Address:	**Hampstead and Highgate chains of ponds Hampstead Heath London**		**1**
Application Number:	2014/4332/P	**Officer: Jonathan Markwell**	
Ward:	Hampstead Town Highgate		
Date Received:	**02/07/2014**		

Proposal: Proposed engineering works to the Hampstead and Highgate chains of ponds comprising dam raising at Model Boating Pond (2.5m) and Mixed Bathing Pond (1m), new walls along dam crest to increase the height of the dams at Men's Bathing Pond (1m) and Highgate No.1 Pond (1.25m), a 0.19m kerb along part of the crest at Hampstead No.2 Pond, a new flood storage dam (5.6m) in the catchpit area, grass-lined spillways at most ponds, dam crest restoration, pond enlargement at Model Boating Pond, a replacement changing room building at Ladies Bathing Pond and associated landscaping, habitat creation and de-silting. This application is accompanied by an Environmental Statement.

Background Papers, supporting documents and drawing numbers:

Site Location Plan Figure 1.1;

A. Stock Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P1-ZZ-DR-L-7002 Rev P5; -7003 Rev P3; -7005 Rev P2 Whole Pond Section; -7005 Rev P2 Spillway Section; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

B. Kenwood Ladies' Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P2-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P3; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

C. Bird Sanctuary Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P3-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

D. Model Boating Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P4-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; -7010 Rev P1 Spillway; -7010 Rev P2 Detail Section; -7011 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0002 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

E. Men's Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P5-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; -7010 Rev P2; -7011 Rev P2; -7012 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

F. Highgate No. 1 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P6-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

G. Vale of Health Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P11-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

H. Viaduct Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P7-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

I. Catchpit Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P12-ZZ-DR-L-7002 Rev P5; -7003 Rev P3; -7004 Rev P1; -7005 Rev P2; -7007 Rev P2; -7008 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

J. Mixed Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P8-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

K. Hampstead No. 2 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P9-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

L. Hampstead No. 1 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P10-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

Highgate and Hampstead Chains Overview Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P1-P6-ZZ-DR-L-7003 Rev P2; 5117039-ATK-P7-P12-ZZ-DR-L-7003 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1;

Kenwood Ladies' Bathing Pond New Changing Facility Design and Access Statement by Atkins dated July 2014, Rev 2.0, including HH5064/1A; -2; -01/B; -03; -04; -05; -E; -02/B; PD1000; PD1010; PD1011; PD1200; PD1201; PD1202; PD1300; PD1301; PD1302; PD1303;

Planning, Design and Access Statement by Atkins, dated July 2014 Ref 5117039/62/DG/197 Rev 2; Verified Views (photomontages) by Atkins, dated July 2014; Letter from Atkins dated 4 July 2014 Ref 5117039; Statement of Community Involvement by Atkins, dated July 2014 Ref 5117039/62/DG/196 Rev 2; Environmental Statement Non Technical Summary (Volume 1) by Atkins dated July 2014 Rev 2.0; Environmental Statement Main Report (Volume 2) by Atkins dated July 2014 Rev 2.0;

Environmental Statement Appendices (Volume 3) by Atkins dated July 2014 Rev 1.0; Transport Statement by Atkins, dated July 2014 Ref 5117039/62/DG/199 Rev 2; Flood Risk Assessment by Atkins, dated July 2014 Ref 5117039/62/DG/202 Rev 3; Sustainability Statement by Atkins, dated July 2014 Ref 5117039/62/DG/201 Rev 1.0; Project Management Plan (including Construction Management Plan) by Bam Nuttall Dated July 2014 Ref BAM1700 PMP B Rev B; Outline Specification by Atkins dated July 2014; Arboricultural Impact Assessment by Atkins, dated July 2014 Ref 5117039 Rev 2.0, including plans: 5117039-ATK-ZZ-ZZ-DR-Y-2000 P3; 5117039-ATK-P1-ZZ-DR-Y-2000 P3; -P2-ZZ-DR-Y-2000 P4; -P3-ZZ-DR-Y-2000 P3; -P4-ZZ-DR-Y-2000 P3; -P4-ZZ-DR-Y-2001 P3; -P4-ZZ-DR-Y-2002 P3; -P5-ZZ-DR-Y-2000 P3; -P6-ZZ-DR-Y-2000 P4; -P6-ZZ-DR-Y-2001 P4; -P7-ZZ-DR-Y-2000 P3; -P8-ZZ-DR-Y-2000 P3; -P9-ZZ-DR-Y-2000 P4; -P10-ZZ-DR-Y-2000 P3; -P11-ZZ-DR-Y-2000 P3; -P12-ZZ-DR-Y-2000 P4; -P12-ZZ-DR-Y-2001 P4.

Additional information submitted during the course of the application:

5117039-ATK-P4-ZZ-DR-Y-2001 P3 and 5117039-ATK-P4-ZZ-DR-Y-2002 P3 within Arboricultural Impact Assessment (as submitted 22/07/14); Ladies' Bathing Pond MOL Assessment Technical Note by Atkins, dated 23/07/14; 2. Brief, submitted 23/07/14; Annotated plan of PD1010, as submitted 23/07/14; Letter from Atkins dated 24/07/2014 to Environment Agency, Ref 5117039/Silt options/je.rev1; Addendum to Chapter 10 Community Assessment, as submitted 05/08/2014; Environment Statement Revised Appendix 3.1, as received 05/08/2014; Atkins response to LB Camden Feedback_Ecology, as received 16/09/14; Email from Atkins, Emergency planning, dated 16/09/14; Atkins response to LB Camden Feedback_Trees, as received 16/09/14; Atkins response to LB Camden Feedback_Flood Risk, as received 18/09/14; Bat Roost Characterisation Surveys by the Ecology Consultancy Ref 140819, as submitted 04/10/2014; Invertebrate Assessment by the Ecology Consultancy Ref 140587, as submitted 04/10/2014; Highgate No. 1 Downstream Maps, as received 14/10/14; Email from City of London dated 30/07/2014, as submitted 14/10/14 & attachments; Atkins Response to comments from LBC Landscape and Conservation Officer Technical Note, dated 23/10/14 and attached figures 2 and 3; MOLA Impacts to Model Boating Pond, dated 22/10/14; Atkins Statement of Habitat Losses and Gains Ref 5117039 / 62 / DG / 231 / Rev1, dated 13/11/14; MOLA and Atkins Response to Feedback from LBC on Model Boating Pond, Ref 5117039, dated 14/11/14; Email from Atkins, dated 24/11/2014; Bat Tree Inspection Report by the Ecology Consultancy, dated 11/12/2014.

Information submitted to AECOM to inform independent review:

Email from Atkins to Aecom dated 14/10/14; Hampstead Heath Ponds Project QRA Update Memo dated 05/11/2014 Ref 5117039; Consequence Analysis Technical Note Draft Rev 1.0, dated 30/09/2014; Email from Atkins to Aecom dated 21/10/14; HH Duration investigation IS check; Email from Atkins to Aecom dated 15/10/2014; Atkins initial response to Aecom request for information, update 21/10/14; Email from Atkins to Aecom, dated 14/10/2014; Email from Atkins to Aecom, dated 17/10/2014; HH Pref Option May 14 Results - Highgate 1 only; Hydrograph RFI checklist; Modelled Hamp1 HG1 Pipe Flows for TW Oct 14; PMF and breaching Hydrographs; Hampstead No. 1 Reservoir Routing – 1:100 Existing; - 1:100 Proposed; 1:1000 Existing; 1:1000 Proposed; 1:10000 Existing; 1:10000 Proposed; PMF Existing; PMF Proposed; Email

from Atkins to Aecom, dated 03/11/2014; Email from Atkins to Aecom, dated 24/10/2014; Email from Atkins to Aecom, dated 23/10/2014; Email from Atkins to Aecom, dated 15/10/2014; Email from Aecom to Atkins, dated 03/11/2014; RE: Independent review - RFI 12 re Outflow pipe rating curves follow-up query by Atkins; Highgate 1 Workbook questions A – update – 14-04-14; Overflow from Highgate No 1 Comments on 03/10/2014 by Professor K R Rushton; Email from Atkins to LB Camden, dated 21/10/2014; Note from Atkins, data requested from Aecom final status 26/11/2014; Assessment of Design Flood by Atkins, dated 25/03/2013 Rev 4; Hydrology and Hydraulic Modelling Presentation by Atkins, from meeting with Aecom, dated 01/10/2014; Panel Engineer Presentation by Atkins, from meeting with Aecom, dated 01/10/2014.
RECOMMENDATION SUMMARY: Grant Planning Permission subject to Section 106 Legal Agreement

Applicant:	**Agent:**
City of London Corporation C/O Agent	Atkins Epsom Gateway 2 Ashley Avenue Epsom Surrey KT18 5AL

ANALYSIS INFORMATION

Land Use Details (Ladies changing rooms only):		
	Use Description	Floorspace
Existing	*Ladies changing rooms*	*97m²*
Proposed	*Ladies changing rooms*	*121m²*

OFFICERS' REPORT

Reason for Referral to Committee: **The Director of Culture and Environment has referred the application for consideration [Clause 4].**

This application is the subject of a Planning Performance Agreement (PPA).

1. **SITE**

1.1 Hampstead Heath has a variety of site designations. The entire Heath is designated as Metropolitan Open Land, Public Open Space and a Metropolitan Site of Nature Conservation Importance (by English Nature). The application proposals relate to works at the following areas: Highgate chain (from north-west to south-east): Stock Pond; Kenwood Ladies' Pond; Bird Sanctuary Pond; Model Boating Pond; Men's Bathing Pond; Highgate No. 1 Pond. Hampstead Chain (from north-west to south-east): Vale of Health Pond; Viaduct Pond; the Catchpit; Mixed Bathing Pond; Hampstead No. 2 Pond; Hampstead No. 1 Pond. The red line of the application proposals also includes the exact construction areas for all the works and the paths adjacent to these areas leading to the proposed access points for construction vehicles at: Hampstead Lane, Highgate Road, South End Road, East Heath Road and Spaniard's Road. As such, the proposed works are within the main body of the Heath, not the West Heath and are solely within LB Camden (borough boundaries with Barnet and Haringey are to the north).

1.2 Within the areas where the works are proposed, additional site constraints include: The Kenwood viewing gazebo to St Paul's Cathedral viewing management corridor (Highgate chain); Metropolitan Walk (Hampstead chain); Hampstead Heath archaeological priority area (Hampstead chain), Grade II listed viaduct bridge (Viaduct Pond – Hampstead Chain) and the three hydrogeological constraint areas (as per the Arup study which feeds into LDF policy DP27 in particular) of slope stability, surface water and ground water flow.

1.3 Outside of the areas where works are proposed, but within Hampstead Heath there are further additional site constraints, including: Ken Wood / North Wood Site of Special Scientific Interest (SSSI) and ancient woodland (including an area 75 metres to the west of Stock Pond – and 125 metres to the specific part of Stock Pond where crest restoration is proposed); Bishops Wood ancient woodland; Parliament Hill oak tree to Palace of Westminster viewing corridor; Parliament Hill summit to St Paul's Cathedral viewing management corridor; Parliament Hill summit to Palace of Westminster viewing corridor; London Underground Zone of Interest (to west of Vale of Health); scheduled ancient monument (Boadicea's Grave); numerous listed buildings / structures including grade I listed Kenwood House and Kenwood Estate and grade II listed keeper's box for example.

1.4 Hampstead Heath also borders numerous conservation areas, including Highgate, Dartmouth Park, Mansfield, South Hill Park, Hampstead and Redington/Frognal. There are also numerous listed buildings which border the Heath. The Sites of

Nature Conservation Importance in Camden SPD (2006) denotes Hampstead Heath to be 317.6 hectares in area.

1.5 The surrounding context to the site is largely residential, with Highgate and Dartmouth Park to the north and east and Gospel Oak and Hampstead to the south and west. There are also education facilities (William Ellis and Parliament Hill Schools on Highgate Road for example) and the North London overground line (to the south) nearby as well.

2. THE PROPOSAL

2.1 The applicant (The City of London Corporation – CoL) has detailed that the purpose of the proposal is to virtually eliminate the risk of dam failure at any of the ponds in the Highgate and Hampstead chains of ponds that could result from severe flooding and the consequential risk of loss of life and damage to property. This is in order to comply with the requirements of the Reservoirs Act 1975 and the Flood and Water Management Act 2010. CoL is responsible for the management and protection of the Heath, and for making it available as open space. The Hampstead Heath Act 1871 requires CoL to comply with the following obligations:

- Forever to keep the Heath open, unenclosed, un-built upon and by all lawful means to prevent, resist and abate all encroachment on the Heath and attempted encroachment and to protect the Heath and preserve it as an open space.
- At all times to preserve as far as may be the natural aspect of the Heath and to that end to protect the turf, gorse, heather, timber and other trees, scrubs and brushwood thereon.
- Not to sell, lease, grant or in any manner dispose of any part of the Heath.
- To drain, level and improve the Heath, as far only as may be from time to time requisite, with a view to its use for the purposes of health and unrestricted exercise and recreation.

2.2 In overall terms the fundamental components of the proposals are:

- Increasing flood storage capacity by raising some of the dams and constructing a new dam in the Catchpit area;
- Reinforcing the dams where required;
- Constructing spillways to prevent any overtopping which would erode the dams;
- Mitigating ecological and landscape impacts by softening pond edges and improving marginal habitat; and
- Improving the water quality of the ponds.

2.3 The design principles which the applicant has applied in formulating the proposals are summarised as follows:

- Each chain of ponds to be considered as a whole system, to enable increases in storage capacity to be focused in the least sensitive locations, to minimise increases in dam heights at more sensitive ponds and to reduce residual works required elsewhere;
- The safety standard applied to each pond is the Probable Maximum Flood (PMF). Applying the Institution of Civil Engineers guidance ‘Floods and Reservoir Safety’,

this is the applicable standard for the three largest Category A 'large raised reservoir' ponds (Boating Pond, Highgate Men's Bathing Pond and Hampstead No.1 Pond - volume of water is more than 25,000 cubic metres). It is anticipated that all the ponds would come within the scope of the Reservoirs Act 1975, once the amendments introduced by the Flood and Water Management Act 2010 are fully implemented.

- Tree loss is to be minimised.
- The system is to be passive, without reliance on any mechanical system or human intervention.
- The engineering intervention is to be balanced so as to minimise impact on the landscape.

2.4 As such, the description of development is as follows:

Proposed engineering works to the Hampstead and Highgate chains of ponds comprising dam raising at Model Boating Pond (2.5m) and Mixed Bathing Pond (1m), new walls along dam crest to increase the height of the dams at Men's Bathing Pond (1m) and Highgate No.1 Pond (1.25m), a 0.19m kerb along part of the crest at Hampstead No.2 Pond, a new flood storage dam (5.6m) in the catchpit area, grass-lined spillways at most ponds, dam crest restoration, pond enlargement at Model Boating Pond, a replacement changing room building at Ladies Bathing Pond and associated landscaping, habitat creation and de-silting.

2.5 The proposals consider each of the chains of ponds as a whole, rather than individually. At a general level all of the ponds within the Highgate chain, except the Bird Sanctuary Pond, propose new spillways to allow flood waters to flow to the next pond in the chain in a controlled way. The majority of the dam works would occur at the three lowermost ponds in the chain (Model Boating, Highgate Men's Bathing and Highgate No. 1 Ponds) with crest restorations to the three uppermost ponds in the chain (Stock, Kenwood Ladies' Bathing and Bird Sanctuary Ponds). The most significant works would be at Model Boating Pond. The water levels at all of the ponds in the Highgate chain would be retained. This is also the case at all the ponds in the Hampstead chain. Here the majority of works would occur at the Catchpit area, with a new dam proposed. Overspill from these ponds would be controlled by a mixture of open channel spillways and box culverts. More specifically however, a breakdown of the works at each pond, chain by chain (Highgate followed by Hampstead), is provided below:

2.6 Stock Pond (Highgate chain)

- New open channel spillway measuring 21m wide at the base, 500mm deep and with 1:12 side slopes is proposed at the south western corner of Stock Pond. This would seek to allow flood waters to flow to the Kenwood Ladies' Bathing Pond without overtopping the dam. The spillway would be set above the top water level and would be dry in normal conditions. The spillway would be lined with geotextile and overlaid with topsoil and grass, thereby maintaining footpath access across the dam crest.
- Two new 900mm diameter overflow pipes set at the top water level are proposed, following the same path as the spillway and discharging into Kenwood Ladies' Bathing Pond.

- Dam crest restoration to raise existing low points by up to 500mm above the current levels, requiring approximately 17m³ of fill material.
- The proposed spillway results in the proposed removal of eight Category B trees and fifteen Category C trees.
- Mitigation measures comprise:
    - Sediment to be dredged from pond bed to improve water quality;
    - Creation of a new marginal shelf from dredged sediment planted with common reed and other marginal emergent species on the east bank;
    - Removal and management of Japanese knotweed;
    - New tree and shrub planting; and
    - Replacement of the existing fence to control access to the pond.

2.7 Kenwood Ladies' Bathing Pond

- New changing rooms, following demolition of existing. The replacement facility would be in the same location and include a new floor slab, raised above the existing, so that the underside of the new slab would be 300mm above the new level of the dam crest. The replacement changing rooms would provide similar arrangements to existing.
- A new open channel spillway is proposed at the western part, allowing flood waters to flow to Bird Sanctuary Pond without overtopping occurring. The spillway would be 870mm deep with side slopes of 1:3 and would have an upper width of 24.6m. The spillway would be lined with a concrete cellular mat, which can be covered with topsoil and grass seeded, except along the existing footpath which will retain its current stone surface. After the spillway passes the bottom of the downstream slope of the dam, an area of topsoil will be lined with shallow reinforcement matting as floodwater runs down to Bird Sanctuary Pond.
- Crest restored by raising low points by up to 300mm, requiring approximately 59m³ of fill material.
- The spillway works require the proposals to remove three Category B trees and fifteen Category C trees.
- Mitigation measures comprise:
    - Use of prefabricated above and below ground structures to minimise construction time and closure of the bathing pond;
    - Character of historic entrances and approaches including Meadow Gate to be retained;
    - Woodland or scrub grassland to be planted along the western edge in the meadow to reinforce existing planting, provide further enclosure to the pond and improve habitat value;
    - Sediment to be removed from pond bed to improve water quality;
    - Realignment of existing stream with creation of excavated washlands and associated large woody debris check dams to control sediment input and improve water quality of discharge to pond; and
    - Footpath reinstatement along the dam crest.

2.8 Bird Sanctuary Pond

- No spillway works are proposed at Bird Sanctuary Pond. The dam will be re-graded (smoothed) on the downstream face and lined with a shallow turf reinforcement mat.

- Crest restored by raising the low points by up to 80mm.
- Removal of existing overflow pipe and concrete slab between Bird Sanctuary Pond and Model Boating Pond. Replacement with a new overflow pipe at the western end of the dam to discharge to the widened area of Model Boating Pond.
- No trees would require removal but there would be some scrub clearance on the downstream face of the dam.
- Mitigation measures comprise:
    - Existing fence to be replaced to maintain existing access restrictions;
    - Landward extension of existing reed bed at the south west of the pond through ground excavation;
    - New channel excavated to form wet woodland and habitat for reed bed expansion;
    - Creation of a series of four online pools to improve wetland ecology and reduce sediment input from stream entering south west corner;
    - New amphibian and reptile hibernacula around the pond margins;
    - Existing kingfisher nesting site retained and protected; and
    - Existing eastern bank retained as existing.

2.9 Model Boating Pond

- The existing dam would be raised by 2.5m through an earth embankment on top of the existing dam crest and over the existing sheet piles on the upstream face of the dam. This would extend the dam by between 21–28m into Model Boating Pond. Two trees would need to be removed to accommodate the new embankment. Raising the dam would require approximately 12,000m³ of fill material.
- A new open channel spillway is proposed across the new embankment, broadly following the path of the existing spillway. The new spillway would be 20m wide at the base and 1.1m deep relative to the raised dam crest, but will be above the existing ground level. After passing the downstream toe of the new embankment, the new spillway is formed by shallow turf reinforcement matting across the natural ground and down the downstream slope of the existing dam. A low training bund running down the downstream slope of the existing dam would guide the flow towards the natural ground to the west in order to minimise lining works.
- The west bank of the pond would be excavated up to 65m inland from the existing pond edge to provide some of the required fill material for the dam raising and would include the removal of the existing sheet piles. This would create a new slope varying between 1:5 and 1:7 (existing slope is 1:10). The existing sheet piles would be removed and the footpath around the pond would be reinstated further up the new slope.
- The existing trees on the west slope would be retained and material excavated around the trees to create an island connected to the Heath by a causeway. The shallow channel forming the new island would be planted with marginal wetland planting which would extend round to the north bank of the pond to soften the hard engineered edges.
- The existing sheet piling and pond banks on the north and east banks would be retained. The lower footpath at the water’s edge will be re-routed to encircle the widened pond and connect with a new footpath on the raised dam crest. The upper footpath on the west bank will be re-routed to pass above the new spillway and the island.

- These works would necessitate the removal of two Category B trees and six Category C trees.
- Mitigation measures comprise:
    - Naturalising the appearance of the dam with new planting to reflect the open character of the pond including species rich grassland on the upstream dam face;
    - Amenity use of the 'sunny bank' on east side extended to upstream dam face;
    - Dam crest raising limited to upstream face of the dam to retain existing trees and minimise the impact to views across to Highgate Men's Bathing Pond;
    - Creation of new margin along the new dam edge with high and low planting to screen the new embankment;
    - Access extended along upstream dam face;
    - Pond enlarged and naturalised along western bank with tress retained;
    - New footpath on upstream face of the raised dam and along realigned west bank providing continuous access to pond edge;
    - New tree and shrub planting; and
    - Sediment to be dredged from pond bed at Southern end of pond.

2.10 Highgate Men's Bathing Pond

- A low earth bund measuring 750mm in height would be constructed west of the dam.
- A new wall measuring 1m high is proposed along the line of the existing fence on the dam crest. The wall would be constructed from steel or plastic piles driven sufficiently deep to reduce the current leak in the dam. The sheet piling cladding material is to be agreed.
- A new open channel spillway 25m wide at the base is proposed by levelling and lining the gap between the earth bund and the new wall. The spillway would widen once it has passed the dam to 43m width at the base. The base of the spillway would mostly 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 training wall would be constructed to train flows over the spillway.
- The spillway works require fifteen Category C trees to be removed.
- Mitigation measures comprise:
    - Closure of the pond for bathing would only be required for the remedial works to the dam and silt removal. The pond could remain open for all other proposed works;
    - Creation of a new margin along the existing sheet piling of the dam to provide fishing access and planting to soften the appearance of the sheet piles;
    - Extension of the existing reed bed through ground excavation and piped culvert removal to trap sediment at the inflow from stream entering north west corner to be combined with the creation of two small check dams in stream to control sediment input; and
    - New tree and shrub planting.

2.11 Highgate No. 1 Pond

- A new open channel spillway 64m wide at the base is proposed by filling in the low spot between the west end of the dam and the hill to the west. The spillway would have a shallow lining of turf reinforcement mat, laid just below the topsoil.
- The footpath to the west would be raised by around 300mm with a gently sloping ramp. A return wall will form one side of the spillway, following the existing fence down the slope. This wall will be formed with H-posts and timber sleepers.
- A new concrete wall is proposed along the crest of the dam which would raise the effective dam height by 1.25m. The wall material cladding is to be agreed.
- The spillway would require the removal of four Category B trees, twelve Category C trees and one Category U tree. The protection of the veteran Oak (tree number 0140) is also ensured.
- Mitigation measures comprise:
    - Extending the existing margin along the north west bank through localised bed level raising;
    - New marginal shelf along dam face created from sediment removed, planted with marginal emergent species;
    - New tree and shrub planting; and
    - Retention of woodland screening along the north east bank.

2.12 Vale of Health Pond (Hampstead Chain)

- A new open channel spillway measuring 5m wide at the base 100mm deep and with 1:12 side slopes is proposed at the southern end of the dam. The spillway would be constructed from concrete or geotextile and lined with topsoil and grass, maintaining the footpath.
- A new 500mm diameter outlet pipe is proposed in the dam to augment the existing overflow pipe and would run parallel to the existing pipe.
- The dam retaining Vale of Health Pond is uneven, presently creating weak points. Dam crest restoration by a maximum of 560mm is proposed along just over half of the dam in two sections. The lower section seeks to add 300mm of fill to the crest and the top section seeks a 260mm containment kerb.
- The spillway works results in one Category B tree being proposed to be removed.
- Mitigation measures comprise:
    - New reed bed created in the south west corner in front of the existing inflow;
    - Marginal planting on the south east bank.

2.13 Viaduct Pond (Pond H)

- A new shallow open channel spillway measuring 4m wide at the base and 300mm deep with side slopes of 1:12 is proposed at the south eastern corner of the pond. The spillway would be located at the east end of the dam. The slope of the spillway as it crosses the dam crest footpath would be 1:12 on the west side, maintaining access across the spillway base. The east slope of the spillway merges into the existing ground at a slope of around 1:3. The spillway would be constructed from concrete or geotextile and lined with topsoil.
- A new 500mm overflow pipe is proposed underneath the new spillway to augment the existing overflow pipe. Works to the existing overspill pipe would improve the inlet structure.
- Dam crest restoration would be undertaken to raise low points by up to 190mm by infilling the low points (nominal amount of fill material required).

- The spillways works result in the removal of five Category C trees and one Category U tree.
- Mitigation measures comprise:
    - Sediment to be removed from pond bed to improve water quality;
    - Creation of new margin using dredged sediment with marginal planting along the east bank;
    - New tree and shrub planting;
    - Reinstatement of the existing timber clad sheet piling in front of the new spillway;
    - Stabilisation of marginal wetland area in northern section of pond to facilitate reed bed development.

2.14 Catchpit (Pond I)

- A new dam is proposed in the Catchpit area at the lowest point of the valley, partially located over the existing concrete lined pond. The new dam would not retain any water under normal conditions. The proposed dam measures 5.6m in height, requiring approximately 4,800m³ of fill material. The dam slopes would be 1:3 on the upstream face, 1:4 on the downstream face and would be 40m wide at the widest part of the base. The crest of the dam would be approximately 100m long.
- The dam would be of earth construction with a grass surface. Most of the crest would be one large spillway designed to be overtopped along the entire length. The dam is designed to provide a new flood storage area and the pond created by the new dam would only fill up with water in heavy rain events. Most of the time the pond would be ‘dry’ with an open meandering stream running along the valley floor supporting marshy habitats.
- A 750mm wide pipe is proposed to allow both the stream to flow unimpeded and enable the slow release of captured flood water downstream to Mixed Bathing Pond. The upstream end of the pipe will have a small concrete inlet structure with a debris screen. The downstream end of this pipe would connect into an open chamber, and eventually a further pipe which connects to Mixed Bathing Pond.
- Two new silt collection ponds formed by two low stone check dams 1m deep would be constructed upstream of the main flood storage dam.
- Reedbeds will be planted on gravel beds on the upstream ends of the ponds and small (200mm diameter) pipes will pass low flows through the check dams to avoid stagnation in the small ponds.
- The new dam would result in the removal of twelve Category B trees, forty-nine Category C trees and ten Category U trees.
- Mitigation measures comprise:
    - Replacement of existing concrete lined sediment trap through the creation of two wetland pools with check dams and associated reed beds designed to control sediment input to Mixed bathing Pond and improve water quality.

2.15 Mixed Bathing Pond

- Crest raising by 1m, through raising the upstream face by 0.5m and placing a 0.5m earth bund on top of the dam. The upstream slope would be 1:1 and the downstream slope would be 1:3 to match the existing downstream slope gradient.

- The road is proposed to be reinstated along the top of the new dam crest and would be 4m wide. The downstream slope of the dam would be reinforced with a turf reinforcement mat.
- No new spillway is proposed, with the raised dam designed to be overtopped along the whole length.
- The existing overflow pipe would be extended further into the pond.
- The proposed works necessitate the loss of seven Category C trees.
- Mitigation measures comprise:
    - Sediment removal from pond bed to improve water quality;
    - Naturalise the appearance of the dam with new planting to include species rich grassland on the new upstream dam face;
    - Creation of a new marginal shelf from dredged sediment planted with common reed and other marginal emergent species on upstream side of dam face;
    - New amphibian and reptile hibernacula; and
    - Removal of scrub at the northern end of the pond and creation of reed bed to provide treatment of inflow.

2.16 Hampstead No. 2 Pond

- Dam crest restoration through proposed installation of kerb measuring 190mm in height along 70m of the dam crest.
- Two new box culverts each measuring 2.1m wide and 900mm deep are proposed in the western end of the dam, discharging spill water to Hampstead No.1 Pond via an open channel spillway. The opening of the culverts would be a drop-shaft inlet structure. This inlet would extend approximately 1.5m out from the existing sheet piles into the pond and would be 6m wide. The structure would be concrete and includes a security screen across the top to stop entry.
- The existing overflow pipe would be re-routed.
- The culvert would require the removal of 2 Category A plane trees, located to the side of (not on) the avenue on top of the dam of Hampstead No.1 Pond.
- Mitigation measures comprise:
    - Semi-mature tree planting to replace the 2 no. plane trees removed during construction;
    - Creation of wetland margins along west bank;
    - Platform designed to screen drop inlet – to provide potential area for disabled fishing access;
    - New tree and shrub planting.

2.17 Hampstead No. 1 Pond

- Four new reinforced concrete box culverts measuring 2.1m wide are proposed through the upper dam crest at the eastern end of the dam with the invert 840mm below the dam crest level. Topsoil to be reinstated above the box culvert, and planting of native shrubs either side of the box culvert inlet.
- The culvert would discharge to an open channel spillway on the downstream face of the dam. The spillway would be lined with a turf reinforcement mat. Excess floodwater would spill out over the footpath and onto the road, however this would only happen in extreme flood events (larger than a 1:1000 year event) which would overtop the dam in the existing scenario.

- The culvert works result in the removal of five Category C trees and one Category U tree.
- Mitigation measures comprise:
    - New planting to integrate the spillway including native shrubs and species rich grass on the downstream face of the dam;
    - New tree and shrub planting; and
    - Creation of a new marginal shelf from locally dredged sediment planted with common reed and other marginal emergent species along the dam face.

2.18 With regard to the fill material required to raise the dams, this will be provided on site from four borrow pits. For the Highgate chain, fill is proposed from the new channel excavated at the west bank of Model Boating Pond and from the top of the hill to the west of the Model Boating Pond. Other fill material for this chain is proposed from the south east corner of Pryor's Field, to the south west of Mixed Bathing and Hampstead No. 2 Ponds. For the Hampstead chain the required fill material is proposed from the sports ground (informal amenity grassland) north of the Catchpit area. The borrow pit areas would be reinstated in time to their original level and appearance. This is proposed by adding dewatered sediment removed from the ponds, and any won material from the borrow pits that is unsuitable for the dam works. The borrow pits would then be re-grassed once the dam works have been completed. Highgate No. 1 Pond would be raised through a new concrete wall rather than using fill material. The de-silting proposed would be implemented using suction pump dredgers located on the banks of each pond.

2.19 The construction of the proposed works has already been planned, with BAM Nuttall appointed as contractor to undertake all construction works. A single works compound, at the Kenwood House Nursery at the north of the heath, is proposed to stockpile outside materials and plant required. Smaller worksites would then be established adjacent to each pond where works are proposed.

2.20 During the course of the application some additional and revised information has been submitted. This is summarised as follows:

- Updated existing site plans to reflect accurate tree protection plans
- Additional section plans at Model Boating Pond
- Additional section plans at Catchpit
- Two revised plans within the Arboricultural Impact Assessment
- Further information concerning the replacement changing rooms
- Addendum to Community Assessment and revised Appendix 3.1 of the Environmental Statement
- More supporting information / clarifications regarding ecology, emergency planning, trees, flood risk, landscape and conservation
- Bat Roost Characterisation Surveys
- Invertebrate Assessment
- Highgate No. 1 Downstream Maps
- Impacts to Model Boating Pond commentary
- Information to inform the AECOM independent review of the proposals

2.21 None of the additional / revised information was of a natural which required formal public re-consultation to take place.

3. RELEVANT HISTORY

3.1 9003567 - Men's Bathing Pond - Erection of a single storey building to provide changing area together with the erection of a single storey attendants hut. Granted 11/04/1991.

3.2 9003568 – Mixed Bathing Pond - Erection of a single storey building to provide changing area together with a single storey attendants hut. Granted 11/04/1991.

3.3 9003569 - Installation of mains water drainage and electricity to various sites across the Heath. Granted 11/04/1991.

3.4 9100048 - Ladies Pond - Erection of a single storey building to provide changing accommodation. Granted 26/06/1991.

3.5 9300106 – Mixed Bathing Pond - Erection of a single storey extension to the changing rooms to provide toilet facilities together with a single storey attendants hut. Granted 01/07/1993.

3.6 PE9900118 - Application under part 11 of schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995 for the prior approval of the design of an extension to the lifeguards hut. Permitted 07/09/1999.

3.7 2013/7231/P - Request for Environmental Impact Assessment (EIA) Screening Opinion for proposed works to the ponds on the Hampstead and Highgate chains of ponds within Hampstead Heath, in relation to the Hampstead Heath Flood and Water Quality Management works. EIA Required (a positive screening opinion) 29/11/2013.

3.8 2014/0320/P - Request for a scoping opinion under the Town and Country Planning (EIA) Regulations for proposed works to the ponds on the Hampstead and Highgate chains of ponds within Hampstead Heath, in relation to the Hampstead Heath Flood and Water Quality Management works. Scoping opinion issued 08/04/2014.

4. CONSULTATIONS

4.1 Statutory Consultees

4.2 Barnet London Borough Council raises no objection (Application reference: F/00026/14/CAN).

4.3 The Designing Out Crime Officer at the Metropolitan Police comments The building should have security which is substantial and fit for purpose. Glazing should be laminated and opening windows and doors should be to an enhanced security standard such as BS PAS 24-2012. Although as this site is isolated, shutters may be more appropriate to LPS 1175 sr 2 or higher. The pathways should have clear sight lines and surveillance should be maximised.

4.4 English Heritage has considered the information received and we do not wish to offer any comments on this occasion. English Heritage therefore recommends that this application should be determined in accordance with national and local policy guidance, and on the basis of Camden's specialist conservation advice.

4.5 English Heritage Greater London Archaeological Advisory Service (GLAAS) comments that the National Planning Policy Framework (Section 12) and the London Plan (2011 Policy 7.8) emphasise that the conservation of archaeological interest is a material consideration in the planning process. Paragraph 128 of the NPPF says that applicants should submit desk-based assessments, and where appropriate undertake field evaluation, to describe the significance of heritage assets and how they would be affected by the proposed development. This information should be supplied to inform the planning decision. If planning consent is granted paragraph 141 of the NPPF says that applicants should be required to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) and to make this evidence publicly available.

4.6 The application proposes extensive groundworks affecting and around the Hampstead and Highgate chains of ponds which were constructed between the 17th and 19th centuries as part of the water supply infrastructure for London. The ponds are extant landscape features of sufficient historic interest to warrant consideration as undesignated heritage assets and are also of archaeological interest as, the installation and management of London's water supply is recognised as a research objective in the research framework for London archaeology (2002). English Heritage has produced guidance on 'Moats, Ponds and Ornamental Lakes in the Historic Environment' (2011) which emphasises that man-made water bodies display historic and archaeological interest in relation to the shape and profile of the feature, sediment and structures within it and relationship to the surrounding area (its setting).

4.7 The applicant's Environmental Statement includes a thorough and helpful desk based assessment which has been supplemented by observation of geotechnical test pits. I do however have reservations about the assessment of significance of effect on the Model Boating Pond (Appendix 9.3) where there will be a noticeable change to the shape of the pond and its surroundings on its western side. There is no evident precedent for an island within either chain of ponds so identifying the new island as a positive benefit to the heritage asset appears unjustifiable, it should surely be assessed as minor or even moderate adverse impact. Would it not be preferable to reduce the impact by removing the island from the design?

4.8 With reference to archaeological interest, provision needs to be made for recording the extant and historic form and structures of and associated with the ponds, including features which may be revealed by the works. The ES suggests a 'watching brief' and this would indeed be an appropriate response in many cases although for some works it may be preferable to undertake trial investigations ahead of works - for example where historic structures such as sluices may be present. I therefore recommend that the archaeological mitigation allows for a rather wider range of responses including trial and full excavation or preservation in situ of significant structural remains. These measures would be set out in the 'written scheme of investigation'.

4.9 There is also potential for the discovery of earlier buried archaeological remains, most likely of prehistoric date, indicated by the presence on the Heath of a scheduled Bronze Age barrow and a major Mesolithic settlement site. Although the geotechnical investigation did not discover any such remains its scope was too limited for completely reliable conclusions to be drawn. Appraisal of this application using the Greater London Historic Environment Record and information submitted with the application indicates that the development would not cause sufficient harm to justify refusal of planning permission provided that a condition is applied to require an investigation to be undertaken to advance understanding. The archaeological interest should be conserved by attaching a condition as follows:

> Reason: Heritage assets of archaeological interest are expected to survive on the site. The planning authority wishes to secure the provision of appropriate archaeological investigation, including the publication of results, in accordance with Section 12 of the NPPF
>
> Condition: No development shall take place until the applicant (or their heirs and successors in title) has secured the implementation of a programme of archaeological investigation in accordance with a Written Scheme of Investigation which has been submitted by the applicant and approved in writing by the local planning authority. No development shall take place other that in accordance with the Written Scheme of Investigation.
>
> Informative: The written scheme of investigation will need to be prepared and implemented by a suitably qualified archaeological practice in accordance with English Heritage Greater London Archaeology guidelines. It must be approved by the planning authority before any on-site development related activity occurs.

4.10 It is recommended that the archaeological fieldwork should comprise of the following:

> Redesign - Consider redesign of proposed alterations to the Model Boating Pond to minimise changes to its shape and surroundings and provision for minor alterations to preserve significant discoveries in-situ.
>
> Historic Landscape Survey – Historic landscape survey uses historic map, documentary and field survey to establish the landscape history of a site to identify features of historic significance and how the history of the site contributes to landscape character. It is usually used as part of an assessment to inform a planning decision. Landscape survey is relevant to understanding both designed parkland landscapes and ancient/historic landscapes such as woodlands and field systems. It may include measured survey of archaeological earthworks.
>
> Working from existing information, in this case an integrated approach to survey should encompass the form of the ponds, embankments, channels and structures in order to better understand their development and operation. This should be linked to investigation of below ground remains.

Evaluation - An archaeological field evaluation involves exploratory fieldwork to determine if significant remains are present on a site and if so to define their character, extent, quality and preservation. Field evaluation may involve one or more techniques depending on the nature of the site and its archaeological potential. It will normally include excavation of trial trenches. A field evaluation report will usually be used to inform a planning decision (pre-determination evaluation) but can also be required by condition to refine a mitigation strategy after permission has been granted.

Consider trial excavation to assess risk and mitigation requirements in advance of more substantive or sensitively located groundworks.

Watching Brief - A watching brief involves the proactive engagement with the development groundworks to permit investigation and recording of features of archaeological interest which are revealed. A suitable working method with contingency arrangements for significant discoveries will need to be agreed. The outcome will be a report and archive.

Different levels of watching brief will be need to be specified for particular types of groundworks.

Informative - The archaeological mitigation set out above should be specified in a single written scheme of investigation and implemented and reported as an integrated study of the water supply system. Other remains (if present) might best be reported separately. Options for public engagement should be considered and incorporated where appropriate.

4.11 Environment Agency has no objection to the proposed works, if the following condition is applied to the grant of any planning permission.

Condition - No development shall take place until details of planting and biosecurity measures are submitted to and approved in writing by the local planning authority. Development shall proceed in accordance with the approved details.

Reason - To ensure that preference is given to locally occurring native species sourced from local provenance and that no unwanted alien invasive species are brought to site via plant, personnel and machinery and to ensure that non-natives are not inadvertently spread from site.

4.12 Advice to Applicant - Ecology, Biodiversity and Conservation

4.13 We recommend that the applicant should consider more closely the timings of the works in order to minimise the disturbance to the wildlife.

4.14 Flood Risk - Based on the information in the Flood Risk Assessment (Hampstead Heath Ponds Project, Atkins, July 2014), the proposed works do not appear to significantly alter the surface water flow routes. This is because the planned changes to the topography of the area are at the bottom of the valley, between the

ponds. In addition, there is no increase in surface water discharge from the site, and the increase in impermeable areas due to the work is negligible. Therefore, we have no issues with this proposal in terms of surface water risk.

4.15 Groundwater & Contaminated Land - As discussed in our response to ref: 2014/0320/P, dated 21 March 2014, we have no reason to suspect the land is affected by contamination. However, the submitted information states 'Hampstead Heath Ponds Project has, as one of its objectives, a requirement to improve water quality across the Hampstead and Highgate chains of ponds'. On reading the Water Quality Baseline Assessment (Appendix 8.1) we are concerned the applicants have failed to consider the quality of the groundwater that feeds the ponds. The Baseline Assessment states high concentrations of ammonia and phosphorous were considered to be important determinants driving water quality issues within the ponds.

4.16 The assessment notes concentrations are high at the top of the chains of ponds, and recommends 'consideration should be given towards investigating the potential sources and pathways of nutrients (such as from dog waste and leaf litter), in order to help reduce the amount of phosphorous entering the ponds'. It should be noted that detergents and lawn fertilizers can also contribute significantly towards phosphorous contamination of groundwater and surface water (see below).

4.17 We strongly recommend that it would be in the applicant's best interest to improve their sewerage systems as part of the development. In the long term, the applicant should work with the local sewerage provider to identify and rectify misconnections and leaking sewers to improve the quality of the groundwater in the catchment area for the ponds as well as the local surface water courses.

4.18 For example, Orthophosphate is a compound made of phosphorous and oxygen. It is found in very low concentrations in unpolluted waters. It is produced by natural processes, but major sources from human activities include: partially treated and untreated sewage; run-off from agricultural sites; and application of some lawn fertilisers. Polyorthophosphates are used for treating boiler waters and in detergents. They transform into orthophosphate in water and can be absorbed by plants.

4.19 As the proposed development involves excavation of clays from borrow pits to provide construction material, then re-using the dredged silts to back-fill the borrow pits. The following advice is relevant:

4.20 The CL:AIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works are waste or have ceased to be waste.

4.21 Under the Code of Practice:

- excavated materials that are recovered via a treatment operation can be re-used on-site providing they are treated to a standard such that they are fit for purpose and unlikely to cause pollution

- treated materials can be transferred between sites as part of a hub and cluster project
- some naturally occurring clean material can be transferred directly between sites.

4.22 Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

4.23 The Environment Agency recommends that developers should refer to our:

- Position statement on the Definition of Waste: Development Industry Code of Practice and;
- Website at www.environment-agency.gov.uk for further guidance.

4.24 Contaminated soil that is, or must be disposed of, is waste. Therefore, its handling, transport, treatment and disposal is subject to waste management legislation, which includes:

- Duty of Care Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting (England and Wales) Regulations 2010
- The Waste (England and Wales) Regulations 2011

4.25 Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standards BS EN 14899:2005 'Characterisation of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

4.26 If the total quantity of waste material to be produced at or taken off site is hazardous waste and is 500kg or greater in any 12 month period the developer will need to register with us as a hazardous waste producer. Refer to our website at www.environment-agency.gov.uk for more information.

4.27 London Parks & Gardens Trust (Planning & Conservation Working Group) comments that the ponds, which are fed by streams, were created for utility and amenity, and are of historic and archaeological interest as well as possessing visual and ecological value in addition to their recreational importance. Their current form results from human intervention over a long period, and the scale of intervention to date has been proportionate to the function and to the landscape, so that the result appears "naturalistic" if not, strictly speaking, "natural". I am not qualified to assess whether the proposed works are proportionate to the long-term threats of flooding or not, but my instincts are that the proposed works are in some respects excessive. It is clearly important to be sure that the existing dams are secure and can safely hold back the present water levels. Any work beyond that needs the most careful consideration and independent assessment, not least as

the proposed works will be physically and visually disruptive in the short and medium term, and will result in changes to the appearance of the ponds and their surroundings which the passage of time will eventually soften but not conceal entirely.

4.28 Natural England comments: Statutory nature conservation sites – no objection. This application is in close proximity to the Hampstead Heath Woods Site of Special Scientific Interest (SSSI). Natural England is satisfied that the proposed development being carried out in strict accordance with the details of the application, as submitted, will not damage or destroy the interest features for which the site has been notified. We therefore advise that this SSSI does not represent a constraint in determining the application.

4.29 Protected species - We have not assessed this application and associated documents for impacts on protected species. Natural England's standing advice is provided.

4.30 Sport England does not wish to comment on this particular application.

4.31 Thames Water has no objection to the proposals. I write to confirm that Thames Water has no objection to the proposed discharges from the ponds into the public sewerage network.

4.32 Thames Water has reviewed the modelled flow figures from the Hampstead Heath ponds supplied by Atkins working on behalf of the City of London. The data provided show that the proposed changes to the ponds will reduce the peak inflows into the sewer network for comparable storm events. The sewer network in the vicinity of the ponds is typically more susceptible to intense convective type rainfall and as the inflows from the ponds are attenuated means that overall the changes proposed by the City of London will result in an increase in available peak capacity within the sewer network and hence Thames Water has no objections to the proposal in its present form

4.33 Thames Water Waste Comments recommends the following condition: No impact piling shall take place until a piling method statement (detailing the depth and type of piling to be undertaken and the methodology by which such piling will be carried out, including measures to prevent and minimise the potential for damage to subsurface sewerage infrastructure, and the programme for the works) has been submitted to and approved in writing by the local planning authority in consultation with Thames Water. Any piling must be undertaken in accordance with the terms of the approved piling method statement. Reason: The proposed works will be in close proximity to underground sewerage utility infrastructure. Piling has the potential to impact on local underground sewerage utility infrastructure. The applicant is advised to contact Thames Water Developer Services on 0845 850 2777 to discuss the details of the piling method statement.

4.34 The following organisations were formally consulted on the application, but no response has been received:

- Design Council,

- London Borough of Haringey,
- Corporation of London (as a neighbouring downstream authority)
- Garden History Society,
- Superintendent of the Heath.

4.35 **Conservation Area Advisory Committees (CAAC)**

4.36 Highgate CAAC: Highgate CAAC has provided two responses. The initial response detailed that Highgate CAAC felt unable to comment on this application until the judicial review of the scheme had been heard. Since the judicial review has taken place Highgate CAAC comments/objects as follows:

1. Even given that work on the dams is legally required what is proposed is fat too extensive and will be to the great and permanent detriment of the Conservation Area.
2. The design is far too driven by engineering standards with far too little consideration of environmental considerations and the requirements of the Hampstead Heath Act of 1871.
3. The number of trees to be felled is excessive and will alter the aspect for the worse of some of the most cherished parts of the Heath. This applies to the Stock Pond. And to the Boating pond.
4. The excavations for so-called borrow pits will cause damage to the meadows on the hill facing the boat pond and filling them with silt as has been proposed will alter their ecology in an unacceptable fashion.
5. The walls at the end of the men's swimming pond and the so-called training wall on the slipway introduce elements more suited to a water works than the natural aspect of the Heath protected by statute.
6. The landscaping proposed is more suited to a park that the Heath; it MUST be accepted that the Heath is not a PARK but an area of countryside wonderfully still existing in an urban area. The urge to tidy it up cut things back destroy undergrowth in the plans betrays a complete lack of understanding of the nature of the Heath and why it is so beloved by all in North London.
7. The disruption which will be caused to all local residents and users of the Heath is so considerable and so long lasting in the current plans that a more modest solution to the problems of the dams (greatly exaggerated as they are) MUST be found.
8. Any conditions placed on a permission must include much greater provision for the quiet enjoyment of their homes and their surroundings of those who live on the borders of the Heath.
9. The abundant wild life which has made its home on these ponds is going to suffer enormous immediate disruption and destruction of habitat. Any ecological improvements will not be visible for at least two years and probably more. This is an intolerable situation and very little if anything seems to have been done to ameliorate it.

10. This scheme is unnecessarily extensive and grandiose and must be refused as it stands.

4.37 Holly Lodge Estate CAAC objects: Hampstead Heath is a major amenity for the residents of north London. The scale of the works is huge requiring nearly 2 years to complete and during which time there will be constant noise and vehicle movement around the heath. 160 trees are to be removed. The Ladies Bathing Pond will be out of action for 5½ months and some concurrent with the Mixed Bathing Pond. The Men's Bathing Pond is to be out of action during early summer. The works will permanently alter the character of the ponds with high banks rising above the water in many instances. The Heath will be disfigured by the addition of engineered landscaping.

4.38 The justification put forward for this work is to ensure compliance with various acts of parliament, however these acts are open to interpretation as is the scale of any rainfall. The City of London current advisers (Atkins) have taken a view of the Probable Maximum Flood which is lower than the City's previous advisors (Haycock). Future advisers may go lower still. The Heath & Hampstead Society is challenging the proposal by seeking a judicial review of the requirements for the various acts, no work should be commenced until the results of this review are known. The HLE CAAC is not convinced of the need for the works and objects to the application.

4.39 Dartmouth Park CAAC, Hampstead CAAC, Mansfield CAAC, Redington / Frognal CAAC and South Hill Park CAAC were all formally consulted on the application, but no response has been received.

4.40 **Local Groups**

4.41 Brookfield Mansions Freehold Ltd - on behalf of the leaseholders and residents of the flats at 25 to 56 Brookfield Mansions – comments (offering support and concerns) by way of two separate submissions. A summary of the first submission is:

4.42 We support the application for the following reason:

1. Brookfield is extremely vulnerable should the dams fail. Apart from any other water damage, the foundations could be undermined. We therefore in principle strongly support the measures to prevent dam collapse.

4.43 We have the following concerns about the impact of the scheme:

2. A new 60m wide spillway is proposed along part of the raised crest of Highgate No 1 Pond. In the event of an overtopping, the proposed spillway would concentrate all the high velocity discharge occurring into Brookfield and the neighbouring properties located beneath the dam. Conditions in the vicinity of Brookfield could in consequence be worse than if no work was carried out. The proposed timber fence bordering the spillway would be ineffective in preventing this from happening.

3. In the past the ‘scour pipe’ from Highgate No 1 pond has been opened when water threatened to overtop the dam. City of London have not taken the effect of this into account.
4. City of London have paid insufficient attention to the possibility of relatively minor measures of flood prevention which could be done at the same time as the works to the dams at a reasonable cost and with little or no environmental impact.
5. We have made suggestions for which we have no evidence that CoL has taken seriously: (i) An additional overflow pipe which would take water from Highgate No 1 into the sewers or flood relief tunnels, (ii) A small earth bund, approximately 1m high; (iii) additional water storage on the Heath, e.g. west of the Men’s Pond.

4.44 We urge the planning committee:

A. To support the proposals to decrease the danger of dam failure in the interests both of the safety of the residents of Brookfield, a number of them elderly, and of other Camden residents downstream of the dams.
B. To make it a condition of granting permission that the City of London include an additional overflow from Highgate No 1 pond of the same capacity as the existing overflow and a small bund to ensure that any water coming over the spillway is directed away from Brookfield. It is not reasonable to pass this water through the buildings which comprise Brookfield, flooding the basements and causing potential danger to residents and property.
C. To ensure that maps based on the topographical survey data showing the extent and depth of surface water flooding downstream of the chains in 1:2,000; 1:5,000 and 1:10,000 events are made available to local residents before a final decision on the application is made.

4.45 A summary of the second submission is:

- Following a meeting with Thames Water we are concerned about the proposed reduction in the size of the overflow pipe; this would increase the flows over the spillway of Highgate No1 and potentially into Brookfield. In addition, the overflow will be positioned in the spillway (at present it is in the dam) where it could easily become blocked. In the existing situation in an extreme event, some water would flood areas adjacent to the higher ponds. As proposed, all excess water, that is water not held in the ponds or discharged down the overflow, will be discharged down the spillway of Highgate No 1. Atkins clarified that the overflow reaches peak capacity in a 1:20 storm.
- Thames Water had visited the Heath and looked at the toe of Highgate No 1 and were sympathetic to the consideration of a bund (say 1m high) to the south of Brookfield. They also stated that in an extreme storm, any increase in flow down the pipe would be insignificant, particularly in view of the fact as there would be a delay (approximately 6 hours) from the start of the storm to the maximum discharge of water through the overflow. We have also proposed that an additional overflow at top water level would in fact increase our protection significantly in extreme events and we believe this would not have a significant effect on flooding downstream.

- Technical comments from Professor K R Rushton, PhD, DSc, CEng, MICE, MCIWEM were also included in this submission regarding: the overflow from Highgate No. 1 Pond; Estimate of Flows through the Overflow Pipe based on Pipe Theory; and, conditions when substantial floods occur

4.46 Elaine Grove & Oak Village Residents Association (EGOVRA), representing 75 households in Oak Village, Julia Street and Elaine Grove NW5, firmly supports the City of London's Planning Application. We believe it complies with Camden's Core Strategy, Development Policy 23 and will provide increased protection against flooding for much of our community and other downstream communities in certain circumstances.

4.47 The Heath & Hampstead Society objects by way of three separate submissions. The first, received in August 2014, is summarised as follows:

4.48 1. The Reservoirs Act 1975 and statistical basis of the proposals

4.49 The basic criteria used to justify the works, interpreted from the Reservoirs Act 1975, are unrealistic and out of all proportion to the threat, if indeed a threat can be deemed to exist at all.

4.50 These criteria can be summarised as the greatest theoretically possible rainfall in the area, leading to failure by collapse of the existing dams, with consequent flooding and potential loss of life; the so-called Probable Maximum Flood (PMF). Atkins predict the annual probability of such an event as 1 in 400,000.

4.51 The Reservoirs Act 1975 was plainly drafted with much larger, commercial water supply reservoirs in mind. The Heath ponds are on a minute scale by comparison. However the assessment is arrived at, it is on a common sense view unreasonable, disproportionate and, in its effects through the proposed engineering works, highly damaging to the character and appearance of Hampstead Heath.

4.52 The public safety hazards implicit in the proposals, which are said to arise from the provisions of this Act, are grossly exaggerated: a) it is self-evidently disproportionate, indeed absurd, to take such elaborate precautions against an event with a probability of 1 in 400,000; b) Long before apocalyptic scale flooding happened, serious flooding would have occurred arising from other causes. It is important to make clear that these elaborate, expensive and in our view unnecessary proposals are confined to preventing dam collapse, and will do nothing to prevent flooding due to other causes including overtopping, which would involve much greater risk to life and property, are much more likely, and would occur first. The consulting engineers themselves have stated that this is not a flood alleviation scheme; c) the event implied would not be instantaneous; local and national authorities would have already taken emergency action; d) In the 1975 severe storm flooding was caused by rainwater run-off exceeding the sewer capacity. None of the flood water came from the Heath. Existing enclosures will safely cope with extreme conditions; e) flood events within the bounds of reasonable probability can and should be dealt with by dam modification work on a much smaller scale, complemented by properly designed and functioning storm drainage systems in the downstream inhabited areas.

4.53 2. The Hampstead Heath Act 1871 and the preservation of the natural aspect and state of the Heath

4.54 The provisions of the Act were designed to ensure that the Heath is preserved in perpetuity in its natural aspect and state (see Section 16 of the Act). Hampstead Heath is unique, both within London and elsewhere in Britain, for its preservation of wild natural countryside, with its wildlife habitat, in the heart of a high density urban area. It is estimated that over seven million people visit it every year, drawn by its natural beauty and character exemplified by the ponds and their surroundings. It is unrivalled as a space where people can enjoy natural countryside within a major city, and is a social asset of inestimable value. It is a national, indeed international, asset which must be preserved unharmed.

4.55 The construction or enlargement of these dams, and other associated elements of the project, would damage the wild and natural character and appearance of the Heath seriously and irreparably. This damage would be most apparent in the vicinity of the works, but would also affect views into and across the Heath, which are one of its notable qualities.

4.56 Modern dams would destroy the present natural character permanently, in particular the works at the Model Boating Pond, the Mens' Bathing Pond, the new Catchpit. There are other proposals, smaller in scope, which we also oppose. Amongst these is the loss of trees, assessed by the City at around 160.

4.57 Proposals would be contrary to London Plan MOL policy (Garden House, Vale of Health Judicial Review case cited) and CoL's Statement of Significance for Hampstead Heath, e.g. The strings of ponds are a significant hydrological resource and collectively form **an essential part of the character of the Heath.** The ponds serve a wide range of functions including acting as reservoirs, contributing to the Heath's diversity of wildlife habitats, whilst also providing a highly popular and nationally renowned recreational resource. The natural bathing ponds have been enjoyed for centuries and are the only lifeguarded open-water swimming facilities in the UK open to the public every day of the year. **The ponds are also importantly valued for their visual amenity** for example as the setting for the Grade II Listed Viaduct Bridge. (H&HS emphasis in bold)

4.58 3. Presentation of the proposals by the applicant: "Before" and "After" images

4.59 Extremely concerned at the misleading nature of the "before" and "after" photographs provided by the City.

4.60 The CoL "after" picture of the Men's Bathing Pond does not clearly identify the one metre high concrete wall proposed to be built along the top of that dam. The CoL "after" pictures of the Catch Pit effectively conceal the size of the new dry dam which will be 100 metres long, 40 metres wide, 5.6 metres high and have a slope of 1-in-3. The Society has produced separate before and after photographs at Model Boating, Mens' Bathing, Catchpit and Mixed Ponds.

4.61 4. Construction operations and collateral environmental damage

4.62 This is a major project, the construction cost of which alone is estimated at more than £17 million. Although the works themselves will take place at particular sites, we estimate that a far larger area of the Heath will be blighted by these operations with surrounding residential areas also being adversely affected. The operations will include heavy goods vehicle movements to remove excavated spoil and to deliver plant and bulk materials and heavy plant movements to and from the site and while operating; all with associated noise, fumes and dust as well as damage to the landscape. This will result in loss of amenity; restrictions on public access and use for recreation and other purposes; and collateral damage to habitats and ecosystems. In particular, swimming in the ponds – a very popular pastime at all times of year – will be interrupted for an extended period.

4.63 For example, we calculate that the Catchpit will require well in excess of 3,500 cubic metres of earth requiring more than 500 heavy goods vehicle (HGV) movements to bring it to site.

4.64 5. Planning policies, guidance and other material considerations

4.65 National and local planning policy support our objection (this list is not exhaustive).

- NPPF, especially Sections 9 (Protecting green belt land) 11 (Conserving and enhancing the natural environment); and 12 (Conserving and enhancing the historic environment).
- London Plan, especially policies 2.18A Green Infrastructure; 7.17 Metropolitan Open Land; 7.21 Trees and Woodlands.
- Camden LDF – Introduction paragraphs 17 and 22; CS15, Protecting and improving our parks and open spaces and encouraging biodiversity; especially CS15 (k) to (p); CS16, Improving Camden's health and well-being. DP26, Managing the impact of development on occupiers and neighbours. DP31, Provision of and improvements to public open space and outdoor sport and recreation facilities.
- CPG3 Sustainability Ch 13; CPG6 Ch 8 and 11;
- Statement of Significance (Corporation of London), especially Natural Landscape; Hydrology; and Public Open Space.

4.66 6. Mitigation

4.67 We have said, in discussions with the City, that the proportionate response to protect public safety called for in the Reservoirs Act, could be implemented with substantially less environmental harm to the Heath, if a more rational approach to risk was adopted. Negotiations between us and the City to achieve such mitigation have been unsuccessful, and this is an important factor in the challenge we are currently mounting in the High Court. The principal grounds for Judicial Review are:

- That the City's interpretation of its duties under the Reservoirs Act 1975 is flawed and must be read as subject to and qualified by the City's statutory duties under the Hampstead Heath Act 1871 and the environmental consequences for the Heath generally.

- That the City is taking an irrational and unlawful approach to risk in view of the extreme improbability of an event causing dam collapse and the likelihood of flooding due to other causes occurring first.

4.68 Even if the City were right in its interpretation of the Reservoirs Act, the balance of the arguments calls for refusal, inasmuch as the harm, in planning terms, is simply too great given the remote possibility of the risk identified actually eventuating.

4.69 7. Public opinion; the DamNonsense campaign

4.70 The public criticism of these proposals, both in quality and quantity, is very nearly without precedent in the Society's long history, and is indicative of the alarm with which these proposals are viewed by the voting public.

4.71 8. Timing of decision on planning application; prematurity

4.72 In the circumstances of the current Judicial Review instigated by us, and now in progress, we consider that a decision on this planning application would be premature, and that it should be postponed accordingly.

4.73 We have to inform the Council that, subject to legal advice, if eventually a decision is taken to grant planning permission, we must reserve our position regarding a second Judicial Review in relation to that decision.

4.74 The grave and irreversible damage that would be caused to the Heath by these proposals is too important a matter for us to ignore, given that our primary object as a Registered Charity is the protection of Hampstead Heath in its wild and natural state, having regard to the provisions of Section 16 of the 1871 Act.

4.75 The second submission, received in September 2014, provides more detail in respect of section 3 (Presentation of the proposals by the applicant: "Before" and "After" images) of the August submission. It provides some "before" and "after" pictures of its own from the three sites which are the most seriously and adversely affected, in landscape terms, by the Projected Works: the Model Boating Pond, the Highgate Men's Bathing Pond and Catchpit.

4.76 The "after" picture of the southernmost part of Model Boating Pond produced for the Society is the only one which gives a close-up view of the height of the dam itself.The Men's Bathing Pond wall is nothing other than an unnatural and unsightly addition to the Heath landscape designed in disregard of the prohibition on enclosing or building upon the Heath contained in section 12 of the 1871 Act. The Catchpit photomontages by the City are misleading, while those provided for the Society are relative to the height of walkers along its base. The scale of works will entail extensive tree removal on either side of the dam. A number of enclosures are included within this submission.

4.77 A third submission was made in November 2014, with the Society aware that AECOM had been appointed to review the application for the Council. The Society raised various queries over the applicant's Quantitative Risk Assessment 2013 and requested that AECOM considered these as part of the review, given the Society

considered these matters had been unanswered by CoL/Atkins at the time of writing. These queries covered the following headings: overtopping; breach; average societal loss of life; and, warning time. A list of 26 queries to the QRA are also provided.

4.78 Highgate Men's Pond Association (HMPA) objects. HMPA was set up specifically in response to concerns by 550 swimmers over the proposed dams. CoL has not justified its legal argument for proceeding with these plans. Neither has it properly considered alternative approaches or even sought another Panel Engineer's opinion, but has steam-rollered its scheme through dubious 'consultation' processes with stakeholder groups in the manner of an arrogant landlord who 'owns the Heath'. We believe that the plans are unnecessary as the pond dams on both the Highgate and Hampstead chains are not unsafe (unless you invent an absurdly remote risk as the CoL has done); the plans do not address the realistic threat of adjacent property flooding and, above all, that they would seriously disfigure the beauty and elegant proportions of our beloved Heath for future generations.

4.79 We are supported in this view by other user groups from the Ladies Pond, the Mixed Pond, the United Swimmers, the anglers and several of the Heath-adjacent Residents Associations who have realised that the CoL's plans will not reduce their risk of flooding. (In the case of Brookfield Mansions the proposed Highgate No.1 Pond spillway may in fact increase the threat).

4.80 We would make two appeals to you: First, that you bring to bear — in contrast to the hysterical premise of the CoL's plans — the pragmatic approach taken by LBC in conjunction with Thames Water after the storm and flooding of Dartmouth Park and Gospel Oak in 1975. The small storm-drain traps and two colossal ones (beside the lido and just on the Heath opposite Swains Lane) installed then and connected to the culverts of the E. and W. Fleet River branches/drains have so far kept these vulnerable areas flood-free since. It is astonishing that the CoL did not factor the 1975 storm into their model, preferring hypothetical rather than real extreme weather.

4.81 Second, that you remind the CoL that they are privileged 'custodians' of the Heath, not its owners. Thanks to the Hampstead Heath Act of Parliament of 1871 it is us, we the people, who own the Heath. The CoL is not a body accountable to us by any democratic means, so you who are must please fight our corner. Stop this nonsense in its tracks or, if you cannot do that, delay your decision until the Judicial Review resolves the matter legally.

4.82 Highgate Society objects. A summary of the issues raised are as follows:

- Number of concerns about the likely physical impact on Hampstead Heath - in particular, the necessity for, and long-term impact on the Heath landscape of, the proposals to extend the Model Boating Pond, raise its dam by over 2 metres, and carry out extensive excavations into the adjacent hillside to increase its storage capacity. However, our overriding concern is that the justification for the work, under the legislation which has prompted it, has not

been conclusively demonstrated by the City to the satisfaction of the Stakeholder Group or the wider public.

- The City have not, in our view, demonstrated that the work proposed is either necessary or justified, and are requiring Camden and the wider public to accept it without question. Given the implications, both in terms of cost (to the City of London themselves), disruption to the public use of Hampstead Heath, and adverse long-term impact on the landscape of the Heath, this is clearly unacceptable.
  Since the legal justification for the work, on Metropolitan Open Land protected by its own separate legislation limiting strictly what works may be carried out thereon, has not been satisfactorily, clearly and conclusively demonstrated, permission must be refused. Indeed, we submit that, until the outcome of the Judicial Review is known, it would be premature to make any other decision.
- Camden must seek a copy of CoL's Counsel opinion on the necessity and justification of the work (not shared with H&HS or stakeholders at time of writing). Essential in view of the comment by Philip Everett, Director of the Built Environment for the City of London, in overall charge of the project, at the Development Management Forum held by Camden on June 5th.

4.83 Kenwood Ladies Pond Association objects. A summary of the issues raised are as follows:

- The nature and aspect of certain parts of the Heath, in particular the Boating Pond and the work on the Catchpit dam, will be altered irrevocably.
- Removal of some fine trees as almost all the ponds will be subjected to the construction of new spillways which will instantly create a marker that each of these ponds are deemed reservoirs. Any softening of the earth dams, which have held the ponds over the last 200 years, will be destroyed. What today appears to be part of a naturally evolving landscape will now stand as constructed dams.
- Cause great disruption to areas around both chain of ponds, as well as restricting access to those areas. Kenwood Ladies Pond will be closed for at least seven months and it appears that despite the information in the documents you have received there will be some attempt to ensure there will be women only swimming throughout the closure. You will understand that any closure is of great concern to women who swim in the Ladies Pond and unless there are alternative ponds to swim in such a restriction will have a major impact on the lives of many who swim throughout the year.
- There is nothing that has been stated or written which convinces those of us who have been party to the consultations and discussions with the City, that the works will in fact do what the City is claiming. There is still little conviction that the guarantee for the safety of those living below the Heath, the argument for the works, is worth the paper it is written on. Whilst accepting, given global warming, that there will be an increasing tendency for heavier and more intense rainstorms, it is unclear that the plans to build the dams will ensure the safety of those who live at the end of the drainage channels. We know that water draining off the Heath is not only channelled into the two chains. There will also be runoff into land drains and onto the roads at the base of the Heath itself. There appears to be no joint proposals with either Camden or the Thames

Water who would have equal responsibilities to ensure that water, which is coming off the Heath, would be safely drained away.

4.84 Pilgrim's to Willoughby Residents Association objects as the proposed work is a costly over-reaction to a perceived risk based on faulty modeling and will cause permanent damage to the Heath, both aesthetically and environmentally. The Reseroirs Act 1975 does not necessitate that works be carried out on such a scale.

4.85 Protect our Ponds objects:

- The application does not show proper regard to the protection given to Hampstead Heath by the Hampstead Heath Act 1871 as amended. The application claims to be concerned with public safety but many of the proposals are unconnected to this purpose. The application includes so called environmental proposals which are intrusive and damaging and inconsistent with the 1871 Act.
- The land which is the subject of the planning application is protected by the designation Metropolitan Open Land. 2008 Court of Appeal decision at Garden House, Vale of Health referenced. A number of the parts of the application, each individually and as a group, exceed the scale of development permitted on Metropolitan Open Land. In particular the new dam proposed in the Catch Pit and the additional dam and island proposed for the Model Boating Pond are in conflict with this Metropolitan Open Land restriction. LB Camden therefore has sufficient grounds alone to refuse consent because the scale of the proposals at these two locations.
- Proposal does not conform to CS15: preserve and enhance the historic, open space and nature conservation importance of Hampstead Heath and its surrounding area by…protecting the Metropolitan Open Land, public and private open space and the nature conservation designations of sites ... taking into account the impact on the Heath when considering relevant planning applications … protecting views from Hampstead Heath and views across the Heath and its surrounding area."
- Proposals are harmful to the setting of the grade II listed Viaduct (at the Viaduct Pond)
- Raising of the Mixed Bathing Pond by 1 metre, as the 2010 Aecom peer review states that the Hampstead Mixed Bathing Pond and the Bird Sanctuary Pond "...appear to pose a low risk by virtue of their abnormally high width in relation to their height." Proposals would have a devastating impact on the character, historic views on this part of the Heath and to the amenity of swimmers, visitors and anglers.
- Mitigation work proposed at the Bird Sanctuary Pond will cause significant damage to the Bird Sanctuary Pond and its birds and has no purpose. It is a clear breach of the 1871 Act and must be refused. The work proposed is quite extensive – the 46 metres long and 0.75 metre deep but with sloping banks and a width of up to 3.8 metres works will cause huge disturbance to wildlife. LB Camden is likely to find itself facing another judicial review as the proposals are clearly in breach both of the 1871 Act and the Metropolitan Open Land rules.
- The erection of a new higher dam at the Model Boating Pond will obstruct existing historic views from several directions and the proposed change in the dimensions to the pond including the construction of an artificial island, which is

not an existing feature on the Heath, are in conflict with Policy CS15. It is also detrimental to views from, the setting of and the character of the Men's Bathing Pond which will be below it and is a second reason why this part of the proposal is in conflict with policy CS15. The construction of an Island and changing the shape of the Pond would also be in conflict with the Hampstead Heath Act 1871.

- Proposal is in conflict with London Plan policy 3D. 10 on MOL.
- Questions over whether there is a legal obligation to do the work.
- Proposals based on public safety, but not one person has been killed in the UK from any dam breach or overflowing since 1925. The Flood Risk Assessment provided by the City of London's consultants shows that the proposed works will not prevent flooding in the areas downstream of the ponds in the extreme weather event assume. That being the case, it is clear that the whole project is futile as lives would still be at risk from surface water flooding which the project does not address. There may even be an added danger in such an event if members of the public gain the impression that all the downstream flood dangers from a rare event “have been fixed” and consequently ignore an evacuation call by Camden.
- Camden Flood Risk Management Strategy states breaching of the ponds is an unlikely event. It would be irrational for LB Camden to grant planning consent for a huge development on Hampstead Heath for an eventuality which it has assessed as being “unlikely”.
- Consultation suggests the majority are against the works – e.g. The City of London carried out a consultation of Heath users between November 2013 and February 2014. Sixty six per cent of those asked said they were strongly against the project.
- Disturbance to birds during the nesting season and disturbance to bats and other endangered species are criminal offences but no coherent explanation has been given as to how such damage will be mitigated. Similarly de-silting will have an intrusive and detrimental effect on wildlife. These effects are described in the environmental reports appended to the planning application but the claimed mitigation, where described, is unlikely to be effective.
- Concerns over the cumulative impact of carrying out works on multiple ponds at any one time for bats.
- Concerns over impact on birds during the nesting season – e.g. swan on the Bird Sanctuary Pond.
- Protect our Ponds conclude that there is no evidence that any of the dams are in any way defective. On the contrary the City of London has an exemplary record on maintenance. Camden Council has emergency contingency plans in the event of flooding which could occur, not as a result of overflows from the Heath ponds but from rainfall run off down the hilly streets, whether or not these misguided proposals are put into effect. We urge the Camden Development Control Committee to refuse the application.

4.86 South End Green Association objects:

- The works proposed are not necessary or desirable on any grounds as the basis for the applicant's application is founded upon an entirely erroneous assessment of the risk of overtopping of the dams.

- The reason given by the applicants for the work to the dams is that they must comply with the Reservoirs Act 1975 however if work was required to be carried out under this Act (which it is not) then this Act is in conflict with the Hampstead Heath Act 1871 which says "[The Greater London Council] 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.". The proposed works are directly in contravention of this Act by the cutting of trees and failure to protect the "natural aspect and state of the Heath".
- The works are not necessary on a common sense basis in that there has been only one (minimal and harmless) overtopping of one dam in about 300 years and the likelihood of a serious overtopping in the future which could cause damage is so vanishingly small that to act upon this remote risk in the manner proposed would be beyond all reason.
- If the applicants wished to assure residents in the locality that there was no danger (or a highly remote danger) of flooding of their homes, then there are other ways of doing this without disfiguring the Heath for generations to come.
- The land, the subject of the application, is classified as Metropolitan Open Land (MOL) and as such is protected from inappropriate development and any adverse impact. The works would constitute "inappropriate development" and would have an adverse impact on the openness of the MOL.

4.87 Spiraline Board of Directors, (owner of the freehold and responsible for the management of West Hill Court, Millfield Lane, N6) comments as follows:

- Residents have concerns about the impact of the Ponds Project on the environment and amenity of the heath, in particular on the tree and bird life, on the fishing and swimming and on access to the Heath which many cross on a daily basis for work, school, etc. They are also concerned about the impact of works on traffic on Millfield Lane for the duration of the project.
- Spiraline accepts the need for some remedial works to the dams but have been concerned about the scale of the proposed works, particular the height of the dams on the Highgate chain.
- Impressed by the City of London's consultation process and detail in preserving and some instances improving ecology / minimising disruption, but don't have the expertise to assess the science on which the City of London has based its decisions.
- An independent examination of the scientific rationale for the works and the engineering calculations / approach should be included – this is asked to be the basis for Camden's decision. With such independent scrutiny, there will continue to be a lack of mutual confidence and understanding and factional arguments about different aspects of the proposals and their implementation.

4.88 **Councillors**

4.89 Cllr Sian Berry / Camden Green Party objects, summarised as follows:

4.90 We fully recognise the risks posed –and the need to strengthen the current dams that hold water in the two chains of ponds. However, we do not believe the current proposals for higher as well as stronger dams, are the best way to reduce flood risk

for local residents, or that alternative options for storing excess water on the Heath, (and for increasing water flows away from the Heath) have been properly explored in putting together these proposals.

4.91 Camden Council should either reject the proposals outright, or delay consideration at Development Control Committee until the legal basis has been determined in court and independent experts have been able to look at a range of options that may be as effective at reducing risk but less damaging to the Heath.

4.92 Hampstead Heath is an incredibly valuable part of Camden's heritage and community life, with enormous recreational, ecological and landscape value to the borough and the whole of London.

4.93 The many objections stem largely from the fact that the City of London's proposals would cause drastic changes to the setting of the Heath and the ponds, particularly the boating pond, men's bathing pond and mixed bathing pond in the Highgate chain, and the Hampstead catchpit area, accompanied by the loss of views and amenity for everyone using the Heath. There would also be damage to trees and wildlife, along with heavy construction works. All these effects of the plans would be contrary to the Hampstead Heath Act 1871, which specifies that the City should: "at all times preserve, as far as may be, the natural aspect and state of the Heath."

4.94 The amenity, outlook and ecological damage caused by the plans would breach Camden's policies CS15, DP24, CS14 & DP25.

4.95 Legal action by the Heath and Hampstead Society is being taken to ascertain whether the City's interpretation of the phrase 'in the interests of safety' in the Reservoirs Act 1975 is appropriate, as well as the weight that should be given to each Act in the development and assessment of plans. Until a judgment is received on these matters, we do not believe Camden Council should determine its decision.

4.96 The main point of objection from the community – that the height and bulk of the new proposed dams is too damaging and inappropriate for the Heath – could have been avoided by the exploration of a number of different options for either increased water storage on Hampstead Heath or increased capacity for water flow away from the area.

4.97 There are viable alternatives to these plans that would also be compliant with the Reservoirs Act, but which have not been explored or assessed for their suitability or value for money. Instead, the current plans or close variants have been the only options taken forward at every stage. Potential alternatives include:

- The creation of new areas for offline storage of water,
- The channelling of water flows into new water courses
- The reopening and expansion of underground storage tanks towards Gospel Oak
- The introduction of emergency planning early warning systems

4.98 None have been seriously explored or consulted upon by the City of London. In planning and spending terms, failing to explore potentially viable and less

damaging options sufficiently, and not responding to the views of the community, are relevant.

4.99 Camden Council should commission an independent expert to carry out an assessment of the current plans and a range of alternative proposals, comparing their potential to mitigate the current risks and their likely effects on the landscape and ecology of the Heath. The strength of local feeling against these plans means that only when the full range of options available, and the potential to cause less harm while reducing risks appropriately, is known can a fully transparent and democratic decision be made.

4.100 In conclusion, whatever the results of the court case, there will remain a clear need and a strong legal obligation to reduce risk to local residents. But the existence of this need is not a reason to rush to approve plans that cause excessive damage to a heritage, amenity and natural asset as valuable as Hampstead Heath. This is especially the case when potential alternatives that could satisfy both relevant Acts, national and local planning policies and the wishes of the local community to see the Heath preserved, have yet to be properly explored.

4.101 Cllr Theo Blackwell, in responding to correspondence sent a constituent, supports the application. “I too support the strengthening of the dams and will ensure your representations are heard”.

4.102 Cllr Simon Marcus objects. A summary of the issues raised are as follows:

4.103 Hampstead Heath is world famous, freely available to all Londoners and visitors. It is used daily by a diverse community of people of all backgrounds; walkers, runners, swimmers, the elderly and families with children. It provides many benefits to physical and mental health and wider economic benefit. The proposed works would take at least 2 years and cause massive disruption to the Heath, with large areas inaccessible during works, followed by permanent disfigurement. Wildlife will be disrupted and a sensitive natural environment damaged by traffic and heavy machinery.

4.104 I regard the plans to build dams by the ponds on Hampstead Heath to be deeply flawed and based on unsound evidence. The idea that a ‘biblical’ level flood from a downpour could kill up to 300 people in Gospel Oak lacks credibility. The figure of a 1 in 400,000 chance of this event happening has been mentioned. As a result many realise this application is totally unnecessary.

4.105 More specifically: Legality - The Reservoirs Act 1975 does legally not legally require works to be carried out on this huge scale. The question of ‘risk’ is misinterpreted. There is no requirement to eliminate risk 100% and there appears to be no precedent for this. However the City of London is required under the Hampstead Heath Act of 1871 to preserve it in its “natural state and aspect” and the proposed works will breach this legislation in the opinion of some local experts.

4.106 Scale of works and Disfigurement of Heath landscape- The works would disfigure the Heath permanently and may be a breach of the City’s duties to preserve the Heath.

4.107 The new and unnatural earthworks and excavations at Catchpit Valley will measure 5.6m high, up to 40m deep at base and 100m long. The dam by the Model Boating Pond is proposed to be 2.5m high, the Highgate No.1 Pond will see a 1.25m dam and the Mixed Bathing Pond 1m dam. These and the concrete walls at the Men's Bathing Pond and Highgate No.1 Pond would all damage the quality of life that the Heath offers and represent massive loss of amenity·

4.108 Over 160 trees are to be felled especially at the Stock Pond to create a giant spillway, many of which are irreplaceable. Works would cost £17million, which is money which could be better spent elsewhere.

4.109 Unrealistic modelling - Some of the models for a giant storm assumed, it is believed, a 1 in 400,000 year probability as stated above. In such an event parts of London would be underwater. Why is the Thames Embankment not increased by 5 metres?

4.110 The modelling also assumes no warning and no emergency services or procedures that Camden Council or Thames Water is required to have in place. It also assumes the 300 people who might die in floods remain in their homes and take no action to leave. In the public meeting it was even indicated that the City of London Corporation must consider the possibility that residents in Gospel Oak would inexplicably remain in their cellars during a flood.

4.111 There is no research into other infrastructure which would fail earlier than the current pond dams, and lead to flooding and deaths e.g. drains and sewers south of the Heath. In over 300 years' existence the Highgate Ponds have not collapsed or caused any major flooding. We have just had wettest winter on record with no ill-effects to the ponds. Such modelling may therefore be based on levels of conjecture that arguably render the evidence unusable.

4.112 Such an approach and level of risk aversion, the reduction of risk to zero/nil is Illogical approach and not a requirement of the 1975 Reservoirs Act. Further, reasonable alternatives have not been considered.

4.113 Closure and disruption - The works will take 2 years at least and require the closure of popular parts of the Heath and ponds. There will be countless heavy engineering vehicles and thousands of HGV movements, huge loss of amenity to heath users and damage to wildlife.

4.114 Cllr Maeve McCormack supports the application. For many years residents of Gospel Oak ward, particularly (but not exclusively) those in Oak Village, Julia Street and Elaine Grove, have been extremely concerned at the risk of potential flooding from the Hampstead Heath ponds. This fear was of course realised in the 1970s when the roads in the Mansfield Road area were severely flooded.

4.115 I welcome this application from the City of London Corporation and believe it addresses many of the concerns which were raised by local residents at our area action group when we discussed the risk of flooding last summer.

4.116 Further, I believe it complies with Camden's Core Strategy, Development Policy 23, and will provide increased protection against flooding for much of our community and other downstream communities in certain circumstances.

4.117 I have been contacted by seven residents urging support for this application and no residents have contacted me opposing it. I would urge the overwhelming evidence and support for this proposal to be taken into account by this committee.

4.118 **Adjoining Occupiers**

Number of letters sent	340 to adjoining & nearby occupiers. A further 128 to those who attended the DM Forum on 05/06/2014 and provided contact details to be notified at application stage.
Total number of responses received	926 (petitions counted as 1)
Number in support	18
Number of objections	12,637 in total. 903 individual objection submissions and 11,734 via petitions*
Number of comments (not specifying support or objection for the proposal)	03

*Two petitions have been received. One, when submitted on 12/08/2014, had a total of 11,719 petition signatories. The other petition has a total of 15 signatories. The total number of petition signatories and individual objections received is 12,637 (number of duplications unknown between the individual submissions and petitions)

18 site notices around the site were erected on 14/07/2014, expiring on 04/08/2014. A press notice was published on 17/07/2014, expiring on 07/08/2014.

4.119 **Supports**

4.120 A total of 18 representations in support of the proposals have been received, from the following addresses (first line of address and first part of the postcode given, where specified):

9 Elaine Grove, NW5
23 Elaine Grove, NW5
14 Maitland Park Road, NW3
Flat 16, West Hill Court, Millfield Lane, N6
7 Oak Village, NW5
15 Oak Village, NW5 (two submissions from two separate occupiers of this address)
23 Oak Village, NW5
27 Oak Village, NW5
40 Oak Village, NW5
44 Oak Village, NW5
45 Oak Village, NW5 (two submissions)
47 Oak Village, NW5
St John’s Cottage, 87 South End Road, NW3
Flat 1, Lake House, South Hill Park, NW3

No address provided x3

4.121 A summary of the matters raised in these submissions are as follows:

- Prevent potential risk to life - risk assessment prepared shows that at present an extreme downpour of rain over the Heath would overtop some or all of the ponds and could cause very dangerous flooding of people's homes. For example a 1 in 100 years rainfall event would overtop 7 of the 11 dams; a 1 in 1000 year one would overtop all but one. It is therefore essential that the dams are strengthened to avoid a very serious potential risk to life.
- Supports the proposals and urges LB Camden: 1. not to allow the works to be reduced so that they provide a lesser Standard of Protection than that proposed. 2 ensure the works will not make the situation worse for communities living downstream of the Heath with regards to flooding and/or sewer surcharging for any level of storm event. 3. Ensure that once complete City of London confirms that they have not made the situation worse (and this is independently verified).
- Applaud the City of London Corporation for having the foresight to strengthen the dams in order to safeguard the well-being of citizens and civic infrastructure. Every confidence that the City of London Corporation will implement the works with sensitivity and as little disruption as possible.
- The works will overall improve the beauty of the environment as well as the safety of those living downstream.
- Impressed by the care for the environment and the steps proposed to minimise the impact of works on local residents.
- It complies with Policy DP23 and will provide increased protection against flooding for much of our community and other downstream communities in certain circumstances. In August 1975 an Oak Village dwelling was flooded to a depth of 6 feet
- If experts for the City of London, who will pay vast sums, thinks this needs doing I am guided by them.
- The proposal spreads the work needed over all of ponds with minimal work on the most sensitive ones. Most of the works are in areas that can accept the greatest change. The works include environmental and water quality improvements as well as achieving the main objective, improving dam safety.
- Support the works for Hampstead No. 1 Pond, as the proposals are reasonable. Concerns over disruption to wildlife, vista from east side of Hampstead No. 1 (but support for the application ticked on the response form)
- Dismayed at the manner in which a very vocal and well-funded lobby group has distorted the arguments surrounding the case. The City of London Corporation have proved excellent custodians of the Heath in the past; it is impossible to preserve the Heath from all change.

4.122 **Objections**

4.123 A total of 903 individual representations objecting to the proposals have been received.

4.124 This is in addition to two separate petitions. One, at the time of submission on 12/08/2014, had a total of 11,719 petition signatories. The petition states Camden Council should reject the planning application from the City of London which seeks permission to build and enlarge dams on Hampstead Heath.

4.125 Another petition has been received on behalf of the 17 residents of Broadlands Lodge, Broadlands Road, N6. This had a total of 15 signatures and was dated 10/08/2014. It states that they strongly object to the proposals. Some of our owners have been living in Highgate for over 50 years and have never experienced overflow to the ponds in question and are of the opinion that any future problem could be resolved by minor improvements to the existing dams including additional drainage to divert the flow away from possible floor areas. This is (an) unnecessary waste of money on works that will destroy the natural beauty of the ponds and (we) protest against the project which Camden Council should refuse.

4.126 The individual representations objecting to the proposals are from the following addresses (first line of address and first part of the postcode given, where specified):

41A Aberdeen Rd, N5
17 Agar Grove, NW1
Agincourt Road, NW3
35 Ainger Road, NW3
19a Ainsworth Way, NW8
15 Albert Street NW1
18 Lucas House, Albion Avenue, SW8
100c Albion Road, N16
10 Alcester Crescent
40 Alconbury Road, E5
316 Alexandra Park Road, N22
50 Algiers Road
Flat 3, 15 Alma Square, NW8
74D Amwell Street, EC1R
Flat 8, Merchon House, Anson Road, N7
41 Anson Road, N7
45 Anson Road, N7
121 Anson Road, NW2
39 Arbour Square, E1
6 Archibald Road
88 Archway Road
75 Arlington Road, NW1
6 Arundel Grove, N16
27 Pritchard Court, Aspern Grove, NW3
57 Axminster Road, N7;
24 Aylestone Avenue
17 Baalbec Road, N5
1 Balmore Street
84 Barnet Grove, E2
28c Barnsbury Park, N1
20 Barrington Road
69e Bartholomew Road, NW5
53a Bassett Street, NW5
20 Battledean Rd, N5
Valiant House, Battersea
16 Westerham, Bayham St, NW1
23 Beacon Hill, N7
48 Beechwood Road, E8
20 Belitha Villas, N1
6 Bellgate Mews, NW5
7 Belmore Lane
7 Akenside Court, 26 Belsize Crescent, NW3
22 Holmefield Court, Belsize Grove NW3
120 Belsize Lane
Flat E, 7 Belsize Park Gardens
7 Berkley Grove, NW1
22 Bigwood Road, NW11
2 Birch Close, N19
Flat 2, 8 Blackdown Close, N2
62 Blake Road
16 Bloomsbury Close, NW7
31A Boscastle Road, NW5
24 Embassy Court, 54 Bounds Green Road, N11
34 Brecknock Road, N7
108 Brecknock Road, N7
8 Bramshall Gardens, NW5
29 Briardale Gardens, NW3
28 Brocas Close, NW3
42 Brookland Rise, NW11
8 Buckland Crescent, NW3
18A Buckland Crescent, NW3
28 Burghley Road, NW5
47 Burghley Road, NW5
80 Burghley Road, NW5
91 Burghley Road, NW5

287 Caledonian Road, N1
50 Camden High Street, NW1
88 Camden Mews
7 Camden Place, SL8
9 Camden Square, NW1
18a Campdale Road
14 Cantelowes Road
20 Cardigan Road
11 Carleton Road, N7
9 Southside, 32 Carleton Rd, N7
5 Carlingford Road, NW3
21A Carlingford Road, NW3
24 Carrol Close, NW5 (two separate submissions from two occupiers)
16 Cascade Avenue, N10
61 Casimir Road, E5
101 Castlehaven Road, NW1
57 Cecile Park, N8
6 Cenacle Close, NW3
10 Chalfont Court, NW9
170 Chamberlayne Rd, NW10
22 Chandos Way, NW11
36 Chandos Way, NW11
8 Chanin Mews
17 Apollo Studios, Charlton Kings Road, NW5
109 Chatsworth Road
67 Chenies Mews, W1CE
6 Cherry Tree Road, N2
2 Chestnut Av, N8
73, Cheter Road, N19
18 Cholderton, Salisbury
2 Cholmeley Crescent, N6
57 Cholmeley Crescent
16d Christchurch Hill, NW3
18 Christchurch Hill
31 Christchurch Hill
15 Churchill Rd
49 Claremont Road, N6
19 E Clapton Square
40 Claylands Road
4 Cleve Road NW6 3RR
4 Cliff Road, NW1
25 Clifton Road, N8
29 Clifton Road, N22
42 Clifton Road, N8
193a Coldharbour Lane, SE5
138 Columbia Road, E2
33 Colvestone Crescent
156 Commonwealth Way, SE2
9 Conewood Street, N5
27 Compayne Gardens, NW6
77 Compayne Gardens, NW6
10 Constantine Road, NW3
22 Constantine Road, NW3 (two submissions)
28 Constantine Road, NW3
96 Constantine Road, NW3
99 Constantine Road, NW3
129 Constantine Rd, NW3
39 Coolhurst Road, N8
1 Copse Edge Avenue, KT17
19 Cornwallis Road, N19
11 Cotswold Gate, NW2
8 Courthope Road
7 Courtside, N8
25 Cranbourne Gardens, NW11
26 Crescent Road, N8
30 Cressida Rd, N19
24 Milborne House, Cresset Road
2 The Crest, NW4
128 Crimsworth Road, SW8
11 Croftdown Road NW5
17 Croftdown Road NW5
30C Croftdown Road, NW5
108 Croftdown Road, NW5
5a Cromartie Road, N19
54 Cromwell Avenue, N6
74 Cromwell Avenue, N6
162 Cromwell Tower, EC2Y
51 Cross Street, N1
26 Crossfield Road, NW3
61 Exchange House, 71 Crouch End Hill, N8
21 Dagmar Terrace
29 Daleham Gardens, NW3
2a Dalmeny Road, N7
5 Dalmeny Road, N7
28 Danvers Road
37 Dartmouth Park Avenue, NW5
75 Dartmouth Park Hill, NW5
5 Deakin St North, Hampton, Australia
Flat 1, 31 De Crespigny Park
21 Denewood Road, N6
38 Denman Drive South, NW11
21 Denning Road, NW3
27A Denning Road, NW3
38 Denning Road, NW3
44 Denning Road, NW3
48 Denton Road, N8

13 Devon Rise, N2
45 Dongola Road, N17
13 Downside Crescent, NW3
29 Downside Crescent, NW3
63a Dresden Road
65 Dresden Road, N19
123 Drovers Way
41 Dunboyne Road, NW3
64 Dunboyne Road, NW3
The Watch Tower, Dungeness Road, TN29
12A The Pryors, East Heath Road, NW3
43 The Pryors, East Heath Road
55 The Pryors, East Heath Road, NW3
6G East Heath Road, NW3 (two submissions from separate occupiers)
25F East Heath Road, NW3
19A Eccleston Street
464 Edgware Road, W2
10 Edison Road, N8
56 Kinver House, 42 Elthorne Road, N19
3A Endymion Road, N4
Enfield
Flat 2a, 34 Englands Lane, NW3
1 Ennismore Gardens
10D Eldon Grove, NW3
17 Elthorne Court, Elthorne Rd, N19
104 Erskine Hill, NW11
6 Erskine Road, NW3
124 Etchingham Park Road, N3
56 Eton Avenue, NW3
104 Eton Hall, Eton College Road, NW3
7 Eton Road, NW3
222 Euston Road, NW1
31 Fairfax Place, NW6
47 Fairmead Road, N19
6 Fairlawn Mansions
24 Falkland Rd
41 Falkland Road
54 Falkland Road, NW5
Flat 3, 77 Farleigh Road, N16
11 Fassett Road, E8
2527 Faxon Court, Topeka, USA
Fellows Road
25 Ferme Park Road, N4
252 Ferme Park Road, N8
330 Field End Road, HA4
Flat 51 Moreland Court, Finchley Road, NW2
692A Finchley Road, NW11
42c Finsbury Park Road, N4
47 Finsbury Park Road, N4
Flat 10, 55 Fitzjohns Avenue, NW3
Apex Lodge, Fitzroy Park, N6
Sunbury, Fitzroy Park, N6
16 Fitzroy Square
42 Flanchford Rd, W12
70b Fleet Road, NW3
96 Florence Road, N4
32 Fordington Rd, N6
19 Davina House, 59a Fordwych Road, NW2
48 Fortess Rd, NW5
64 Fortis Green
Flat 22 Westside, 68 Fortis Green, N2
3 Francis Walk, N1
41 Freegrove Road, N7
97 Frognal, NW3
22 Frognal Lane, NW3
8 Gainsborough Gardens
9A Gainsborough Gardens
13 Gaisford St, NW5
87 Gaskell Road, N6
14a Gayton Road, NW3
37 Gayton Road NW3
6a Gillies Street, NW5
237 Girdlestone Walk
12 Glenilla Road, NW3
37 a Glenloch Road, NW3
139 Gloucester Avenue, NW1
66 Goddard Place, N19
9 Gold Hill, SP7
10 Gordon House Road, NW5 (two separate submissions from separate occupiers)
25 Goring Road, N11
3 Grange Road, N6
12 Grange Road, N6
45 Granville Road, N4
21 Grasmere Road, N10
41 Grasmere Road, N10
Flat F2, Rutland House, 30 Greencroft Gardens, NW6
Ceylon Cottage, Greenhill St
31 Grimthorpe House
4 Old Well House, The Grove
4 The Grove
5 The Grove
214 Grove Road
7 Halliwick Road, N10

15 Hall Oak Walk, NW6
5 Newbury Lodge, Hamilton Park West, N5
18 Hampstead Hill Gardens, NW3 (two separate submissions from separate occupiers)
31 Hampstead Lane, N6
132 Hampstead Road, NW1
Hampstead Way, NW11
Upper Flat, 9 Harecourt Road, N1
23 Hartland Road, NW6
81b Hartland Road
14 Harvey Road, N8
8 Haslemere Road, N8
19 Heath Hurst Road, NW3
107-111 Heath Street, NW3
37 Hendon Way
36 Heysham Road, N15
Flat 3, 9 Highgate High Street, N6
23 Highgate High Street
7 Parkview Mansions, Highgate High Street, N6 (two separate submissions)
10 Highgate Hill
96 Highgate Hill, N6
112 Highgate Road, NW5
19 Brookfield Mansions, Highgate West Hill
11 Highgate West Hill
18 Highgate West Hill, N6
Flat 1, 23 Highgate West Hill, N6
27 Highgate West Hill, N6
100 Highgate West Hill, N6
1 Hilhurst Court
Hillcrest
25 Hillcroft Crescent, W5
Hillside Gardens, N6
1 Hillway, N6
3 Hillway, N6
99 Hillway, N6
Flat 6, 2-4 Hodford Lodge, Hodford Road, NW11
12A Hollycroft Avenue, NW3
22 Holly Hill, NW3
Holly Lodge
204 Holly Park Estate, N4
12 Holly Park Road, N1
103 Holly Park
95h Hornsey Lane, N6
99b Hornsey Lane, N6
19 Huddleston Road, N7
80 Huddleston Road, N7
82 Huddleston Road, N7
110 Huddleston Road, N7
Flat 42, 7 Huntley Street, WC1E
30 E Ickburgh Road, E5
Inglewood Road
7 Inkerman Road, NW5
Flat 11, 5 Inverness Street, NW1
3 Islingword Street, Brighton
Flat 7, 3 Jamestown Road, NW1
15 Jackson's Lane, N6
32 Jacksons Lane, N6
105 Judd Street, WC1H
11 Keats Grove, NW3
18 Wentworth Mansions, Keats Grove, NW3
5 Kempe Road, NW6
4 Kemplay Road, NW3
4b Kemplay Road, NW3
18 Kemplay Road, NW3
29 Kenwood Road, N6
18 Kersley Street, SW11
21 Keslake Road, NW6
80 Keslake Road, NW6
31 Kimberley Gardens, N4
3 Kynaston Road
21a Lady Margaret Road, NW5
Flat 1, 98 Lady Margaret Road, N19
Lady Margaret Road, N19
14b Lady Somerset Road, NW5
24 Lady Somerset Road
Studio House, 25A Lady Somerset Road, NW5
62 Lady Somerset Road, NW5
Iris Court, Lanacre Avenue
10 Langbourne Avenue, N6
1 Lansdowne house
17 Lambolle Road, NW3 (two submissions)
14 Langbourne Avenue
17 Langland Gardens
23c Langland Gardens
1 Lansdowne House
27 Laurier Rd, NW5
42 Laurier Rd
38A Lawford Road, NW5
44 Leaside Avenue, N10
7 Leighton Grove
76 Leicester Road
97 Leigh Gardens

3 Leiston Hall, IP16
13 Leverton Street, NW5
2c Lindfield Gardens
17/A Lindfield Gardens
22B Lindfield Gardens, NW3
1a Lisburne Road, NW3
41 Lisburne Road
42 Clevedon Mansions, Lissenden Gardens, NW5
55 Lissenden Mansions, Lissenden Gardens, NW5
79b Parliament Hill Mansions, Lissenden Gardens, NW5
80 Parliament Hill Mansions, Lissenden Gardens, NW5
95 Parliament Hill Mansions, Lissenden Gardens, NW5
100 Parliament Hill Mansions, Lissenden Gardens, NW5
5 Litchfield Court, Litchfield Way, NW11
9 Lithos Road, NW3
100 Liverpool Road, N1
29378 Lochinvar Road, CA
39 Loraine Road, N7
605 Lordship Lane, N22
1 New Court, Lutton Terrace, NW3
11 New Court, Lutton Terrace, NW3
27 Lyncroft Gardens, NW6
21 Lyndhurst Gardens
Chedington, Lynmouth Road, N2
2 Lynton Road, NW6
6 Brownlow Court, Lyttelton Road, N2
96 Monarch Court, Lyttelton Road, N2
Top Floor Flat, 5 Mackeson Road, NW3
18A Mackeson Road, NW3
26 Mackeson Road, NW3
15 Makepeace Ave, N6 (two submissions)
142 Makepeace Mansions, Makepeace Avenue, N6
177 Makepeace Mansions
32 Cyrus House, Malta Street, EC1V
27A Mansfield Road, NW3
46 Mansfield Road, NW3
25 Margaret Court, Margaret Road, EN4
5 Marlborough Yard, N19
46 Burmarsh, 71 Marsden Street, NW5
22 Maryon Mews, NW3
97 Mayfield Road, N8
59 Mayton Street, N7
113 Mercers Road
23 Merton Lane, N6
10 Middleton Road, NW11
23 Mildmay Grove North
Flat 10, 200 Mile End Road, E1
18 Milkman Grove
17 Cavendish Mansions, Mill Lane
Millfield Cottages, Millfield Lane, N6 (two submissions)
1 West Hill Court, Millfield Lane, N6(two submissions from two separate occupiers)
2 West Hill Court, Millfield Lane, N6
12a Millfield Lane, N6
22 Millfield Lane, N6
24 Millfield Lane, N6
Millfield Lane N6
3 Millfield Place, N6
50 Milton Park, N6
Heath Winds, Merton Lane, N6
8 Middleton Road, NW11
7 Montague Road, N8
33 Moray Road, N4
102 Moray Road, N4
14A Mortimer Terrace, NW5
15 B Mortimer Terrace, NW5
52 Mount Pleasant Crescent, N4
56 Mount View Rd, N4
189 Mount View Road
31 Mowbray Road, NW6
61 Mulgrave Road, W5
8 Muswell Hill, N10
33 Muswell Hill Place, N10
16 Nassington Road, NW3
140 (b) Nelson Road, N8
Flat 5, 13 Netherhall Gardens, NW3
1 Netherhall Gardens, NW3
20 New End Square, NW3
Flat 15, Nightingale Court
83 Northchurch Road, N1
1 Northdene Gardens, N15
Pitt House, North End Av, NW3
24 North Grove, N6
3 North Square, NW11 (two separate submissions from separate occupiers)
33 Northway, NW11
146 Holly Lodge Mansions Oakeshott Avenue, N6
24 Oakeshott Avenue, N6
27 Oakeshott Avenue, N6

26 Oakford Road
Flat 4, Merlin House, Oak Hill Park, NW3
31 Ockendon Road
46 Offord Road, N1
Oman Avenue, NW2 (two separate submissions from two occupiers)
Flat 25, Ronann Apartments, 26 Orsman Road, N1
The Bungalow, 2b Ospinge Road, NW5
13 Palace Court Gardens, N10
19 Park Avenue
23 Woodfield, Parkhill Road, NW3
19 Parliament Hill, NW3
Flat 3, 26 Parliament Hill, NW3
34 Parliament Hill, NW3
43 Parliament Hill, NW3
44 Parliament Hill, NW3
56 Parliament Hill, NW3
63 Parliament Hill, NW3
65 Parliament Hill, NW3
67 Parliament Hill, NW3
75 Parliament Hill, NW3
77 Parliament Hill, NW3
38 Park Avenue, N8
49D Park Avenue, N22
53 Pember Road
18 Penerley Road, SE6
4 Penn Road, N7
5 Perrins Court
5 Village Mount, Perrins Court, NW3
11 Pilgrim's Lane, NW3
34 Pilgrim's Lane, NW3
40 Pilgrim's Lane, NW3
First floor, 60 Pilgrim's Lane, NW3
66 Pilgrim's Lane, NW3
53 Pitfold Road, SE12
33 Platts Lane, NW3 (two separate submissions from separate occupiers)
21 Pleasant Place
67a Poets Road, N5
1st Floor, 11 Poland Street, W1F
Apartment 16, 12 Pond St, NW3
17a Pond Street, NW3
3 Pottery Street, SE16
41A Primrose Gardens
2 Prince Arthur Court, Prince Arthur Mews, NW3 (2 submissions by separate occupiers)
18 Prince of Wales Road
143a Prince of Wales Rd, NW5
14 Priory Gardens, N6
2 Priory Avenue
3A Prospero Road, N19
1 Quadrant Grove
22 Quadrant Grove, NW5

6 Quaggy Walk, SE3
14 Crastock Court, Queens Gardens, W2
30 Quernmore Road, N4
9 Raeburn Close, NW11
95 Redston Road, N8
10 Old Brewery Mews, 155 Regents Park Road, NW3
37 Ridgeway Gardens
59 Ripplevale Grove, N1
10 Red Lion Hill, N2
41 Regina Road, N4
43 Ridge Road, N8
25 Ridgeway Gardens, N6
59 Ripplevale Grove, N1
27a Roderick Road, NW3
29 Roderick Road, NW3
28 Roderick Road, NW3
13 Rona Road
Flat 5 Rosebery Square West, Rosebery Avenue, EC1R
2 St Albans Rd, NW5
36 St Albans Rd, NW5
51 St George's Avenue
20 St James's Lane, N10
84 St. James Lane, N10
41 St John's Grove, N19
216 St John's Way, N19
97 St Johns Wood Terrace, NW8
27A St Johns Villas, N19
21 St Leonard's Square, NW5
68d St Marks Road, W10
10 St Martins Close, NW1
9b St Thomas's Gardens
70 Salcombe Gardens, NW7
12 Sandwell Mansions, West End Lane, NW6
14d Savernake Road, NW3
84 Savernake Road
19a Sedgemere Avenue, N2
Flat 2, 268-270 Seven Sisters Road, N4
14 Seymour Buildings, Seymour Place, W1H
23 Shakespeare Gardens, N2
1A Sheldon Avenue, N6

15 Shepherds Close, N6
13 Shirlock Road, NW3
Flat 15, 12 Shepherds Hill, N6
13 Sirdar Road N22
42 Somerset Road, EN5
105 Sotheby Road, N5
South End Green
71 South End Road, NW3
75 South End Road, NW3
95 South End Road, NW3
101 South End Road, NW3
4, Lake House, South Hill Park, NW3
2b South Hill Park, NW3
8 South Hill Park, NW3
17 South Hill Park, NW3
22 South Hill Park, NW3
23A South Hill Park, NW3
30c South Hill Park, NW3
37 South Hill Park, NW3
Flat 2, 41 South Hill Park, NW3
42 South Hill Park, NW3
44 South Hill Park, NW3
50 South Hill Park, NW3
58 South Hill Park, NW3
59 South Hill Park, NW3
Flat 3, 68 South Hill Park, NW3
Flat 8, 68 South Hill Park, NW3
Flat 5, 68-70 South Hill Park, NW3
Flat 6, 68-70 South Hill Park, NW3
72 South Hill Park, NW3
76 C South Hill Park, NW3
77 South Hill Park, NW3
79 South Hill Park, NW3
80 South Hill Park, NW3
81 South Hill Park, NW3
86A South Hill Park, NW3
93 South Hill Park, NW3
95 South Hill Park, NW3
98 South Hill Park, NW3
107 South Hill Park, NW3
First floor, 3 South Hill Park Gardens, NW3
14A South Hill Park Gardens
South Hill Park Gardens, NW3
Flat 6, South Grove House, South Grove, N6
12 South Villas, NW1
22 Southway, NW11
105 Southwood Lane, N6
11 Southwood Lawn Road, N6
58 Springcroft Avenue, N2
5 Squires Mount Cottages NW3
43b Stanford Road, N11
10 Stanhope Gardens
6J Stanley Terrace, N19
26 Station Road, CB21
Flat 12, 37 Station Road, N22
39 Stoneleigh, BA5
2 Stonenest Street
37 Stoneyhill Place, EH21
4 Stormont Road, N6
13 Stratford Villas
57 A Sumatra Road, NW6
38 Summerlee Avenue, N2
14 Summerlee Gardens, N2
16 Summerlee Gardens, N2
55a Sunny Gardens Road, NW4
100 Sussex Way
2 Court View, Swains Lane, N6
133 Sydney Road, N10
45 Sylvan Avenue, N22
50-56 Talacre Road, NW5
13 Talbot Road
15 Talbot Road, N6
38 Talbot Rd, N6
14 Tanza Road, NW3
7 Tavistock Terrace, N19
11 Temple Fortune Lane, NW11
5 Thornhill Grove
35 Timms Road, OX16
6 Tornay House
115 Torriano Avenue, NW5
101 Torrington Park, N12
1-19 Torrington Place, WC1E
241 Totley Brook Road, S17
37a Tottenham Lane
83 Tufnell Park Road, N7
97 Tufnell Park Road, N7
166 Tufnell Park Road, N7 (two separate submission from separate occupiers)
205 Tufnell Park Road, N7
56 Twisden Road
All Saints' Vicarage, Twyford Avenue, N2
88 Umfreville Road, N4
Flat 7, Giles Building Upper Hampstead Walk, NW3
3 Upper Terrace, NW3
1 Atheneaum Hall, Vale of Health, NW3
6 The Gables, Vale of Health NW3
8 Heath Villas, Vale of Health, NW3

8 Spencer House, Vale of Health, NW3
Beechey Cottage, Vale of Health, NW3
Faircroft, Vale of Health, NW3
Heathdene, Vale of Health, NW3 (two submissions from two separate occupiers)
Heathland Studio, Vale of Health
30 Vallence Road, N22
Vivary Cottage, Vale of Health, NW3
11 Venetia Road, N4
Victoria Park Road, E9
26 Victoria Road, E18
46 Voltaire Road, SW4
Flat 37, Capital Wharf, 50 Wapping High Street
Flat 43, Leyden Mansions, Warltersville Road, N19
18 Warner Road, N8
1B Wedderburn House, 1Wedderburn Rd, NW3
5 Wedderburn Rd, NW3
Flat 31, Melchester House, Wedmore Street, N19
Flat 15, Weatherbury House, Wedmore Street, N19
202 Weedington Road, NW5
22 Well Road
15 Well Walk, NW3
22 Wells House, Well Walk, NW3
3 Wellington Road
11 Balmoral Court, Wembley Park Drive, HA9
2 Wesleyan Place, Highgate Road, NW5
7 Wesleyan Place
43 Westbourne Road, S10
137 West End Lane, NW6
40 Westfield, NW3
2 West Hill Court
27 West Hill Park, N6
Flat 5, 1 Westville Road, W12
69 Whitehall Park, N19
63 Whitehall Street, N17
147 Widdenham Road, N7
18 Widecombe Way, N2
56 Wildwood Road, NW11
Willes Road
55 Willes Road, NW5
10 Willoughby Road, NW3
12 Willoughby Road, NW3
21 Willoughby Road, NW3
23 Willoughby Road, NW3
12 Willow Road, NW3
40 Willow Road, NW3
6 Winchester Place, N6
35 Windsor Way, W14
53 Winton Avenue, N11
79 Witney Street, 0X18
47 Woodsome Rd, NW5
19 Wood Vale (two objections from separate occupiers)
3a Woolstone Road, SE23
29 Wordsworth Walk, NW11
123 Lulworth, Wrotham Road, NW1
15 Yeatman Road, N6
79 Yerbury Rd, N19
31 York Rise, NW5
38 York Rise, NW5
No address specified x189

4.127 A summary of the issues raised, grouped into categories as far as possible (although there is some inevitable overlap between some categories), is provided below:

4.128 Necessity for the works

- The engineering necessity for these obtrusive works is disputed by competent experts.
- Unrealistic modelling: models for a giant storm with a 1 in 400,000 year probability; assumes no warning and no emergency services.
- No need to designate the ponds as reservoirs and no need for these huge works.
- The justification for it is completely unconvincing. In the highly unlikely event of any serious flooding, or risk of, there would be, with current weather forecasting, sufficient time for warning systems to be employed. Given the heavy downpours of this winter (2013-2014) it seems even more ridiculous to base a case on.

- All last winter when it rained near daily for weeks and weeks there was no breaching of the heath dams. Surely it is time to act sensibly and reconsider that the modelling for these plans is misinformed.
- The unlikeliness of this event is so extreme that it appears extraordinary to expend large sums of money and engage in construction works which themselves have real and predictable risks to mitigate such a rare risk.
- If flooding were to occur it is likely that the damage caused would cost less and be less disruptive to fewer people than the construction of the dam.
- If a slightly more enormously unlikely event - say an earthquake or 100 days of continuous rainfall - were to occur the whole project would be useless anyway. Any dam, however high, can be overtopped by a sufficient amount of water.
- Given the 1 in 400,000 chance of extreme flooding happening with no assumption of emergency services, I struggle to understand why we are spending this money in this way, especially in light of so many other issues our borough faces.
- Take issue with the whole culture of so-called 'risk-mitigation' and the self-serving industry of advisors that has grown up around it. Rather than being used as a tool for decision-makers, 'expert advice' is often allowed to trump all other considerations including sound judgement.
- The 1871 Heath Act requires City of London to preserve it in "Natural state and aspect". The proposed works would not. It would be a desecration of trees and wildlife. Why are not Camden Council and Thames Water looking at their responsibilities to ensure sewers etc are properly maintained? There will be flooding and loss of life through that long before the ponds cause problems. Two years of 'heavy plant' on the heath will impact the soil and increase flood risk.
- There will always be advice - It is the job of government (in this case Camden Council, its officers and elected officials) to interpret that advice; to apply reason, commonsense and discretion; and to bring perspective and a wider context to considerations. That is what the people of Camden expect from their Council. That is why the Council exists. We are relying on our elected Camden Council to do what the unelected Corporation of London has disgracefully failed to do. We are relying on Camden to exercise its judgement and distinguish between 'professional risk' and 'real risk'. This is the job of wise men and women. There will always be advice - And there will always be risks. When timeframes are extended to hundreds of years (let alone four hundred thousand years), advice becomes meaningless, the risks unknowable. We fool ourselves if we think we can predict the future. Risk can never be eliminated and the very act of trying to do so is in itself risky.
- The proposed plans are entirely inventions of computer modelling ignoring any evidence that contradicts the desired outcome. They are completely unrealistic, based on a supposed total and instantaneous dam collapse with flooding on an apocalyptic scale causing loss of life. This is out of all proportion to any possible threat.
- These structures will do nothing to prevent flooding The consulting engineers themselves have stated that these elaborate, expensive and unnecessary proposals are not a flood alleviation scheme. They are confined solely to preventing a hypothetical dam collapse, and will do nothing to prevent flooding due to other causes which may occur before any dam collapse. The City itself admits: “..... storms will still cause floods in the area downstream after the work is complete” ... “these works will not prohibit associated flooding from occurring.” (City Hampstead Heath Management Committee Reports).

- Peer review reports on these proposals commissioned by the City itself, questioned several of the most fundamental assumptions. For example the Review by AECOM Technology Corporation, November 2010, stated: “The dams withstood overtopping during the 1975 flood event. ..... the [Pond] embankments may be more resistant to overtopping than research figures suggest”. The uncertainty of the velocity and timing of the breach flood peaks is compounded by the software used for modelling”. In particular: “No specific concerns about the condition of the dams are noted in the inspection reports that might explain such an increase [in the Annual Probability of Dam Failure]”.
- The professional guidance behind these extreme calculations is still being questioned within the profession. No ordinary civil engineering project is predicated on such a remote probability of 1 in 400,000 as being used here. In such an event it is probable that the whole of London would in any case be flooded.
- The risk to the public has been deliberately talked up by those proposing these plans in order to justify them, even to the point of making unsubstantiated and misleading statements.
- The recent rains were the heaviest for many decades and caused no problems in the Gospel Oak and South End Green areas making a nonsense of the City’s reasons for proposing major dam works.
- Proposals are disproportionate in relation to the problem.
- The ponds have existed for many years as they are and will continue to do so.
- The once in 400,000 year event is a standard never before applied to any form of public works and is plainly nonsensical.
- I have heard NOTHING that makes me think that this scheme will add to my safety and security.
- This application is being driven overwhelmingly by a fear of potential legal accountability based on an event with a vanishingly small probability of occurring -- once in 400,000 years - and should be thrown out for the absurdity it is.
- The standard of risk reduction ('virtually eliminate all risk to downstream inhabitants') which the City of London is being held to here is excessive. A legal opinion which holds the CoL to taking all "reasonable" precautions is more appropriate and realistic.
- It is absurd that the CoL has not factored into its model the events of 1975 when flooding occurred in Gospel Oak and Dartmouth Park after a 1 in 100 year storm which did no damage to the dams. Then LBC and Thames Water took remedial action and installed 2 huge storm drain traps and a number of smaller ones. Those vulnerable areas have not flooded since.
- Assumes the 300 additional people who might die in floods due to dam failure remain in their homes and take no action to leave.
- I live in an area that could be affected by potential flooding on Hampstead Heath (Rona Road). Nevertheless, I strongly object to the proposed building of dams on the Heath for the following reasons: I do not believe that the proposed extent of works is necessary to keep residential areas free from flooding. In fact I feel that the extent of works proposed is unreasonable and will hugely interfere with people's enjoyment of the Heath.
- No evidence of flood risk according to the London Plan map or Environment Agency data.
- In the highly unlikely circumstances which the City cater for, significant floods would occur anyway simply due to the lie of the land. It would be impossible to distinguish if this were by surface runoff, ground saturation, sewer overcapacity or from plain

rainfall – and which from pond overtopping. In the circumstances it would not be possible to blame the City of London Corporation for the ensuing catastrophe.

- There are very special circumstances regarding the dams on Hampstead Heath, which show that the above interpretation of risk, safety, and the law, is completely illogical, and leads to grossly excessive designs that do not give the required safety. Reference to the experiences of the 1975 storm are provided, which means that if this 'biblical' storm occurred, then all resident in the downstream area would either have been drowned or evacuated within an hour or two of the 'biblical 'storm starting. The August 2013 QRA report then goes on to state that Heath dams might start to collapse/breach, but not until more than 6 hours of the storm starting. The QRA estimates that this might cause a further approx. 300 Likely Loss Of Life (LLOL). I contest these figures, as after 6 hours of a continuous 'biblical' deluge, all downstream residents would have either drowned or been evacuated. I suggest that there would be no residents remaining in the downstream area 6 hours after the start of the storm. Hence the potential for LLoL due to a dam breach is therefore ZERO. This dam project, and Planning Application, thus appears completely erroneously conceived. It does nothing to protect downstream residents from flooding, and is solely concerned with protecting the City of London Corporation from accusations that it had not complied with legal requirements.
- As the city admits building these new dams will not stop flooding form future storms.
- Based on the submission flood model, the number of additional people (300) who might be killed by the Probable Maximum Flood if the dams fail takes no account of: the responsibilities of other bodies like Camden Council and Thames Water to reduce the impact of flooding; civil contingency measures (early warning or evacuation); drains and sewers would flood anyway; 300 would remain in their homes and take no action. On these regards, the works are unnecessary.
- Independent experts are suggesting that this work is unnecessary.
- I have a distinction from Kings College in environmental modelling and whilst I have not looked at the scenarios in detail I can tell you that environmental modelling is an imprecise science, outcomes are based on huge simplifying assumptions and the motivations of the modellers combined with conflicts of interests can drastically influence the conclusions.

4.129 Legality of the works

- The legal requirement for them is being challenged in the High Court. Until both the legal and engineering requirements have been put beyond doubt, Council's duty under §15 and §16 of the Hampstead Heath Act 1871 is to refuse permission to proceed.
- Reservoirs Act 1975 does legally not require works to be carried out on this huge scale and the City of London have misinterpreted the Reservoirs Act of 1975.
- Once you get down to that level of probability you might as well pull numbers out of thin air - it's simply not possible to model real world events in this way, particularly those involving systems as complex as weather.
- The proposed engineering works are primarily contrary to the 1871 Hampstead Heath Act that seeks to protect the landscape of Hampstead Heath from major alteration. The proposed works are major engineering and will not only change the landscape permanently (contrary to the act) but disrupt public access to a much used and loved public open space for a significant period.

- The Hampstead Heath Act of 1871 was the culmination of a 40 year campaign waged by generation after generation of Hampstead residents to save Hampstead Heath, and to preserve it from development in perpetuity. This campaign is considered to have been the first great conservation battle of modern times. Out of it came The Commons Preservation Society, set up by the Hampstead campaigners in 1865, Britain's oldest national conservation body (now the Open Spaces Society). Octavia Hill and Sir Robert Hunter, who went on to found the National Trust were also involved. The campaign continued after 1871, adding yet more land to the original Heath. Hampstead Heath is unique for its provision of a piece of countryside in the heart of a major city. It is unrivalled as a space where people can enjoy natural countryside within a high density urban area, and is a social asset of inestimable value. Its beauty and character are exemplified by the ponds and their surroundings. It is a national and international, asset which must be preserved unharmed.
- Camden Councillors should be aware of the following facts about the process which raises questions about its integrity. The government's appointed Panel of Dam Engineers, who have statutory powers to inspect dams and make recommendations, mostly work for the firms who will do the work they recommend.
- The panel engineer advising the City on Hampstead Heath Ponds is Director of Dams and Reservoirs at Atkins who have designed the new dams proposed for the Heath Ponds. The same engineer has also been an Advisor to DEFRA. The British Dam Society to which most dam engineers belong has been closely involved in preparing reservoir legislation and the national guidance (which is used to justify these proposals) and has actively lobbied government for it. It is a matter of record – in City reports and in the local press - that the Panel Engineer has informed the City that if they do not proceed with the works in question there are powers under the legislation to force the works through whether the City or the public like it or not. Such an all-embracing power would appear to subvert due democratic process.
- The proposed dam wall crosses our land (in Millfield Lane) and we have not agreed to have it.
- The engineer's recommendations are not in accordance with the requirements of the Act. The risk assumed by the engineers is grossly exaggerated. An event which would be expected to happen only once in 400,000 years is effectively a nil risk.
- The way in which the City's advisors are interpreting the Reservoirs Act 1975 is
- misguided. The Act requires only reasonable public safety. It does not specify the statistical or any other basis on which such safety work should be calculated. It is therefore wrong to claim that it requires works on this huge scale to be carried out.
- At the public consultation evening at Parliament Hill School on 5th June 2014, the Corporation of London admitted that it would "welcome" a legal ruling that it did not have to build the dams and would not be found guilty of manslaughter if the one in up to four hundred thousand chance of a flood killed someone. It follows that the Corporation would also welcome their application for Planning Permission being rejected, as the highest legal authority assures me that this would also discharge their legal responsibility if the one in four hundred thousand chance came off (without requiring them to appeal either, which, by definition, they would not wish to do, since they would "welcome" the decision)
- The City of London is the "custodian" of Hampstead Heath. Since when has a custodian been an agent of destruction?

- If the Council accepted this new risk calculation for the dams, then it would clearly be at risk of legal action being taken against it to bring all the areas under its control – such as roads, schools, buildings etc – up to this notional standard. I would therefore request the Council to reject the application on the basis that the risk assessment is clearly out of line with current UK practice. Accepting the application could therefore open the door for the Council to be forced to upgrade a large number of its current facilities at a cost which is clearly unaffordable in the current climate, and which would not represent value for money. Failure to upgrade might in turn lay the Council open to the risk of legal claims from those who believe it should operate to the standard set out in the dam application.
- If built these works would permanently blight and disfigure the Heath contrary to the Hampstead Heath Act 1871, and the principal charitable object for which the Society was formed in 1897. From what I have read and understand (I am not an engineer) that their proposals “in the interests of safety” are a grossly excessive response to the danger, and have been based on an incorrect interpretation of the law.

4.130 Alternatives

- Again and again at public consultation meetings, people asked about warnings: could the people at risk from flooding not be warned in time? We never got a reasonable reply. I believe that the dams plans do not consider the possibility of early warnings to residents. In my view, it is unlikely that such huge and sudden floods would occur with not even a bit of time to warn downstream residents to leave their homes.
- There are far better methods for managing flood risk than these massively disruptive and disfiguring plans.
- I am sure something much more modest would be perfectly adequate.
- Please re-think the whole strategy and consider alternative solutions for flood prevention on the Heath as these present proposals are not the solution.
- Extremely poor use of public funds for which Camden is accountable - huge waste of £17 million which can be far better spent on proportionate water management plans and used for environmental conservation not destruction.
- Have not taken into serious consideration alternatives that are less costly, proportionate, less environmentally damaging.
- Early warning systems of an impending deluge could help with an evacuation. Even if you build dams and hold the water back, it is going to arrive downstream at some stage!! So let's save the heath from years of disruption to its users and the wildlife, trying to exist with fewer trees and reduced habitat. Let's create a more holistic approach with the heath and it's users contributing,
- Homes and lives could be better protected by improving the Heaths natural capacity to hold water, by making minor improvements to existing dams and investing in an early warning system.
- Camden Council have civil contingencies in place in the event of flooding so these works are completely unnecessary and a complete waste of money. The money would be put to far better use by alerting local residents of potential flooding risk and information and obtaining better insurance.
- The existing dams should be strengthened internally to prevent collapse, without altering their external appearance.

- The money would be much better spent on improving the drainage and sewage systems in the vicinity which would fail much faster under extreme conditions than the existing dams are ever likely to do.
- Alternatively, CoL could use their budget to take out insurance.
- Get a second opinion from Arup or another well regarded firm.
- I urge you to rethink these major works and decide instead to follow the advice of independent experts who state that the ponds and the area around them would be equally well or better protected by taking less drastic measures.
- Explore using the underground rivers Fleet & Kent to which excessive above ground water can be diverted thus preserving the existing rural atmosphere of the heath.
- Residents of Kentish Town have not been asked whether they'd prefer the proposed solution, or others to enable spare funds to be put to other use.
- Failing to consider alternatives e.g. Stephen Myers' proposals reported in the Camden New Journal on 4 July 2014 (greater use of the Heath's natural capacity to absorb flood water requiring much smaller modifications to the existing dams).
- There are many other ways that this worry of flooding could be managed, which would be less destructive, (and expensive) and not have the considerable safety issues for the general public that two years of construction will have.
- Mitigating risks takes a range of forms, for instance text and phone alerts as well as flood protection works including drainage. In 1975 I was working at the Tavistock Centre when 7" of rain fell on the Heath in three hours.Two people died in nearby basements and we spent many hours trying to salvage our archives. Climate chan ge -absent strenuous efforts to reduce CO2 equivalent emissions - will probably increase such risks but I have seen nothing in the CIty of London's documentation to justify the extreme risks that would be mitigated by their proposal.
- It is the main rain water drainage/overflow system that requires the (actually more difficult) transformation, and shows a failure in forward thinking and planning with the regional private water company and its local strategy.
- The City has failed to give due consideration to alternative proposals such as those of Stephen Myers' as reported in the Camden New Journal on 4 July 2014 (greater use of the Heath's natural capacity to absorb flood water requiring much smaller modifications to the existing dams).
- And why the City of London Corporation is not taking into account the opinion of INDEPENDENT experts that recommended that homes and lives could be better protected by improving the Heath's natural capacity to absorb water or making minor improvement to existing dams or investing in early warning systems for residents, goes beyond my comprehension? Lawyers said that these softer measures would fulfil completely the City of London legal obligations to protect households and preserve the ponds, but are also being ignored.

4.131 Premature application

- Application is premature until the challenge to the legal basis of the scheme which has been presented by the Heath and Hampstead Society, has been resolved.
- It would be so much more sensible to wait until after the judicial review of the proposals being sought by the Heath and Hampstead Society.

4.132 Amenity / visual impact & design / heritage

- Disfigurement of Heath landscape: new and unnatural huge earthworks and excavations at Catchpit and Model Boating Pond; concrete walls at Men's Bathing Pond and Highgate No.1 Pond.
- It would disfigure the Heath for future generations who have a right to enjoy this unique beautiful environment that would be taken away from by businessmen in the City who have no understanding of the history or very nature of the Heath. Their proposals to dam the ponds must be stopped as they are beyond any sense and in effect ludicrous. It would be wanton vandalism.
- Harm of the loss of the natural look of the beautiful green spaces being ruined by concrete walls at the Men's Pond and digging around the Highgate Pond
- The development will be hideously ugly
- The amenity value of the current, quasi-wild structure of the heath is enormous. The heath - exactly as it is - provides real, present and irreplaceable value to thousands of London's citizens. I, along with many, many other users of the ponds and the heath value its current state as a life-enhancing and therapeutic amenity for city dwellers. There is a growing body of research that shows that green spaces - and specifically natural, wild green spaces are a major contribution to mental health and good living.
- The City seems to be in love with concrete, and ugliness at the moment. Camden shouldn't indulge it.
- Hampstead Heath and the beautiful ponds are so exquisite that they need no interference or improvements as they are perfect just as they are.
- The visual impact of the scheme will be detrimental to the Heath: It is out of keeping with the rural nature and wooded soft landscaping . The massive naked embankments are overbearing, out of scale and insensitive to the environment , as is a BRICK wall to be built around the lowest Highgate pond.
- This development will irreversibly damage the natural wild character of the heath and ponds.
- The Catchpit valley above the mixed pond should remain and not be obliterated. The concrete wall above the men's pond should not be built because it will be unsightly, the work disruptive to residents, visitors and wildlife. The boating pond does not need to be redesigned or spillways built.
- Construction of a huge 40m wide by 5.6m high embankment in the Catchpit Valley and construction of a massive 2.5 m dam at end of the Model Boating Pond is excessive.
- The proposed earthworks will take away that natural vista and replace it with a clearly man made structure in the form of a series of raised dam walls.
- Successful planning applications around the pond - notably The Water House - have already impacted negatively on the environment. And the rich cultural history of the pond, as well as the beauty of its natural environment is threatened by these proposed encroachments.
- The City of London Corporation is required, under the Hampstead Heath Act of 1871, to preserve it in its "natural state and aspect". Much of the value of the Heath lies in this natural state, with only minimal interference to create pathways etc. The planned dam works will permanently destroy the current natural aspect of the ponds, with the Boating Pond and Bathing Ponds at least being changed into unsightly municipal water reservoirs.
- The resulting alteration of the landscape will be the great "parkification" of the area around the model Boating Pond and the raising of dam levels on other ponds so as to make them have the appearance of reservoirs, rather than the appearance of

ornamental ponds which they currently have. In particular, the great crescent to be raised on the Model Boating Pond will particularly change the appearance of the southern part of that pond.

- The removal of trees and shrubs from the dams and the slipway areas will make the ponds look like artificial reservoirs instead of looking like natural ponds.
- It is one of the last wild ecosystems to remain in a large city, so very important to so many people - for physical AND mental health, as well as vital spiritual sustenance.
- The dams are to be concrete which is a toxic substance with no ability to biodegrade, the proposed dams are too massive and inappropriate for their surroundings.
- The City of London Corporations Statement of Significance 2009 sets down the baseline upon which conservation and management objectives can be developed to ensure that its historic landscape character and features are conserved and enhanced. The Ponds are a surviving landscape feature forming a vital/essential part of the Heath's character and heritage. The City's proposed plan for the ponds is inconsistent with everything previously said and done about the Heath. The protected landscape would obviously be radically changed in perpetuity by the plan, with vital features spoilt.
- The proposals would curtail the openness of the aspects towards and from the ponds.
- The Heath is a natural space, subject to gradual human intervention over hundreds of years. Proposed works would be sudden and dramatic.
- The works proposed would have an adverse effect on the houses in South Hill Park which adjoin ponds No 1 and No 2. The spillways presented in the application will be unsightly and, combined with raising the height of the dams, will spoil the relatively "rural" effect of the area.
- The huge dams that are to be created will fundamentally change the character of the area. The dam at the Catchpit will particularly change one of the quietest areas of the Heath, a well-wooded area well suited to songbirds, into a thoroughfare with a major new path and a new cycleway across the top of the dam that will completely change the atmosphere of the of the area in the long term. There will also result in major tree loss. Whole new cycleways will be needed to link this new cycleway promised for the Catchpit dam with other cycleways on the Heath.
- The design of the dams is deeply unsympathetic to the Heath as we know it. Sightlines will be changed; the long views down the chain of ponds on the Highgate side will be lost. The 'soft' slipways that are supposed to allow excess water to bypass the dams are very large and out of proportion with other features on the Heath particularly the natural ones.
- The sheer scale of the dams, the largest over 5m high, and another at the Mens Pond at 2m high are by far the highest manmade structures on the Heath. These would be overbearing, way out of scale with an environment that has been consciously designed to mimic nature in a manmade setting in its management. Some visitors to the Heath even believe it is 'natural' when they first come upon the Heath; this charming illusion will be lost.

4.133 Trees

- Over 160 trees to be felled; including large tree loss at Stock Pond to create giant spillway.

- In addition, there has already, due to storm damage, been enough loss of trees - chestnut, oak, lime - so the loss of a further 160+ trees would be a travesty.
- Trees hold the ground together, and help prevent flooding.
- The heath has already lost a great number of trees over the last year in the Kenwood area thanks to English Heritage
- Trees are vitally important for tackling air pollution. Every city relies on the 'green lungs' of its parks and heaths. The loss of tree habitat for wildlife is of major concern when we consider how far some bird species and bee populations are rapidly declining. They need policies to support and sustain them rather than attacking and destroying their ecosystems. Finally, large trees take many years to grow. They can't easily be replaced by planting more.
- I see no modelling or analysis on what the loss of these trees would do to the environment and the amenities of the area. Trees have a very important function in the retention of water and this appears not to have been taken into account whatsoever.
- More tree planting is a sensible way to manage the water table
- Hampstead Heath is the only naturally preserved green space in the "concrete jungle" of the city of London. It acts like a natural sponge when floods occurs, so felling 200 trees and injecting yet more concrete to it is simply stupid.
- Extremely concerned about the number of trees to be felled. Some may be poor
- specimens, some may not be of particular importance, but it should NEVER be considered desirable to remove trees from their position. Trees are a valuable and increasingly scarce resource; Hampstead Heath might well lose more in future years as a result of disease - massaria, ash dieback, oak processionary moth (even though not currently present, always a risk), other diseases of which the public is not yet aware. In addition, the designated Catchpit Area will have a markedly changed appearance, which cannot be welcomed in comparison to its current "natural" state. Even though the loss of Veteran Trees is limited, the importance is not the parts, but the whole.
- Loss of plane trees of considerable age between Hampstead ponds 1 and 2.

4.134 Disturbance / Safety / Access

- 2 years of works requiring closure of popular parts of the Heath.
- Closure of bathing ponds.
- Heavy engineering plant and thousands of HGV movements;
- Large parts of the heath would be closed, and even more dangerous, would be the heavy equipment movement causing serious risk to children and to animals - both domestic and wild.
- Closure of the bathing ponds, and disruption to our precious green open space, our Rus in Urbe, the lung that Londoners need so badly in our polluted, overcrowded city, is also an appalling prospect.
- The Royal Free hospital's emergency services will surely suffer.
- Building up the sides of the ponds so that they could serve as reservoirs in the absurdly unlikely event of flooding makes the work of parents looking after vulnerable children far more difficult. Getting a small child out of the water when that child is immediately visible and accessible is already an alarming prospect, but if that child has run up an incline and disappeared into the water behind it, its extrication becomes infinitely more difficult. I am sure the City of London does not want to put children at risk of drowning, but they have not thought through the

consequences of their scheme to the parents and children whose safety needs to be a central consideration.

- The alterations in facilities at the Ladies Pond will give a narrower access point to the changing rooms which may cause overcrowding at peak times and the danger of someone falling in the water.
- Threat to cyclists – the main cause of death of cyclists on the roads are construction lorries.
- The raised banks proposed in the construction would create a closed-in, tunnel effect. The new man-made construction has the potential to channel walkers and hide them from view, creating a potential problem spot, with the potential to jeopardise personal safety.
- The proposal will make the Heath less safe for walkers as the paths will obscured and walkers will be less visible and vulnerable to attacks especially in low light or poor weather conditions. The welfare of resident walkers and tourists must be of paramount importance. Risk of litigation from those attacked as a direct consequence of CoL making the victims more vulnerable following the completion of the proposed works.
- I would object in the strongest possible terms if access to the dams (assuming they go ahead) is to be made from Millfield Lane. The safety of pedestrians, including children, would be at considerable risk if no separate provision is made - preferably by creating a secure access road across the heath from the main road. Bulky material could be helicoptered in.
- The machinery used will regularly include 10 tonne lorries, 13 and 20 tonne excavators and a 9 tonne dumper. There will also be “exceptional” use of a 90 tonne crawler and 26 tonne concrete pump. Such heavy plant is likely to contribute to the soil compaction that the dam works are being partly justified to counteract.
- Cumulative impact of the proposed works being carried out at the same time as the scheme at: 1-11A Swain's Lane & 109-110 Highgate West Hill (2013/6674/P)
- The digging out of this bank and the modifications that they intend to do, would change the use of this pond, as any boats that sail on it could get caught in the reed beds and then not be recoverable. This would also take away wheelchair access to the West Bank. Both for wheelchair based anglers and wheelchair based general public. This will leave the East bank of the Model Boating Pond as the only wheelchair access on the Highgate and Hampstead chain of ponds.
- The modifications to the dam at the Mixed Swimming and number Two Pond on the Hampstead Heath chain would remove the only wheelchair access to that side of Hampstead Heath and should not be carried out as it is considered to be one of the strongest dams on the Heath.
- Bam Nuttall are not the right firm for the proposed construction works and are not trustworthy.

4.135 Wildlife / ecology

- There are a large numbers of birds, butterflies, insects, amphibians, reptiles, and mammals who make the heath their home and this would destroy habitats. Surely in a world where we need to encourage children to value the environment, there is no better place for all Londoners to bring their families to enjoy nature and learn about the importance of such places.

- As an avid bird-watcher, I can foresee what the repercussions of the felling of countless trees and construction disruption, among many other ill-effects, will have on Britain's much-loved wildlife.
- Hampstead Heath is the last oasis of wildlife in London. It's beautiful with its wild flowers without concrete roads and organised flower beds. You can see here Woodpeckers, owls, sparrowhawks, bats, rabbits, butterflies and many other species and enjoy rare in overcrowded concrete London silence and smell clean air.
- The impact on the wildlife just doesn't bear thinking of. Have you ever stayed completely still and quiet, treading water in a pond and watching a kingfisher catching fish? Have you ever watched a pair of Canada geese teaching their precious offspring how to fly? Have you ever found yourself grinning from ear to ear when you are surrounded by ducklings and chicks as you swim along? Do you realise that all this happens on the Heath just 4km from Trafalgar Square? What does the responsibility of protecting that mean to you?
- Who will enjoy the Stock Pond - the most important water bird site on the Heath with Reed Warblers, Kingfishers, Rails..... let alone the other scarce birds such as Whitethroats, when the trees are destroyed
- Proposals will cause disruption to the natural habitat
- There will be new and unnatural huge earthworks and excavations at Catchpit and Model Boating Pond. There will be concrete walls at Men's Bathing Pond and Highgate No.1 Pond. This isn't in keeping with sustaining the ecology and protecting the habitat.
- There is a strong possibility that this will result in permanent loss of plants and wildlife. None of this can be predicted and permanent loss will be a disaster for the Heath, one of Camden's major assets.
- Destruction of the delicate Hampstead flora and fauna.
- The Heath is a unique wildlife habitat within five miles of the heart of London. I fear that by the time the heavy construction traffic has departed we will be left with few if any of the kingfishers, heron, newts, hedgehogs and numerous other species that make it such an extraordinarily rich natural environment.
- Worry for the deleterious impact that such an elaborate engineering project will have on the creatures and plants that co-habit the Heath with us. There is a rich diversity of wildlife in and around the ponds. Hampstead Heath is a haven and should be respected as such. The trees host a huge amount of insect and bird life as well as providing shelter and homes for many of the small mammals. Damming the ponds will damage the ecosystem for many years following the departure of engineers and their heavy plant and it must remain a doubt as to how long the area will take to recover.
- Hampstead Heath is a Site of Metropolitan Importance for Nature Conservation. The proposed works would severely affect, in horrifying scale, the character of this protected area. Countless wild plants and insects, as well as birds, small mammals, amphibians and reptiles would be disrupted and removed were the proposed works to go ahead. Whole habitats would be destroyed, food chains disrupted and soil compacted, with consequent loss of bio-diversity. The presence of these habitats and variety of species are of huge benefit to people. They are what make the Heath a healthy, beautiful, inspiring place for all who spend time there, for walking, swimming, relaxation, sports, family fun or conversation.
- This dam project would contravene many targets of the Biodiversity Action Plan. Many aspects would be affected and damage or impede the following: Wildlife

conservation; Ecosystem maintenance; Aesthetics; Wild and Natural appearance; Continued use of the ponds by thousands that utilise the ponds daily as part of health and wellbeing.

- Threat to waterside and water birds, in particular the Common Kingfisher whose habitat, nesting, and feeding grounds (feeding grounds includes the Women's Pond) would be disturbed and thus endangered by the proposed works. The proposed plans for works to be undertaken, including the felling of many trees at the Women's Pond would interfere and disturb the kingfishers' feeding ground and perching habitat, firstly by interference from the undoubted level of noise and secondly by the actual loss of tree and perch habitat.
- The proposed works at the Women's Pond will necessitate work with heavy machinery and therefore threaten the security of the kingfishers nesting sites: the Women's Pond is located so close to the Kingfishers' nesting habitat. Measures to improve water flow can disrupt this habitat, and in particular, the replacement of natural banks by artificial confinement greatly reduces the populations of fish, amphibians and aquatic reptiles, and waterside birds are lost.
- Camden Planning have a duty to ensure that the wider habitat and nesting grounds and feeding habitat of all wildlife , in particular that of the Common Kingfisher on Hampstead Heath is maintained and protected in its current state. I call upon Camden to enact its commitment in Camden Biodiversity Action Plan to "integrate wildlife into our decision making and site management" and thus endorse the fact that Biodiversity plays an integral role in defining Camden's character.
- This year I watched the swans and they make a beautiful sight, but there are no cygnets. The heath in its vastness is still a small fragile eco system we mess with it at our peril.

4.136 Harm to swimming experience / swimming

- The Heath is a special environment, and used by all sorts of people, from all segments of society, and is a place of sanity and serenity in a chaotic world. Being able to swim in natural ponds, without concrete walls enclosing them, is a unique experience.
- Works will stop my weekly exercise.
- Promises to keep a swimming facility for women only open have been reneged on.
- The ladies pond is my paradise and sanctuary. Not just mine mind you, but many women like me find joy and peace by releasing their daily stresses in this beautiful little lake. I urge you to decline the build of this proposed dam and preserve our cherished ladies pond; few places are left now where women bound by timeless sisterhood smile in total relaxation.
- Impact on health and well being of uses includes pond swimmers who will not be able to access the pond - notably the Ladies pond for 9 months - and when they can the access will be very limited increasing health and safety risks.
- The proposals for the changing rooms & deck area at the women's pond seem dangerous and ugly.
- The proposal to demolish the existing deck and changing rooms and replace them with facilities with much more restricted (dangerously so) access and egress leading to potentially dangerous congestion at busy times
- Full Amenity Assessment (Appendix 10.1) states Ladies' Pond will be closed for 7.5 months and there will be no alternative swimming facility for most of this period (October 2015-March 2016) as the Mixed Pond is closed for most of this time too.

- Proposed single narrow entrance to deck area and changing rooms will be much more congested than at present. Potential risk in emergency situation. Single point of exit from proposed lifeguard facilities makes no provision for alternative emergency exit from long/narrow building. Also a “blind spot” from the back of the office area, no view of the south meadow. An emergency exit door here facing south meadow, with suitable glazed panel, would resolve both issues (instead of proposed window to side/gate).
- The proposal to close the pond for over half a year, is devastating, and no clear details have been given or any female only swimming facilities throughout the works.
- For a number of groups of swimmers e.g. Orthodox Jewish, access to single sex swimming facilities is essential and not just a preference.
- The document “Proposed Drawing B Ladies Bathing Pond” indicates that a new aerator will be installed in the middle of the pond with a power supply from half way along the western bank of the pond. This appears intrusive as the aerators currently used are near to the southern end of the pond, behind limit lines so that swimmers cannot get too close to them. They do not intrude on the main body of the pond and serve an additional purpose of keeping an area close to the deck “swimmable” if there is ice in winter.
- The proposals will lead to the closure of the Ladies Pond for a much longer period than the closure of the Men's and Mixed Ponds. This feels like discrimination against women swimmers, contrary to anti-discrimination legislation.
- The ponds are one of the few places in London you see orthodox jews and muslims, in the single sex bathing ponds ... it is a place that reminds us of our humanity.

4.137 Privacy / light / views for existing nearby occupiers

- The height of the new construction has the potential to intrude on the privacy and quality of light of some of the current residents in Millfield Lane.
- The loss of existing views from neighbouring properties is in my opinion not acceptable either.

4.138 Experience for visitors and impact on local businesses

- It would ruin the experience for visitors, making them unlikely to return – with the obvious knock on effect of loss of revenue for local businesses.
- The proposed works would interrupt our leisurely enjoyment of the Heath as well as stopping people from using the bathing ponds.
- The wildness and the enjoyment afforded by these ponds is important to the psychological and physical wellbeing of the local residents and can also benefit visitors.
- As it is such an asset to the city, making it an attractive place to come on business, this proposal could also have a wider negative economic impact in the long term.

4.139 Other

- Lack of information provided, in particular contour maps of the proposed works.
- Conflict of interest between City of London and Atkins. The City hired Atkins to carry out the study and then hired Atkins to carry out the works. It was likely that

Atkins would come in with a mega job for its own profit. Another states the main source of influence on which the City of London has based its proposals is in fact a company which derives its income from building such dams.

- If City of London wishes to spend its money mitigating the risk of real, frequent and serious flooding may I respectfully suggest they make a contribution to the works required to protect the Somerset levels?
- Proposals are a waste of public money.
- I also question the abysmal lack of transparency in these procedures thus far and going forward. As I go on my regular weekend runs through the heath and see all your very one-sided project announcements pinned here and there, I keep wondering: How has money been spent thus far on this project? Did I, as a voter, have a say in, for example the staff hired to sit in various booths are the heath to hand out those one-sided Dams Project leaflets? Would you keep us informed of every penny of the 17 million pounds that we're told this will cost us? In this day and age of austerity?
- Would it not be better to spend the money on dams to prevent flooding of the Thames and other areas which propose a threat to the people living there?
- I hope Camden council will reconsider these proposals democratically as the majority of people are against it.
- Insufficient consultation has been undertaken
- Does Camden council want to be responsible and remembered for these heinous unnecessary works, should they give their permission for this application?
- Please listen to all the objectors, they know and love the Heath unlike the computers who designed the dam scheme.
- The heath is not owned by the Corporation of London, it belongs to the public, the Corporation of London are there to manage it, why would you allow them to dictate what work is carried out on unfounded grounds?
- Why not insure the area, and buildings instead as the cost of insurance (if deemed necessary by householders) could be offset against their council tax.
- Corporation of London cannot be trusted. Why should they be trusted on placing hugely expensive contracts to build dams to protect against statistically insignificant risks?
- The suspicion amongst many of us who love and use the Heath is that the contractors involved will make huge profits from these proposed works but the real cost will be felt by ordinary Heath users who will lose the vital recreational and leisure facilities afforded by these beautiful open spaces
- If the project goes ahead, there will be direct action which will further increase the cost of the project, and also eventually there will be legal action against the council.
- Surely there is a legal obligation to provide full disclosure and details of who will be benefitting financially from this work?
- City of London has ignored the results of its own limited consultation exercise (November 2013 – February 2014) where two thirds of respondents were very dissatisfied with all of the dam proposals. Given limited options to comment on in first place.
- Let us liberate the Corporation from its fear by rejecting the application, whilst saving fifteen million pounds and the beauty of the Heath the Corporation is meant to be preserving.
- Far more worrying is the risk of flooding from all the basements being allowed to be built in this catchment area. They are raising or displacing the ground water levels

and diverting underground streams. Springs are bubbling up in unexpected places. This can only get worse if basements are continuing to be allowed to be built here.

- The inevitable protests will require a huge amount of security and policing and the costs will soar. This dispute will rage throughout this, until commonsense prevails and some enhanced maintenance and increased vigilance resolves a problem that doesn't exist outside the dubious suggestions of construction companies wanting a fat contract.
- This planning consultation has over 80 "Related Documents", many of which were difficult or impossible to open from the Camden website due to file size. This does undermine the validity of a consultation if supporting documentation is difficult to access.
- The heath will no longer be that special place saved from developers for the people , it will be known as "Yet another Public amenity wrecked by a few money grubbing ignorant council officers and developers waiting for their back-handers. Be a hero - STOP this project and the spirit of the Heath will stay.
- This plan app by the City is brief in the extreme. It is not good enough to only have full details in a library I cannot visit before 7th. My objection is to the meagre information provided which is a clear attempt by the City to smuggle this very extensive planning application through.
- I would refer to what seems to me to be a conflict of interest on the part of Andy Hughes. He is the City of London's consultant, a consultant for DEFRA and the Atkins engineer who will build the dams for the ponds. We know that the "computer modelled" catastrophic rain event that is justification for these monstrously intrusive dams describes an event that has NEVER taken place on the Heath, and at once every 400,000 years, will never take place on the Heath. But even if it were to occur (impossible) there is no evidence beyond Andy Hughes's research to indicate the areas of Gospel oak, Dartmouth Park, etc. would be flooded with his estimated loss of 400 lives. Surely Hughes has got this project mixed up with the Olympics.
- CoL make no mention of their intentions for the water. Is it, as has been suggested, going to be sold to, say, Thames Water who will then sell it back to us – the commercial interests need to be made clear.
- Consultation period should be extended until the end of September as people are presently on holiday.
- In this Borough, we are already appallingly blighted by the Council's excessively generous granting of Permissions for 'developments' in domestic/residential premises. I am submitting this Objection in spite of being fully aware of the fact that the Council's Planners always ignore the efforts that we voters make in attempting to keep at bay such disproportionate 'developments'. In our democracy, I never feel so unrepresented as I do when I'm trying to make my voice heard at local level.
- I hope the Council will make its own thorough examination of the data used in the modelling and of the calculations used in the modelling, and will also take account of the legal challenge being brought by the Heath and Hampstead Society.
- A bench in the memory of George Hill, the last bench at the boating pond before the wild bird pond, will be threatened will removal. This would break the terms of the Heath Management's Guarantee provided. Many frequently sit on the bench enjoying the view, the peace and memories of George. All this will disappear should this application be approved.
- Effect on morale must not be left unconsidered - the Heath is a lifeline for many, many people who depend on its uplifting environment to keep them feeling well on all levels, in a city and in a world where too much is being ravaged and destroyed.

4.140 **Comments**

4.141 A total of 3 comments, not specifying either support or objection to the proposals, have been received from: an unspecified address; Flat 28, Brookfield Mansions, Highgate West Hill; and, 64 Woodsome Road, NW5. A summary of these comments are as follows:

- Has my previous suggestion been considered i.e. build tunnels beneath the ground at the foot of the ponds in order to divert flood waters into the River Fleet and/or its tributaries? This possibility should be worth considering from every aspect – cost, landscape, environment and personal relationships.
- As residents of a block of flats (Brookfield Mansions) in the pathway of overspill from the proposed dams. We would be glad of your assurance that whatever solution is reached, the outcome will be to the benefit of these flats, and the greater safety of residents and buildings, and no affect us adversely.
- I appreciate what the City of London Corporation is proposing to do to alleviate flooding on the Heath and do not object, in principle, to the works being carried out. Future generations and the Heath will benefit and trees and vegetation would soon re-grow. However, I do feel that there should be input, not only from the City of London, but also from Thames Water, to prevent any future overflow from inadequate sewers. Both organisations need to formulate a joint plan to prevent any future flooding, both on the Heath and especially the areas to the south of it.

5. **POLICIES**

5.1 **National and Regional Policies / Guidance**

National Planning Policy Framework 2012
NPPG
London Plan 2011
Revised Early Minor Alterations (REMA) to the London Plan 2013
The Draft Further Alterations to the London Plan 2014
Mayor's Supplementary Planning Guidance

5.2 **LDF Core Strategy and Development Policies**

CS1 Distribution of growth
CS4 Areas of more limited change
CS5 Managing the impact of growth and development
CS8 Promoting a successful and inclusive Camden economy
CS10 Supporting community facilities and services
CS11 Promoting sustainable and efficient travel
CS13 Tackling climate change through promoting higher environmental standards
CS14 Promoting high quality places and conserving our heritage
CS15 Protecting and improving our parks and open spaces and encouraging biodiversity
CS16 Improving Camden's health and well-being
CS17 Making Camden a safer place
CS19 Delivering and monitoring the Core Strategy
DP13 Employment premises and sites
DP16 The transport implications of development

DP17 Walking, cycling and public transport
DP20 Movement of goods and materials
DP21 Development connecting to the highway network
DP22 Promoting sustainable design and construction
DP23 Water
DP24 Securing high quality design
DP25 Conserving Camden's heritage
DP26 Managing the impact of development on occupiers and neighbours
DP27 Basements and lightwells
DP28 Noise and vibration
DP29 Improving access
DP31 Provision of, and improvements to, open space, sport and recreation
DP32 Air quality and Camden's Clear Zone

5.3 **Other Planning Guidance / Guidance**
Camden Planning Guidance (CPG) 2011 - CPG6-8
Camden Planning Guidance (CPG) 2013 - CPG1&3-4
Dartmouth Park Conservation Area Appraisal and Management Strategy 2009
Hampstead Conservation Area Statement 2001
Highgate Conservation Area Appraisal and Management Strategy 2007
Holly Lodge Estate Conservation Area Appraisal and Management Strategy 2012
Mansfield Conservation Area Appraisal and Management Strategy 2008
Redington and Frognal Conservation Area Statement 2001
South Hill Park Conservation Area Statement 2001
Sites of Nature Conservation Importance in Camden SPD 2006
Camden SFRA Strategic Flood Risk Assessment 2014
Camden Biodiversity Action Plan 2013-2018

5.4 **Other Documents / Guidance include**
Reservoirs Act 1975
Hampstead Heath Act 1871
Flood and Water Management Act 2010
English Heritage Landscape Advice Note: Historic parks and gardens and changes to reservoir safety legislation 2013
Equality Act 2010

6. **ASSESSMENT**

6.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires the application to be determined in accordance with the development plan unless material considerations indicate otherwise. Section 66(1) of the Planning (Listed Buildings and Conservation Areas Act 1990 requires that in determining a planning application which affects a listed building or its setting, special regard must be had to the desirability of preserving the listed building or its setting.

6.2 The principal considerations material to the determination of this application are summarised as follows:

- Whether the proposals constitute appropriate development on MOL
- Conservation / Heritage / Design & Archaeology

- Sustainability
- Nature Conservation
- Trees
- Transport
- Amenity
- Other matters
- Necessity of / justification for the proposed works

Whether the proposals constitute appropriate development on MOL

6.3 In terms of the NPPF, paragraph 79 outlines that "The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence". Metropolitan Open Land (MOL), which the entirety of the site is, is given the same level of protection as the Green Belt. Paragraph 87 continues by detailing that "inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances". Paragraph 88 continues that "Local Planning Authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations".

6.4 Paragraph 89 then details that local planning authorities should regard the construction of new buildings as inappropriate in Green Belt. Six exceptions are however detailed by bullet points as follows:

● buildings for agriculture and forestry;

● provision of appropriate facilities for outdoor sport, outdoor recreation and for cemeteries, as long as it preserves the openness of the Green Belt and does not conflict with the purposes of including land within it;

● the extension or alteration of a building provided that it does not result in disproportionate additions over and above the size of the original building;

● the replacement of a building, provided the new building is in the same use and not materially larger than the one it replaces;

● limited infilling in villages, and limited affordable housing for local community needs under policies set out in the Local Plan; or

● limited infilling or the partial or complete redevelopment of previously developed sites (brownfield land), whether redundant or in continuing use (excluding temporary buildings), which would not have a greater impact on the openness of the Green Belt and the purpose of including land within it than the existing development.

6.5 Paragraph 90 then details that certain other forms of development, with engineering operations specifically referenced, "are also not inappropriate in Green Belt

provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt".

6.6 MOL is considered within the London Plan at policy 7.17. At a strategic level the Mayor strongly supports the current extent of MOL and its protection from development having an adverse impact on the openness of MOL. For planning decisions, the strongest protection should be given to London's MOL and inappropriate development refused, except in very special circumstances, giving the same level of protection as in the Green Belt. Essential ancillary facilities for appropriate uses will only be acceptable where they maintain the openness of MOL.

6.7 At the local level, the LB Camden LDF includes a number of policies relevant to the necessity of and justification for the proposed works, with the most pertinent detailed below.

6.8 First, CS15 (Protecting and improving our parks and open spaces and encouraging biodiversity) details at a general level that the Council will protect and improve Camden's parks and open spaces. We will:

a) protect open spaces designated in the open space schedule as shown on the proposals map, including our Metropolitan Open Land, and other suitable land of 400sqm or more on large estates with the potential to be used as open space;

6.9 The policy then goes on to refer specifically to Hampstead Heath. It is stated that the Council will preserve and enhance the historic, open space and nature conservation importance of Hampstead Heath and its surrounding area by:

k) working with the City of London, English Heritage and Natural England to manage and improve the Heath and its surrounding areas;

l) protecting the Metropolitan Open Land, public and private open space and the nature conservation designations of sites;

m) seeking to extend the public open space where possible and appropriate;

n) taking into account the impact on the Heath when considering relevant planning applications;

o) protecting views from Hampstead Heath and views across the Heath and its surrounding area;

p) improving the biodiversity of, and habitats in, Hampstead Heath and its surrounding area, where opportunities arise.

<u>The engineering operations</u>

6.10 As detailed within section 2 of this report, the majority of the works can be classed as engineering operations. With this in mind, paragraph 90 of the NPPF is of relevance as detailed at paragraph 6.5 above. As such, engineering operations will

not be considered inappropriate should they preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt.

6.11 Considering first the openness of the Green Belt, this will be assessed in full in the following sections of this report. In short however, it is considered that the majority of the proposals are appropriate in maintaining the openness of the Green Belt. However, concerns are raised by officers concerning the heritage value harm of the reshaping of the Model Boating Pond (on the western bank and also incorporating an island with associated reed beds), in particular reducing the ability to appreciate and recognise the historic function of the pond as a 'boating lake'. As such, in respect of paragraph 90 of the NPPF, it is considered that the proposals would not fully comply. Therefore the proposals can arguably be considered to be inappropriate in this specific regard. This national policy ties in with the London-wide policy and elements of local policy CS15, in particular parts a) and l) detailed at paragraphs 6.8-6.9 above.

6.12 In terms of the engineering operations conflicting with the purposes of including land in Green Belt, it will be detailed in the following sections of this assessment (for example the sustainability, nature conservation and trees sections) that the proposals are appropriate. In short, the various mitigation works proposed all ensure that, although some changes would occur, there will be no significant change to the intended purpose of the land for open space. The heath will, as a result of the proposed works, continue to be an open and natural open space.

6.13 Therefore in this regard it is concluded that the proposed engineering operations can arguably be considered to be inappropriate in regard to paragraph 90 of the NPPF. This conclusion will be weighed up against the need for the works, as discussed in a subsequent section of this assessment, prior to coming to an overall conclusion on the acceptability of the application.

Principle of replacement changing / lifeguard facility

6.14 In terms of the principle of the replacement of the Kenwood Ladies' Bathing Pond changing / lifeguard facility, paragraph 89 of the NPPF is of relevance. It details that the construction of new buildings should be regarded as inappropriate in the Green Belt (Metropolitan Open Land, for which the site is, constitutes the urban equivalent to the Green Belt). However, there are six exceptions to this, including:

- the provision of appropriate facilities for outdoor sport, outdoor recreation and for cemeteries, as long as it preserves the openness of the Green Belt and not does conflict with the purposes of including land in it;
- the replacement of a building, providing the new building is in the same use and not materially larger than the one it replaces.

6.15 At the end of the penultimate bullet point to this paragraph 'or' is stated, which implies that only one of the six exceptions needs to be made out to support the conclusion that a development is appropriate. It is considered that, individually, either of the two exceptions noted above could be applied to the proposal.

6.16 In the applicant's supporting statement, focus is initially given to the second bullet point noted above (replacement building). It is agreed that the first element of the test is adhered to, as the new building is proposed to be in the same use as that which it will replace (changing / lifeguard facility for outdoor swimming). In terms of the second element, whether the new building is materially larger than the one it replaces, the applicant has identified the following floor area and volume increases:

	Existing	Proposed	Percentage Increase
Internal Floor Area	97m2	121m2	24.7%
External Floor Area	115m2	149m2	29.5%
Volume	368m3	477m3	29.6%

6.17 The applicant contends that these percentage increases are 'moderate' and 'would not be considered to be materially larger as required by NPPF policy'. Officers question whether such percentage increases are 'moderate' as the applicant suggests, given this is over a quarter (in two of the three instances) and closer to a third of a total increase (again, in two of the three instances).

6.18 However, officers do concur with the applicant that the proposal would fully meet the exception test of the first bullet point stated above. First, the facility is appropriate for outdoor sport/recreation. Second, it is considered to preserve the openness of the Green Belt by virtue of its sensitive timber design blending in with its existing natural setting, meaning the visual perception (of limited effect on openness) remains, and there is a reduction in overall height in comparison with the existing from 3.7m to 3.2m. As such, the principle of the replacement facility is considered to accord with this element of the NPPF.

6.19 The London Plan MOL policy details that the Mayor strongly supports the current extent of Metropolitan Open Land (MOL), its extension in appropriate circumstances and its protection from development having an adverse impact on the openness of MOL. The supporting text states that appropriate development should be limited to small scale structures to support outdoor open space uses and minimise any adverse impact on the openness of MOL. In this regard it is considered that the policy mirrors the exception which the proposal complies with in the NPPF policy.

6.20 Turning to consider the LDF policy basis, as per paragraphs 15.6 and 15.7 and within the context of CS15A & K-P, the proposal is considered to be limited development ancillary to a use taking place on the land and for which there is a demonstrable need, evidenced by the applicant detailing that in 2010/11 over 300,000 people visited the three swimming ponds. As such, the principle of providing a replacement changing / lifeguard facility for the outdoor sport/recreation of swimming is established at the site through consideration of the relevant MOL policy basis.

Conservation / Heritage / Design & Archaeology

6.21 The above ground impacts of the proposals on the significance of the landscape and its setting has been carefully considered. It is considered that the greatest

potential impact of the works in this regard would be at Kenwood Ladies' Bathing Pond, Model Boating Pond, Highgate No. 1 Pond and the Catchpit. These are assessed in detail below.

Kenwood Ladies' Bathing Pond

6.22 The Kenwood Ladies' Bathing Pond is a naturally-banked pond surrounded by dense foliage and accessible only to swimmers. At its south end, it incorporates a concrete platform holding the pond's changing rooms, a complex of relatively modern timber and concrete buildings with single-pitch sloping roofs. The changes to the natural landscape surrounding the pond would not negatively impact on its significance from a heritage perspective.

6.23 The proposal includes the demolition and removal of the changing facilities. The existing physical structure is not of architectural merit and its removal is not of concern from a design perspective. The principle of the replacement changing facilities has already been discussed earlier in this assessment; with it concluded that this element of the proposals complies with the NPPF in terms of development on MOL. The replacement facility is considered to be of appropriate and high quality design, with the proposed dark stained timber cladding, timber windows and sedum roof all assisting in the proposed building aligning with the natural character of the heath. The details of the proposed materials, including the specification of the sedum roof, will be secured via condition. As such, no harmful effect on the heritage significance of the pond would occur from the proposed works.

Model Boating Pond

6.24 The Model Boating Pond has been described in MOLA's Historic Environment Assessment paragraphs 5.3.14-15 as follows:

> " a large sub-rectangular pond with steel sheet banking with concrete capping on all sides (Fig 31). The watercourse can be seen to enter via a concrete outflow on the pond's north side and exit through a sluice built into the south bank. It is of medium significance as a heritage asset. There is a pond in this location on the 1807-08 map and the pond appears in roughly its current shape on the St Pancras parish map of 1849.
>
> The most open of the ponds, the Model Boating Pond is clearly visible from all sides. To its west, the landscaped parkland rises to create an effective backdrop that clearly demonstrates the positive contribution of the wider Heath to the significance of this particular body of water. To the east, the pond is overlooked by Millfield Lane, the western edge of the Merton Lane & Millfield Lane sub-area of Highgate Conservation Area (Camden) where it forms an integral part of the latter's backdrop. It is at this point that the interrelation of Highgate Conservation Area (Camden) and Hampstead is most clear due to the relative paucity of foliage around this pond. The pond and its visibility can therefore be said to be a positive contributor to the setting relationship between those two assets."

6.25 It is considered by officers that this element of the proposals potentially has the most significant impact on the character and appearance of the heath, due to the easy to see changes accruing to the landscape, and the potential impact on the significance of the manmade landscape seen today. The pond presently retains the same historic rectangular shape. It is a shallow pond with a pathway all of the way around with easy access to the water. The pond is manmade and was constructed as a boating pond. This is considered to have some historic value to the area. It forms an evidential example of manmade intervention into the landscape, which also offers historic value as a link to Georgian and Victorian leisure activity, as well as social value derived from the ability to use the pond for boating and other similar activities.

6.26 The proposed 2.5m raised dam will undoubtedly change the physical landscape around the pond. However, the dam would essentially continue the existing grass bank which exists on the east side of the pond, around to the south east side of the ponds. This would continue the already manmade nature of the bank consistent with its character and appearance. Furthermore, the dredging required to provide material for the bank would retain the relatively shallow nature of the pond and the spillways are not considered to alter the appearance or character of the pond.

6.27 However, the west bank excavation and creation of the new island would change the shape of the pond and create a more informal character and appearance. During the course of the application the applicant was sought to provide more information and justification for this element of the proposals from a heritage perspective. In short, the applicant has stated that:

> "Although the proposal would alter the shape of the Model Boating pond, the impact to its significance as a heritage asset would be negligible and the use of the pond as a model boating pond will not be affected by the proposed improvements."

6.28 From purely a heritage perspective, officers do not agree with the applicant on this point. Instead, officers consider that the works would reduce the ability to appreciate and recognise the historic function of the pond as a 'boating lake' and would therefore result in a degree of harm to its historic and evidential value. Furthermore, the additional planting of new reed beds and planting to the edge of the pond would also prevent continued use of the pond for such activities, limiting boating activities to only part of the pond. It is also noted that English Heritage Greater London Archaeological Advisory Service (GLAAS) also raise concerns in their consultation response (see section 4 above for details) about the change to the shape of the pond and its surroundings on its western side. With all of this in mind, it is considered that the proposals would result in a degree of harm to the heritage value of the pond at this point, contrary to CS15 (in particular in terms of parts a) and l) and more generally CS14, DP24 and DP25. The extent of this harm is considered to be moderate in its scale in heritage terms. This identified harm will be considered within the context of the overall need for the proposals in the final section of this assessment.

Highgate No. 1 Pond

6.29 Paragraph 5.3.18 of MOLA's Historic Environment Assessment is considered to accurately describe and assess this pond:

> "The southernmost pond of the Highgate Chain, Highgate No. 1 Pond has a mixture of natural banking and steel sheet piles with concrete capping. There have been some interventions on its western edge to incorporate platforms and a slipway and the southern bank of the pond has a 20th century brick sluice set into it (Fig 35). The pond is of medium significance as a heritage asset. There is a pond in this location on the 1807-08 map and the pond appears in roughly its current shape on the St Pancras parish map of 1849.
>
> The pond is immediately adjacent to the southern part of Highgate Conservation Area (Camden) although it is generally obscured from it by foliage. The pond and its surrounding foliage act as backdrop to the conservation area that contributes positively to its significance as a heritage asset. The pond also has a positive setting relationship with the other ponds of the Highgate Chain and with the wider Heath."

6.30 The proposed 1.25m high wall is considered to potentially result in a noticeable manmade intervention into the environment at this point. The demarcation of the heath's boundary is considered to be a particularly sensitive aspect of its setting where the softer / informal / rural landscape meets the harder dense urban environment. The way the boundary is treated is considered to be a key test as to how the heath is characterised. Officers consider that the heath generally has open/informal boundaries which allow the space to bleed out and provides a natural rural setting. The possible introduction of a considered edge, which does not currently exist, potentially provides a rigid demarcation of the boundary which could feel more municipal and formal than currently exists. Therefore this element requires careful consideration.

6.31 It is acknowledged that the ponds are manmade and evidence of steel sheet piles with concrete capping are already a physical sign of man's interference with the landscape. At present, these are largely concealed interventions which are disguised by nature. As such, officers consider that the wall should feel as much part of the landscape as possible. In this regard the applicant has detailed that the intention is for the wall to be concealed as far as possible. The timber clad material would be filtered by retained vegetation, and also by proposed native climbers to be planted to filer screen the wall and soften the appearance. During the course of the application more details have been provided by the applicant in order to demonstrate a commitment the applicant has to soften the appearance of the addition at this point. Officers are therefore content that the detailed design of the wall can be secured via condition, in conjunction with the proposed landscaping details condition also recommended. As such, with the condition to be secured, no harm to the pond would occur as a result of the proposed works from a heritage and conservation perspective.

Catch Pit

6.32 The Catchpit is the main focus of works on the Hampstead Chain and given the scale of intervention proposed, is required to be carefully considered. In short, it is considered that the proposed works would not have a detrimental impact on the landscape. The current landscape, including the existing concrete basin contained within wrought iron railings (which means it is not wholly natural at present) has a very enclosed character, with a densely planted wooded valley with grass glades.

6.33 While it is acknowledged that the proposal would change the appearance of the landscape, this is not considered significant enough to preserve as it is. Furthermore, it is considered that a new irregularly shaped and enclosed landscape which includes varied topography would be reinstated by the proposed works. Thereby it is considered that this element of the proposal preserves the character of this immediate area of the heath.

Men's Bathing Pond / Mixed Bathing Pond

6.34 A 1m high timber clad wall is proposed at the Men's Bathing Pond. At Mixed Bathing Pond 0.5m high sheet piles clad in timber and a 0.5m bund is proposed. In both instances the detail of the timber cladding (and associated timber coping for the Mixed Bathing Pond) is 'to be agreed' and, as such, conditions will secure the details of such features owing to the sensitivities of these manmade alterations, as already detailed within the context of Highgate No. 1 Pond above. With this condition secured, these elements of the proposal are considered to preserve the character of these areas of the heath.

Other Ponds

6.35 In terms of the remaining ponds (Stock Pond, Bird Sanctuary Pond, Vale of Health Pond, Viaduct Pond, Hampstead No.2 Pond and Hampstead No.1 Pond), the proposed works are considered to be minimal from a design, conservation and heritage perspective, with the proposed works having a limited impact on the overall character and appearance of the ponds and the wider Heath when complete. Addressing the specific concerns raised about the harm to the setting of the listed Viaduct in the public consultation process, it is considered that no harmful impacts would occur. This is from design, conservation and heritage, as the proposed works have been appropriately designed to fully preserve the setting of the Viaduct.

Archaeology

6.36 The consultation response from English Heritage's Greater London Archaeological Advisory Service (GLAAS) is detailed at section 4 of this report. It is reiterated that GLAAS raise similar concerns to officers concerning the change to the shape of the Model Boating Pond and its surroundings on the western side.

6.37 From a purely archaeological perspective, GLAAS concurs in the main with the watching brief detailed within the Environmental Statement, although for some works GLAAS considers it may be preferable to undertake trial investigations ahead of works, such as where historic structures like sluices may be present. As such, GLAAS recommends that the archaeological mitigation allows for a rather

wider range of responses including trial and full excavation or preservation insitu of significant structural remains. These measures would be set out in the 'written scheme of investigation'. This also covers the potential for the discovery of earlier buried archaeological remains. The condition recommended by GLAAS will therefore be applied, although the trigger for submission of details is recommended prior to the relevant part of works commencing, rather than the prior to any works commencing recommended by GLAAS. This is to allow the applicant to undertake initial works unaffected by this condition prior to the submission of details. The lengthy advice by GLAAS concerning the recommended archaeological fieldwork (detailed in section 4 above) is to be included as an informative.

Conclusion on Conservation / Heritage / Design & Archaeology matters

6.38 In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in these regards, it is considered that the majority of the proposed works accord with the relevant policies. However, the notable exception is with regard to the heritage value harm of the proposed reshaping of the Model Boating Pond, which in itself would reduce the ability to appreciate and recognise the historic function of the pond as a 'boating lake' and would therefore result in a degree of harm to its historic and evidential value, conflicting with CS15 (in particular in terms of parts a) and l)), in addition to more generally CS14, DP24 and DP25.

Sustainability

Flood risk

6.39 Sustainability team officers have considered the Water Environment sections of the Environmental Statement, together with the separately submitted Flood Risk Assessment. During the course of the application further information has been submitted after officers raised initial concerns regarding the interaction of the project with the local drainage network and the impact of spillways on local property and infrastructure. Furthermore, at the outset of the application a lack of illustrated consultation/discussion by the applicant with Thames Water was raised as a further concern by officers. Following the submission of additional information, in conjunction in part with the AECOM independent review (as discussed separately below), Sustainability team officers are now satisfied with this element of the proposals, subject to conditions. A summary of some of the main issues resolved during the course of the application are detailed below.

6.40 First, initial concerns were raised regarding the potential changes to surface water flood risk at Highgate No. 1 Pond, in light of the new spillway proposed. It was sought by officers for the applicant to demonstrate how water discharged over the spillway would impact the residential properties at Brookfield Mansions / West Hill Court, the drainage network and road gullies during various rainfall events modelled.

6.41 The applicant duly submitted further information, which has also been discussed separately by the applicant with some occupiers of these properties. In terms of occupiers at Brookfield Mansions / West Hill Court, modelled flood extents depicted

through drawings (at PMF and 1: 10,000 year event) indicate that at present floodwater would overtop the whole dam (around both ends and over a low spot in the middle) and water would be on both sides of Brookfield Mansions & West Hill Court. Whereas in contrast, with the proposal less water would come over the spillway and this water would only flow along a smaller extent of Brookfield Mansions and not flood West Hill Court. As such, the proposed works would result in a reduced level of water and flooding risk to these occupiers.

6.42 The applicant confirmed that in extreme events for which current dam safety guidelines require spillways to be designed, the drainage system would be overwhelmed (over capacity) in both existing and proposed scenarios, since such drains are typically designed for only a 1 in 30 year event. Similarly for road gullies these would be at capacity by floodwater in extreme events. Similar conclusions are also reached in terms of the Hampstead No. 1 culvert too. As such, water discharged over the proposed spillways at Highgate No. 1 and Hampstead No. 1 will not make any difference to the road gullies as the sewer network will already be at capacity. However, the proposed works will reduce the potential level of surface water flooding for nearby occupiers to Highgate No. 1.

6.43 Secondly, officers consider that the proposals are required to comply with the London Plan sustainable drainage (SUDS) policy, which is to follow the SUDS hierarchy. In the submission the applicant concluded that SUDS would not be able to attenuate the volume of water required (236,500m^3). Officers asked the applicant to explore this further, at which point the applicant has reiterated that the scheme is not a flood alleviation scheme and so it was not an objective to store all the floodwater from a PMF. The applicant has continued that the central concept of the design philosophy was to add storage capacity in the middle of the pond chains so that the flows into and out of the lower ponds would be smaller and therefore the works to improve the safety of those dams would have less environmental impact. This concept is borne out by the fact that the spillway materials on almost all ponds are soft reinforced turf.

6.44 The applicants further submission has been considered by officers, also bearing in mind that the AECOM report confirms that a sufficient range of alternative solutions have been considered for the purposes of the project (dam safety in the PMF event), and this is acknowledged by officers. However, whilst fully understanding that the primary objective of the proposal is not flood alleviation, London Plan and Camden policies regarding SUDS do still apply. DP23 requires that all developments limit the amount and rate of run-off entering the combined storm water and sewer network through SUDS. CPG 3 requires that developments achieve a greenfield run off rate or as a minimum a 50% reduction in run off rates (for the 1 in 100 year event). The further submission by the applicant only appears to address the possibility of SUDS and decompaction from the perspective of accommodating the PMF, rather than to meet the policy requirements focussing on lesser flood events.

6.45 Officers also question the view of the applicant that only the narrow strips adjacent to the footpaths on the heath are compacted, as there are a number of desire lines that are not formal paths which are likely to have become decompacted. These areas should also be addressed in the assessment of existing run off rates and

proposals to meet the policy requirement. In particular, the road that runs down past the Lido and behind Parliament Hill School is known to experience particularly high volumes of run off during rainfall events, and officers consider that the potential for this to be alleviated through decompaction on the heath should be explored.

6.46 Furthermore, officers do not fully agree with the applicant's assertion that the ground would become compacted again in time. Once decompacted, these areas of the heath should be maintained as such (even if this means annual decompaction regimes). With the above context in mind, it is considered necessary for a condition to be imposed requiring the applicant to submit a drainage statement demonstrating how the proposals can reduce run off rates through SUDS and decompaction of compacted areas in order to accord with local and regional policies in this regard. With this condition secured, the proposals would adhere to the SUDS policy requirement.

6.47 In terms of Thames Water involvement, officers requested during the course of the application that the applicant provide evidence to demonstrate that Thames Water were satisfied with the proposals, in terms of how the proposals interact with their network. This was duly provided, with Thames Water formal consultation response to the Council following in October 2014 (see paragraphs 4.31 – 4.33 above). Furthermore, the AECOM independent review also confirms that the ponds interaction with the Thames Water network has been adequately addressed, with sufficient evidence being provided to demonstrate that that the peak flows and volumes (over a given time period) will reduce under the proposed arrangements.

6.48 As such, in overall terms, the water environment impacts of the scheme are considered satisfactory by officers, following the submission of additional information during the submission and the SUDS condition recommended. In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in this regard, it is considered that the proposed works accord with the relevant policies.

Energy/Sustainability statement

6.49 The applicant states that in the design stage, consideration will be given to designing the ladies changing and lifeguard facilities to meet the 35% carbon dioxide improvement target beyond Part L 2013 as well as the application of low and zero carbon technologies in accordance with the London Plan requirements. Furthermore, for the scheme as a whole the applicant states that low embodied carbon cements will be considered as the design progresses. However as the development is below 500m2, there is no statutory requirement for an energy statement to be submitted with the application. In principle, such commitments are welcomed and a condition is recommended to be sought to demonstrate how the applicant follows through with the commitments stated in the application submission. This will require an energy statement to be submitted prior to the changing facility works starting on site demonstrating how this will be achieved. Within this condition, specific details of the rainwater harvesting tanks also proposed will be secured. The tanks are incorporated within the changing facility, with this water being proposed to be used for flushing toilets. In conclusion as to

whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in this regards, it is considered that the proposed works accord with the relevant policies.

Air Quality

6.50 Section 12 of the Environmental Assessment considers Air Quality matters. This has been assessed by specialist Air Quality officers, who are satisfied with the level and nature of information submitted being satisfactory for the purposes of this application. In accordance with the Mayor's SPG on the control of dust and emissions during construction, it is sought for real time dust monitoring being carried out in the areas identified as being in a 'medium' dust risk category in table 12.10 of the ES (i.e. the Borrow Pits – Highgate Chain, and the Model Boating Pond during earthworks) by setting up automatic particulate monitors in appropriate locations to measure representative PM10 levels. The instruments specified should provide data that can be downloaded in real-time by the local authority. This will be secured via condition. Subject to this condition, which is also supported by Environmental Health colleagues, the air quality implications of the proposals are not considered to be significant. In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in this regard, it is considered that the proposed works accord with the relevant policies.

Nature Conservation

6.51 The Ecology section of the Environmental Statement has been assessed in full by the Council's Nature Conservation Officer. In overall terms it is considered that the Environmental Statement, following the submission of additional information submitted during the course of the application, is comprehensive in its assessment of the impacts on ecology. Some initial concerns were raised by officers during the course of the application, for example concerning the impacts on protected species and the extent of habitat loss, have been satisfactorily addressed through the submission of additional information. Furthermore, at the time of submission some surveys were outstanding (for example the bat roost survey of the changing rooms at Kenwood Ladies Bathing Pond, and a terrestrial invertebrate survey focusing on the Catchpit). These have since been completed and satisfactory reports submitted, with all reports following appropriate methodologies. A summary of the main ecological elements is discussed further below.

6.52 An occasional bat roost at the changing rooms (Kenwood Ladies' Bathing Pond) was shown to be currently unused, and no roosts were recorded to be present in trees that show potential. Impacts on loss of foraging sites for bats is proposed to be mitigated by phasing works so that only three ponds (spread over the two chains) are worked on at any one time, to ensure that adequate foraging opportunities remain available. The proposed mitigation for the felling and coppicing of trees potentially support bats, through three artificial bat boxes being installed in the vicinity of the site for each of the trees removed. In addition, the applicant has confirmed that they will prepare and submit a Bat Mitigation Strategy and acquire the necessary European Protected Species License to ensure demolition of the changing rooms and tree works are completed with minimal

impact on foraging, commuting and roosting bats. An additional Method Statement is proposed within the Construction Management Plan, as secured via S106 Legal Agreement, for work areas where reptiles are might be present (concerning precautionary methods of working during construction).

6.53 Impacts on invertebrates and fungi through vegetation removal are likely to be temporary, and appropriate mitigations are proposed in the Environmental Statement. Impacts on the water environment are considered to be reasonably assessed and mitigated for within the Environmental Statement.

6.54 During the course of the application, following officer comments, the applicant has prepared a technical statement to show the overall losses and gains in terms of wildlife habitat. This information was not presented within the Environmental Statement at the outset of the application, and is considered to be helpful in illustrating the overall impacts on wildlife habitats as a result of the proposals. The resulting figures are below, and the Nature Conservation officer has confirmed satisfaction that this is in line with the management objectives of the Heath:

- Woodland loss: 4,881m2 = 0.49ha
- Scrub gain: 2,546m2 = 0.25ha
- Species rich grassland gain: 15,419m2 = 1.54ha
- Wetland habitats gain: 2,393.5m2 = 0.24ha

6.55 In terms of biosecurity measures (e.g. preventing importation to invasives through marginal planting), these will be secured in full via the S106 Legal Agreement Construction Management Plan. During the course of the application additional information has been submitted in this regard, but the Nature Conservation officer considers this requires further strengthening, and has directed the applicant to the GB Non-native species secretariat 'check, clean, dry' campaign, in order to inform further measures within the CMP.

6.56 In overall terms the ecological impacts have been sufficiently considered and mitigated. A series of conditions in this regard are recommended, including a bat mitigation strategy (including details of bat boxes), the European Protected Species Licence, precautionary working methods for protected species and the timing of vegetation clearance. This will be complemented with informatives in these regards, with the conditions aligning with the consultation responses received from the Environment Agency and Natural England. In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in this regard, it is considered that the proposed works accord with the relevant policies.

Trees

6.57 The applicant has submitted an Arboricultural Impact Assessment in support of the proposals. This assesses the quality of the trees proposed to be removed as part of the proposals at the site. Trees have been recorded as individual specimens and as groups in this assessment. The heath is estimated to have a total tree population in excess of 20,000, predominantly deciduous English oak, London Plane, Willows species and Poplar species of various age and form. The survey

undertaken considered 266 individual trees, 78 groups and 2 woodlands. Category A trees are of high quality, category B are of moderate quality, category C are of low quality and category U trees have serious structural defects or those in a poor physiological condition.

6.58 The design process has taken into account the constraints imposed by the trees on site, seeking to implement sympathetic design solutions where feasible. Nevertheless, the applicant has detailed that the proposals will require the removal of trees. This is partly owing to the trees being located within the proposed footprint of the works. It is also through indirect impacts, where the tree roots will be severed to such an extent that the trees should be removed, given concerns over the remaining stability and health of the trees.

6.59 An overview of the proposed loss of trees has been detailed in section 2 of this report. However, the losses in full are:

- Stock Pond – 8 Category B trees; 15 Category C trees;
- Ladies' Bathing Pond – 3 Category B trees; 15 Category C trees;
- Bird Sanctuary Pond – No tree removal;
- Model Boating Pond – 2 Category B trees; 6 Category C trees;
- Men's Bathing Pond – 15 Category C trees
- Highgate No.1 Pond – 4 Category B trees; 12 Category C trees, 1 Category U tree
- Vale of Health Pond - 1 Category B tree
- Viaduct Pond – 5 Category C trees and 1 Category U tree;
- Catchpit – 12 Category B trees ; 49 Category C trees; and 10 Category U trees;
- Mixed Bathing Pond – 7 Category C trees;
- Hampstead No.2 Pond – 2 Category A trees;
- Hampstead No.1 Pond – 5 Category C trees and 1 Category U.

6.60 As such, a total of 174 trees are proposed to be removed as part of the works. 2 Category A's will be removed, 30 Category B's, 129 Category C's and 13 Category U trees. As already detailed at section 2, replacement trees are proposed at various ponds, such as Stock, Model Boating, Highgate Men's Bathing, Highgate No. 1, Viaduct, Hampstead No. 2 and Hampstead No. 1. The trees to be felled are also to be coppiced where feasible. This will be in combination with other measures, such as scrub species colonising areas where trees are removed (as these may establish at a quicker rate). Hence, regrowth, mitigation planting and leaving areas for shrubs to colonise are all proposed to mitigate the proposed losses.

6.61 The Arboricultural Impact Assessment has been considered by the Council's specialist tree officers, who consider the proposed works in relation to trees to be appropriate in overall terms. Only a minute percentage of the total tree population will be affected by the proposals, with the scheme designed to result in the loss of only 2 Category A and 30 Category B trees. The tree works at each of the ponds is duly considered in the following paragraphs.

6.62 It is acknowledged by tree officers that at the Stock Pond the proposed tree removals in the south west corner will adversely harm the character of this part of the heath. The removals will open up the area and alter the views when looking

down the main path from the south west to the Stock Pond. With this in mind, during the course of the application the applicant was sought to explore alternatives with view to enabling the retention of these trees. The applicant has explained that an alternative considered was a closed reinforced concrete box culvert, which would have resulted in the loss of fewer trees but resulted in a greater unnatural visual impact. Officers consider that such an approach would have resulted in a more significant harm to the character of the heath than that proposed. Therefore, on balance, the loss of trees at this point is considered to have been sufficiently justified. The separately proposed removal of part of groups 1, 3 and 5 at Stock Pond is considered not to adversely affect the character of this part of the heath.

6.63 Elsewhere on the Highgate chain the proposed works are considered appropriate. The proposed tree removals at the Kenwood Ladies Bathing Pond are considered not to be detrimental to the character of the area due to the small size of the trees in question. No significant tree loss is proposed at Bird Sanctuary Pond. At Model Boating Pond the removal of the three small hornbeam trees in group 18 and the grey polar, tree 0084 is considered not to adversely impinge on the character of the area. The ash tree 0088 is considered to have a limited useful life expectancy. Trees 0165, 0167 and 0168 have space around them and the removal of these three trees is necessary to create the proposed new island and has been sufficiently justified.

6.64 At Highgate Men's Bathing Pond the proposed removals are considered not to be detrimental to the character of the area due to the small size of the trees. The proposed tree removals on south east side of the Highgate No. 1 Pond are considered not to be detrimental to the character of the heath. Tree 0142, a mature lime tree, is considered to be of significance but is surrounded by other mature trees which are to be retained; thus reducing the impact of its removal when viewed from a distance. The proposed tree removals on the north east side of the pond are considered not to be detrimental to the character of the area, as the tree cover is dense and proposed removals are of a low enough number to prevent the appearance of the row of trees being adversely effected.

6.65 Turning to consider the Hampstead chain, at the Vale of Health Pond the proposals seek the removal of tree 0280, a mature multi-stemmed robinia (Category B). It is considered that this will have an impact on the area to some degree, but it is surrounded by other more significant trees and its removal may increase light levels to the tree 0279. This is a large coastal redwood Category A tree, immediately to the north, which may benefit as a result. With this context in mind the removal of the Category B tree is considered appropriate. The proposed tree removals at the Viaduct Pond are considered not to adversely affect the character of this part of the heath, due to small size of the trees. The proposed tree removals at the Catchpit are considered not to adversely harm the character of this part of the heath. This densely wooded area is made up of largely Category C trees, which are largely considered to be of low amenity value. As such, the loss of what is acknowledged to the largest number of trees of any of the ponds is considered to be suitable and appropriate. At the Mixed Bathing Pond, the proposed removal of part of groups 27 and 1136 is not considered to adversely impinge on the character of the area, with all trees lost at this point being Category C.

6.66 At Hampstead No.2 Pond, it is considered that the proposed tree removals may adversely impinge on the character of this part of the heath. The two Category A London plane trees are mature, significant trees that contribute to the character of this part of the heath. These are the only Category A trees that are proposed to be removed in the project. Both trees form part of an avenue of mature plane trees, although tree 0177 is at one end of the avenue. Therefore its removal is not considered to disrupt the avenue as a whole. In overall terms it is considered that the removal of these two trees will affect the character of the area to some degree although the harm to views and vistas is limited by extent of tree coverage retained. The larger, older row of plane trees immediately to the east is far more significant as they can be viewed from further away and form a back drop when looking south from the other end of this pond. The two proposed tree removals will allow the more significant row of plane trees to remain, which is considered to be the better option. Furthermore, the applicant has also indicated that the loss will be mitigated by semi-mature tree planting. The removal of the group of trees G20B is not considered to significantly harm the character of the area.

6.67 Finally at Hampstead no. 1 Pond, the proposed tree removals are considered not to be detrimental to the character of this part of the heath. The trees that are proposed to be removed are not considered to contribute significant visual amenity to the area.

6.68 As such, the tree officer is satisfied with the proposals in this regard. A variety of conditions will be secured, such as full details of the proposed replacement trees (as part of the standard trees and landscaping conditions), how nearby trees to be retained shall be protected during construction work and specifically how building foundations will not affect trees. In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in this regard, it is considered that the proposed works accord with the relevant policies.

Transport

6.69 The Transport Statement and the Project Management Plan submitted in support of the application describe the logistics which would be required to undertake the proposed works. The primary concerns of Transport Planning officers in these proposals are traffic congestion and public safety. Officers consider that the proposals need to ensure that construction vehicles associated with the proposed works do not create or increase traffic congestion on the public highway in the vicinity of Hampstead Heath (e.g. at the various proposed access points). It is also required to ensure that public safety is not compromised by construction vehicles travelling to and from Hampstead Heath, and through Hampstead Heath between the various access points and the ponds where works are proposed. Such matters have been raised in the public consultation responses.

6.70 There are numerous vehicular access points to the Heath. The access points proposed for use by construction vehicles are outlined below:

- East Heath Road opposite the junction with Well Road. The entrance is of sufficient width, gated and leads to a footpath/track within the Heath.

- East Heath Road opposite the junction with Downshire Hill. The entrance is sufficiently wide, gated and leads to a wide footpath/track within the Heath.

- Highgate Road, approximately 75 metres south of the junction with St Alban's Road (near the tennis courts at Parliament Hill). The entrance is sufficiently wide, gated and leads to a wide footpath/track within the Heath.

- Kenwood Nursery access on Hampstead Lane. This is a gated vehicular entrance to the north of the site. This entrance, which is not for public access, allows access to roads within the Heath. It is also noted that there is a vehicular entrance located along Spaniard's Road, which is proposed to be used as a backup entrance if required. This entrance is similar to those shown previously as it is gated and leads to a track within the Heath.

6.71 As such, it is significant to note that Millfield Lane is not proposed as a vehicular access point for the proposed development. Turning movement diagrams have been submitted to demonstrate that the various types of construction vehicles to be used would be able to access and egress the Heath at the proposed access points in a safe manner.

6.72 It is considered that construction vehicles would be unlikely to cause significant damage to the public highway in the vicinity of the Heath. However, any such damage would need to be rectified by the Council at the expense of the applicant. An estimated financial contribution of £18,700 to cover the Council's highways costs is to be secured via Section 106 Legal Agreement.

6.73 Construction routes have been determined in order to reduce the number of vehicles travelling along local roads in the vicinity of the Heath and to ensure vehicles are only travelling along suitable roads (avoiding more sensitive residential roads where possible). Specific access and egress routes for construction vehicles would need to be confirmed in the Construction Management Plan (CMP), which isn't the case with the application stage submission. The CMP would also include risk assessments for proposed traffic management arrangements.

6.74 In order to restrict and manage heavy goods vehicles (HGV's) arriving at site the applicant has specified that no deliveries will occur overnight and instead generally only occur between 1000 and 1530 hours on Monday to Friday. This approach will minimise the impact of the works on vehicular, cycle and pedestrian peak activity, both within the Heath and on the surrounding highway network. It should be noted that although the majority of deliveries will be scheduled within these time periods, some deliveries (such as during concrete pours where continuous supply is essential) may need to occur during the peak periods. However, these deliveries will be kept to a minimum and carefully managed.

6.75 The transport statement predicts the following levels of construction vehicle trip generation via the various access points as a result of the proposed works:

- Hampstead Lane (Kenwood Nursery) – a maximum of 7 vehicles per day (14 two way trips per day);

- East Heath Road (opposite Well Road) – a maximum of 10 vehicles per day (20 two way trips per day);
- East Heath Road (opposite Downshire Hill) – a maximum of 10 vehicles per day (20 two way trips per day);
- Highgate Road (at Parliament Hill tennis courts) – a maximum of 10 vehicles per day (20 two way trips per day);
- Spaniards Road – used as a back-up access, if necessary with minimal movements occurring at this access.

6.76 It should be noted that the 7 movements at the Kenwood Nursery access is actually anticipated to be across an entire week and not on one day. However, in order to undertake a robust assessment, a worst case scenario of seven movements in one day has been assessed. The transport statement suggests that there would be a maximum of 10 construction vehicles arriving at any one access per day. In addition, it suggests that less than 5 construction vehicles would arrive at any one access on the majority of working days. The predicted levels of construction vehicle trip generation are considered by officers to be appropriate. They are unlikely to cause any traffic problems where the various site accesses interface with the surrounding road network.

6.77 Construction related materials will be transported across the Heath in vehicles similar to those already being used on the Heath. The Contractor BAM Nuttall has demonstrated within the application submission CMP a commitment to ensuring the safety of other users on the Heath and at the proposed access points. Measures to be employed in this regard include:

- Site speed limit of 5mph;
- All vehicles to use hazard warning lights and/or flashing beacons;
- All deliveries to be escorted from the public roads to the work sites by a trained operative;
- Other Heath users to have the right of way;
- Delivery times to be planned to avoid peak Heath and road network peak periods; and
- Shared use routes to be inspected and well maintained.

6.78 The proposals are not anticipated to have an impact on parking within the Heath or on the surrounding public highway as the delivery vehicles will enter the site via the allocated access points. They will then be managed on site via the Contractor to deliver the materials and then exit the site. Construction workers are likely to arrive and depart by sustainable modes of transport, including shuttle buses. Therefore no impact on parking as a result of the construction workers is anticipated. Large vehicles entering the site, particularly via the Highgate Road access, may require

the suspension of some on street parking bays. Specific requirements, such as securing the necessary licences, would be discussed in due course following the outcome of the application.

6.79 The impact on the operation of the public highway network surrounding the Heath is expected to be minimal with a maximum of 4 HGV movements per hour predicted. This level of trip generation would not have a noticeable impact on traffic flows in the vicinity of the Heath. The impact on pedestrians, cyclists and public transport facilities is also anticipated to be minimal as the number of additional vehicles, including a maximum of 4 HGV movements between 1000 and 1530 hours (Monday to Friday) is considered to be low. This level of trip generation is unlikely to have an impact on road safety.

6.80 The proposed works are anticipated to take 22 months to complete in total. Within the information submitted with the application the applicant has provided a provisional timetable for the main construction activities, re-produced below:

Table 3.2 Provisional dates and duration of main construction activities

Construction activity	Start	Completion	Duration
Vegetation clearance	January 2015	February 2015	2 months
Stock Pond	October 2015	January 2016	3 months
Kenwood Ladies Bathing Pond	October 2015	March 2016	5.5 months
Bird Sanctuary Pond	September 2015	October 2015	1 month
Model Boating Pond	April 2015	October 2015	6.5 months
Highgate borrow pit excavation and open	June 2015	March 2016	8.5 months
Highgate Men's Bathing Pond	May 2016	August 2016	3 months
Highgate No.1 Pond	March 2016	August 2016	5 months
Vale of Health Pond	July 2015	September 2016	2 months
Viaduct Pond	May 2015	June 2015	2 months
Catchpit area	January 2016	September 2016	9 months
Hampstead borrow pit excavation and open	March 2016	September 2016	7 months
Mixed Bathing Pond	January 2016	March 2016	3 months
Hampstead No.2 Pond	July 2015	October 2015	4 months
Hampstead No.1 Pond	November 2015	February 2016	4 months
Ecological & environmental works	March 2015	October 2016	20 months
Desilting works Highgate Chain	October 2015	February 2016	5 months
Desilting works Hampstead Chain	March 2016	April 2016	2 Months

6.81 It is noted that these were the provisional dates at the time of the submission of the application in July 2014, and these are subject to future change. However, they do indicate the anticipated programme of works by the applicant. More specifically, they indicate that the applicant intends to phase works to only work on some ponds at once, with the aim of minimising disturbance to users of the heath and nearby occupiers. The exact timings and programme of works will be secured within the CMP secured via S106 Legal Agreement. With the specific measures detailed

above secured via legal agreement, it is considered that the proposals will minimise impacts from the movement of goods and materials during the construction process. The measures will also manage the impact of the construction process on local amenity to an appropriate level.

6.82 In summary, the proposals are generally considered to be appropriate in transport terms subject to the following mitigation measures of the CMP and Highways financial contribution being secured via section 106 Legal Agreement. In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in these transport regards, it is considered that the proposed works accord with the relevant policies.

Amenity

6.83 In terms of the impacts of the actual works themselves with regard to Policy DP26 amenity matters (specifically visual privacy and overlooking, overshadowing and outlook, sunlight / daylight / artificial light levels, odour / fumes and microclimate), no significantly adverse implications are anticipated. The proposed works are generally located sufficient distances from existing residential occupiers to mean any impacts in these regards would be negligible. Please see the design/conservation/heritage section above regarding the visual amenity implications.

6.84 The amenity impact during construction has already been discussed in part in the transport section of this assessment, whereby a construction management plan (CMP) will be secured. In addition, the specific noise and vibration section of the Environmental Statement has been assessed by specific Environmental Health officers. An acoustic report considering the construction phase has been carried out in support of the proposals, demonstrating the existing noise and vibration context at various points across the site (four locations on both chains). The predicted noise levels from the proposed construction activity is then taken into account to ascertain what impact there will be on the nearest residential properties from the works in comparison with existing.

6.85 It is shown that the noise implications will generally be within the permissible levels, although there are four instances adjacent to Highgate No. 1 Pond and one instance adjacent to Hampstead No. 1 Pond where potential noise impacts above permissible levels may be experienced. This is highlighted when sheet piles are installed to increase the dam crest at Highgate No. 1 and earthwork and concreting operations at Hampstead No. 1. Mitigation measures to overcome adverse amenity impacts are stipulated to include vehicles and plant being fitted with exhaust silencers, pneumatic tools to be fitted with mufflers/suppressors, careful programming of works, briefing staff and ensuring regular plant maintenance. Such measures can be secured within the construction management plan secured via S106.

6.86 With regard to vibration impacts, these could occur from piling during the construction phase. An indicative assessment of the peak particle velocity has been provided, which demonstrates that complaints from vibrational disturbance is unlikely owing to the distances involved. Again the Council's Environmental Health

officer is content with the level and nature of information submitted with the application from this perspective.

6.87 With regards to other instances of possible noise and disturbance, it is shown that 0.01ha of land owned by Millfield Cottage, Millfield Lane will be required during the construction phase, and 0.0005ha (25m x 2m) will be required permanently thereafter for the wall at Highgate No. 1. An objection to the proposals has been made on the basis of this. The applicant advises that the applicant is presently engaging the owner to come up with a workable solution. Such matters are largely civil matters between different land owners, but in terms of noise and disturbance from the proposed works, these are not of a level or nature to warrant the refusal of this application.

6.88 In terms of the dust implications of the proposed works, please see the air quality section of this assessment. As such, in overall terms, the quality of life of occupiers and neighbours will be protected as the development is not considered to cause harm to amenity.

6.89 With regard to the future users of the replacement Ladies' Pond Changing facility, this is considered to provide enhanced facilities in comparison with existing. It is of a suitable standard in its own right for both swimmers and lifeguards.

6.90 Section 10 (Community) of the Environmental Statement has also been considered as part of this element of the assessment. This considers the environmental effects on the amenity space, swimming ponds, footpaths/cyclepaths, fishing and residential properties from a land use and general amenity perspective. In terms of amenity space, swimming ponds, footpaths/cyclepaths and fishing, each would be temporarily impacted by the proposed works. In all instances alternatives would be available. Furthermore, no long term significant loss of amenity would result. For residential properties, earlier paragraphs of this section details such matters.

6.91 The public consultation responses highlight particular concerns from swimmers over the loss of this use during construction. Furthermore, concerns over reduced access to swimming for women and other specific groups of people (e.g. for religious reasons) have also been raised. During the course of the application further information was provided regarding swimming arrangements during the course of construction works. Some key elements comprise:

- Two of the tree bathing ponds (Men's / Ladies' / Mixed) can remain open at all times during the construction period.
- The Men's Bathing Pond will only be closed between November and mid-December 2015. The Mixed Bathing Pond will only be closed during January 2016. The Ladies' Bathing Pond will be closed for construction of the new changing facilities and de-silting from February until mid-May.
- Proposed to schedule ladies-only swimming sessions at Mixed and Men's Bathing Ponds. During this period opening hours at the Hampstead Lido would be extended to provide alternative all day swimming facilities.

6.92 Closure is necessary in order to de-silt the ponds and erect the replacement changing / lifeguard facility at the Kenwood Ladies' Bathing Pond. Given the

measures put forward by the applicant, although there will be a temporary loss of use, this will only be in the short term and alternatives are stipulated. With this context in mind, no significant long-term adverse amenity impact is envisaged for swimmers.

6.93 Following on from this, concerns have also been raised in respect of reduced wheelchair access to the ponds for fishing and recreation, in particular during the construction phase. It is acknowledged that there will inevitably be some short term reduction in access in these regards during the course of the works. However, it is anticipated that no significant long term worsening of the existing context would occur. Given this context, the proposals are considered appropriate in this regard.

6.94 In conclusion as to whether the development accords with the relevant policies (national, London-wide and local, as summarised at section 5 above) in each of these amenity related matters, it is considered that the proposed works accord with the relevant policies.

Other matters

Environmental Impact Assessment

6.95 The application is accompanied by an Environmental Statement which has been assessed as part of this report. The Environmental Statement is considered to be sufficiently comprehensive to allow assessment of the likely impact of the development on the site and its surrounds. The preceding sections of this assessment have covered matters detailed within the Statement. This has largely been on an individual matter basis. The Statement however also brings all of the matters together and considers the cumulative impacts. It is considered that this has been suitably assessed, with it concluded that the cumulative effect of combined impacts would not cause a significantly harmful impact on the site or its surrounds. Meanwhile, the Statement also considers the proposals cumulatively within the context of separate proposals nearby to the site, specifically at Athlone House (Ref 2013/7242/P).

Local training, employment and procurement matters

6.96 Paragraph 8.3 of CPG8 details that the Council may require developers to assist with training and employment initiatives, via s106 legal agreements, where development projects involve significant construction contracts of over £3m. In this instance the applicant has indicated that the total cost of the project is over £17m (although the actual construction contract is understood to be around half this figure). Therefore, applying policies CS8 and DP13, a range of training, employment and procurement benefits are required to be secured to provide opportunities during and after the construction phase for local residents and businesses. This package of recruitment, apprenticeship and procurement measures comprise:

- The City of London Corporation deliver a minimum of 3 apprenticeships (minimum 12 month apprenticeships). Recruitment of the apprentices should be conducted through the Camden Apprenticeships Team based in Economic Development.

- Support fee of £1,500 per apprentice would apply (for recruitment and support of the apprentices).

- £7,000 default payment to apply in the event of non-compliance (in relation to apprenticeships).

- The applicant is required to work to a target of 20% local recruitment. The applicant to advertise all vacancies and work placement opportunities exclusively with the Council's Economic Development Team for a period of 1 week before marketing more widely.

- The applicant to provide 3 work placement opportunities of not less than 2 weeks each, to be recruited through the Council's Economic Development Team.

- The applicant to sign up to the Camden Local Procurement Code.

- Provide a local employment, skills and local supply plan setting out the plan for delivering the above requirements.

6.97 It is acknowledged that these measures deviate slightly from the standard measures typically secured for schemes in the borough. This has evolved from discussions between the applicant and Economic Development officers during the course of the application. Owing to the unusual application proposals and the fact that a contractor has already been appointed to carry out the proposed works, a bespoke set of measures is to be secured. For instance, Economic Developer officers concur that in this particular instance it is more appropriate for CoL to provide the apprentice opportunities, rather than the contractor BAM Nuttall. All of the measures stipulated will be secured via s106 Legal Agreement.

Necessity of / justification for the proposed works

Background

6.98 As already detailed at the beginning of section 2 of the assessment, the purpose of the proposal is to virtually eliminate the risk of dam failure at any of the ponds in the Highgate and Hampstead chains of ponds that could result from severe flooding and the consequential risk of loss of life and damage to property. The applicant has outlined that the proposals are seeking to comply with the requirements of the Reservoirs Act 1975 and the Flood and Water Management Act 2010, whilst the applicant is also required to comply with obligations within the Hampstead Heath Act 1871. Each is briefly (for brevity) summarised here, whilst they are also discussed in the judgment of Mrs Justice Lang appended to this report (see paragraphs 22-44 for the statutory framework and paragraph 52 onwards for conclusions).

6.99 Members should note that for the purposes of their consideration of this planning application, their principal duties are contained within section 70 of the Town and Country Planning Act 1990 and section 38(6) of the Planning and Compulsory Purchase Act 2004. Whilst the proposal is advanced by the City in order to comply

with their obligations under the Reservoirs Act 1975, it is for the Council as planning authority to reach a conclusion on whether, having regard to the development plan (according it priority) and all other material planning considerations, the development is acceptable. The Council is not bound by the recommendations made by the inspecting engineer under the Reservoirs Act 1975 although the fact that such recommendations have been made and that the City's reliance on them has been upheld by the High Court is a matter entitled to significant weight in the planning balance. The Council is however bound by the High Court's decision that the City's proposals would not offend the Hampstead Heath Act 1871.

6.100 The applicant exercises functions under the Hampstead Heath Act 1871 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."

6.101 As detailed at paragraph 2.3 above, Hampstead No 1, Highgate Men's Bathing Pond and Highgate Model Boating Pond are designated 'large raised reservoirs', with Section 10 of the Reservoirs Act 1975 requiring periodic inspections by a qualified civil engineer, known as the inspecting engineer. The inspecting engineer can make recommendations as to 'any measures required in the interests of safety' (Section 10(3)). If an undertaker (in this case COL) fails to comply with a recommendation of the inspecting engineer, the enforcement authority (the Environment Agency) has the power to issue an enforcement notice under section 10(7), effectively resulting in the recommendations of the inspecting engineer being carried out (Section 15). Failure to comply with the inspecting engineers recommendation is a criminal offence (Section 22). There are currently no outstanding recommendations under section 10 of the 1975 Act, but the Inspecting Engineer (Dr Andrew Hughes of Atkins) 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.

6.102 In terms of the Flood and Water Management Act 2010, this amends parts of the Reservoirs Act 1975, not all of the amendments are yet in force. Once the amendments in the 2010 Act are in force, the size of a large raised reservoir is anticipated to be reduced from 25,000 to 10,000 cubic metres. This will bring more of the ponds in the Hampstead and Highgate chains within the provisions of the Reservoirs Act. The applicant also anticipates that new regulations will provide for cascading chains of ponds with a combined volume over 10,000 to be classed as 'large raised reservoirs'. This would bring all the ponds to be treated as large raised reservoirs. The applicant also anticipates that all ponds will be classified as 'high-risk' (the criteria being at least one person could be endangered by an uncontrolled release of water). The applicant's proposals seek to future proof the scheme against the emerging requirements of the 2010 Act, resulting in no further works being required in the immediate future.

<u>Legal basis for the works</u>

6.103 The legality of COL's decision to themselves approve and proceed with proposals subject to this planning application has already been subject to Judicial Review by the Heath and Hampstead Society. This matter has also been detailed in public consultation responses received during the course of this application (see section 4 above). The Honourable Mrs Justice Lang DBE ruled on this matter in her approved judgment dated Friday 28th November 2014. A full copy of the approved judgment (R (Heath and Hampstead Society v Mayor (et al) of London & Anr 2014) is appended to this report.

6.104 In short, permission was given by the court for the claimant (Heath and Hampstead Society) to apply for Judicial Review because the claim was arguable, but the High Court then dismissed the claim following a hearing held on 13th and 14th November 2014. The Planning Court, in dismissing the application, held that under the Reservoirs Act there was no basis for requiring safety to be balanced against competing factors such as preservation of the landscape, protection of the environment or heritage assets in terms of the principle of works required, although environmental considerations should inform the engineer's recommendations. Further, the defendant (COL) had not adopted an irrational approach to risk on the proper construction of the purpose of the Reservoirs Act 1975.

6.105 It is noted that the High Court refused leave to appeal by the Heath and Hampstead Society, but there is a right to seek the permission of the Court of Appeal to bring an appeal. At the time of writing the Council is not aware of any developments on this.

6.106 More specifically, the judgment considered the statutory framework of the Hampstead Heath Act 1871, Reservoirs Act 1975, Flood and Water Management Act 2010 (paragraphs 22-44). The Heath and Hampstead Society's first ground of challenge is detailed at paragraph 45 of the judgment, alleging that COL's "decision was based upon a flawed interpretation of the meaning of the words "measures required in the interests of safety" in section 10(3)(c) RA". The second ground was the COL "had adopted an irrational approach to risk based on the assumption that residents downstream of the ponds would have no advance warning of a dam breach. This approach disregarded a number of material considerations." (Paragraph 50).

6.107 Some of the main conclusions of the judgment are detailed below (as already mentioned the full judgment is appended to this report):

- **The purpose of the Reservoirs Act 1975 -** In my judgment, the Defendant was correct to submit that the purpose of the RA 1975 is to <u>prevent</u> the escape of water from large raised reservoirs to avert the potential danger to persons and property from such an escape. Its purpose is not to mitigate the effects of an escape, by flood warning and evacuation strategies (paragraph 50)

- **Standards of safety -** The approach taken by the ICE in its guidance "Floods and Reservoir Safety" (3rd ed. 1986) is, in my view, consistent with the statutory purpose. It categorises the risks which dams present according to the risk to life and property in the event of a breach. As the risks to life and

property increase, more stringent safety requirements are indicated. Contrary to the Claimant's submission, there is an assessment of risk but the risk which is assessed is the likely consequence of a breach, not the probability of a breach occurring. In many cases, including the three ponds, the statistical probability of a breach is low. However, because the ponds are located on a hill running down to a large, densely populated urban area, including many basement flats, the consequences of a breach are assessed in the highest category (A) as loss of life of 10 or more persons. (paragraph 58)

- I agree that safety is a relative concept. However, different safety standards apply to different situations. Under section 10 RA 1975 (replicating the provisions of the 1930 Act) Parliament expressly conferred responsibility upon independent civil engineers to decide what safety measures were required for any particular dam, exercising their professional judgment and expertise. (paragraph 66)

- The Claimant submits that the ponds should be treated as an exceptional case because of the Heath's unique character and the need to preserve its natural aspect, pursuant to the HHA 1871. Neither the RA 1975, nor the ICE guidance, provides for the inspecting engineer to balance considerations of safety against competing factors such as preservation of the landscape, protection of the environment, or heritage assets. In my view, it would have been evident to Government and Parliament when the 1975 Act was passed that reservoirs and dams are situated in a wide variety of locations, including areas of outstanding beauty, and in the case of ornamental lakes, in historic settings close to heritage assets. This knowledge would also be available to the authors of the ICE guidance. So it is significant that the only legislative consideration is public safety. (paragraphs 72-73)

- **Recommendations made under the RA 1975 -** The evidence in this case demonstrably disproves Mr Elvin's submission that it is outside the competence of a civil engineer to take into account environmental considerations when making recommendations. I do not accept that environmental considerations should simply be disregarded and left to the planning authority. They should inform the process of formulating the recommendations, as they have done in this case. (paragraph 77)

- I do not consider that Parliament can have intended that the inspecting engineer should make his recommendations in complete disregard of legal restrictions which would prevent the undertaker from complying with those recommendations, thus undermining the efficacy of the whole legislative scheme. In my view, assessing the feasibility of the proposed solution to remedy the problem is an essential part of any professional person's exercise of judgment. (paragraph 81)

- Furthermore, an independent inspecting engineer making recommendations under section 10 is performing a statutory function; he is not acting in a purely private capacity. He is therefore subject to general public law requirements to act rationally and fairly and to take into account all material

considerations. Legal restrictions on development at the site are plainly material considerations when deciding the manner in which to secure the safety of the dam. So too are environmental considerations of the kind referred to in paragraphs 76 & 77 above. (paragraph 82)

- **The HHA 1871 -** In my judgment, the proposed works to the ponds would not constitute a breach of the HHA 1871. Although section 12 requires that the Defendant should "for ever keep the Heath … unbuilt on", this is subject to two qualifications. First, it expressly excludes those parts of the Heath which were already built upon at the date of the passing of the Act. Second, it is subject to other provisions of the Act which do permit building. (paragraphs 83 - 84)

- The ponds were man-made by damming the natural spring and streams on the Heath, long before the passing of the 1871 Act. Over the years, the owners of the Heath have had to maintain, repair and re-build the banks of the ponds, dams, outlet and inlet pipes and culverts at regular intervals. There have been variations in the position and height of the banks and dams and pipes. Modern building materials, such as sheet piling and concrete, have been introduced. Many of the current proposals are essentially a continuation of these previous works e.g. restoring and raising the height of the dams; replacing and relocating overflow pipes; re-aligning banks and footpaths; enlarging and creating an island in the Model Boating Pond; de-silting. In my judgment, all these past works fall outside the prohibition on building in section 12 because they relate to pre-existing development on the Heath. (paragraph 85)

- In my judgment, section 15 confers power to carry out the proposed works. Section 15 gives the Defendant power to "drain, level and improve the Heath as far only as may be in their judgment from time to time requisite with a view to the use thereof for purposes of health and unrestricted exercise and recreation". In interpreting the scope of section 15, it is relevant to have regard to the purpose of the Act. It is apparent from the long title and the preamble (set out above) that the purpose of the Act was not merely to preserve the Heath as open land, but also to ensure that it was improved. (paragraphs 86 - 87)

- In my judgment, the proposed works fall within section 15 as they both 'drain' and 'improve' the Heath and its ponds. In so far as they involve 'building' on the Heath in parts which were 'unbuilt' in 1871 (e.g. the new dam at the Catchpit and the creation of spillways), the power in section 15 overrides the prohibition in section 12, which is subject to the other provisions of the Act. (paragraph 89)

- **Other emergency provision for floods -** Both the London Borough of Camden and the Defendant are required to plan for emergencies, including flooding, under the Civil Contingencies Act 2004. The London Borough of Camden has responsibility for managing flood risks on the Heath, under the Flood and Water Management Act 2010. There are significant potential flood risks as a result of run-off of surface water from the heights of the Heath

down to the plain below. None of these provisions reduce the extent of the obligations under the RA 1975. The Defendant's proposals address one discrete issue: the risk of the dams breaching. In Camden's flood risk management strategy it states that the risk of the ponds breaching is "unlikely" while noting that the impact of a breach could be "extremely severe", and that the Defendant is taking steps to improve the ponds' defences. The Borough's Risk Register lists the Reservoirs Act 1975 and regular statutory inspections as controls in place for major reservoir dam failure. Thus, Camden acknowledges that dam breach is a risk which is governed by the RA 1975. (paragraphs 96 – 98)

- **Warning times** - In ground 2, which I have set out in some detail above, the Claimant submitted that the Defendant had adopted an irrational approach to risk because it failed to take account of the fact that, in a probable maximum flood, residents downstream of the ponds would already be flooded by surface water running off the hill and overflowing sewers before the dams breached, and emergency warnings and evacuation would already be in place. This ground must fail since I have already held that the purpose of the RA 1975 is to prevent the escape of water from large raised reservoirs, not to mitigate the effects of an escape by flood warning and evacuation strategies. The evidence from Dr Hughes, which I accept, was that it is difficult to predict how quickly a dam will fail, but that once overtopping started, a dam could fail very quickly. Even if the residents downstream were already flooded by surface water and overflowing sewers, they might not have evacuated in time. The escape of thousands of gallons of water from the ponds would be likely to have a catastrophic effect on people and property situated below the ponds. (paragraphs 99 – 100)

- **The Defendant's decision** - In my judgment, the Defendant's decision to approve the proposals and seek planning permission for them was lawful. In light of Dr Hughes' advice, and the studies obtained from other engineers, the Defendant was entitled to conclude that preventative action should be taken now. (paragraph 101)

6.108 As such, the basis for the justification for the works is informed by this judgment.

<u>Independent review of necessity of / justification for the proposed works</u>

6.109 During the course of the application, given the technical nature of the proposals, the Council has sought an independent review of the necessity of / justification for the proposed works. In particular, a view on the methodology of the work carried out and assessment of the completeness of the submission in respect of the justification for the necessity of the works has been sought. The list of All Reservoir Panel Engineers by the Environment Agency informed the selection of suitable firms to carry out the independent review, with AECOM selected. More specifically, the independent review has been prepared by Debbie Hay-Smith (Principal Engineer) and Robert Mann (All Reservoirs Panel Engineer), checked by Chris Downs (Regional Director) and approved by Ken Turnbull (Regional Director) of AECOM.

6.110 The scope of the independent review comprised five main questions:

1) Whether the proposed project is technically appropriate and necessary in the context of legislation and current best practice guidance, within the context that the Council understands that while legislation may only require the City of London to improve the three ponds designated as reservoirs we accept that there may be benefits in a project that considers all ponds within both the Highgate and Hampstead chains.
2) Written confirmation that the modelling methodology and assumptions underpinning the project are suitable, reasonable and have been applied appropriately. We propose that this is determined through a site visit and a two to three hour workshop (both with the applicant and Council officers), during which the approach to the work will be presented. For the avoidance of doubt, we do not require separate modelling to that already undertaken to be produced.
3) Whether a sufficient range of alternatives to address the dam safety hazard have been assessed to an appropriate level of detail to justify being discounted.
4) Whether the applicant's claims that the scheme will neither alter the ponds interaction with the Thames Water drainage network nor increase the potential for surface water flooding downstream under all operating conditions (including overtopping and spillway activation) are sufficiently evidenced and reasonable.
5) Whether the comments made by the third party identifies any reasonable concerns about the technical content or considerations of the submission which should be addressed by the applicant by way of further submission, prior to planning permission being able to be recommended to be granted (should this be the officer level recommendation to Development Control Committee (DCC)). In this case it would need to be apparent that the submission is so deficient in some respect that the conclusions (points 1-4 above) cannot be guaranteed without the provision of further information at this stage. Please clearly denote the precise information (if any) that would be required to satisfy 1-4.

6.111 The site visit and workshop referred to in 2) was undertaken on 1st October 2014. In terms of question 5), AECOM reviewed the following public consultation responses, which were considered by officers to be of a technical nature which would benefit from independent assessment:

- Personal objection from Jeremy Wright (email dated 23/07/2014) M.I.C.E., Chartered Engineer, Member of the British Dam Society. Committee member of the Heath & Hampstead Society. Member of the City of London's Consultative Committee for Hampstead Heath. Former member of the City of London's Management Committee, and the Pond Projects Stakeholder Group for Hampstead Heath
- Further comments made on behalf of Brookfield Mansions Freehold Ltd on 13/10/2014, including comments on 03/10/2014 by Professor K R Rushton, PhD, DSc, CEng, MICE, MCIWEM.
- Further submissions by the Heath & Hampstead Society, as submitted on 04/11/2014.

6.112 For the purposes of clarity, this independent review was completely separate to the Judicial Review proceedings (detailed separately above), which were progressing at the same time as this independent review being carried out on behalf of the Council. AECOM's draft report was submitted to the Council for comments on 13/11/2014, with the final report following on 01/12/2014. During the course of AECOM's review, requests were made to the applicant for further information (in addition to that already submitted with the application) to help inform AECOM's review. The applicant also submitted all such information to the Council and this is reflected in the list of background papers, supporting documents and drawing numbers specified at the beginning of this report. The entire AECOM review is appended to this report, with the executive summary intentionally written in as non-technical manner as possible to aid understanding. The paragraphs below detail a summary of the main findings, aligning with the five main questions detailed above.

Technically appropriateness and necessity in the context of legislation / best practice guidance

6.113 AECOM concludes on this matter that it is clear that the current arrangements are wholly inadequate to safely accommodate even a relatively frequent flood event without putting the dams at risk of failure. AECOM find that the project is technically appropriate and necessary to bring the risk to life from breach of the dams by extreme flood events to within an acceptable standard as set out in current guidance.

6.114 More specifically, AECOM's review (Section 5) has evaluated the risk, considering the Quantitative Risk Assessment by Atkins. As section 5.3 of the AECOM review notes, Atkins identified 3 main credible failure modes: overtopping, internal erosion and slope failure. From this they have derived annual probabilities of failure (POF) for the Highgate and Hampstead chains for the existing structures and following the proposed works. The results are summarised in the table below, illustrating that the proposals would reduce the probability of failure.

Table 5.1: Existing and post-scheme Probabilities of Failure

	Highgate		Hampstead	
Failure mode	**Existing**	**Post-scheme**	**Existing**	**Post-scheme**
Overtopping	1 in 23	1 in > 400,000	1 in 1,900	1 in > 400,000
Internal erosion	1 in 1,650,000	1 in 1,650,000	1 in 30,000	1 in 30,000
Stability	1 in 671,000,000	1 in 671,000,000	1 in 671,000,000	1 in 671,000,000
Total	1 in 23	1 in 320,000	1 in 1,800	1 in 28,000

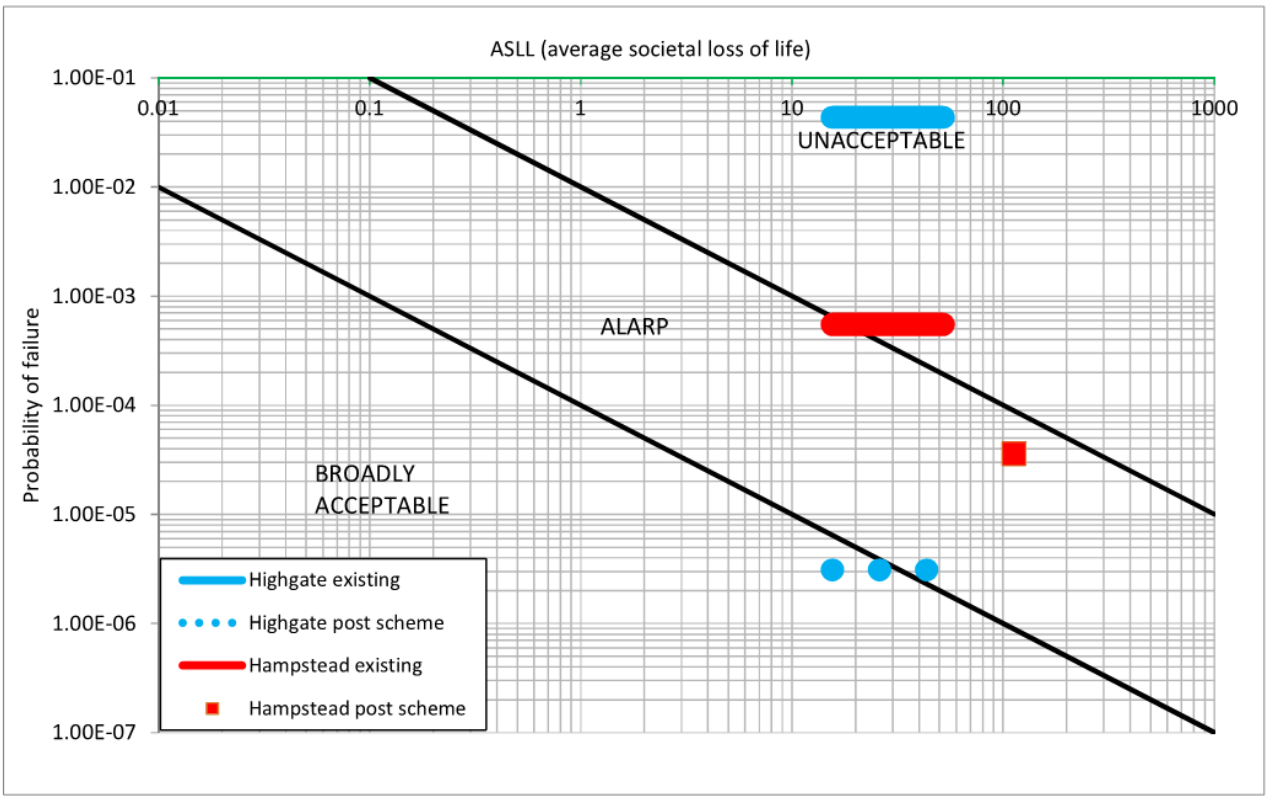
6.115 The second part of the Atkins analysis which AECOM has reviewed is a consequence analysis using dam breach modelling results to estimate the population at risk, and the resulting loss of life (ASLL) from a Probable Maximum Flood (PMF) event leading to failure of both chains (Section 5.4 of the AECOM review). The following paragraph of the AECOM review details the ASLL:

> The relevant number of fatalities is the incremental loss of life attributable to dam breach i.e. discounting the loss of life that would arise from the flood event without breach The studies (including supplementary information

provided for this review) indicate that the incremental number of fatalities (ASLL) that would arise from dam breach compared with that arising from the extreme flood alone is in the range 31 to104, depending on whether a 20% or 100% fatality rate is assumed for the basement flats. We agree that the fatality rate in such properties is likely to be higher than elsewhere, and would lie within this range, although possibly towards the lower figure. Such assessments will always contain uncertainties, but nevertheless, we regard the range currently derived for the number of fatalities as valid. Loss of life from lesser floods causing dam failure will also be significant and likely to be in a similar range.

6.116 Using the estimated POF and ASLL figures, AECOM have evaluated the risk (section 5.5 of the AECOM review) by plotting the probability of failure and the number of fatalities on a chart that also has accepted zones of "Unacceptable" and "Broadly Acceptable" with an intermediate zone defined as requiring risk to be brought to As Low As Reasonably Practicable (ALARP). The impacts of the proposed works are detailed on the graph below:

Figure 5.3: Risk evaluation



*ASLL for Hampstead post scheme is greater because the applicable ASLL figure is the total, not the incremental value

6.117 AECOM's commentary summarises this graph as follows:

Following implementation of the scheme, both chains of reservoirs move out of the unacceptable region into the ALARP region. The risk posed by the Highgate chain moves towards the lower boundary of the ALARP region, whilst the risk from the Hampstead chain lies just in the ALARP region, towards the upper boundary.

This indicates that the proposed scheme successfully reduces the risk to society for both the Highgate chain and Hampstead chain to a tolerable level, although it indicates the importance of including additional work where practicable to reduce the risk of internal erosion on the Hampstead chain. It certainly does not indicate that the reduction in risk is excessive nor suggest that justification exists for the works to be designed for a lower return flood period event.

The proposed scheme reduces the risk to the dams from flood to a level where the greatest residual risk lies with other causes of failure. It is understood that where other potential defects and deficiencies at the dams are identified as significant, such as blocked outlet pipes and an area of settlement and leakage at Mens Bathing Pond Dam, measures will be included in conjunction with the works to reduce these risks where reasonably practicable.

6.118 The final stage in AECOM's analysis on risk considers proportionality: whether the costs of the measures to reduce the risk are proportional to the reduction in risk achieved by those measures. In short, the AECOM analysis indicates that the proposed scheme reduces the risk to society from a clearly intolerable level to a tolerable one. Furthermore, it indicates that the scale and costs of the proposed scheme are not grossly disproportionate to the reduction in risk achieved.

6.119 It is considered by officers that this independent analysis of the risks and consequences of not carrying out the proposed works, most notably the potential loss of life as a result of dam failure, is clear and is therefore recommended to be accorded significant weight in the determination of this application.

Confirmation that the modelling methodology and assumptions underpinning the project are suitable, reasonable and have been applied appropriately.

6.120 In this regard AECOM's overall conclusion is that the methodologies used to determine flood inflows to the ponds, and the modelling undertaken to route the floods through the ponds, assess spillway capacities, overtopping flows, and determine downstream inundation extents and fatalities follow industry best practice, and are suitable, reasonable, and appropriate for use to design the upgrading works.

6.121 In terms of flood assessment and routing, hydrology used for assessment of the PMF design flood and less severe floods has followed standard procedure with a specific adjustment for run-off from compacted areas of the heath, which AECOM consider valid. More specifically on the PMF AECOM comments:

Comments from many third parties focus on the stated return period probability of a PMF of 1 in 400,000. In theory, a return period cannot be assigned to the PMF, defined as it is, as "the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in a region". Conceptually therefore, the PMF cannot be exceeded and forms an upper limit of flood estimates.

However, for the purposes of allowing inclusion of PMF in the risk based approach, the RARS guide suggests adoption of a probability of 1 in 400,000 years for the PMF, based on plotting Table 2 in the Floods and Reservoir Safety, 3rd edition on lognormal probability paper and extending it to the PMF. Table 2 gives design flood inflows as fractions of PMF (eg 10,000 year = 0.5 x PMF, 1000 year = 0.3 x PMF) for use with a rapid flood assessment method. The FEH also gives a couple of methods to allow the PMF to be located on the flood frequency curve. The geometry based estimation method uses the ratios of PMF to 1000 year and 100 year estimates to estimate the PMF return period. For the Heath ponds, this method would give a probability of PMF of 1 in 1,000,000.

In other words, not only is the PMF estimate subject to uncertainty, but its probability is also extremely uncertain, and in any case quantifying its probability is irrelevant to the standards-based approach which forms the rationale for the scheme. In reality, designing the mitigation works for the dams on the Heath using the Atkins estimate of PMF, could be equivalent to a return period of anything between around 1 in 10,000 and 1 in 1,000,000. Given the uncertainty associated with both the PMF peak flow estimates and associated return period, we accept the use of Atkins flow estimates as the basis for design, but would certainly caution against adoption of any lower design flows.

6.122 In terms of overtopping, AECOM concur that Atkins assessment has followed standard guidance. The assessment revealed that 8 of the 11 ponds are likely to overtop during a 100 year event, and 5 ponds overtop at less severe events, with Stock Pond overtopping during a 5 year event. All the ponds overtop during the 10,000 year event. AECOM consider that the estimated frequency of overtopping is wholly unacceptable given the population downstream.

6.123 The summary at section 2.4 of the AECOM review states:

> The modelling indicates the current spillway and storage arrangements at the ponds are wholly inadequate to safely accommodate even a relatively frequent flood event without putting the dams at risk of failure. The project is clearly necessary to bring the risk to life from breach of the dams by extreme flood events to within an acceptable level.

6.124 AECOM's conclusion that the methodologies applied by the applicant follow industry best practice, and are suitable, reasonable, and appropriate for use to design the upgrading works is considered to be highly material in the consideration of the application. It illustrates that, following independent review, there is no compelling evidence which calls into question the validity of the methodologies used by the applicant.

Alternatives assessed to an appropriate level of detail to justify being discounted?

6.125 AECOM verifies the conclusions of Atkins that any such active systems are not appropriate, would not constitute best practice, and would not provide the level of protection that the public at risk downstream is entitled to reasonably expect.

AECOM considers that a passive system is the only way to reliably achieve the required reduction in risk.

6.126 Furthermore, AECOM verify that the range of alternatives considered is wide-ranging and sufficient. The reasons for discounting these alternatives are stated in the relevant documents with an appropriate level of detail being given for this purpose. This is discussed in more detail in section 3 of the AECOM report.

6.127 Separate from the AECOM review, as to reliance on warnings as an alternative, the view of the Emergency management team at LB Camden is that any plan to reduce the risk from dam failure on Hampstead Heath by using human intervention and processes to warn the area is unacceptably risky and unsafe and additionally condones any consequential damage. The City of London's proposal removes the current substantial risk from dam failure caused by overtopping and is strongly supported by the Emergency management team at Camden.

6.128 For information the Council's Emergency management team have worked with the City of London and the local Metropolitan Police since 2011 and have planned on the basis that advice from the City's independent engineer Dr Andrew Hughes of Atkins, and the City's engineers and consultants is broadly correct: that there is an unacceptable risk from the ponds/reservoirs of dam failure caused by over topping that might, at little or no notice, fail which may result in loss of life.

Downstream impacts

6.129 On the fourth main point of the independent review, AECOM summarise that:

> the submission includes sufficient evidence in the form of hydrographs showing discharge from the ponds into the Thames Water drainage network and discharging over ground for a range of return period floods to illustrate that the peak flows and volumes (over a given time period) will reduce under the proposed arrangements. The proposed works will therefore reduce the contribution from the Heath to downstream surface water flooding. Although this is not the primary aim of the project, the proposed works will provide some benefit in terms of flood alleviation.

6.130 More specifically in terms of the impact of flooding downstream from Highgate No. 1 Pond, the table below demonstrates that there is a reduction both in peak flow and volume being discharged overland from the new spillway, when the existing and proposed situations are compared. Thus, in conjunction with the Thames Water consultation response, AECOM verify that the frequency and volume of floodwater passing downstream of the ponds will not be increased by the proposed works.

Table 4.2: Downstream overland flow volume discharged from Highgate No 1 over 14 hours (m^3)

Flood event	100yr	1,000yr	10,000yr	PMF
Existing crest overtopping	17,772	65,362	81,981	199,285
Proposed spillway flow	0	0	26,847	157,508

Technical objections

6.131 The three submissions detailed above at paragraph 6.111 have been duly considered by AECOM at section 6 of the independent review. In short, AECOM conclude that none of the objections raise reasonable concerns about the technical content or considerations of the submission. AECOM consider that no further submission by the applicant is necessary to enable a recommendation on the application to be made.

Conclusions AECOM independent review

6.132 The independent peer review carried out by AECOM on behalf of the Council, completely separate from the Judicial Review process, details that the risk currently posed by the ponds is clearly in the "Unacceptable" zone, i.e. the combination of probability of failure and the number of fatalities likely to arise from breach failure of the dams is unacceptably high, and that the proposed works are necessary and proportionate in relation to the reduction in risk achieved. AECOM have also confirmed that the methodologies used to determine flood inflows to the ponds, and the modelling undertaken to route the floods through the ponds, assess spillway capacities, overtopping flows, and determine downstream inundation extents and fatalities follow industry best practice, and are suitable, reasonable, and appropriate for use to design the upgrading works.

6.133 Furthermore, the range of alternatives considered by the applicant is viewed by AECOM to be wide-ranging and sufficient. The reasons for discounting these alternatives are stated in the relevant documents with an appropriate level of detail, with alternatives rightly in AECOM's view constrained to a passive solution. Competing technical submissions submitted during the course of the application have also been clarified and addressed, with AECOM detailing that no further submissions are considered necessary prior to planning permission being able to be recommended. Finally, although not a primary aim of the project, the proposed works will provide some benefit in terms of flood alleviation following input from Thames Water.

6.134 Again, the Council are not bound by the conclusions and their advisors. However, the issues raised are technical and, in the absence of contrary expert evidence they are entitled to significant weight. The Council has commissioned an independent review of the justification for the proposed works. The independent review carried out by the Panel Engineer and specialist colleagues at AECOM, summarised above, is in agreement with the conclusions of Dr Hughes. This technical independent advice is reinforces the conclusion that significant weight should be accorded to the need for the proposed development in the interests of public safety.

6.135 In weighing up the risks and consequences of not carrying out the proposed works, most notably the potential loss of life as a result of dam failure, against the unacceptability of the impacts of the proposed works (such as the heritage value harm of the works at Model Boating Pond – as discussed at earlier sections of this assessment), it is considered that the need to mitigate the risks outweighs any unacceptable impacts of the proposed works.

6.136 Put another way, the need to mitigate the risks of potential loss of life from dam failure are considered to clearly outweigh any harm to the Metropolitan Open Land and other harms caused by the proposed works.

7. CONCLUSION

7.1 As detailed at the outset of the assessment, the application is required to be determined in accordance with the development plan unless material considerations indicate otherwise. In this instance the harmful impacts of the proposed works need to be weighed against the benefits of the works associated with mitigating the potential loss of life from dam failure.

7.2 On the basis of the assessment above, there is identified harm caused by the proposed development, which in itself would be contrary to the development plan. This is most significantly the heritage value harm caused by the works associated with the reshaping and creation of an island at the Model Boating Pond, which will reduce the ability to appreciate and recognise the historic function of the pond as a 'boating lake'. Such works, in themselves are considered to be contrary to paragraph 90 of the NPPF in terms of the Green Belt (MOL) policy basis, which is then mirrored by London Plan policy and LDF policy CS15 a) and l) in particular. There will be other impacts, such as the loss of trees and disturbance during the construction phase for example. However, all of these other factors will be sufficiently mitigated by various measures applied by the applicant and secured by recommended conditions and legal agreement obligations.

7.3 This harm needs to be weighed with the benefits of the proposals in mitigating the risk of potential loss of life from dam failure. The necessity for the works and the methodologies behind this has been subject to independent review on behalf of the Council by AECOM. Most significantly AECOM conclude that the risk currently posed by the ponds is clearly in the "Unacceptable" zone, i.e. the combination of probability of failure and the number of fatalities likely to arise from breach failure of the dams is unacceptably high, and that the proposed works are necessary and proportionate in relation to the reduction in risk achieved.

7.4 As such, officers have concluded that the conflict with the development plan / harm to the Green Belt (MOL) is clearly outweighed by the benefit of the mitigation of the risk of potential loss of life from dam failure. Officers have applied a suitable planning balance when reaching this conclusion.

7.5 Planning Permission is recommended subject to a S106 Legal Agreement covering the following Heads of Terms:-

- Construction Management Plan
- Highways works of £18,700
- Local training, employment and procurement measures

8. LEGAL COMMENTS

8.1 Members are referred to the note from the Legal Division at the start of the Agenda.
Condition(s) and Reason(s):

1 The development hereby permitted must be begun not later than the end of three years from the date of this permission.

Reason: In order to comply with the provisions of Section 91 of the Town and Country Planning Act 1990 (as amended).

2 All new external work shall be carried out in materials that resemble, as closely as possible, in colour and texture of those existing, unless otherwise specified in the approved application.

Reason: To safeguard the character and appearance of the immediate area in accordance with the requirements of policy CS14 of the London Borough of Camden Local Development Framework Core Strategy and policy DP24 and DP25 of the London Borough of Camden Local Development Framework Development Policies.

3 All work shall be carried out in accordance with the relevant recommendations of British Standard 3998: 2010. (Recommendation for Tree Work)

Reason: To ensure the preservation of the amenity value and health of the trees in accordance with the requirements of policies CS14 and CS15 of the London Borough of Camden Local Development Framework Core Strategy and policy DP24 of the London Borough of Camden Local Development Framework Development Policies.

4 The relevant part of the works shall not take place until full details of hard and soft landscaping and means of enclosure of all un-built, open areas have been submitted to and approved by the local planning authority in writing. Such details shall include details of any proposed earthworks including grading, mounding and other changes in ground levels. The relevant part of the works shall not be carried out otherwise than in accordance with the details thus approved.

Reason: To ensure that the development achieves a high quality of landscaping which contributes to the visual amenity and character of the area in accordance with the requirements of policies CS14 and CS15 of the London Borough of Camden Local Development Framework Core Strategy and policy DP24 of the London Borough of Camden Local Development Framework Development Policies.

5 All hard and soft landscaping works shall be carried out in accordance with the approved landscape details by not later than the end of the planting season following completion of the development or any phase of the development, whichever is the sooner. Any trees or areas of planting which, within a period of 5 years from the completion of the development, die, are removed or become seriously damaged or diseased, shall be replaced as soon as is reasonably possible and, in any case, by not later than the end of the following planting season, with others of similar size and species, unless the local planning authority gives written consent to any variation.

Reason: To ensure that the landscaping is carried out within a reasonable period and to maintain a high quality of visual amenity in the scheme in accordance with the requirements of policy CS14 and CS15 of the London Borough of Camden Local

Development Framework Core Strategy and policy DP24 of the London Borough of Camden Local Development Framework Development Policies.

6 Prior to the relevant part of the works commencing, details demonstrating how nearby trees to be retained shall be protected during construction work shall be submitted to and approved by the Council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Design, Demolition and Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details.

Reason: To ensure that the development will not have an adverse effect on existing trees and in order to maintain the character and amenity of the area in accordance with the requirements of policy CS15 of the London Borough of Camden Local Development Framework Core Strategy.

7 Detailed drawings, or samples of materials as appropriate, in respect of the following, shall be submitted to and approved in writing by the local planning authority before the relevant part of the work is begun:

a) Typical details of new 1.25m wall at Highgate No. 1 Pond at a scale of 1:10;

b) Typical details of new 1m wall at Men's Bathing Pond at a scale of 1:10;

c) Typical details of new 0.5m wall at Mixed Bathing Pond at a scale of 1:10.

d) Details including sections at 1:10 of all windows (including jambs, head and cill), external doors and gates associated with the replacement Kenwood Ladies' Pond Changing facility.

e) Manufacturer's specification details of all facing materials (to be submitted to the Local Planning Authority) and samples of those materials (to be provided on site) associated with the replacement Kenwood Ladies' Pond Changing facility.

The relevant part of the works shall be carried out in accordance with the details thus approved and all approved samples shall be retained on site during the course of the works.

Reason: To safeguard the character and appearance of the immediate area in accordance with the requirements of policy CS14 of the London Borough of Camden Local Development Framework Core Strategy and policies DP24 and DP25 of the London Borough of Camden Local Development Framework Development Policies.

8 Prior to the relevant parts of the proposed development commencing the applicant (or their heirs and successors in title) will secure the implementation of a programme of archaeological investigation in accordance with a Written Scheme of Investigation which has been submitted by the applicant and approved in writing by the local planning authority. The relevant parts of the development shall not take place other that in accordance with the Written Scheme of Investigation.

Reason: Heritage assets of archaeological interest are expected to survive on the site. The planning authority wishes to secure the provision of appropriate archaeological investigation, including the publication of results, in accordance with the requirements of policy CS14 of the London Borough of Camden Local Development Framework Core Strategy and policy DP25 of the London Borough of Camden Local Development Framework Development Policies.

9 No impact piling shall take place until a piling method statement (detailing the depth and type of piling to be undertaken and the methodology by which such piling will be carried out, including measures to prevent and minimise the potential for damage to subsurface sewerage infrastructure, and the programme for the works) has been submitted to and approved in writing by the local planning authority in consultation with Thames Water. Any piling must be undertaken in accordance with the terms of the approved piling method statement.

Reason: To safeguard the amenity of existing and future occupiers in the area as the proposed works are in close proximity to underground sewerage utility infrastructure and to safeguard existing below ground public utility infrastructure and controlled waters, in accordance with the requirements of policies CS5 and CS13 of the London Borough of Camden Local Development Framework Core Strategy and policy DP26 of the London Borough of Camden Local Development Framework Development Policies.

10 Prior to the first use of the replacement Kenwood Ladies' Pond Changing facility a plan showing details of the sedum roofs including species, planting density, substrate and a section at scale 1:20 showing that adequate depth is available in terms of the construction and long term viability of the sedum roofs, and a programme for a scheme of maintenance shall be submitted to and approved in writing by the local planning authority. The sedum roofs shall be fully provided in accordance with the approved details prior to first use of the replacement Kenwood Ladies' Pond Changing facility and thereafter retained and maintained in accordance with the approved scheme of maintenance.

Reason: To ensure that a green or brown roof is suitably designed and maintained to ensure the development undertakes reasonable measures to take account of biodiversity and the water environment in accordance with the requirements of policies CS13, CS14, CS15 and CS16 of the London Borough of Camden Local Development Framework Core Strategy and policies DP22, DP23, DP24 and DP32 of the London Borough of Camden Local Development Framework Development Policies.

11 Prior to the commencement of building works associated with the replacement Kenwood Ladies' Bathing Pond Changing facility, an energy strategy demonstrating consideration as to how the proposal will seek to meet the 35% carbon dioxide improvement target beyond Part L 2013 shall be submitted to and approved by the local planning authority. The strategy will include full details of the rainwater harvesting tanks proposed. The replacement Kenwood Ladies' Bathing Pond Changing facility shall thereafter not proceed other than in complete accordance with all the measures as recommended in the approved strategy, which shall be permanently retained thereafter unless agreed in writing with the local planning authority.

Reason: In order to secure the optimum energy and resource efficiency measures in accordance policies CS13 and CS16 of the London Borough of Camden Local

Development Framework Core Strategy and policies DP22, DP23 and DP32 of the London Borough of Camden Local Development Framework Development Policies.

12 No development at the borrow pits at the Highgate Chain and the Model Boating Pond shall take place until full details of the air quality dust monitoring regime has been submitted to and approved by the local planning authority in writing. Such details shall include the location, number and specification of the monitors, including evidence of the fact that they have been installed in line with guidance outlined in the GLA's Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance and have been in place for 3 months prior to the proposed implementation date of works at these locations. The monitors shall be retained and maintained on site for the duration of the development in accordance with the details thus approved.

Reason: To safeguard the amenities of the adjoining premises and the area generally in accordance with the requirements of policies CS5 and CS16 of the London Borough of Camden Local Development Framework Core Strategy and policies DP22 and DP32 of the London Borough of Camden Local Development Framework Development Policies.

13 Prior to the relevant part of the works taking place, A Bat Mitigation Strategy will be submitted to and approved by the Local Planning Authority. The strategy should clearly set out how impacts will be mitigated during the demolition, construction and operational phases. All mitigation measures specified in the approved strategy shall be implemented throughout the works. The strategy should include details of bat boxes to be installed including the exact location, specification and design, and proposed installation dates. There should be no fewer than three boxes installed for each potential roosting opportunity lost. The boxes shall be installed at the earliest opportunity and strictly in accordance with the details so approved and shall be maintained as such thereafter.

Reason: To ensure the development contributes towards the protection and creation of habitats and valuable areas for biodiversity, ensuring compliance with the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended) and in accordance with policy CS15 (Protecting and improving our parks and open spaces and encouraging biodiversity) of the London Borough of Camden Local Development Framework Core Strategy.

14 If more than one year passes between the most recent bat survey and the commencement of demolition and/or tree works, an updated bat survey must be undertaken as close as if practically possible prior to demolition or tree works by a licensed bat worker. Evidence that the survey has been undertaken shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of demolition and/or tree works.

Reason: To ensure the development contributes towards the protection and creation of habitats and valuable areas for biodiversity, ensuring compliance with the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended) and in accordance with policy CS15 (Protecting and improving our parks and open spaces and encouraging biodiversity) of the London Borough of Camden Local Development Framework Core Strategy.

15 The applicant must apply for a European Protected Species Licence from Natural England due to planned modifications to a known bat roost. Evidence that the Licence has been granted shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of the relevant part of the works.

Reason: To ensure the development contributes towards the protection of habitats and valuable areas for biodiversity, ensuring compliance with the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended) and in accordance with policy CS15 (Protecting and improving our parks and open spaces and encouraging biodiversity) of the London Borough of Camden Local Development Framework Core Strategy.

16 Statements detailing precautionary working methods where protected species might be present should be prepared, submitted to and approved by the Local Planning Authority prior to the relevant parts of the development commencing. All site operatives must be made aware of the possible presence of protected species during works. If any protected species are found, works should stop immediately and Natural England informed.

Reason: To ensure the development contributes towards the protection and creation of habitats and valuable areas for biodiversity, ensuring compliance with the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended) and in accordance with policy CS15 (Protecting and improving our parks and open spaces and encouraging biodiversity) of the London Borough of Camden Local Development Framework Core Strategy.

17 All removal of trees, hedgerows, shrubs, scrub or tall herbaceous vegetation shall be undertaken between September and February inclusive. If this is not possible then a suitably qualified ecologist shall check the areas concerned immediately prior to the clearance works to ensure that no nesting or nest-building birds are present. If any nesting birds are present then the vegetation supporting the nest and an appropriate buffer, to be determined by a suitably qualified ecologist, shall not be removed until the fledglings have left the nest.

Reason: To ensure the development contributes towards the protection of any existing habitats and valuable areas for biodiversity, as all wild birds, their nests and young are protected during the nesting period under The Wildlife and Countryside Act 1981 (as amended) and in accordance with policy CS15 of the London Borough of Camden Local Development Framework Core Strategy.

18 Prior to commencement of development details of a drainage statement, demonstrating that the greenfield run off rate (or as a minimum a 50% reduction in run off rates) has been achieved across the site through SuDS and decompaction of compacted areas, including a future maintenance plan, shall be submitted and approved in writing by the local planning authority. The approved statement shall be implemented as part of the development and thereafter retained and maintained.

Reason: To provide details of the greenfield run off rate to limit the impact on the storm-water drainage system in accordance with policies CS13 and CS16 of the London Borough of Camden Local Development Framework Core Strategy and policies DP22, DP23 and DP32 of the London Borough of Camden Local Development Framework Development Policies.

19 The development hereby permitted shall be carried out in accordance with the following approved plans

Site Location Plan Figure 1.1;

A. Stock Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P1-ZZ-DR-L-7002 Rev P5; -7003 Rev P3; -7005 Rev P2 Whole Pond Section; -7005 Rev P2 Spillway Section; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

B. Kenwood Ladies' Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P2-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P3; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

C. Bird Sanctuary Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P3-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

D. Model Boating Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P4-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; -7010 Rev P1 Spillway; -7010 Rev P2 Detail Section; -7011 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0002 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

E. Men's Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P5-ZZ-DR-L-7006 Rev P5; -7007 Rev P3; -7008 Rev P2; -7009 Rev P2; -7010 Rev P2; -7011 Rev P2; -7012 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

F. Highgate No. 1 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P6-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P1-P6-ZZ-DR-L-7004 Rev P3;

G. Vale of Health Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P11-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P1; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

H. Viaduct Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P7-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

I. Catchpit Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P12-ZZ-DR-L-7002 Rev P5; -7003 Rev P3; -7004 Rev P1; -7005 Rev P2; -7007 Rev

P2; -7008 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

J. Mixed Bathing Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P8-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

K. Hampstead No. 2 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P9-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; -7008 Rev P2; -7009 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

L. Hampstead No. 1 Pond Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P10-ZZ-DR-L-7004 Rev P5; -7005 Rev P3; -7006 Rev P2; -7007 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1; 5117039-ATK-P7-P12-ZZ-DR-L-7004 Rev P3;

Highgate and Hampstead Chains Overview Planning Drawings and Design by Atkins dated July 2014, including 5117039-ATK-P1-P6-ZZ-DR-L-7003 Rev P2; 5117039-ATK-P7-P12-ZZ-DR-L-7003 Rev P2; 5117039-ATK-ZZ-ZZ-DR-L-0001 Rev P1;

Kenwood Ladies' Bathing Pond New Changing Facility Design and Access Statement by Atkins dated July 2014, Rev 2.0, including HH5064/1A; -2; -01/B; -03; -04; -05; -E; -02/B; PD1000; PD1010; PD1011; PD1200; PD1201; PD1202; PD1300; PD1301; PD1302; PD1303;

Planning, Design and Access Statement by Atkins, dated July 2014 Ref 5117039/62/DG/197 Rev 2; Verified Views (photomontages) by Atkins, dated July 2014; Letter from Atkins dated 4 July 2014 Ref 5117039; Statement of Community Involvement by Atkins, dated July 2014 Ref 5117039/62/DG/196 Rev 2; Environmental Statement Non Technical Summary (Volume 1) by Atkins dated July 2014 Rev 2.0; Environmental Statement Main Report (Volume 2) by Atkins dated July 2014 Rev 2.0; Environmental Statement Appendices (Volume 3) by Atkins dated July 2014 Rev 1.0; Transport Statement by Atkins, dated July 2014 Ref 5117039/62/DG/199 Rev 2; Flood Risk Assessment by Atkins, dated July 2014 Ref 5117039/62/DG/202 Rev 3; Sustainability Statement by Atkins, dated July 2014 Ref 5117039/62/DG/201 Rev 1.0; Project Management Plan (including Construction Management Plan) by Bam Nuttall Dated July 2014 Ref BAM1700 PMP B Rev B; Outline Specification by Atkins dated July 2014; Arboricultural Impact Assessment by Atkins, dated July 2014 Ref 5117039 Rev 2.0, including plans: 5117039-ATK-ZZ-ZZ-DR-Y-2000 P3; 5117039-ATK-P1-ZZ-DR-Y-2000 P3; -P2-ZZ-DR-Y-2000 P4; -P3-ZZ-DR-Y-2000 P3; -P4-ZZ-DR-Y-2000 P3; -P4-ZZ-DR-Y-2001 P3; -P4-ZZ-DR-Y-2002 P3; -P5-ZZ-DR-Y-2000 P3; -P6-ZZ-DR-Y-2000 P4; -P6-ZZ-DR-Y-2001 P4; -P7-ZZ-DR-Y-2000 P3; -P8-ZZ-DR-Y-2000 P3; -P9-ZZ-DR-Y-2000 P4; -P10-ZZ-DR-Y-2000 P3; -P11-ZZ-DR-Y-2000 P3; -P12-ZZ-DR-Y-2000 P4; -P12-ZZ-DR-Y-2001 P4.

Additional information submitted during the course of the application:

5117039-ATK-P4-ZZ-DR-Y-2001 P3 and 5117039-ATK-P4-ZZ-DR-Y-2002 P3 within Arboricultural Impact Assessment (as submitted 22/07/14); Ladies' Bathing Pond MOL Assessment Technical Note by Atkins, dated 23/07/14; 2. Brief, submitted 23/07/14; Annotated plan of PD1010, as submitted 23/07/14; Letter from Atkins dated 24/07/2014 to Environment Agency, Ref 5117039/Silt options/je.rev1; Addendum to Chapter 10 Community Assessment, as submitted 05/08/2014; Environment Statement Revised Appendix 3.1, as received 05/08/2014; Atkins response to LB Camden Feedback_Ecology, as received 16/09/14; Email from Atkins, Emergency planning, dated 16/09/14; Atkins response to LB Camden Feedback_Trees, as received 16/09/14; Atkins response to LB Camden Feedback_Flood Risk, as received 18/09/14; Bat Roost Characterisation Surveys by the Ecology Consultancy Ref 140819, as submitted 04/10/2014; Invertebrate Assessment by the Ecology Consultancy Ref 140587, as submitted 04/10/2014; Highgate No. 1 Downstream Maps, as received 14/10/14; Email from City of London dated 30/07/2014, as submitted 14/10/14 & attachments; Atkins Response to comments from LBC Landscape and Conservation Officer Technical Note, dated 23/10/14 and attached figures 2 and 3; MOLA Impacts to Model Boating Pond, dated 22/10/14; Atkins Statement of Habitat Losses and Gains Ref 5117039 / 62 / DG / 231 / Rev1, dated 13/11/14; MOLA and Atkins Response to Feedback from LBC on Model Boating Pond, Ref 5117039, dated 14/11/14; Email from Atkins, dated 24/11/2014; Bat Tree Inspection Report by the Ecology Consultancy, dated 11/12/2014.

Information submitted to AECOM to inform independent review:

Email from Atkins to Aecom dated 14/10/14; Hampstead Heath Ponds Project QRA Update Memo dated 05/11/2014 Ref 5117039; Consequence Analysis Technical Note Draft Rev 1.0, dated 30/09/2014; Email from Atkins to Aecom dated 21/10/14; HH Duration investigation IS check; Email from Atkins to Aecom dated 15/10/2014; Atkins initial response to Aecom request for information, update 21/10/14; Email from Atkins to Aecom, dated 14/10/2014; Email from Atkins to Aecom, dated 17/10/2014; HH Pref Option May 14 Results - Highgate 1 only; Hydrograph RFI checklist; Modelled Hamp1 HG1 Pipe Flows for TW Oct 14; PMF and breaching Hydrographs; Hampstead No. 1 Reservoir Routing - 1:100 Existing; - 1:100 Proposed; 1:1000 Existing; 1:1000 Proposed; 1:10000 Existing; 1:10000 Proposed; PMF Existing; PMF Proposed; Email from Atkins to Aecom, dated 03/11/2014; Email from Atkins to Aecom, dated 24/10/2014; Email from Atkins to Aecom, dated 23/10/2014; Email from Atkins to Aecom, dated 15/10/2014; Email from Aecom to Atkins, dated 03/11/2014; RE: Independent review - RFI 12 re Outflow pipe rating curves follow-up query by Atkins; Highgate 1 Workbook questions A - update - 14-04-14; Overflow from Highgate No 1 Comments on 03/10/2014 by Professor K R Rushton; Email from Atkins to LB Camden, dated 21/10/2014; Note from Atkins, data requested from Aecom final status 26/11/2014; Assessment of Design Flood by Atkins, dated 25/03/2013 Rev 4; Hydrology and Hydraulic Modelling Presentation by Atkins, from meeting with Aecom, dated 01/10/2014; Panel Engineer Presentation by Atkins, from meeting with Aecom, dated 01/10/2014.

Reason: For the avoidance of doubt and in the interest of proper planning.

Informative(s):

1 Your proposals may be subject to control under the Building Regulations and/or the London Buildings Acts which cover aspects including fire and emergency escape, access

and facilities for people with disabilities and sound insulation between dwellings. You are advised to consult the Council's Building Control Service, Camden Town Hall, Argyle Street WC1H 8EQ, (tel: 020-7974 6941).

2 Noise from demolition and construction works is subject to control under the Control of Pollution Act 1974. You must carry out any building works that can be heard at the boundary of the site only between 08.00 and 18.00 hours Monday to Friday and 08.00 to 13.00 on Saturday and not at all on Sundays and Public Holidays. You are advised to consult the Council's Compliance and Enforcement team [Regulatory Services], Camden Town Hall, Argyle Street, WC1H 8EQ (Tel. No. 020 7974 4444 or on the website http://www.camden.gov.uk/ccm/content/contacts/council-contacts/environment/contact-the-environmental-health-team.en or seek prior approval under Section 61 of the Act if you anticipate any difficulty in carrying out construction other than within the hours stated above.

3 Please note that any approval given by the Council does not give an exemption from the requirements to comply with the Wildlife and Countryside Act 1981 (as amended), or any other Acts offering protection to wildlife. Of particular note is the protection offered to bats, birds and their nests from construction works. For further information contact Natural England on 0300 060 4911 or www.naturalengland.org.uk.

4 It is not an offence to have Japanese knotweed growing on land, however it is listed on Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) making it an offence under Section 14 (2) (a) of the Act to "plant or otherwise cause Japanese knotweed to grow in the wild". The council suggests that, as best practice, efforts are made to eradicate this species from the site. Details on Japanese knotweed and appropriate methods of treatment can be found in the Environment Agency's knotweed code of practice. http://www.environment-agency.gov.uk/homeandleisure/wildlife/130079.aspx This is to ensure compliance with the Wildlife and Countryside Act 1981 (as amended) and to support the Camden Biodiversity Action Plan 2013-18

5 The applicant is advised that the biodiversity information/ecological assessment provided as part of this application will be made available to Greenspace Information for Greater London [GIGL], the capital's environmental records centre. This is to ensure ongoing improvement biodiversity data holdings for Camden to better inform planning and land management decisions.

6 Regarding precautionary working methods for protected species, Further information can be found on the Natural England Website as follows: Protected species general advice:http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/

Regarding the European Protected Species Licence, further information can be found on the Natural England Website as follows: The EU protected species license http://www.naturalengland.org.uk/ourwork/regulation/wildlife/species/europeanprotectedspecies.aspx

7 Thames Water advises that piling has the potential to impact on local underground sewerage utility infrastructure. The applicant is advised to contact Thames Water

Developer Services on 0845 850 2777 to discuss the details of the piling method statement.

8 This site is within an area of archaeological significance/archaeological potential where development is likely to result in the destruction of ancient remains. Your attention is drawn to the British Archaeologists and Developers Liaison Group Code of Practice agreed by the British Property Federation and the Standing Conference of Archaeological Unit Managers. The Council recognises and endorses this Code and will expect the developer and approved archaeological organisations to abide by its provisions.

9 English Heritage's Greater London Archaeological Advisory Service (GLAAS) advises that the written scheme of investigation will need to be prepared and implemented by a suitably qualified archaeological practice in accordance with English Heritage Greater London Archaeology guidelines. It must be approved by the planning authority before any on-site development related activity occurs.

10 English Heritage's Greater London Archaeological Advisory Service (GLAAS) advises that the archaeological fieldwork should comprise the following:

Redesign - Consider redesign of proposed alterations to the Model Boating Pond to minimise changes to its shape and surroundings and provision for minor alterations to preseve significant discoveries in-situ.

Historic Landscape Survey - Historic landscape survey uses historic map, documentary and field survey to establish the landscape history of a site to identify features of historic significance and how the history of the site contributes to landscape character. It is usually used as part of an assessment to inform a planning decision. Landscape survey is relevant to understanding both designed parkland landscapes and ancient/historic landscapes such as woodlands and field systems. It may include measured survey of archaeological earthworks.

Working from existing information, in this case an integrated approach to survey should encompass the form of the ponds, embankments, channels and structures in order to better understand their development and operation. This should be linked to investigation of below ground remains.

Evaluation - An archaeological field evaluation involves exploratory fieldwork to determine if significant remains are present on a site and if so to define their character, extent, quality and preservation. Field evaluation may involve one or more techniques depending on the nature of the site and its archaeological potential. It will normally include excavation of trial trenches. A field evaluation report will usually be used to inform a planning decision (pre-determination evaluation) but can also be required by condition to refine a mitigation strategy after permission has been granted. Consider trial excavation to assess risk and mitigation requirements in advance of more substantive or sensitively located groundworks.

Watching Brief - A watching brief involves the proactive engagement with the development groundworks to permit investigation and recording of features of archaeological interest which are revealed. A suitable working method with contingency arrangements for significant discoveries will need to be agreed. The outcome will be a report and archive.

Different levels of watching brief will be need to be specified for particular types of groundworks.

The archaeological mitigation set out above should be specified in a single written scheme of investigation and implemented and reported as an integrated study of the water supply system. Other remains (if present) might best be reported separately. Options for public engagement should be considered and incorporated where appropriate.

11 The Environment Agency advises, in terms of ecology, biodiversity and conservation, that you should consider more closely the timings of the works in order to minimise the disturbance to the wildlife.

12 The Environment Agency strongly recommends you improve the sewerage systems as part of the development. In the long term, EA advises you to work with the local sewerage provider to identify and rectify misconnections and leaking sewers to improve the quality of the groundwater in the catchment area for the ponds as well as the local surface water courses.

13 The Environment Agency advises, owing to the excavation of clays from borrow pits to provide construction material, the following advice is relevant: The CL:AIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works are waste or have ceased to be waste. You will need to ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

14 The Environment Agency recommends you refer to the EA: Position statement on the Definition of Waste: Development Industry Code of Practice and; Website at www.environment-agency.gov.uk for further guidance. Contaminated soil that is, or must be disposed of, is waste. Therefore, its handling, transport, treatment and disposal is subject to waste management legislation, which includes: Duty of Care Regulations 1991; Hazardous Waste (England and Wales) Regulations 2005; Environmental Permitting (England and Wales) Regulations 2010; The Waste (England and Wales) Regulations 2011. You should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standards BS EN 14899:2005 'Characterisation of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays. If the total quantity of waste material to be produced at or taken off site is hazardous waste and is 500kg or greater in any 12 month period the developer will need to register with us as a hazardous waste producer. Refer to our website at www.environment-agency.gov.uk for more information.

15 Your attention is drawn to the fact that there is a separate legal agreement with the Council which relates to the development for which this permission is granted. Information/drawings relating to the discharge of matters covered by the Heads of Terms

of the legal agreement should be marked for the attention of the Planning Obligations Officer, Sites Team, Camden Town Hall, Argyle Street, WC1H 8EQ.

16 The City of London Corporation is requested to share the results of future periodic inspections of the dams with the Council's Emergency Management team.
17 Prior to works starting on site, the applicant will need to apply to the Lead Local Flood Authority (LLFA) for Ordinary Watercourse Consent for each relevant structure in accordance with section 23 of the Land Drainage Act 1991. The purpose of Ordinary Watercourse consent is to manage proposed activities affecting Ordinary Watercourses, to ensure that flood risk is managed appropriately. The amended Land drainage Act 1991 defines activities requiring consent as:

The erection of any mill dam, weir or other like obstruction to the flow of any ordinary watercourse or the raising or otherwise alteration of any such obstruction, or;
The erection of a culvert in an ordinary watercourse, or;
The alteration of a culvert in a manner that would be likely to affect the flow of an ordinary watercourse.

Further details can be provided by the LLFA upon request, and the applicant is advised to seek early advice from the LLFA on the format and content of the application(s).

In determining applications for ordinary watercourse consent the LLFA will consider other Legislation including, but not exclusively: The Environment Act; the Habitats Regulations; the Water Framework Directive (WFD); the Countryside and Rights of Way Act; the Salmon and Freshwater Fisheries Act; the Eel Regulations.