Technical note

Project:	Hampstead Heath Ponds Project	**To:**	The City of London Corporation
Subject:	Statement of Habitat Losses and Gains	**From:**	Atkins Ltd
Date:	13 Nov 2014	**cc:**	Project Team, LB Camden

Document Reference 5117039 / 62 / DG / 231 / Rev1

1. Background

We received feedback from LB Camden officers on the Hampstead Heath Ponds Project planning application submission on 9 September 2014. One of the comments/requests made by the officers was that Atkins provides a statement of the approximate amounts of habitat(s) lost and gained through the proposal and their locations (in both a written and graphical format).

2. Change in Terrestrial Habitat Types

Table 1 summarises the change in terrestrial habitat types as a result of the proposed scheme (e.g. at new spillways, the change from existing habitat type to species-rich grassland in order to avoid obstacles within the spillway and obstructions to the movement of flood water). Permanent changes will take place at the enlarged/new dams at Model Boating Pond and the Catchpit, and within spillway footprints at most ponds as indicated on the Environmental Masterplans submitted with the planning application. There will also be some new scrub planting to the west of Kenwood Ladies' Bathing Pond. All other terrestrial habitats affected by the proposed scheme will be reinstated following completion of the construction works.

Please note that changes to terrestrial habitat types as a result of pond enhancement measures (e.g. creation of channels and scrapes) are dealt with in Section 3 below. Also, with regards to woodland habitat, in contrast to the creation of channels and scrapes, the construction of spillways will result in a concomitant loss of existing woodland due to their larger footprint (refer to Section 3 for further details).

3. Change in Aquatic and Wetland Habitat Types Associated with Pond Enhancement Measures

Pond enhancement works indicated on the Environmental Masterplans that were submitted with the planning application will alter the existing site habitat composition in the following ways:

1. Through the creation of new marginal planting areas.
2. Through the creation of new reedbed features.
3. Through the creation of new wetland channels and scrapes associate with silt control measures.
4. Through changes in open water habitat associated with excavation and new dam works at Model Boating and Catchpit.

Creation of New Pond Marginal Planting Areas

Through the creation of new marginal planting shelves and platforms the change in marginal vegetated pond area is as follows with bracketed figures indicating net loss (-) or net gain (+) of resultant swamp/wetland habitat:

- Vale of Health (+20m^2)
- Viaduct Pond (+185m^2)
- Mixed Bathing Pond (+278m^2)
- Hampstead No. 2 (+113m^2)
- Hampstead No. 1 (+160m^2)
- Stock Pond (+98m^2)

- Highgate Mens' Bathing Pond (+310m^2)
- Highgate No. 1 Pond (+123m^2)
- Model Boating Pond (+852m^2)

In summary, there are no net losses of swamp/wetland habitat associated with the marginally planted areas. It is appreciated that the amount of open water habitat viewable in each pond is effectively reduced by the presence of marginal plants, although this not considered to be a loss of open water habitat. There is a loss in open water habitat of -335m^2 at Model Boating Pond due to the increase in the dam footprint.

Pond Specific Changes in Aquatic and Wetland Habitat Types Associated with Silt Control Measures and Reedbeds

The following section provides details as to the areas of habitat loss and gain associated with pond specific measures to control silt ingress. Please note that all features listed below require extraction works and as such the existing habitat type within the footprint of the excavation area will be altered i.e. there will be a concomitant change in habitat type. A summary habitat loss and gain information box is provided for each pond in relation to changes to aquatic and wetland habitat feature types.

Stock Pond

The habitat losses and gains associated with the proposed wetland areas and new channels downstream of Stock Pond, as shown on Environmental Masterplan 5117039-ATK-P1-ZZ-DR-L-7003, are as follows:

- Stream channel = +52m^2 of flowing water habitat
  - There will be a concomitant loss of -52m^2 of existing tall ruderal herb associated with required excavations to create the new stream.
- Wetland scrape area (3 No.) = +18m^2 of swamp/wetland habitat
  - There will be a concomitant loss of 18m^2 of existing tall ruderal herb existing associated with required excavations to create the 3 wetland scrape areas.

Summary losses/gains
+52m^2 flowing water, +18m^2 swamp/wetland, -70m^2 tall ruderal herb

Catchpit

The habitat losses and gains associated with the proposed wetland areas up and downstream of Catchpit, as shown on the Environmental Masterplan 5117039-ATK-P12-ZZ-DR-L-7003, are as follows:

- Existing catchpit = -125m^2 of open water habitat
  - Area loss is associated with the new dam footprint over the existing concrete lined catchpit
- Upstream wetland scrapes (2 No.) = +100m^2 of swamp/wetland habitat
  - There is not considered to be a concomitant loss of -100m^2 of existing woodland habitat since although the new stream is in the woodland area no loss of mature trees will occur.
- Downstream stream channel = +35m^2 of flowing water habitat
  - There is not considered to be a concomitant loss of -35m^2 of existing woodland habitat since although the new stream is in the woodland area no loss of mature trees will occur.
- Downstream wetland scrapes (3 No.) = +160m^2 of swamp/wetland habitat
  - There is not considered to be a concomitant loss of -160m^2 of existing woodland habitat since although the wetland scrapes area in a woodland area no loss of mature trees will occur.

Summary losses/gains
+260m^2 swamp/wetland, +35m^2 flowing water, -125m^2 open water

Please note that the wider woodland habitat losses associated with the new Catchpit dam footprint are covered in Table 1.

Bird Sanctuary Pond

The habitat losses and gains in scrapes and wetland channels downstream of Bird Sanctuary Pond, as shown on Environmental Masterplan 5117039-ATK-P3-ZZ-DR-L-7007, are as follows:

- Woodland channel = +133m^2 of open water habitat
  - There will be a concomitant loss of approximately -66.5m^2 of existing swamp/wetland associated with the required excavations to create the new stream.
  - There will be a concomitant loss of approximately -66.5m^2 of existing dense scrub associated with the required excavations to create the new stream.
- Wetland scrape area (4 No.) = +241m^2 of swamp/wetland habitat
  - There will be a concomitant loss of -241m^2 of existing swamp/wetland associated with the required excavations to create the wetland scrape areas i.e. no overall habitat change.
- Reedbed area (1 No.) = +100m^2 of swamp/wetland habitat
  - There will be a concomitant loss of -100m^2 of existing swamp/wetland associated with the required excavations to create the reedbed i.e. no overall habitat change.

Summary losses/gains
-66.5m^2 dense scrub, -65.5m^2 swamp/wetland,+133m^2 open water

Inflow to Highgate Mens' Bathing Pond

The habitat losses and gains associated with the proposals for the inflow to Highgate Mens' Bathing Pond, as shown on Environmental Masterplan 5117039-ATK-P4-ZZ-DR-L-7007, are as follows:

- Wetland scrape area = +42m^2 of swamp/wetland habitat
  - There will be a concomitant loss of -42m^2 of existing scattered trees associated with required excavations to create the wetland scrape area.

Summary losses/gains
-42m^2 scattered trees, +42m^2 swamp/wetland

Overall Habitat Losses and Gains Associated with Aquatic and Wetland Habitats:

Habitat Type	**Loss (-) or Gain (+) in m^2** (orange: loss; green: gain; blue: no change)
Open water	**-327**
Flowing water	**+87**
Swamp/wetland	**+2,393.5**
Scattered trees	**-42**
Dense scrub	**-66.5**
Tall ruderal herb	**-70**

Technical note

Table 1 Change in Terrestrial Habitat Types Associated with new Spillways, Enlarged/New Dams at Model Boating Pond and Catchpit, and new scrub planting at Kenwood Ladies' Bathing Pond

Pond Name	Total Area of Spillway (m^2) if applicable	Area of EXISTING Habitat Types (m^2)									Area of PROPOSED Habitat Types (m^2)		CHANGE in Area of Habitat Types (m^2) (orange: loss; green: gain; blue: no change)										
		Woodland	Scattered trees	Semi-improved grassland	Species-poor semi-improved grassland	Improved grassland	Amenity Grassland	Swamp/wetland	Dense scrub	Other (e.g. path, track)	Species-rich grassland (equivalent to semi-improved grassland)	Grassland/scrub mosaic (Catchpit)	Woodland	Scattered trees	Semi-improved grassland	Species-poor semi-improved grassland	Improved grassland	Amenity Grassland	Swamp/wetland	Dense scrub	Grassland/scrub mosaic	Species-rich grassland (equivalent to semi-improved grassland)	Other (e.g. path, track)
Highgate Chain																							
Stock Pond	1293	615	0	0	549	0	0	0	0	129	1164	0	-615	N/A	N/A	-549	N/A	N/A	N/A	N/A	N/A	+1164	0
Kenwood Ladies' Bathing Pond	312	97	3109	0	0	0	181	0	0	34	278	0	-97	N/A	-3109	N/A	N/A	-181	N/A	+3109	N/A	+278	0
Bird Sanctuary Pond This is addressed under Section 3 above	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Model Boating Pond As described in Section 3 above, the change in open water habitat is -335m^2	N/A	0	1930	0	8927	0	0	0	505	992	9219	0	N/A	0	N/A	-8927	N/A	N/A	N/A	-159 (some scrub being lost to open water)	N/A	+9219	+802
Highgate Mens' Bathing Pond	332	48	0	0	0	0	0	0	284	0	332	0	-48	N/A	N/A	N/A	N/A	N/A	N/A	-284	N/A	+332	N/A
Highgate No.1	1812	376	1203	0	0	0	161	0	0	72	1740	0	-376	-1203	N/A	N/A	N/A	-161	N/A	N/A	N/A	+1740	0
Hampstead Chain																							
Vale of Health	248	102	0	0	0	47	0	0	54	45	203	0	-102	N/A	N/A	N/A	-47	N/A	N/A	-54	N/A	+203	0
Viaduct	101	70	0	0	0	0	0	0	16	16	101	0	-70	N/A	N/A	N/A	N/A	N/A	N/A	-16	N/A	+101	0
Mixed Bathing Pond	N/A Works at this pond involve scrub clearance to remove shading check	0	0	0	0	0	0	0	50	0	0	0	N/A	N/A	+50	N/A	N/A	N/A	N/A	-50	N/A	N/A	N/A

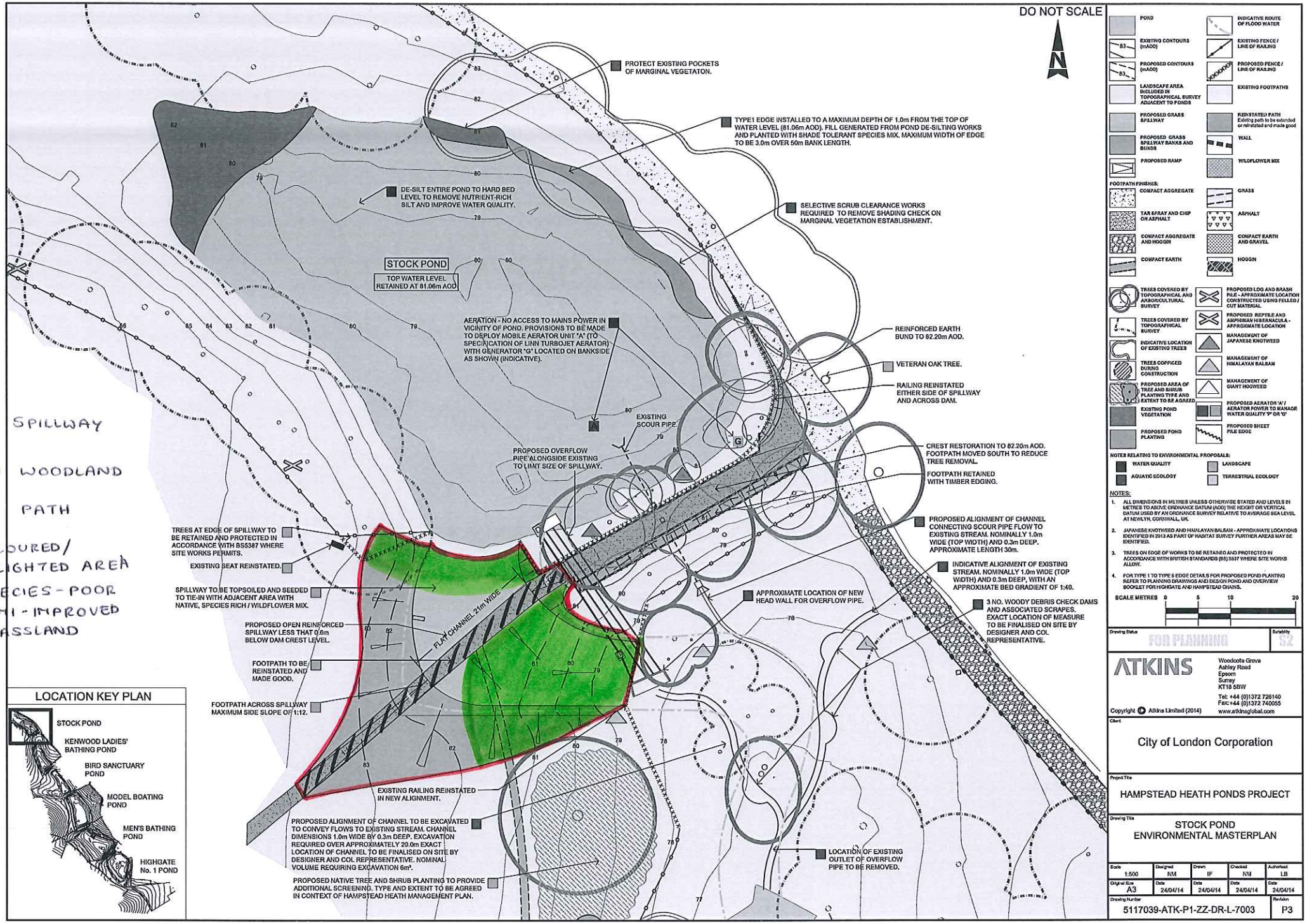
	on marginal vegetation establishment																					
Hampstead No.2 No permanent changes to habitat types due to use of box culverts	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hampstead No.1	83	83	0	0	0	0	0	0	0	0	83	0	-83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	+83	N/A
Catchpit	N/A	3490 (New dam footprint: 2299; New terrestrial habitat upstream of dam: 1191)	0	0	0	0	0	0	0	0	2299	1191	-3490	N/A	N/A	N/A	N/A	N/A	N/A	N/A	+1191	+2299	N/A

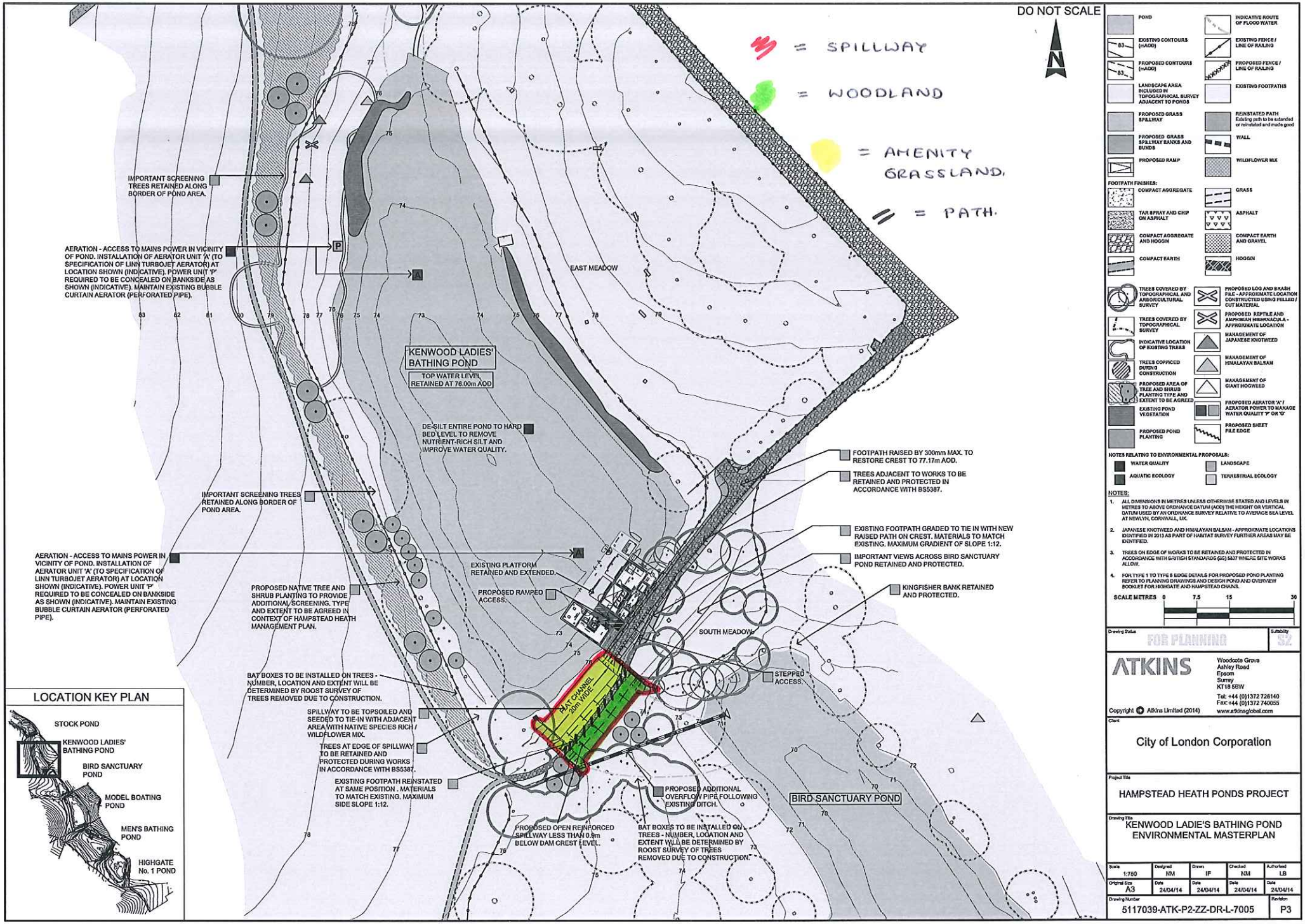
Technical note

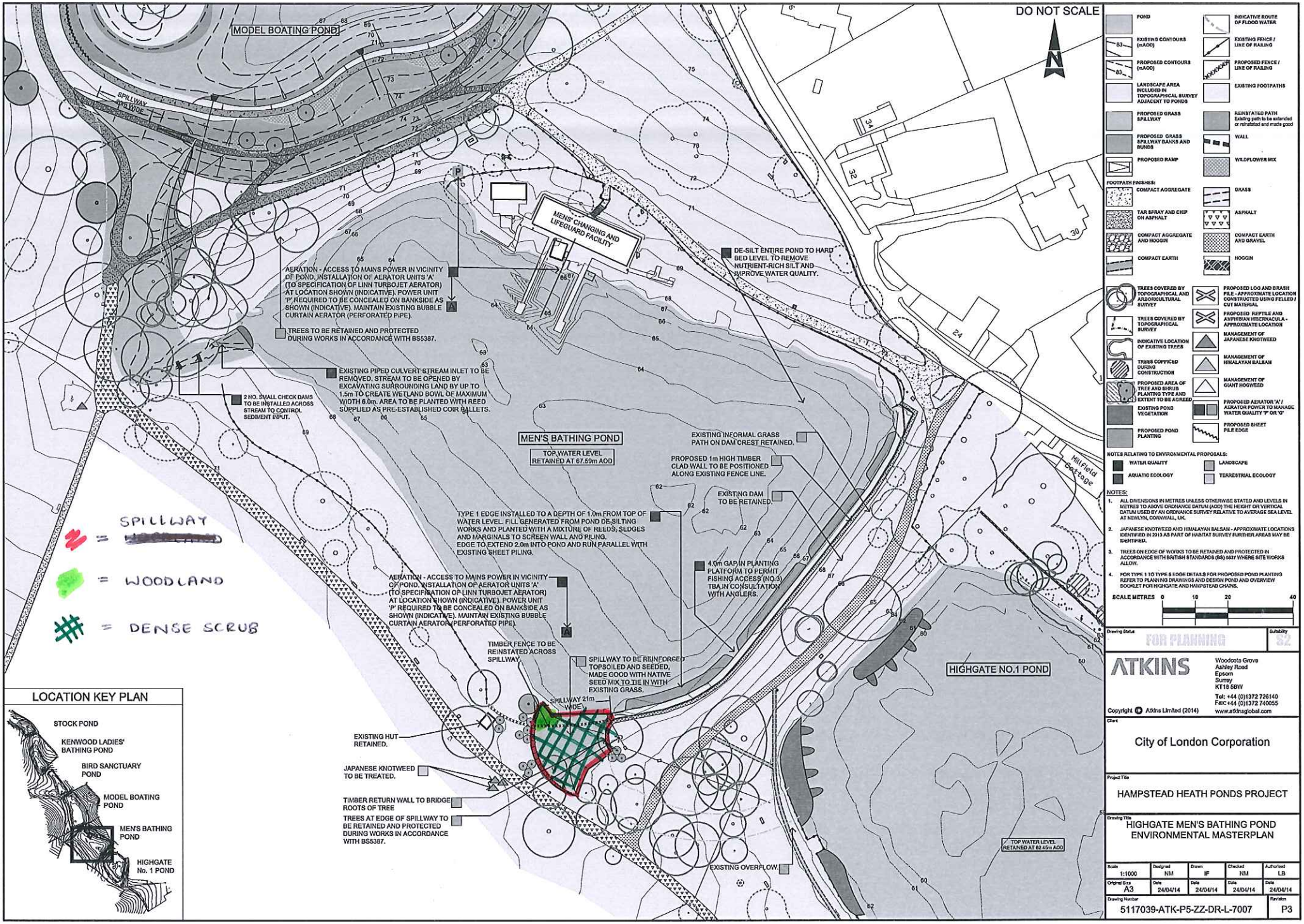
Appendix A – Spillways and Catchpit Sketches

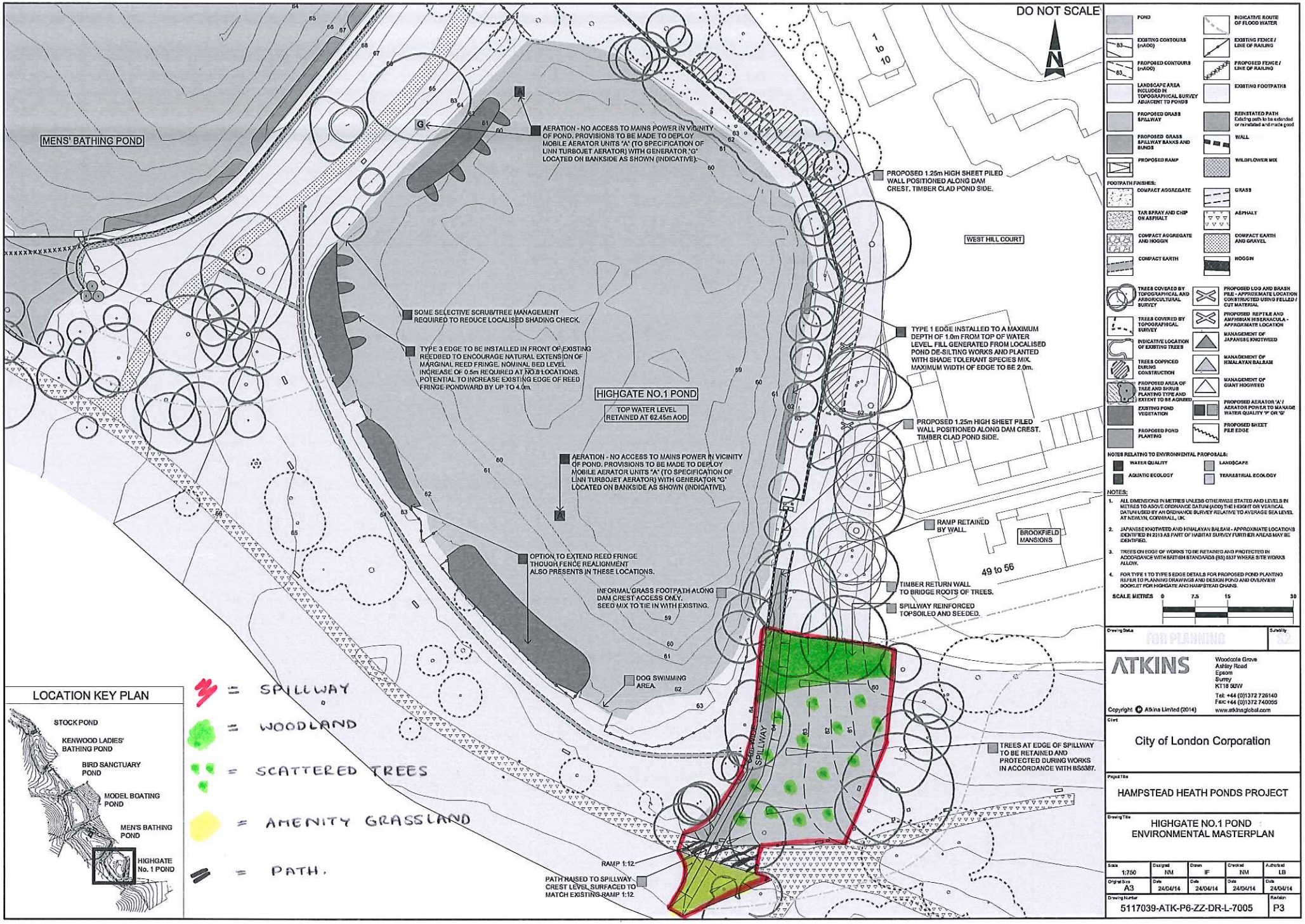
Note

- Spillways: Using the Phase 1 habitat survey map and Environmental Masterplan drawings, existing habitat types were superimposed onto the footprint of the new spillways. In each case the Atkins CAD Team measured the total area of the spillway and the area of each habitat type present. These figures were then fed into Table 1. Because the spillways will be planted with species-rich grassland, the 'Area of proposed habitat type' is generally equivalent to the total area of the spillway (unless there is a path/track present).
- Catchpit: the footprint of the new dam and new up- and downstream habitats (including wetland scrapes, stream channels and grassland/scrub mosaic) were measured by the Atkins CAD Team (no 'Before' sketches were needed because there is only one existing habitat type i.e. woodland). The figures were fed into Section 3 and Table 1 as appropriate.
- Model Boating Pond: Due to the number of changes taking place at Model Boating Pond, 'Before' and 'After' measurements were carried out by members of the Atkins CAD Team and Ecology Team working together at a computer, so no sketches are provided for this pond.
- Kenwood Ladies' Bathing Pond – Using the Environmental Masterplan drawing the total area of new scrub planting to the west of the pond was measured by members of the Atkins CAD Team and Ecology Team working together at a computer, so no sketches are provided for this pond.
- Pond enhancement measures including marginal planting, wetland scrapes, woodland channels, and reedbed planting: These are shown on the Environmental Masterplan drawings. The Atkins CAD Team used the drawings to measure the area of marginal planting, wetland scrapes, stream channels and reedbed planting at the relevant ponds. These figures were then fed into Section 3.


DO NOT SCALE
N
PROTECT EXISTING POCKETS OF MARGINAL VEGETATON.
TYPE1 EDGE INSTALLED TO A MAXIMUM DEPTH OF 1.0m FROM THE TOP OF WATER LEVEL (81.06m AOD). FILL GENERATED FROM POND DE-SILTING WORKS AND PLANTED WITH SHADE TOLERANT SPECIES MIX. MAXIMUM WIDTH OF EDGE TO BE 3.0m OVER 50m BANK LENGTH.
DE-SILT ENTIRE POND TO HARD BED LEVEL TO REMOVE NUTRIENT-RICH SILT AND IMPROVE WATER QUALITY.
SELECTIVE SCRUB CLEARANCE WORKS REQUIRED TO REMOVE SHADING CHECK ON MARGINAL VEGETATION ESTABLISHMENT.
STOCK POND
TOP WATER LEVEL RETAINED AT 81.06m AOD
AERATION - NO ACCESS TO MAINS POWER IN VICINITY OF POND. PROVISIONS TO BE MADE TO DEPLOY MOBILE AERATOR UNIT 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) WITH GENERATOR 'G' LOCATED ON BANKSIDE AS SHOWN (INDICATIVE).
REINFORCED EARTH BUND TO 82.20m AOD.
VETERAN OAK TREE.
RAILING REINSTATED EITHER SIDE OF SPILLWAY AND ACROSS DAM.
EXISTING SCOUR PIPE
PROPOSED OVERFLOW PIPE ALONGSIDE EXISTING TO LIMIT SIZE OF SPILLWAY.
CREST RESTORATION TO 82.20m AOD. FOOTPATH MOVED SOUTH TO REDUCE TREE REMOVAL.
FOOTPATH RETAINED WITH TIMBER EDGING.
PROPOSED ALIGNMENT OF CHANNEL CONNECTING SCOUR PIPE FLOW TO EXISTING STREAM. NOMINALLY 1.0m WIDE (TOP WIDTH) AND 0.3m DEEP. APPROXIMATE LENGTH 30m.
INDICATIVE ALIGNMENT OF EXISTING STREAM. NOMINALLY 1.0m WIDE (TOP WIDTH) AND 0.3m DEEP, WITH AN APPROXIMATE BED GRADIENT OF 1:40.
3 NO. WOODY DEBRIS CHECK DAMS AND ASSOCIATED SCRAPES. EXACT LOCATION OF MEASURE TO BE FINALISED ON SITE BY DESIGNER AND COL REPRESENTATIVE.
APPROXIMATE LOCATION OF NEW HEAD WALL FOR OVERFLOW PIPE.
TREES AT EDGE OF SPILLWAY TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BS5387 WHERE SITE WORKS PERMITS.
EXISTING SEAT REINSTATED.
SPILLWAY TO BE TOPSOILED AND SEEDED TO TIE-IN WITH ADJACENT AREA WITH NATIVE, SPECIES RICH / WILDFLOWER MIX.
PROPOSED OPEN REINFORCED SPILLWAY LESS THAT 0.6m BELOW DAM CREST LEVEL.
FLAT CHANNEL 21m WIDE
FOOTPATH TO BE REINSTATED AND MADE GOOD.
FOOTPATH ACROSS SPILLWAY MAXIMUM SIDE SLOPE OF 1:12.
EXISTING RAILING REINSTATED IN NEW ALIGNMENT.
PROPOSED ALIGNMENT OF CHANNEL TO BE EXCAVATED TO CONVEY FLOWS TO EXISTING STREAM. CHANNEL DIMENSIONS 1.0m WIDE BY 0.3m DEEP. EXCAVATION REQUIRED OVER APPROXIMATELY 20.0m EXACT LOCATION OF CHANNEL TO BE FINALISED ON SITE BY DESIGNER AND COL REPRESENTATIVE. NOMINAL VOLUME REQUIRING EXCAVATION 6m³.
PROPOSED NATIVE TREE AND SHRUB PLANTING TO PROVIDE ADDITIONAL SCREENING. TYPE AND EXTENT TO BE AGREED IN CONTEXT OF HAMPSTEAD HEATH MANAGEMENT PLAN.
LOCATION OF EXISTING OUTLET OF OVERFLOW PIPE TO BE REMOVED.
= SPILLWAY
= WOODLAND
= PATH
'UNCOLOURED/ HIGHLIGHTED AREA = SPECIES-POOR SEMI-IMPROVED GRASSLAND
LOCATION KEY PLAN
STOCK POND
KENWOOD LADIES' BATHING POND
BIRD SANCTUARY POND
MODEL BOATING POND
MEN'S BATHING POND
HIGHGATE No. 1 POND
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH Existing path to be extended or reinstated and made good
WALL
WILDFLOWER MIX
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAR SPRAY AND CHIP ON ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'G'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 5 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 5 10 20
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
STOCK POND
ENVIRONMENTAL MASTERPLAN
Scale 1:500
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P1-ZZ-DR-L-7003
Revision P3


DO NOT SCALE
= SPILLWAY
= WOODLAND
= AMENITY GRASSLAND.
= PATH.
IMPORTANT SCREENING TREES RETAINED ALONG BORDER OF POND AREA.
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNIT 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE). MAINTAIN EXISTING BUBBLE CURTAIN AERATOR (PERFORATED PIPE).
EAST MEADOW
KENWOOD LADIES' BATHING POND
TOP WATER LEVEL RETAINED AT 76.00m AOD
DE-SILT ENTIRE POND TO HARD BED LEVEL TO REMOVE NUTRIENT-RICH SILT AND IMPROVE WATER QUALITY.
FOOTPATH RAISED BY 300mm MAX. TO RESTORE CREST TO 77.17m AOD.
TREES ADJACENT TO WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BS5387.
IMPORTANT SCREENING TREES RETAINED ALONG BORDER OF POND AREA.
EXISTING FOOTPATH GRADED TO TIE IN WITH NEW RAISED PATH ON CREST. MATERIALS TO MATCH EXISTING. MAXIMUM GRADIENT OF SLOPE 1:12.
IMPORTANT VIEWS ACROSS BIRD SANCTUARY POND RETAINED AND PROTECTED.
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNIT 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE). MAINTAIN EXISTING BUBBLE CURTAIN AERATOR (PERFORATED PIPE).
EXISTING PLATFORM RETAINED AND EXTENDED.
PROPOSED NATIVE TREE AND SHRUB PLANTING TO PROVIDE ADDITIONAL SCREENING, TYPE AND EXTENT TO BE AGREED IN CONTEXT OF HAMPSTEAD HEATH MANAGEMENT PLAN.
PROPOSED RAMPED ACCESS.
KINGFISHER BANK RETAINED AND PROTECTED.
SOUTH MEADOW
BAT BOXES TO BE INSTALLED ON TREES - NUMBER, LOCATION AND EXTENT WILL BE DETERMINED BY ROOST SURVEY OF TREES REMOVED DUE TO CONSTRUCTION.
FLAT CHANNEL 20m WIDE
STEPPED ACCESS.
SPILLWAY TO BE TOPSOILED AND SEEDED TO TIE-IN WITH ADJACENT AREA WITH NATIVE SPECIES RICH / WILDFLOWER MIX.
TREES AT EDGE OF SPILLWAY TO BE RETAINED AND PROTECTED DURING WORKS IN ACCORDANCE WITH BS5387.
EXISTING FOOTPATH REINSTATED AT SAME POSITION . MATERIALS TO MATCH EXISTING. MAXIMUM SIDE SLOPE 1:12.
PROPOSED ADDITIONAL OVERFLOW PIPE FOLLOWING EXISTING DITCH.
BIRD SANCTUARY POND
PROPOSED OPEN REINFORCED SPILLWAY LESS THAN 0.6m BELOW DAM CREST LEVEL.
BAT BOXES TO BE INSTALLED ON TREES - NUMBER, LOCATION AND EXTENT WILL BE DETERMINED BY ROOST SURVEY OF TREES REMOVED DUE TO CONSTRUCTION.
LOCATION KEY PLAN
STOCK POND
KENWOOD LADIES' BATHING POND
BIRD SANCTUARY POND
MODEL BOATING POND
MEN'S BATHING POND
HIGHGATE No. 1 POND
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH
WALL
WILDFLOWER MIX
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAR SPRAY AND CHIP ON ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'O'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 6 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 7.5 15 30
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
KENWOOD LADIE'S BATHING POND ENVIRONMENTAL MASTERPLAN
Scale 1:750
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P2-ZZ-DR-L-7005
Revision P3


DO NOT SCALE
MODEL BOATING POND
SPILLWAY
MEN'S CHANGING AND LIFEGUARD FACILITY
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNITS 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE). MAINTAIN EXISTING BUBBLE CURTAIN AERATOR (PERFORATED PIPE).
TREES TO BE RETAINED AND PROTECTED DURING WORKS IN ACCORDANCE WITH BS5387.
DE-SILT ENTIRE POND TO HARD BED LEVEL TO REMOVE NUTRIENT-RICH SILT AND IMPROVE WATER QUALITY.
EXISTING PIPED CULVERT STREAM INLET TO BE REMOVED. STREAM TO BE OPENED BY EXCAVATING SURROUNDING LAND BY UP TO 1.5m TO CREATE WETLAND BOWL OF MAXIMUM WIDTH 6.0m. AREA TO BE PLANTED WITH REED SUPPLIED AS PRE-ESTABLISHED COIR RAFTS.
2 NO. SMALL CHECK DAMS TO BE INSTALLED ACROSS STREAM TO CONTROL SEDIMENT INPUT.
MEN'S BATHING POND
TOP WATER LEVEL RETAINED AT 67.59m AOD
EXISTING INFORMAL GRASS PATH ON DAM CREST RETAINED.
PROPOSED 1m HIGH TIMBER CLAD WALL TO BE POSITIONED ALONG EXISTING FENCE LINE.
EXISTING DAM TO BE RETAINED.
TYPE 1 EDGE INSTALLED TO A DEPTH OF 1.0m FROM TOP OF WATER LEVEL. FILL GENERATED FROM POND DE-SILTING WORKS AND PLANTED WITH A MIXTURE OF REEDS, SEDGES AND MARGINALS TO SCREEN WALL AND PILING. EDGE TO EXTEND 2.0m INTO POND AND RUN PARALLEL WITH EXISTING SHEET PILING.
4.0m GAP IN PLANTING PLATFORM TO PERMIT FISHING ACCESS (NO.3) TBA IN CONSULTATION WITH ANGLERS.
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNITS 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE). MAINTAIN EXISTING BUBBLE CURTAIN AERATOR (PERFORATED PIPE).
TIMBER FENCE TO BE REINSTATED ACROSS SPILLWAY.
SPILLWAY TO BE REINFORCED TOPSOILED AND SEEDED, MADE GOOD WITH NATIVE SEED MIX TO TIE IN WITH EXISTING GRASS.
SPILLWAY 21m WIDE
EXISTING HUT RETAINED.
JAPANESE KNOTWEED TO BE TREATED.
TIMBER RETURN WALL TO BRIDGE ROOTS OF TREE
TREES AT EDGE OF SPILLWAY TO BE RETAINED AND PROTECTED DURING WORKS IN ACCORDANCE WITH BS5387.
EXISTING OVERFLOW.
TOP WATER LEVEL RETAINED AT 62.45m AOD
HIGHGATE NO.1 POND
Millfield Cottage
SPILLWAY = [redacted]
= WOODLAND
= DENSE SCRUB
LOCATION KEY PLAN
STOCK POND
KENWOOD LADIES' BATHING POND
BIRD SANCTUARY POND
MODEL BOATING POND
MEN'S BATHING POND
HIGHGATE No. 1 POND
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH
WALL
WILDFLOWER MIX
FOOTPATH FINISHES:
COMPACT AGGREGATE
GRASS
TAR SPRAY AND CHIP ON ASPHALT
ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH AND GRAVEL
COMPACT EARTH
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBOCULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'G'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
LANDSCAPE
AQUATIC ECOLOGY
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 8 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 10 20 40
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
HIGHGATE MEN'S BATHING POND ENVIRONMENTAL MASTERPLAN
Scale 1:1000
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Date 24/04/14
Date 24/04/14
Date 24/04/14
Drawing Number 5117039-ATK-P5-ZZ-DR-L-7007
Revision P3



Drawing Status: FOR PLANNING
Suitability: S2

ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com

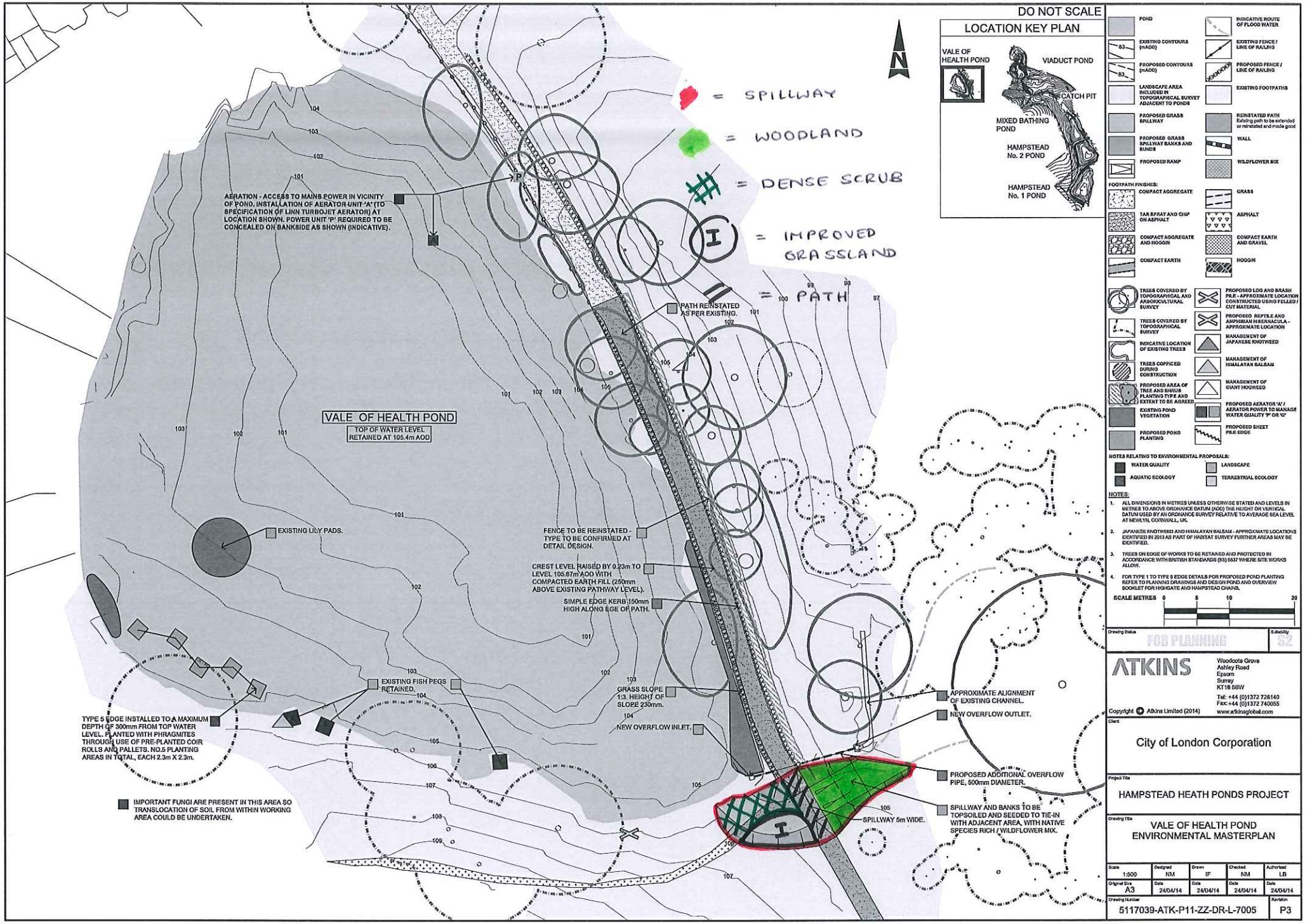
Client: City of London Corporation

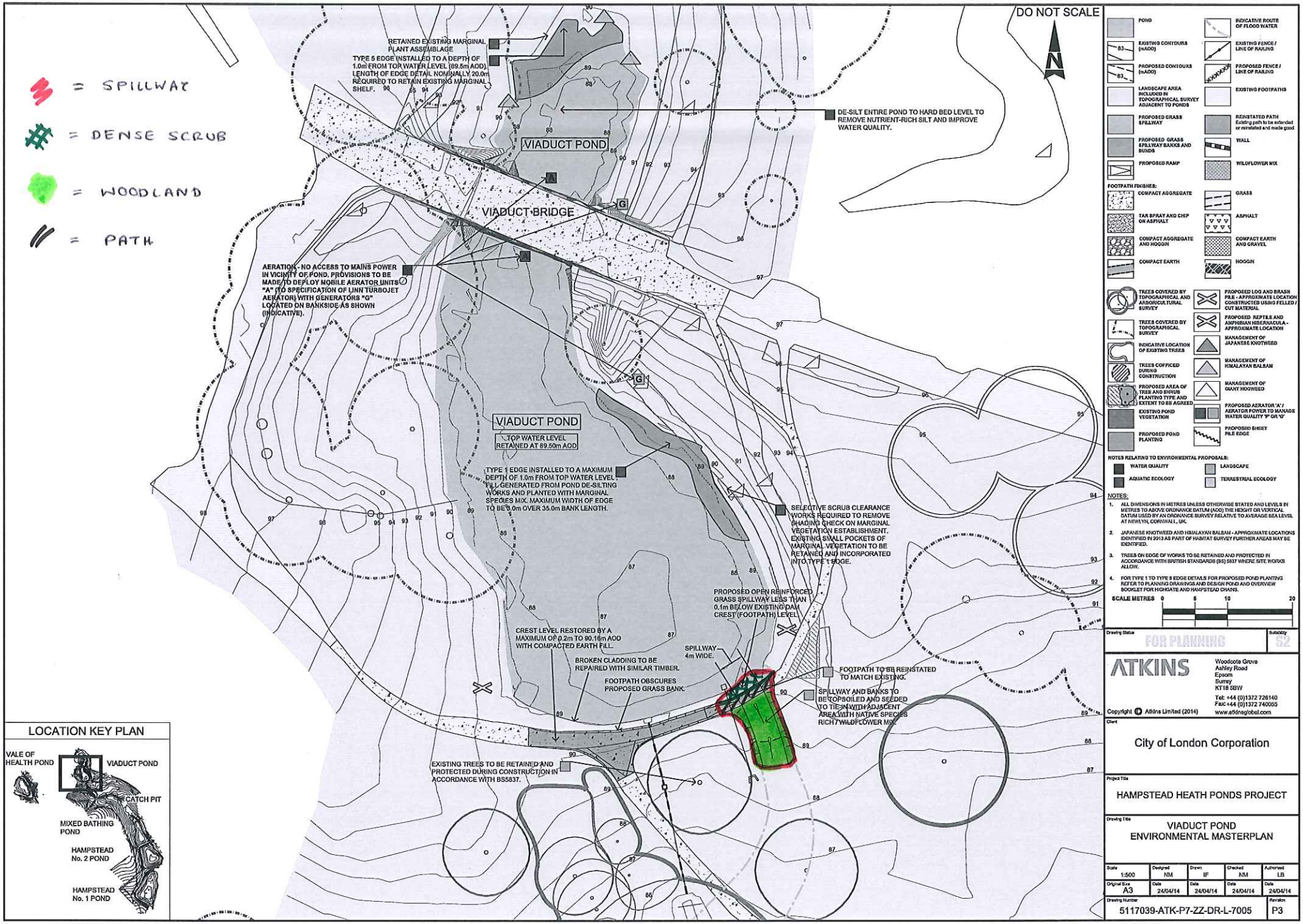
Project Title: HAMPSTEAD HEATH PONDS PROJECT

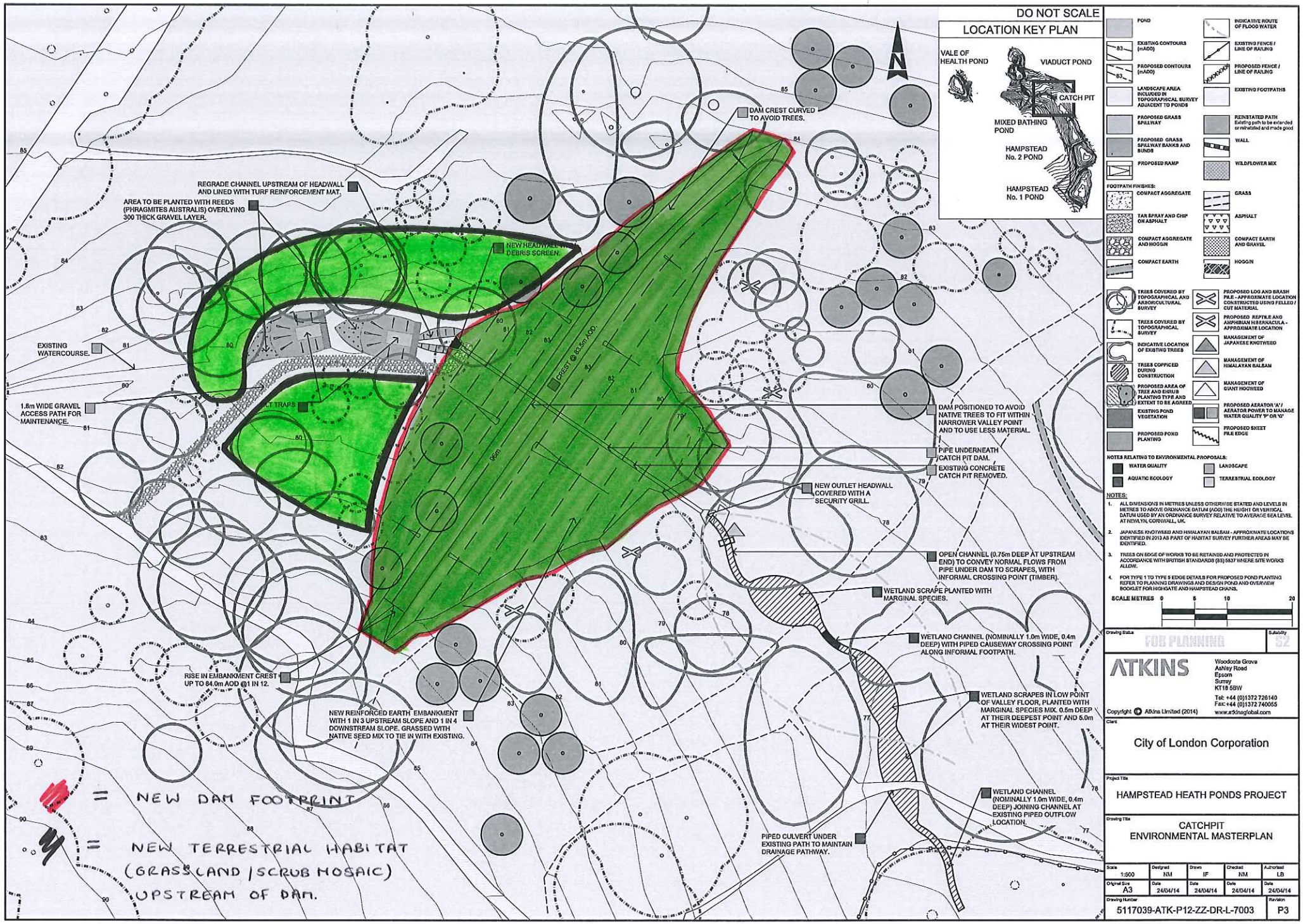
Drawing Title: HIGHGATE NO.1 POND ENVIRONMENTAL MASTERPLAN

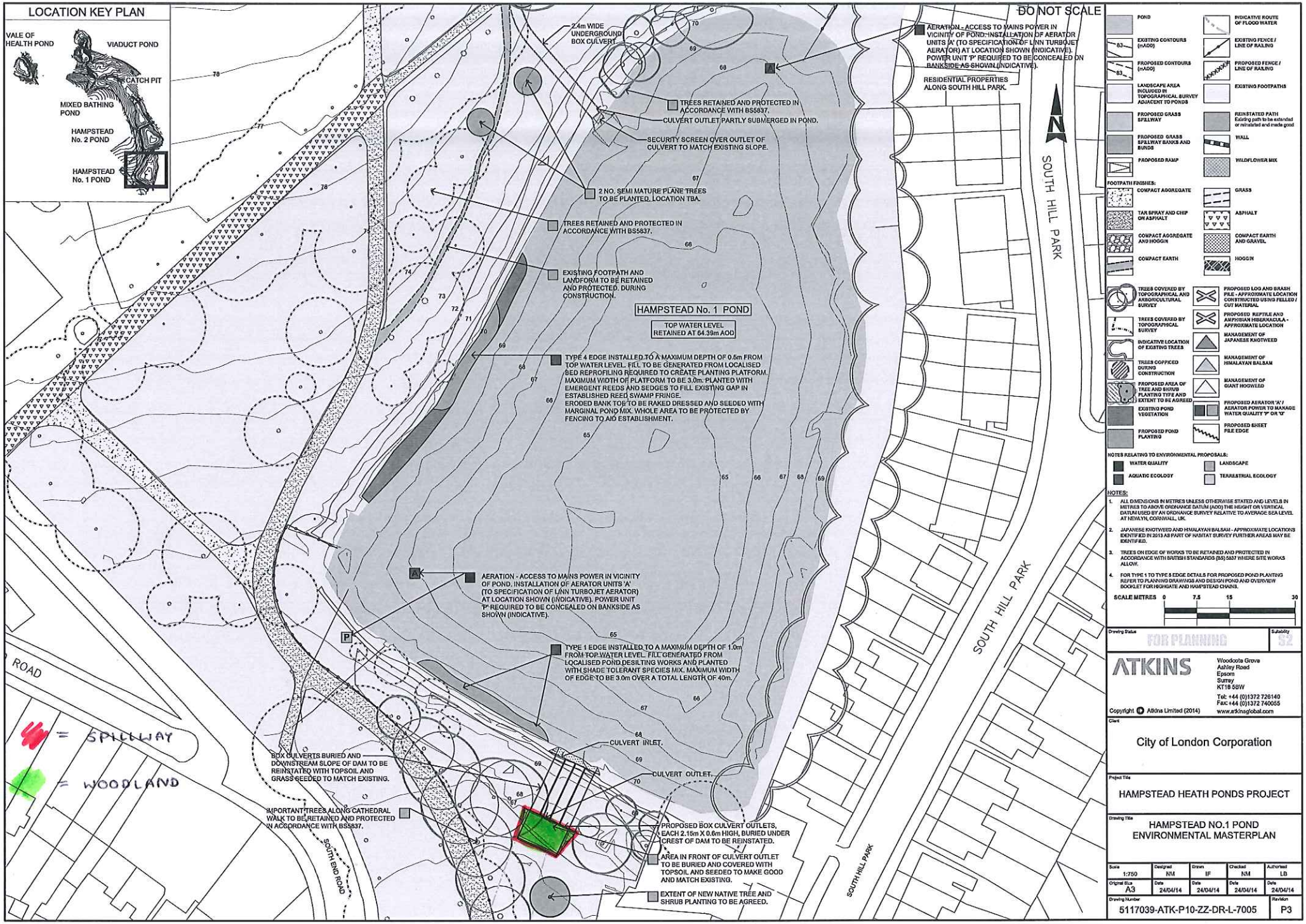
Scale	Designed	Drawn	Checked	Authorised
1:750	NM	IF	NM	LB
Original Size	Date	Date	Date	Date
A3	24/04/14	24/04/14	24/04/14	24/04/14

Drawing Number: 5117039-ATK-P6-ZZ-DR-L-7005
Revision: P3


DO NOT SCALE
LOCATION KEY PLAN
VALE OF HEALTH POND
VIADUCT POND
CATCH PIT
MIXED BATHING POND
HAMPSTEAD No. 2 POND
HAMPSTEAD No. 1 POND
= SPILLWAY
= WOODLAND
= DENSE SCRUB
= IMPROVED GRASSLAND
= PATH
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND, INSTALLATION OF AERATOR UNIT 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN. POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE).
VALE OF HEALTH POND
TOP OF WATER LEVEL RETAINED AT 105.4m AOD
PATH REINSTATED AS PER EXISTING.
EXISTING LILY PADS.
FENCE TO BE REINSTATED - TYPE TO BE CONFIRMED AT DETAIL DESIGN.
CREST LEVEL RAISED BY 0.23m TO LEVEL 105.67m AOD WITH COMPACTED EARTH FILL (250mm ABOVE EXISTING PATHWAY LEVEL).
SIMPLE EDGE KERB 150mm HIGH ALONG EGE OF PATH.
EXISTING FISH PEGS RETAINED.
GRASS SLOPE 1:3. HEIGHT OF SLOPE 230mm.
NEW OVERFLOW INLET.
APPROXIMATE ALIGNMENT OF EXISTING CHANNEL.
NEW OVERFLOW OUTLET.
PROPOSED ADDITIONAL OVERFLOW PIPE, 500mm DIAMETER.
SPILLWAY AND BANKS TO BE TOPSOILED AND SEEDED TO TIE-IN WITH ADJACENT AREA, WITH NATIVE SPECIES RICH / WILDFLOWER MIX.
SPILLWAY 5m WIDE.
TYPE 5 EDGE INSTALLED TO A MAXIMUM DEPTH OF 300mm FROM TOP WATER LEVEL. PLANTED WITH PHRAGMITES THROUGH USE OF PRE-PLANTED COIR ROLLS AND PALLETS. NO.5 PLANTING AREAS IN TOTAL, EACH 2.3m X 2.3m.
IMPORTANT FUNGI ARE PRESENT IN THIS AREA SO TRANSLOCATION OF SOIL FROM WITHIN WORKING AREA COULD BE UNDERTAKEN.
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAR SPRAY AND CHIP ON ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH Existing path to be extended or reinstated and made good
WALL
WILDFLOWER MIX
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'S'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 5 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 5 10 20
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
VALE OF HEALTH POND ENVIRONMENTAL MASTERPLAN
Scale 1:500
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P11-ZZ-DR-L-7005
Revision P3


= SPILLWAY
= DENSE SCRUB
= WOODLAND
= PATH
DO NOT SCALE
N
RETAINED EXISTING MARGINAL PLANT ASSEMBLAGE
TYPE 5 EDGE INSTALLED TO A DEPTH OF 1.0m FROM TOP WATER LEVEL (89.5m AOD). LENGTH OF EDGE DETAIL NOMINALLY 20.0m REQUIRED TO RETAIN EXISTING MARGINAL SHELF.
DE-SILT ENTIRE POND TO HARD BED LEVEL TO REMOVE NUTRIENT-RICH SILT AND IMPROVE WATER QUALITY.
VIADUCT POND
VIADUCT BRIDGE
G
AERATION - NO ACCESS TO MAINS POWER IN VICINITY OF POND. PROVISIONS TO BE MADE TO DEPLOY MOBILE AERATOR UNITS "A" (TO SPECIFICATION OF LINN TURBOJET AERATOR) WITH GENERATORS "G" LOCATED ON BANKSIDE AS SHOWN (INDICATIVE).
VIADUCT POND
TOP WATER LEVEL RETAINED AT 89.50m AOD
TYPE 1 EDGE INSTALLED TO A MAXIMUM DEPTH OF 1.0m FROM TOP WATER LEVEL. FILL GENERATED FROM POND DE-SILTING WORKS AND PLANTED WITH MARGINAL SPECIES MIX. MAXIMUM WIDTH OF EDGE TO BE 5.0m OVER 35.0m BANK LENGTH.
SELECTIVE SCRUB CLEARANCE WORKS REQUIRED TO REMOVE SHADING CHECK ON MARGINAL VEGETATION ESTABLISHMENT. EXISTING SMALL POCKETS OF MARGINAL VEGETATION TO BE RETAINED AND INCORPORATED INTO TYPE 1 EDGE.
PROPOSED OPEN REINFORCED GRASS SPILLWAY LESS THAN 0.1m BELOW EXISTING DAM CREST (FOOTPATH) LEVEL.
CREST LEVEL RESTORED BY A MAXIMUM OF 0.2m TO 90.16m AOD WITH COMPACTED EARTH FILL.
SPILLWAY 4m WIDE.
BROKEN CLADDING TO BE REPAIRED WITH SIMILAR TIMBER.
FOOTPATH OBSCURES PROPOSED GRASS BANK.
FOOTPATH TO BE REINSTATED TO MATCH EXISTING.
SPILLWAY AND BANKS TO BE TOPSOILED AND SEEDED TO TIE IN WITH ADJACENT AREA WITH NATIVE SPECIES RICH7 WILDFLOWER MIX.
EXISTING TREES TO BE RETAINED AND PROTECTED DURING CONSTRUCTION IN ACCORDANCE WITH BS5837.
LOCATION KEY PLAN
VALE OF HEALTH POND
VIADUCT POND
CATCH PIT
MIXED BATHING POND
HAMPSTEAD No. 2 POND
HAMPSTEAD No. 1 POND
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH
WALL
WILDFLOWER MIX
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAR SPRAY AND CHIP OR ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COFFICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'O'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 5 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 5 10 20
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
VIADUCT POND
ENVIRONMENTAL MASTERPLAN
Scale 1:500
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P7-ZZ-DR-L-7005
Revision P3


DO NOT SCALE
LOCATION KEY PLAN
VALE OF HEALTH POND
VIADUCT POND
CATCH PIT
MIXED BATHING POND
HAMPSTEAD No. 2 POND
HAMPSTEAD No. 1 POND
N
DAM CREST CURVED TO AVOID TREES.
REGRADE CHANNEL UPSTREAM OF HEADWALL AND LINED WITH TURF REINFORCEMENT MAT.
AREA TO BE PLANTED WITH REEDS (PHRAGMITES AUSTRALIS) OVERLYING 300 THICK GRAVEL LAYER.
NEW HEADWALL W DEBRIS SCREEN.
EXISTING WATERCOURSE.
1.8m WIDE GRAVEL ACCESS PATH FOR MAINTENANCE.
CREST @ 85.5m AOD.
DAM POSITIONED TO AVOID NATIVE TREES TO FIT WITHIN NARROWER VALLEY POINT AND TO USE LESS MATERIAL.
PIPE UNDERNEATH CATCH PIT DAM.
EXISTING CONCRETE CATCH PIT REMOVED.
NEW OUTLET HEADWALL COVERED WITH A SECURITY GRILL.
OPEN CHANNEL (0.75m DEEP AT UPSTREAM END) TO CONVEY NORMAL FLOWS FROM PIPE UNDER DAM TO SCRAPES, WITH INFORMAL CROSSING POINT (TIMBER).
WETLAND SCRAPE PLANTED WITH MARGINAL SPECIES.
WETLAND CHANNEL (NOMINALLY 1.0m WIDE, 0.4m DEEP) WITH PIPED CAUSEWAY CROSSING POINT ALONG INFORMAL FOOTPATH.
WETLAND SCRAPES IN LOW POINT OF VALLEY FLOOR, PLANTED WITH MARGINAL SPECIES MIX. 0.5m DEEP AT THEIR DEEPEST POINT AND 5.0m AT THEIR WIDEST POINT.
WETLAND CHANNEL (NOMINALLY 1.0m WIDE, 0.4m DEEP) JOINING CHANNEL AT EXISTING PIPED OUTFLOW LOCATION.
PIPED CULVERT UNDER EXISTING PATH TO MAINTAIN DRAINAGE PATHWAY.
RISE IN EMBANKMENT CREST UP TO 84.0m AOD @1 IN 12.
NEW REINFORCED EARTH EMBANKMENT WITH 1 IN 3 UPSTREAM SLOPE AND 1 IN 4 DOWNSTREAM SLOPE. GRASSED WITH NATIVE SEED MIX TO TIE IN WITH EXISTING.
= NEW DAM FOOTPRINT
= NEW TERRESTRIAL HABITAT (GRASSLAND / SCRUB MOSAIC) UPSTREAM OF DAM.
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAN SPRAY AND CHIP ON ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH
WALL
WILD FLOWER MIX
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRUSH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'O'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 5 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD CHAINS.
SCALE METRES 0 5 10 20
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
CATCHPIT ENVIRONMENTAL MASTERPLAN
Scale 1:500
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P12-ZZ-DR-L-7003
Revision P3


LOCATION KEY PLAN
VALE OF HEALTH POND
VIADUCT POND
CATCH PIT
MIXED BATHING POND
HAMPSTEAD No. 2 POND
HAMPSTEAD No. 1 POND
DO NOT SCALE
2.4m WIDE UNDERGROUND BOX CULVERT
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNITS 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE).
RESIDENTIAL PROPERTIES ALONG SOUTH HILL PARK.
TREES RETAINED AND PROTECTED IN ACCORDANCE WITH BS5837.
CULVERT OUTLET PARTLY SUBMERGED IN POND.
SECURITY SCREEN OVER OUTLET OF CULVERT TO MATCH EXISTING SLOPE.
2 NO. SEMI MATURE PLANE TREES TO BE PLANTED. LOCATION TBA.
TREES RETAINED AND PROTECTED IN ACCORDANCE WITH BS5837.
EXISTING FOOTPATH AND LANDFORM TO BE RETAINED AND PROTECTED. DURING CONSTRUCTION.
HAMPSTEAD No. 1 POND
TOP WATER LEVEL RETAINED AT 64.39m AOD
TYPE 4 EDGE INSTALLED TO A MAXIMUM DEPTH OF 0.6m FROM TOP WATER LEVEL. FILL TO BE GENERATED FROM LOCALISED BED REPROFILING REQUIRED TO CREATE PLANTING PLATFORM. MAXIMUM WIDTH OF PLATFORM TO BE 3.0m. PLANTED WITH EMERGENT REEDS AND SEDGES TO FILL EXISTING GAP IN ESTABLISHED REED SWAMP FRINGE.
ERODED BANK TOE TO BE RAKED DRESSED AND SEEDED WITH MARGINAL POND MIX. WHOLE AREA TO BE PROTECTED BY FENCING TO AID ESTABLISHMENT.
AERATION - ACCESS TO MAINS POWER IN VICINITY OF POND. INSTALLATION OF AERATOR UNITS 'A' (TO SPECIFICATION OF LINN TURBOJET AERATOR) AT LOCATION SHOWN (INDICATIVE). POWER UNIT 'P' REQUIRED TO BE CONCEALED ON BANKSIDE AS SHOWN (INDICATIVE).
TYPE 1 EDGE INSTALLED TO A MAXIMUM DEPTH OF 1.0m FROM TOP WATER LEVEL. FILL GENERATED FROM LOCALISED POND DESILTING WORKS AND PLANTED WITH SHADE TOLERANT SPECIES MIX. MAXIMUM WIDTH OF EDGE TO BE 3.0m OVER A TOTAL LENGTH OF 40m.
CULVERT INLET.
CULVERT OUTLET.
BOX CULVERTS BURIED AND DOWNSTREAM SLOPE OF DAM TO BE REINSTATED WITH TOPSOIL AND GRASS SEEDED TO MATCH EXISTING.
IMPORTANT TREES ALONG CATHEDRAL WALK TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BS5837.
PROPOSED BOX CULVERT OUTLETS, EACH 2.15m X 0.6m HIGH, BURIED UNDER CREST OF DAM TO BE REINSTATED.
AREA IN FRONT OF CULVERT OUTLET TO BE BURIED AND COVERED WITH TOPSOIL AND SEEDED TO MAKE GOOD AND MATCH EXISTING.
EXTENT OF NEW NATIVE TREE AND SHRUB PLANTING TO BE AGREED.
= SPILLWAY
= WOODLAND
SOUTH HILL PARK
SOUTH END ROAD
ROAD
N
POND
EXISTING CONTOURS (mAOD)
PROPOSED CONTOURS (mAOD)
LANDSCAPE AREA INCLUDED IN TOPOGRAPHICAL SURVEY ADJACENT TO PONDS
PROPOSED GRASS SPILLWAY
PROPOSED GRASS SPILLWAY BANKS AND BUNDS
PROPOSED RAMP
INDICATIVE ROUTE OF FLOOD WATER
EXISTING FENCE / LINE OF RAILING
PROPOSED FENCE / LINE OF RAILING
EXISTING FOOTPATHS
REINSTATED PATH Existing path to be extended or reinstated and made good
WALL
WILDFLOWER MIX
FOOTPATH FINISHES:
COMPACT AGGREGATE
TAR SPRAY AND CHIP ON ASPHALT
COMPACT AGGREGATE AND HOGGIN
COMPACT EARTH
GRASS
ASPHALT
COMPACT EARTH AND GRAVEL
HOGGIN
TREES COVERED BY TOPOGRAPHICAL AND ARBORICULTURAL SURVEY
TREES COVERED BY TOPOGRAPHICAL SURVEY
INDICATIVE LOCATION OF EXISTING TREES
TREES COPPICED DURING CONSTRUCTION
PROPOSED AREA OF TREE AND SHRUB PLANTING TYPE AND EXTENT TO BE AGREED
EXISTING POND VEGETATION
PROPOSED POND PLANTING
PROPOSED LOG AND BRASH PILE - APPROXIMATE LOCATION CONSTRUCTED USING FELLED / CUT MATERIAL
PROPOSED REPTILE AND AMPHIBIAN HIBERNACULA - APPROXIMATE LOCATION
MANAGEMENT OF JAPANESE KNOTWEED
MANAGEMENT OF HIMALAYAN BALSAM
MANAGEMENT OF GIANT HOGWEED
PROPOSED AERATOR 'A' / AERATOR POWER TO MANAGE WATER QUALITY 'P' OR 'G'
PROPOSED SHEET PILE EDGE
NOTES RELATING TO ENVIRONMENTAL PROPOSALS:
WATER QUALITY
AQUATIC ECOLOGY
LANDSCAPE
TERRESTRIAL ECOLOGY
NOTES:
1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED AND LEVELS IN METRES TO ABOVE ORDNANCE DATUM (AOD) THE HEIGHT OR VERTICAL DATUM USED BY AN ORDNANCE SURVEY RELATIVE TO AVERAGE SEA LEVEL AT NEWLYN, CORNWALL, UK.
2. JAPANESE KNOTWEED AND HIMALAYAN BALSAM - APPROXIMATE LOCATIONS IDENTIFIED IN 2013 AS PART OF HABITAT SURVEY FURTHER AREAS MAY BE IDENTIFIED.
3. TREES ON EDGE OF WORKS TO BE RETAINED AND PROTECTED IN ACCORDANCE WITH BRITISH STANDARDS (BS) 5837 WHERE SITE WORKS ALLOW.
4. FOR TYPE 1 TO TYPE 5 EDGE DETAILS FOR PROPOSED POND PLANTING REFER TO PLANNING DRAWINGS AND DESIGN POND AND OVERVIEW BOOKLET FOR HIGHGATE AND HAMPSTEAD PONDS.
SCALE METRES 0 7.5 15 30
Drawing Status FOR PLANNING
Suitability S2
ATKINS
Woodcote Grove
Ashley Road
Epsom
Surrey
KT18 5BW
Tel: +44 (0)1372 726140
Fax: +44 (0)1372 740055
www.atkinsglobal.com
Copyright © Atkins Limited (2014)
Client
City of London Corporation
Project Title
HAMPSTEAD HEATH PONDS PROJECT
Drawing Title
HAMPSTEAD NO.1 POND ENVIRONMENTAL MASTERPLAN
Scale 1:750
Designed NM
Drawn IF
Checked NM
Authorised LB
Original Size A3
Date 24/04/14
Drawing Number 5117039-ATK-P10-ZZ-DR-L-7005
Revision P3