities KPP5** – *"Increasing the impact of the City's cultural and heritage offer on the life of London and the nation."*
15. **Hampstead Heath's Management Plan: Towards a plan for the Heath 2007-2017,** cites as one of its missions: *"To maintain to a high standard the recreation and sporting facilities on the Heath for the enjoyment of all members of the community."*

Implications

16. A £3,660 T3 concrete table can be purchased by the City at a discounted price of £2,700 (excluding VAT), covering delivery, positioning and installation of the concrete. In addition the Leisure and Events Manager has secured sponsorship from Wonderberry to supply Bats and Balls for the first year, making a further potential saving of £250.
17. We anticipate the cost of its installation will be far outweighed by the benefit the table will bring to the local community, including engaging with our younger, under-represented audiences. The Leisure and Events Manager will work with coaches in the area through social media and PR to promote its use while as part of the launch, the T3 Company will bring along several international players and coaches to publicise the triples game, table tennis in general and the 'Give It A Go' Festival.
18. Maintenance costs are expected to be minimal. Normally outdoor tables need just a wipe-down after bad weather and are then ready for play. Queen's Park has had two outdoor tables for four years, which have not cost more than £100 in total to maintain.

Conclusion

19. Table tennis is growing in popularity across the UK but currently no provision for it exists at Parliament Hill. The installation and launch of the 'World's First Outdoor Triples Table Tennis Table' at the 2014 'Give It A Go' Festival on 20th July 2014 will generate positive media attention for the Parliament Hill area, as well as engaging our local community in an exciting new sport that encourages social interaction and inclusivity.

Appendices

Appendix 1 – T3 Table Tennis tables
Appendix 2 – T3 Table Tennis table specifications
Appendix 3 – Examples of media coverage at the 2013 T3 launch

Contact:

Paul Maskell | *paul.maskell@cityoflondon.gov.uk* |020 7332 3772

Appendix 1: T3 Table Tennis Tables

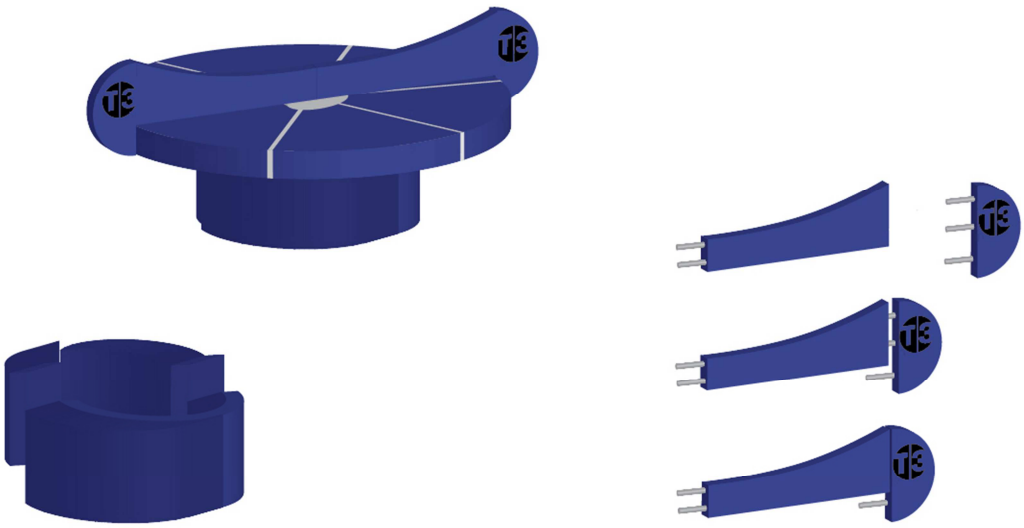
T3 Table Tennis (all weather)

T3 Table Tennis (all weather)

Appendix 2: T3 Table Tennis Specifications

The T3 is a round all-weather permanent Ping-Pong Table, designed for a 3-a-side version of table tennis/ping pong.

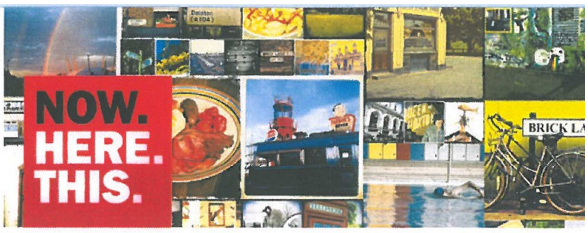
- Constructed of coloured concrete and steel
- Fixed in position (no moving parts)
- Colour options e.g. black/white, green/white, blue/white finish + special requests
- A white dome shaped centre piece (to enable ball rollback during play)
- Circular base
- Table base can be personalised



Size:

- Diameter = 2.74m
- Height = 0.76m
- Table top thickness = 10cm

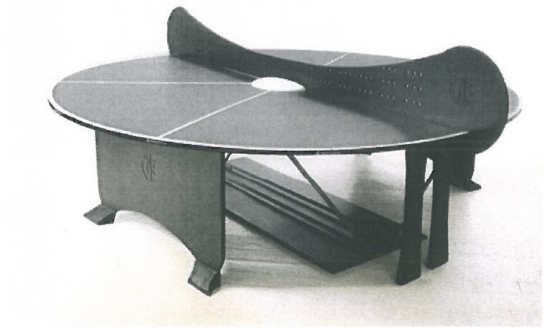
Appendix 3: Examples of media generated by the 2013 launch of T3 tables



The Time Out London blog: your daily guide

Fancy a three way? Get triple the table tennis at this week's ping pong events

Posted at 1:30 pm, September 6, 2013 in Fun London, News



If you haven't yet caught on to London's ping pong craze, the prospect of playing five of your friends at the same time might just convince you. This unusual three-way ping pong table is doing the rounds at the 'Give it a Go' sports festival at Parliament Hill Fields this Sunday, aimed at giving families the chance to try their hand at several new sports. Playing six-a-side on a table like this is very popular in Australia, apparently. Once you've got the wiff waff bug, practise your skills at Rich

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Committee(s):		Date(s):
Hampstead Heath Consultative Committee	For Information	2nd June 2014
Hampstead Heath, Highgate Wood and Queen's Park Committee	For Decision	9th June 2014
Subject: Management Work Plan for Preacher's Hill		**Public**
Report of: Superintendent of Hampstead Heath		**For Decision**

Summary

This Report presents a detailed Management Work Plan for Preacher's Hill.

Recommendations

- That the Hampstead Heath Consultative Committee be invited to submit their views on the Draft Management Work Plan for this area of the Heath.

Main Report

Background and current position

1. Detailed documents specifying how several areas of the Heath will be managed have previously been presented to the Consultative and Hampstead Heath, Highgate Wood and Queen's Park Committees. This Report presents a further plan, for Preacher's Hill (Appendix 1).

Proposals

2. Preacher's Hill is a relatively small (2.5 hectares) triangular area lying at the south-west corner of the Heath, separated from the main part of the Heath by East Heath Road. It comprises woodland, grassland, specimen trees, scrub and hedgerow and contains a network of paths. Close to Hampstead and bordered on two sides by housing, it is greatly appreciated by local people as a site for sitting, walking, picnics and children's play.
3. The area requires unusually detailed management, due to its complexity, popularity and small size. Management proposals place emphasis on quality and extent of access, while retaining and enhancing habitats where possible.
4. Access will be improved in particular by reducing areas of bramble, thistle and rank growth, where these have recently spread into grassland and reduced the width of paths, though fringes of these important habitats will be retained. Four

white willows and four native crab apple trees will be planted along Willow Road and Christchurch Hill to screen views from nearby housing.

5. Management to enhance biodiversity includes removing two turkey oaks, a cherry sapling and some elm regrowth to restore south-facing acidic grassland, and planting black poplars to replace trees that have died.

Financial and Risk Implications

6. Activities included within the Management Work Plan will be undertaken using the Heath local risk budgets. There is a reputational risk in not proactively managing the natural aspect of the Heath. Left unchecked, the mosaic of diverse habitats for which the Heath is renowned would be lost to woodland and scrub.

Legal Implications

7. The City has a legal duty under the **Hampstead Heath Act 1871** to maintain the natural aspect of the Heath.

Strategic Implications

8. The proposals link to the theme in the **Community Strategy** *to protect, promote and enhance our environment.*

9. They also link to the **Open Spaces Department Plan** through the **Strategic Aim** to *'adopt sustainable working practices, promote the variety of life (biodiversity) and protect the Open Spaces for the enjoyment of future generations'*, and the **Improvement Objective** to *'ensure that measures to promote sustainability and biodiversity are embedded in the Department's work'*.

   These works also fulfil **Essential Actions in the Part 1 Management Plan**, including *"Retain and enhance the Heath's habitats and natural resources to enable continued quiet enjoyment and appreciation of the natural world by its visitors."*

Conclusion

10. A 10-year Work Plan is presented for Preacher's Hill. The programme is ambitious, requiring frequent visits for small-scale tasks, and the extent to which it can be carried out may need review.

    The establishment of the aims and practices for managing these areas will feed into the annual work programmes for the appropriate years. Management Work Plans are subject to review at the end of the 10-year period, or sooner if unforeseen events occur.

Appendices:

Appendix 1: Draft 10-year Management Work Plan for Preacher's Hill

Contacts:

Meg Game | meg.game@cityoflondon.gov.uk | 020 7332 3304
Jonathan Meares | jonathan.meares@cityoflondon.gov.uk | 07500 786 067

Appendix 1

Preacher's Hill
Management Work Plan

May 2014

Preacher's Hill Management Work Plan
April 2014

1.0. Site description

1.1 Location
Preacher's Hill lies at the south-west corner of the Heath, between East Heath Road, Willow Road and Christchurch Hill, as shown on map 1. It is centred on grid reference 526,945 185,931 and covers 2.5 hectares.

1.2 Geology, Soils and Hydrology
Preacher's Hill lies on the lower slopes of the ridge on which Hampstead and Highgate are situated, and slopes up to the north, in some places quite steeply. The lower half lies on London Clay, the upper half on the Claygate Beds, composed of clay and sand deposits. The layers of permeable sand and impermeable clay are doubtless responsible for the wetness of ground above the children's playground and further along Willow Road.

1.3 Ecology
Woodland, scrub, hedge, grassland and specimen trees form a complex mix of habitats on Preacher's Hill, with woodland predominating on the upper slopes, and grassland lower down. Map 2 indicates the distribution of the habitats on the Hill.

Closely spaced trees make up the centre of the woodland. Ash tends to dominate, with sycamore (both mature trees and saplings/seedlings), Turkey oak, red oak, silver birch and wych elm also present. Holly and yew form a sub-canopy and ivy clothes many of the trunks and covers the ground beneath, which is too shaded by the canopy to allow many other woodland plants to survive. This creates a rather dark atmosphere, but may be exciting for children's play, for example hide and seek. Away from the centre the trees tend to be less crowded, and include plane trees (often fine specimens), English oak, a group of well-grown Italian alders, and Lombardy poplar. A patch of few-flowered garlic grows in the woodland near the northern boundary.

A hedge grows along the boundary with East Heath Road. This was laid and gapped up in early 2014. A small hedge also divides the Hill from the Children's Playground to the south.

Some of the grassland, especially in the centre of Preacher's Hill, is dominated by common bent and red fescue, with patches of sheep's sorrel, indicating dry, infertile and probably somewhat acidic soils. Ant hills are present. Elsewhere, particularly on the lower and damper slopes, the grassland consists of coarser and more competitive grasses such as cock's-foot. Large numbers of garden daffodils have been planted in grassy areas by local people. The area of acid grassland is reducing due to invading brambles and shade from expanding tree canopies.

A broad band of former grassland along the lower edge by Willow Road and Christchurch Hill is now covered in species such as cow parsley, creeping thistle, bramble, comfrey and patches of the invasive grass California brome. Bramble has also invaded other areas of former grassland, extending out from under trees and woodland and the edges of the site. Dense bramble now covers much of the former grassland alongside the hedge by East Heath Road.

Common birds of such habitats, such as wren, blackbird, robin and perhaps great spotted woodpecker and blackcap are likely to breed in the scrub and woodland. A local resident and keen bird watcher reports that the north-east corner is good for blackcaps. The Hill is south-facing and warm, and the grassland is likely to support a range of invertebrates.

1.4 Public and educational uses

Preacher's Hill is much enjoyed by local people for general recreation, picnics, children's play etc. It is separated from the main Heath by a busy road, and is therefore less likely to be used by people from outside the immediate neighbourhood. A network of paths leads through the area. There are pleasant internal and external views, although the outlook over Christchurch Hill could possibly be improved to make it less of a townscape.

1.5 History

Preacher's Hill is so-called after George Whitefield preached there in 1739. He was one of the founders of Methodism and of the evangelical movement, and preached in the open, not being able to use an Anglican church. When he preached near Hampstead, 'the audience was of the politer sort, and I preached very near the horse course, which gave me occasion to speak home to the souls concerning our spiritual race. Most were attentive, but some mocked. Thus the Word of God is either a savour of life unto life, or of death unto death.'

The Ordnance Survey maps of about 1866 shows the area open apart from trees round the edges, plus a line of trees where the centre of the woodland is. An air photo of 1929 shows it as open grassland apart from a few large trees.

In 1951 part of Preacher's Hill was enclosed 'for the use of women and children', and despite protests the enclosure – the Children's Playground - was made permanent in 1955.

A hedge was planted alongside East Heath Road in roughly 2000, and another on the boundary with the Children's Playground. A second area of acid grassland on the slope facing Willow Road was created through clearing scrub and elm. Recent management has concentrated on keeping the paths accessible and laying part of the East Heath Road hedge. Bramble has been allowed to invade grassland in places. Daffodils, very few of them native, have been planted extensively by local people despite by-laws prohibiting public planting on Hampstead Heath.

1.6 Natural and human-induced trends

If grassland is not managed, e.g. by mowing, it will 'revert' to rougher vegetation and scrub. This has occurred in places at Preacher's Hill, with lack of sufficiently regular management allowing bramble, thistle and other invasive species to grow and dominate significant areas.

California brome, an invasive grass from America, has become established in several populations near the edge by Willow Road. Japanese knotweed grows on the boundary path leading to Christchurch Hill, which belongs to London Borough of Camden.

The disease Ash Decline, *Chalara fraxinea*, may affect trees at Preacher's Hill within a few years and cause significant dieback, altering the landscape and the make-up of the woodland. In the longer term, climate change may affect the habitats on the Hill.

2.0. Evaluation

2.1 Natural landscape

Preacher's Hill contains acidic grassland, which is a flagship habitat for Hampstead Heath. The mix of woodland, scrub and grassland provides useful habitat for birds, butterflies and other invertebrates. Brambly edges to the trees and woodland are important in this respect. The tree canopy in the main, central area of woodland is too heavy to allow many woodland plants to survive beneath, apart from ivy, though this may change with ash dieback, in which case the understorey of yew and holly could be reduced.

2.2 Public and educational uses

Preacher's Hill is particularly important to local people for enjoying the open air and natural landscape, and is regularly used. The use is varied, from walking the dog, a quiet stroll, picking blackberries, to children exploring and playing in a naturalistic setting very different from a more formal park. It is not used for formal educational purposes. It provides attractive views from adjacent houses.

2.4 Overall vision

Management of Preacher's Hill should seek to preserve and enhance the flora and fauna, but emphasis must also be placed on providing an attractive and safe place for people to enjoy the natural world and scenery, yet without managing it in a park-like way.

The vision (not in priority order) is to:

- Maintain and increase the areas of grassland
- Retain and manage the woodland and trees, using the opportunity, should ash dieback severely affect it, to make the centre of woodland more varied in structure and species
- Manage the hedgerows to create and maintain thick habitat and good visual barriers, and plant one new hedge on north-eastern boundary
- Maintain and enhance public access, enjoyment and safety.

3.0. Prescription and work programme

See Maps 3 and 4

6.1 Regular management tasks

Objective	Prescription	Frequency p.a.	Months to undertake	Years to undertake	Who by	Priority
Maintain & increase area of grassland	Prevent spread of bramble by cutting annual growth, yet retaining fringes of this important habitat, cutting in autumn or before the daffodils are coming up to avoid damage to them.	1, or more if required	September-February	All	Cons	High
	Prevent spread of and try to eradicate patch of Himalayan bramble by Willow Road by regular cutting	5	May-September	All	Ranger	High
	Cut areas of fine-leaved grassland areas annually late in summer, leaving about 10% uncut as refuges (different areas each year)	1	September	All	Cons	High
	Cut grassland/cow parsley/green alkanet along boundaries with Willow Road and Christchurch Hill, once this is in satisfactory condition, annually in July, leaving patch of Russian comfrey	1	July	All	Cons	High
	Prevent California brome spreading by cutting frequently to prevent seeding.	6 or as required	May-October	All	Cons/Ranger	High

Retain and manage the woodland and trees	Remove sycamore saplings generally	1	Any	All or every other year	Cons	Medium
	Reduce ivy on trees, especially the Italian alders, to reduce threat to their safety and long-term health	1	Any	As necessary	Cons	High
Manage and plant hedgerows	Lay East Heath Road hedge, gapping up as required. This was layed early in 2014 but will need re-laying at some time, not before 2021.	1	October-February	2021 or later, cyclically, as appropriate	Cons	High
	Gap up and lay hedge on boundary of Children's Playground and near East Heath Road; extend hedge westwards as possible. Hedge is shaded so likely to regrow slowly.	1	October-February	Winter 2014/15 then every 10 years or as required	Cons	High
Maintain and enhance public enjoyment and safety	Maintain paths, cutting grass, strimming back bramble and carrying out any other necessary work	As required	All	All	Ranger	High
	Maintain access to apple tree on Willow Road, removing small trees and scrub	1	August-September	All	Cons	Medium
	Review need to reduce amount of holly and yew in understory as these grow more dense, especially if ash decline affects the canopy	1	September-February (ivy), any (holly)	2018	Cons	High
	Eradicate Japanese knotweed on path along north-west boundary	As required	Summer	Until eradicated	Cons	High

3.2 Short-term tasks

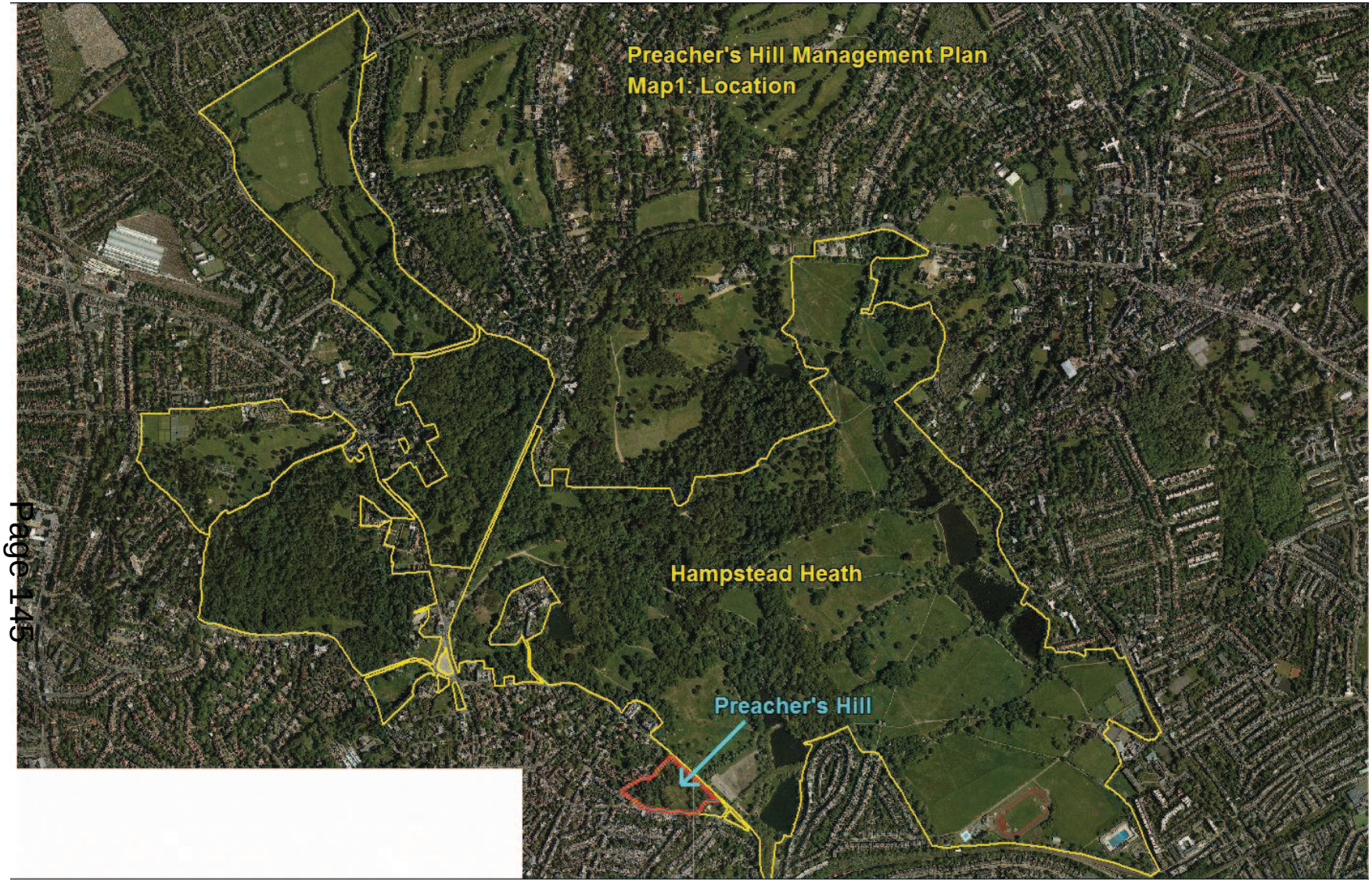
Objective	Prescription	Months to undertake	Years to undertake	Who by	Priority
Maintain & increase area of grassland	Regularly cut areas of rough grassland and incipient scrub alongside Willow Road and Christchurch Hill (see Map 3) early June to September, to eliminate scrub and reduce invasive plants	Monthly early June to September	2 years, for review	Cons	High
	Remove Tree of Heaven sapling, western corner of site.	Any	2014	Cons	High
	Cut back elm scrub and bramble on western side of smaller acid grassland glade to extend acidic grassland	August-February	Until grassland creasted	Cons	Medium
	Remove dead cherry tree and raise crown of large Turkey oak tree, near Christchurch Road edge, to restore grassland	August-February	2014	Cons	Medium
	Remove 2 Turkey oak trees and cherry sapling near western corner to restore acidic grassland	August-February	2014	Cons	Medium
Retain and manage the woodland and trees	Remove dead elm in south-east corner, coppice elm regrowth round it, and plant black poplar tree	August-February	2014	Cons	High
	Remove dead white willow & plant native black poplar, near Willow Road	November-March	2014/5	Cons	High
	Replant with a range of suitable trees and shrubs if woodland severely affected with Ash Dieback	November-March	As required	Cons/Ecol	High
	Remove sycamores & sapling ashes, leaving plane & oak, near East Heath Road	September-February	2014	Cons	Medium
	Remove 4 small Turkey oaks leaving one larger one, near East Heath Road	September-February	2014	Cons	Medium
	In the long term, as plane trees decline and die, replant with native black poplar	November-February	As required	Cons	Medium

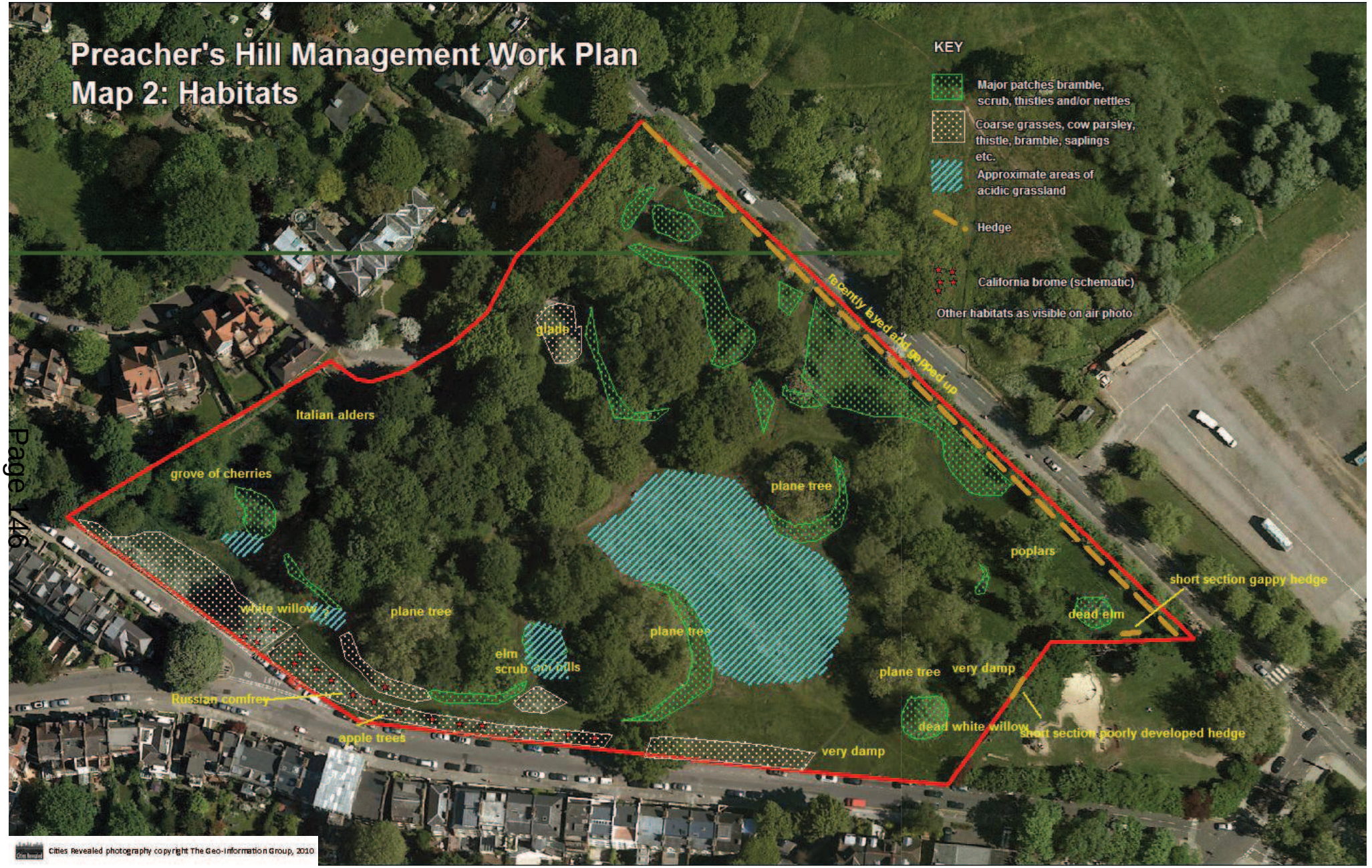
Manage and plant hedgerows	Plant new hedge along eastern half of north-eastern boundary, reducing overhanging shade as appropriate	November-March	2015	Cons	Medium
Maintain and enhance public access, enjoyment and safety	Reduce extent of bramble as indicated on Map 3 by repeated cutting, about 4 times p.a., until undesired growth is eradicated, avoiding daffodils	First cut outside bird nesting season, then in growing season	3 years but for review	Cons	High
	Cut back holly canopy near north-west corner to improve view	September-February	2014	Cons	Medium
	Plant total of 4 white willows and 4 native crab apples along boundaries with Willow Road and Christchurch Hill to enhance view and feeling of seclusion	November-March	2014/5	Cons	Medium

4.0 Review

To be left blank, to be filled in as time goes by

Author	Date	Task	Observation, event or alteration to task




Preacher's Hill Management Work Plan
Map 2: Habitats
KEY
Major patches bramble, scrub, thistles and/or nettles
Coarse grasses, cow parsley, thistle, bramble, saplings etc.
Approximate areas of acidic grassland
Hedge
California brome (schematic)
Other habitats as visible on air photo
recently layed and gapped up
glade
Italian alders
grove of cherries
plane tree
poplars
short section gappy hedge
dead elm
white willow
plane tree
plane tree
elm scrub
ash trees
plane tree
very damp
Russian comfrey
apple trees
dead white willow
short section poorly developed hedge
very damp
Cities Revealed photography copyright The Geo-Information Group, 2010


Preacher's Hill Management Plan
Map 4: Summary of management
Notes
- See Map 3 for short-term management
- Some of grassland shown as annual cut not yet in good condition;
- Paths to be cut through grass as necessary: not shown on map
Key
Areas shown are approximate
Cut annually in July
Cut fine-leaved (acid) grassland annually in September; leave refuges
Cut suffiently frequently to stop California brome flowering
Bramble to be retained but cut round to prevent expansion
cut back holly to reveal view
re-lay hedge when necessary
plant new hedge
remove sycamore & sapling ashes; leave plane and oak
control Japanese knotweed
remove laurel
remove cherry sapling to reduce tree spread into grassland
remove large Turkey oak tree and sapling T. oak behind it
remove Tree of Heaven sapling
plant 2 white willows
reduce ivy on trees, especially alders; clear sycamore saplings; review if ashes decline substantially
remove 4 Turkey oaks leaving one larger Turkey oak
re-lay hedge when necessary
remove dead cherry & young Turkey oak, raise crown of large Turkey oak
avoid cutting Russian comfrey if not invaded with California brome
maintain access to apple tree
plant 4 native crab apples along this edge
control Himalayan bramble
clear scrub and elm suckers to extend acid grassland
plant 2 white willows
lay hedge, clear dead elm, coppice suckers etc., plant black poplar
remove dead willow, plant black poplar, leave some bramble around to protect young tree
Cities Revealed photography copyright The Geo-Information Group, 2010