Phase 1 Habitat Survey

of

Gondar Gardens Reservoir Site

West Hampstead London, NW6 1QG

on behalf of

Linden Wates (West Hampstead) Ltd

November 2013

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Job Number: JBA 10/35		**Title:** Phase 1 Habitat Survey of Gondar Gardens, Camden, London			

Disclaimer

JBA Consultancy Services Ltd. have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.

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Non-technical Summary

Site:	Gondar Gardens Reservoir Site, West Hampstead London, NW6 1QG
Grid Reference (from the centre of the site)	TQ 248 853
Report Commissioned by:	Linden Wates (West Hampstead) Ltd
Date of Survey:	28th August 2013

Considerations	Description	Timings and potential impacts
Statutory and non-statutory sites within 2km:	22 Sites of Importance for Nature Conservation (SINCs), (including the site itself)	Impacts to the site itself will be minimal as the highest ecological value will remain in situ, and opportunities exist for enhancement. No significant Impacts to other local SINCs predicted
SPA, SAC and Ramsar sites within 7km:	There are no SPAs, SACs or Ramsar sites within 7km of the site	N/a
Phase 2 surveys:	Reptile Surveys	Presence/absence survey – May to September (*these have now been completed and are subject of separate report*).
Additional recommendations:	Removal and appropriate disposal of of WCA Schedule 9 plant species	Prior to start of works
Precautionary measures:	Removal of scrub and trees	Outside of the nesting bird season (March to September) or following a nesting bird survey
Habitat types:	Semi-improved grassland, ruderal areas, shrub belt, scattered and boundary trees, scrub	

1 Introduction

Background

1.1 JBA Consultancy Services Ltd were commissioned by Linden Homes to undertake a Phase 1 Habitat Survey and Protected Species Scoping Survey of land at Gondar Gardens, Camden, London (grid ref TQ 248 853, taken from the centre of the site).

1.2 The assessment was required to accompany a planning application to develop the site: Residential housing with associated infrastructure is proposed. The scheme involves a residential frontage scheme with the creation of grassland habitat within the reservoir bowl (removal of the reservoir roof is proposed).

1.3 For the purposes of this report, protected species are taken to be those which are protected under European Legislation (Conservation of Habitats and Species Regulations 2010, as amended) and UK legislation (Wildlife and Countryside Act 1981; Protection of Badgers Act 1992); and other priority species and habitats which are a consideration under the National Planning Policy Framework (NPPF) 2012, placing responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments. There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. Biodiversity, as covered by the Section 40 duty, includes all biodiversity, not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the Section 40 duty.

Site Description

1.4 The site was located at Gondar Gardens, Camden, London, and consisted of an underground former reservoir with a neutral rough grassland covering and shrubs and trees located on the site boundary. The area is designated a Site of Borough Grade II Importance for Nature Conservation. Residential properties with gardens were located directly adjacent to the southern, northern and eastern boundaries of the site, while directly to the west was Gondar Gardens road, across which were further residential properties.

1.5 The surrounding habitats were mostly urban with the parkland habitats of Hampstead Cemetery located approximately 126m north of the site with playing fields beyond. A

railway and associated vegetation was located approximately 170m south west of the site (see Figure 1 below). The significant green spaces of Golders Hill Park and Hampstead Heath were located approximately 1.35km north east and approximately 1.9km east of the site respectively.

Figure 1: Site location:

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Aims and objectives

1.6 The aim of the survey was to:

- Identify the presence, or potential presence, of any protected or notable species or habitats on, or adjacent to, the site;
- assess the potential impact of the proposed works on any protected or notable species and/or habitats present including nature conservation sites on, or adjacent to, the site;
- make recommendations for further surveys and/or mitigation following the survey (if necessary) and provide suggestions to enhance the wildlife value of the site post-development.

2 Methods

Desk study

2.1 A 2km radius search for statutory designated sites, excluding Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, either on the proposed development site or in the surrounding area, was conducted using "MAGIC", the Multi-Agency Geographic Information system for the Countryside.

2.2 A 7km search for SACs, SPAs and Ramsar sites was also conducted using MAGIC.

2.3 Greenspace Information for Greater London (GiGL) was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (GiGL data provided on the 13th December 2011, and updated on the 9th September 2013).

2.4 A search for local records of protected and BAP species was also undertaken through the National Biodiversity Network (NBN). The NBN website was accessed on the 14th December 2011. An updated search was not undertaken due to recent restrictions on data availability from the NBN website.

2.5 The site is covered by the Local Biodiversity Action Plans (BAP) for London (www.lbp.org.uk), and Camden (http://www.camden.gov.uk/ccm/content/leisure/outdoor-camden/nature-in-camden/wildlife/introduction-to-the-camden-biodiversity-action-plan.en;jsessionid=DCC0949E316C3EE21765AE22C9369B49).

Phase 1 Habitat Survey

2.6 The survey was undertaken on the 28th August 2013 by Odette Robson BSc (Hons) PhD MCIEEM (great crested newt class licence WML-CL09; bat class licence WML-CL18), and James Booty BSc (Hons). During the survey, the temperature was 24°C, there was calm to light air (Beaufort scale 0-1), 5% cloud cover and excellent visibility.

2.7 The survey methodology followed JNCC (Joint Nature Conservation Committee) Guidelines (JNCC, 2010) and included mapping habitat types and identifying all plant species observed on the site, including Wildlife and Countryside Act Schedule 9 invasive plant species such as Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

2.8 The site was also assessed for signs and evidence of protected, priority and rare species in accordance with approved guidelines, as follows:

2.9 **Amphibians**: There were no known ponds at, or within 500m of, the site. Therefore assessment of the site with respect to amphibians was based on terrestrial habitats.

2.10 **Bats**: Mature trees within the site boundary, and adjacent to the site boundary, were surveyed externally, from the ground, for their potential to support roosting bats, under the following criteria.

Table 1: Bat survey protocol for trees: (potential bat roosting features were identified in order to categorise trees, as below):

Bat Roost Potential	Field signs
Roost **Confirmed**	Confirmed bat roost in tree: field evidence of the past or current presence of bats, e.g. droppings, staining.
High roost potential	Splits or cracks in major limbs which develop upwards, smooth surface around entry point, dense ivy-covering, woodpecker/rot holes, significant lifting bark, artificial bird or bat boxes. Ancient or over mature trees where the canopy cannot be fully inspected from the ground.
Medium roost potential	Splits in branches, dense ivy-covering, small cavities, dense epicormic growth, flies around entry point.
Low roost potential	Splits in minor branches, sparse ivy, limited loose bark.

	Young, healthy tree with good visibility to the top of the canopy.
No roost potential	Trees with a negligible potential to support bat roosts (not supporting any of the above features).

2.11 **Dormice**: A visual survey for the presence of suitable habitat (woodland/suitable hedges with good under-storey/shrub layer and a range of food plant species, such as hazel, bramble and honeysuckle) was carried out, to assess if dormice were likely to be present.

2.12 **Reptiles**: A visual survey for the presence of suitable habitat was carried out according to the criteria given in the Herpetofauna Workers' Manual (Gent and Gibson, 1998).

2.13 **Invertebrates**: The site was scoped for significant rotting deadwood, and high quality aquatic or other habitats which could be used by significant assemblages of invertebrates, or by any of the invertebrates highlighted in the data search.

2.14 **Flora and habitats**: All habitats and plant species which were identifiable at the time of the survey were recorded.

2.15 **Badgers:** A visual survey for setts, hair, latrines, prints, snuffle marks or other signs of badgers was undertaken within the site boundary.

2.16 **Birds:** A visual survey of bird activity and suitable nesting habitat was carried out, to determine if any areas would be suitable for WCA Schedule 1 birds, Birds of Conservation Concern or other common and widespread nesting birds.

2.17 **Adjacent Habitat**: Habitats close to the site were identified, using aerial maps and field observation, so that the ecological impact of the proposed works on the wider landscape could be assessed.

2.18 There were no water courses marked on OS maps within 50m, or ponds within 500m, or observed during the site visit, so no assessment for protected species associated with aquatic habitats (great crested newts, water vole, otter, white-clawed crayfish) was necessary.

3 Results

Desk Study

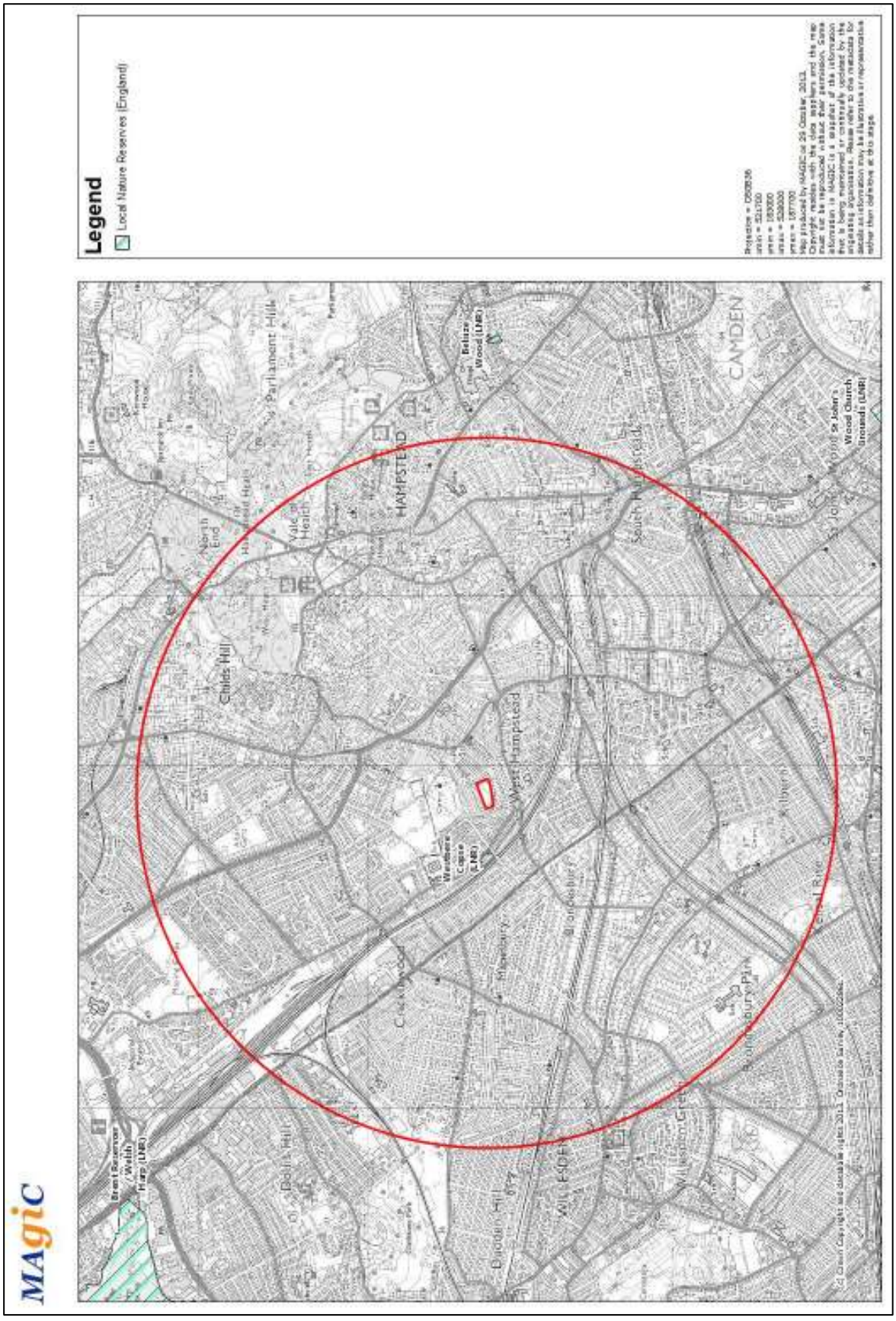
Statutory Nature Conservation Sites within 2km of the site, excluding Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites

3.1 There was one statutory designated site within 2km of the proposed development site: Westbere Copse Local Nature Reserve (LNR). This is detailed in Table 2 and shown in Figure 2.

Table 2: Statutory conservation sites within 2km

Site Name	Designation	Distance from Site	Description
Westbere Copse	LNR	250m west	Habitats include spring and summer meadows, a pond, woodland and scrub areas, through which circular paths run. Adjacent open space also includes secondary woodland.

Figure 2: Statutory conservation sites within 2km of the site



Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 7km of the site.

3.2 There were no SPAs, SACs or Ramsar sites identified within 7km of the proposed development site.

Non-Statutory Nature Conservation Sites

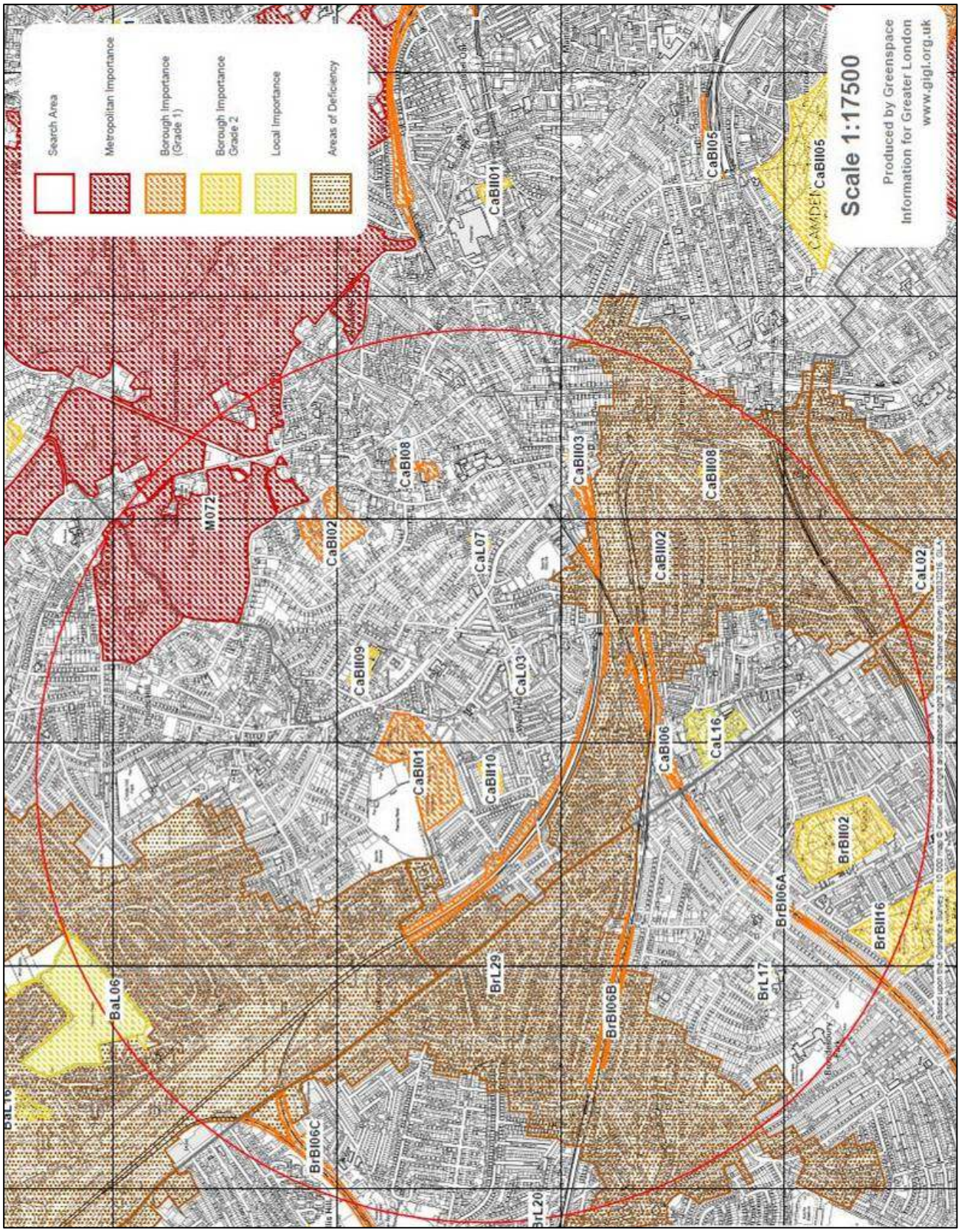
3.3 There were 22 non-statutory conservation sites within 2km of the site, all of which were Sites of Importance for Nature Conservation (SINCs). These are listed in Table 3 and shown in Figure 3.

Table 3: Non-statutory conservation sites within 2km of the site

Site Name	Location & Description
Gondar Gardens Covered Reservoir (Grade II SINC)	The site is designated for its mostly neutral grassland, moderate diversity of common wild flower plants and a population of the locally uncommon spiked sedge (*Carex spicata*). The site also has the only known population of Slow Worms in Camden.
Hampstead Heath (SINC)	Located approximately 1.9km east of the site and cited for its range of habitats including bogs, grassland and ancient woodland. The site is particularly noted for its botanical and invertebrate interest.
Silverlink Metro between Brondesbury and Willesden Junction (Grade I SINC)	Located approximately 700m south of the site and is cited for its scrub habitats of value to wildlife.
Metropolitan line between Kilburn and Neasden (Grade I SINC)	Located approximately 1.5km south west of the site and cited for its botanical diversity providing habitat for birds, mammals and invertebrates.
Dudding Hill Loop between Cricklewood and Harlesden (Grade I SINC)	Located approximately 1.7km north west of the site an cited for its botanical diversity providing habitat for birds, mammals and invertebrates.
Hampstead Cemetery (Grade I SINC)	Located approximately 126m north of the site and cited for its parkland green space with mature trees grassland and scrub providing habitat for a range of birds, mammals and invertebrates.
Branch Hill (Grade I SINC)	Located approximately 1.3km north west of the site and cited for its Varity of habitats including allotments, gardens and secondary woodland providing habitat particularly for birds
West Hampstead Railside, Medley Orchard and Westbere Copse (Grade I SINC)	Located approximately 300m south of the site and is cited for its variety of habitats including orchard, secondary woodland and grassland providing habitats for birds, mammals and invertebrates. The London notable species of common broomrape *Orobanche minor* has also been found here.

Hampstead Parish Churchyard (Grade I SINC)	Located approximately 1.4km east of the site and cited for its mature trees and interesting grassland with the uncommon lady-fern *Athyrium filix-femina*.
Paddington Old Cemetery (Grade II SINC)	Located approximately 1.7km south west of the site and cited for its variety of habitats including scattered trees and grassland including some less common species and provides habitat for birds and invertebrates.
Queen's Park (Grade II SINC)	Located approximately 1.9km south west of the site and is cited for its mature trees and grassland habitats providing habitat for biodiversity.
Broadhurst Gardens Meadow (Grade II SINC)	Located approximately 1.2km south east of the site and cited for its garden habitats variety of botanical interest providing habitat for invertebrates and birds.
Frognal Court Wood (Grade II SINC)	Located approximately 1.6km south east of the site and cited for its secondary woodland providing habitat for a range of birds.
Green Triangle (Grade II SINC)	Located approximately 1.8km south east of the site and cited for its variety of habitats including secondary woodland and a pond and the biodiversity it supports.
Kings College Hampstead Campus (Grade II SINC)	Located approximately 1.1km north east of the site and is cited for habitats such as mature trees and grassland habitats.
Clitterhouse Recreational Ground (SINC)	Located approximately 1.9km north west of the site and cited for habitats such as running water, scrub and secondary woodland and the biodiversity it supports.
Malorees School Orchard (SINC)	Located approximately 1.7km south west of the site and cited for its orchard habitats and pond including the largest black mulberry tree in Brent.
Griffin Close Scrub (SINC)	Located approximately 2km west of the site and is cited for scrub and grassland habitat and botanical diversity supporting a variety of biodiversity.
The Dell Doorstep Green (SINC)	Located approximately 900m west of the site and cited for habitats including scattered trees grassland and a lake supporting birds and invertebrates.
160 Mill Lane Community Garden (SINC)	Located approximately 500m south east of the site and cited for habitats including a lake, scattered trees and grassland and botanical diversity.
Frognal Lane Gardens (SINC)	Located approximately 700m east of the site and cited for habitats such as a lake, scattered trees and grassland including a good selection of wildflowers.

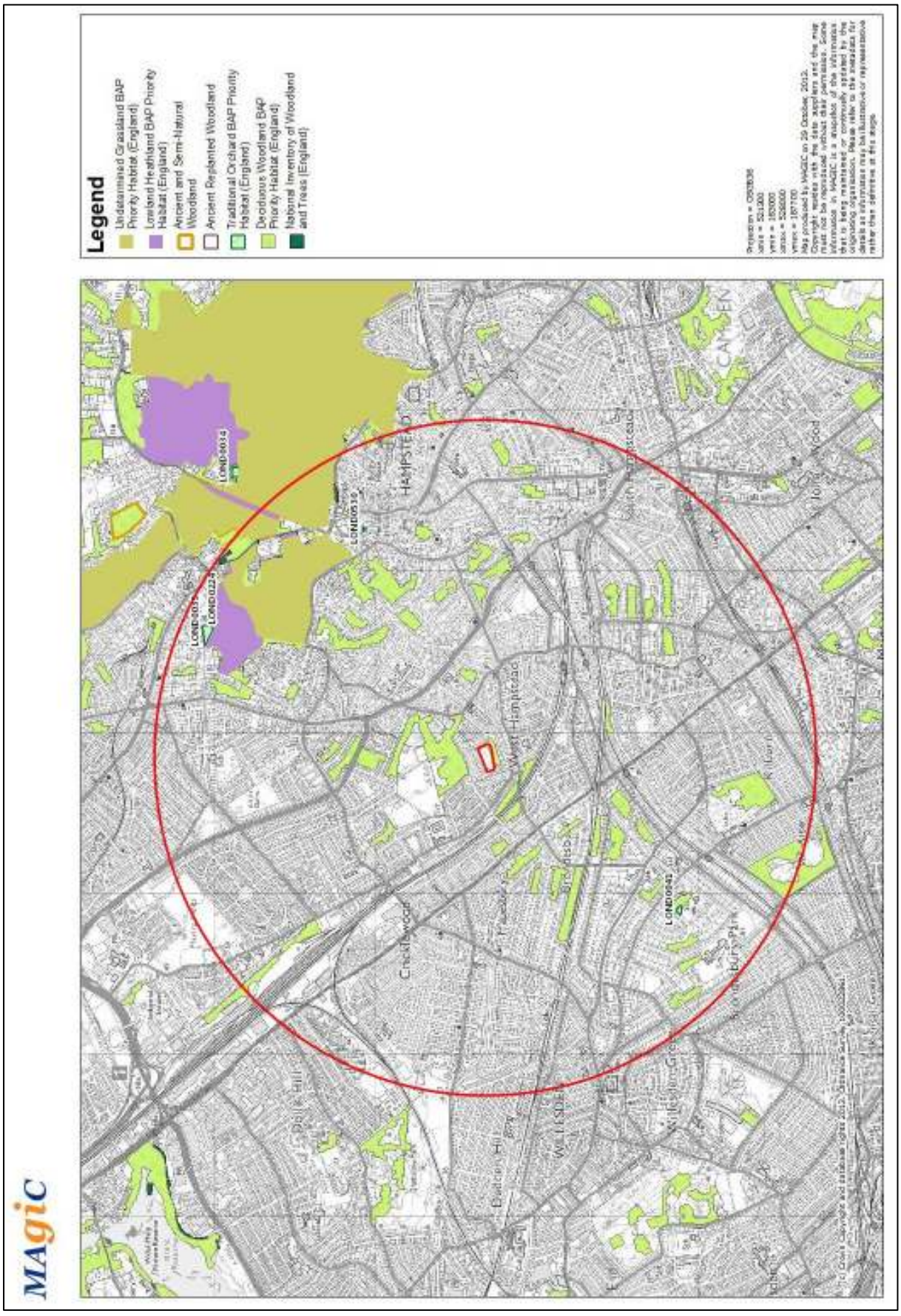
Figure 3: Non-statutory sites within 2km (note: CaBII10=proposed development site)



Habitat Types within 2km

3.4 Habitat types within the area included undetermined grassland and lowland heathland, both approximately 1.8km north east and associated with Hampstead Heath. Deciduous woodland was frequent within the 2km circumference, the closest area of which was within Hampstead Cemetery, approximately 126m north of the site. Traditional orchards were of limited extent, over 1.5km from and unconnected to the site. Bishops Wood, an area of ancient woodland, was located approximately 1.8km north east of the site, associated with Hampstead Heath. These are shown in Figure 4 below.

Figure 4: Habitat types within 2km



3.5 The Birds of Conservation Concern (BoCC) are split into three criteria. The red list is the highest conservation priority (species needing urgent action). The amber list is the next most critical group, followed by green. Red listed species are those that are globally threatened according to IUCN criteria, species with populations or ranges that have declined rapidly in recent years, and those that have declined historically and have not shown a substantial recent recovery.

3.6 Full lists of UK Priority and protected birds, flora, invertebrates, amphibians, reptiles and mammals are shown below.

Plants	British Red Data List Category and Protection	Approximate distance from site	Year of Record
Annual knawel (*Scleranthus annuus*)	Endangered, UK and LBAP	Within the same 10km square	1500-1969
Caraway (*Carum carvi*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Chamomile (*Chamaemelum nobile*)	Vulnerable, UK and LBAP	1.6km south east Within the same 10km square	2003 1500-1969
Common juniper (*Juniperus communis ssp. communis*)	UK BAP; LBAP	2km north east	1998
Corn buttercup (*Ranunculus arvensis*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Corn cleavers (*Galium tricornutum*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Cornflower (*Centaurea cyanus*)	Least concern*, UKBAP	Within the same 10km square	1987-1999
Darnel (*Lolium temulentum*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Deptford pink (*Dianthus armeria*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Divided sedge (*Carex divisa*)	Vulnerable, UK and LBAP	Within the same 10km square	1500-1969
English sticky eyebright (*Euphrasia anglica*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Greater water-parsnip (*Sium latifolium*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Interrupted brome (*Bromus interuptus*)	Extinct in the wild, UKBAP	Within the same 10km square	1900
Least lettuce *(Lactuca saligna*)	Endangered, UKBAP	Within the same 10km square	1799-1999
Lesser butterfly-orchid (*Platanthera bifolia*)	Vulnerable, UKBAP	Within the same 10km square	1500-1969
Pennyroyal (*Mentha pulegium*)	Endangered, UK and LBAP	Within the same 10km square	1500-1969
Pheasant's-eye (*Adonis annua*)	Endangered, UKBAP	Within the same 10km square	1500-1969

Red hemp-nettle (*Galeopsis angustifolia*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Red star-thistle (*Centaurea calcitrapa*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Shepherds-needle (*Scandix pecten-veneris*	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Slender hare's ear (*Bupleurum tenuissimum*)	Vulnerable, UKBAP	Within the same 10km square	1500-1969
Small fleabane (*Pulicaria vulgaris*)	Vulnerable, UKBAP	Within the same 10km square	1500-1969
Small-flowered catchfly (*Silene gallica*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Spreading bellflower (*Campanula patula*)	Endangered, UKBAP	1.4km east Within the same 10km square	2010 1500-1969
Spreading hedge-parsley (*Torilis arvensis*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Starfruit (*Damasonium alisma*)	Critically endangered, UKBAP	Within the same 10km square	1500-1969
Stinking goosefoot (*Chenopodium vulvaria*)	Endangered, UKBAP	Within the same 10km square	1500-1969
Tubular water dropwort (*Oenanthe fistulosa*)	Vulnerable, UKBAP	Within the same 10km square	1987-1999
Mistletoe (*Viscum album*)	Least concern, LBAP	1.9km north east	1997
Black poplar (*Populus nigra-betulifolia*)	Least concern, LBAP	1.1km north 1.7km north	1992 2002
Upright goosefoot (*Chenopodium urbicum*)	Critically endangered, UKBAP	Within the same 10km square	1965
Caloplaca flavorubescens	UKBAP	Within the same 10km square	1629-1959
Cladonia peziziformis	UKBAP	Within the same 10km square	1629-1959

Birds	**Protection**	**Approximate distance from site**	**Year of Record**
Cuckoo	UK and LBAP, BoCC red list	Within the same 10km square	1968-1972
Common grasshopper warbler	UK and LBAP, BoCC red list	Within the same 10km square	1968-1972
Tree sparrow	UK and LBAP, BoCC red list	2km grid square approximately 3km north west	2005-2010
Turtle dove	UKBAP, LBAP, BoCC red list	1.3km south west Adjacent 2km square to the north east	1987 2005-2010
Grey partridge	UK and LBAP, BoCC red list	Within the same 10km square	1968-1972
Hawfinch	UK and LBAP, BoCC red list	2km square approximately 3km north west	2004-2009
House sparrow	UK and LBAP, BoCC red list	Within the site	2002

		Within 100m 900m west	2009 2010
Lesser redpoll	UK and LBAP, BoCC red list	1.3km south west	1987
Common redpoll	LBAP	900m west	2010
Lapwing	UK and LBAP, BoCC red list	Adjacent 2km square to the north west	2005-2010
Reed bunting	UKBAP, LBAP, BoCC red list	4.3km north west	2009
Spotted flycatcher	UKBAP, LBAP, BoCC red list	2km square approximately 3km north west	2004-2009
Wood warbler	LBAP, BoCC red list	Within the same 10km square	1968-1972
Yellowhammer	UKBAP, LBAP, BoCC red list	1.4km south west 6km south east	1987 2009
Barn owl	WCA Schedule 1, BoCC amber list	5.7km north west Confidential record within 2km	2009 1998
Black redstart	LBAP, WCA Schedule 1, BoCC amber list	Within the same 10km square	1988-1991
Brambling	WCA Schedule 1, BoCC	1.4km south west 1.8km north east	1987
Starling	UKBAP, LBAP, BoCC red list,	Within 500m north 447m west 1km south	2009 2010 2007
Lesser spotted woodpecker	UK and LBAP, BoCC red list,	220m south 1.6km south west Adjacent 2km squares to the north west and north east	1987 2004-2009
Redwing	WCA Schedule 1, BoCC red list	900m west 1km south 4.5km north east	2010 2006 2009
Reed bunting	UKBAP, LBAP, BoCC amber list	4.3km north west	2009
Skylark	UKBAP, LBAP, BoCC red list	1.4km south west 902m west	1987 2010
Song thrush	UKBAP, LBAP, BoCC red list	348m west 900m west 0.6km north west	1999 2010 2009
Common tern	Annexe 1 of Birds Directive, BoCC amber list	1.9km south east	2003
Barnacle goose	Annexe 1 of Birds Directive, BoCC amber list	1.7km north east	1992
Bullfinch	LBAP, BoCC amber list	1.4km south west	1987
Kingfisher	WCA Schedule 1, BoCC amber list	1.8km north east	2001
Fieldfare	WCA Schedule 1, BoCC Red List	902m west	2010
Dunnock	UKBAP, LBAP, BoCC amber list	447m west 476m north west 498 south west	2010 1992 2010
Herring gull	UK and LBAP, BoCC red list	447m west 902m west	2009 2010
Eurasian hobby	WCA Schedule 1,	Confidential record within 2km	2002
Peregrine	WCA Schedule1, LBAP	Confidential record	2006

		within 2km	

Mammals	Protection	Approximate distance from site	Year of Record
Brown hare	UK and LBAP	Within the same 10km square	1960
Hedgehog	UK and LBAP	50m west 0.6km north east	2004 1999
Common pipistrelle bat	European protected, LBAP	292m north 348m west	2010 1993
Daubenton's bat	European protected, UK and LBAP	1.5km north east 4.6km north east	1993 2011
Greater horseshoe bat	European protected, UKBAP, LBAP	Within the same 10km square	1736-1900
Leisler's bat	European protected, LBAP	Within a 1km square approximately 5km south east	1973
Myotis sp.	European protected, UK and LBAP	4.6km north east	2011
Natterer's bat	European protected, LBAP	1.3km east 4.6km north east	2002 2011
Noctule bat	European protected, UK and LBAP	1.5km north east Within a 1km square 2.2km north east	1993 2007
Soprano pipistrelle bat	European protected, UK and LBAP	1.2km north east	2010
Pipistrellus sp.	European protected, LBAP	292m north 902m west	1993 2007
Brown long-eared bat	European protected, UK and LBAP	1.3km north east	2005

Invertebrates	Protection	Approximate distance from site	Year of Record
Stag beetle	UK and LBAP	447m west 906m north west 1038m south west 1335m south	1999 1998 2009 2001
Sallow moth	UK and LBAP	1.2km east	2007
Small heath butterfly	UK and LBAP	Within the same 2km square	1964-1994
Grizzled skipper butterfly	UK and LBAP	Within the same 2km square	1964-1994
White admiral butterfly	UK and LBAP	Within 2km square approx 1.5km to the north east	1690-2004
White letter hairstreak butterfly	UK and LBAP	Within adjacent 2km to the north east	1690-2004

Kugelman's green clock beetle	UKBAP	Within the same 1km square	1970
One grooved diving beetle	UKBAP	Within the same 10km square	1800-1829
Queens executioner	UKBAP	Within the same 1km square	No date on the NBN
Two tone reed beetle	UKBAP	Within 1km square approx 4km south	1850-2001
Carder bumble bee	UKBAP	Within the same 1km square	1832-1947
Great yellow bumble bee	UKBAP	Within the same 1km square	1832-1947
Large garden bumble bee	UKBAP	Within the same 1km square	1920
Long horned bee	UKBAP	Within the same 1km square	1832-1947
Moss carder bee	UKBAP	Within the same 1km square	1738-1836
Potter flower bee	UKBAP	Within the same 1km square	1832-1947
Red tailed carder bee	UKBAP	Within the same 1km square	1832-1947
Short haired bumble bee	UKBAP	Within the same 1km square, Within the same 10km square	1896 1917
Shrill carder bee	UK and LBAP	Within the same 1km square	1738-1836
Southern yellow splinter fly	UK and LBAP	Adjacent 1km square approximately 2.5km north west	1996
Thin weblet spider	UKBAP	Within the same 10km square	No date on the NBN
Beaded chestnut moth	UK and LBAP	Adjacent 2km square to the east	2007
Blood vein moth	UK and LBAP	4km north	1979
Brindled beauty moth	UK and LBAP	4km north Within the same 1km square	1975-1998 1966-1981
Brown spot pinion moth	UK and LBAP	4km north Within a 1km square approximately 1.5km north	1975-1998 1990
Buff ermine moth	UK and LBAP	Within the same 1km square	1966-1981
Centre barred sallow	UK and LBAP	Within a 1km square approximately 1.5km north	1990
Cinnabar moth	UK and LBAP	Within the same 1km square	1966-1981

		4km north	1998-1999
Dark spinach moth	UK and LBAP	4km north	1980
Deep brown dart moth	UK and LBAP	Adjacent 2km square to the east	2007
Dot moth	UK and LBAP	4km north	1980
Double dart moth	UK and LBAP	Within the same 1km square	1966-1981
Dusky brocade moth	UK and LBAP	Within the same 10km square	1890-1940
Dusky thorn moth	UK and LBAP	4km north	1979
Dusky lemon sallow moth	UK and LBAP	Adjacent 2km square	Within the last 10 years
Ear moth	UK and LBAP	Within the same 1km square	1966-1981
Garden dart moth	UK and LBAP	4km north	1975-1998
Garden tiger moth	UK and LBAP	4km north	1980
Ghost moth	UK and LBAP	Within the same 1km square	1966-1981
Green brindled crescent moth	UK and LBAP	4km north, 1km square approximately 1.8km to the north	1980 1990
Grey dagger moth	UK and LBAP	Within the same 1km square	1966-1981
Knot grass moth	UK and LBAP	Within the same 1km square 4km north	1966-1981 1976
Lackey moth	UK and LBAP	4km north	1980
Large nutmeg moth	UKBAP and LBAP	Adjacent 2km square to the east	2007
Large wainscot moth	UKBAP	1km square approximately 4km east	Within the last 10 years
Lunar yellow underwing moth	UKBAP	1km square approximately 4km south east	1978
Mottled rustic moth	UK and LBAP	Same 2km square	1884
Mouse moth	UK and LBAP	4km north	1980
Mullein wave moth	UK and LBAP	Adjacent 2km square to the east	Within the last 10 years
Oak hook-tip moth	UK and LBAP	Within the same 1km square 4km north	1967 1980
Powdered quaker moth	UK and LBAP	4km north	1975-1998
Rosy rustic moth	UK and LBAP	4km north	1975
Rustic moth	UK and LBAP	4km north	1975-1998
Shaded broad bar moth	UK and LBAP	4km north	1979
Shoulder-striped wainscot	UK and LBAP	Adjacent 2km square to	Within the last

moth		the east	10 years
Small phoenix moth	UK and LBAP	Adjacent 2km square to the east	2007
Small square spot moth	UK and LBAP	Adjacent 2km square to the east	Within the last 10 years
Spinach moth	UK and LBAP	Within the same 1km square 4km north	1966-1981 1975-1998
V-moth	UK and LBAP	4km north	1977
White ermine moth	UK and LBAP	Within the same 1km square 4km north	1966-1981 1975-1998
Wall butterfly	UK and LBAP	827m north 862m north east	2001

Amphibians	Protection	Approximate distance from site	Year of Record
Toad	UK and LBAP	148m west 769m south east 827m north	1999 1999 2000
Great crested newt	European protected, UK and LBAP	Within the same 10km square	Before 1995

Reptiles	Protection	Approximate distance from site	Year of Record
Slow worm	Partially protected under Schedule 5 of the WCA, UK and LBAP	67m south west	2010
Common lizard		Within a 1km square approximately 3km south west 5.2km south west	2007 1990
Grass snake		Within a 1km square approximately 5km north west	Before 1902

Fish	Protection	Approximate distance from site	Year of Record
European eel	UK and LBAP	2.9km south	1988

Fungus	Protection	Approximate distance from site	Year of Record
Zoned rosette (*Podoscypha multizonata)*	UKBAP and LBAP	Within the same 10km square	Within the last 10 years

WCA = Wildlife and Countryside Act 1981 (as amended); UK BAP = UK Biodiversity Action Plan; LBAP = London Biodiversity Action Plan; BoCC = Birds of Conservation Concern

Phase 1 Habitat Survey

3.7 Appendix A shows a Phase 1 habitat map of the site, with Target Notes. A list of plant species identified on the site is included in Appendix B.

Limitations and Assumptions

3.8 The baseline conditions reported and assessed in this document represent those identified at the time of the survey on the 18th August 2013. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. The full plant species list (Appendix B) was based on the current site visit. The survey was conducted in August, which is inside the optimal season for Phase 1 habitat surveys. All areas of the site were accessible on the day of the survey.

The desk study used available records and historical data from the local area. However, this does not provide a reliable indication of species present since records depend entirely on survey effort in the area, which is highly variable. The data are useful as a general guide to supplement the site visit, but absence of records does not reflect absence of species.

Target Notes

Target Note	Habitat description	Photo
1	The reservoir top was shallow-soiled neutral grassland – grass had seeded at the time of survey, with average sward height approximately 30-50cm. Fox tracks were present throughout. Dominant species were grasses (80%) with frequent to abundant forbs including ribwort plantain (*Plantago lanceolata*) and bird's foot trefoil (*Lotus corniculatus*).	
2	A rough grass area to the east, dominated by false oat grass (*Arrhenatherum elatius*). Approximately 50-80cm sward height. Large stands of meadow vetchling (*Lathyrus pratensis*) were also present.	

2a	An area of shorter sward height acid grassland (approximately 0-20cm) including bent grasses (*Agrostis sp.*), bare ground (approximately 10%) and common sorrel (*Rumex acetosa*).	
2b	An area of longer sward grasses (up to approximately 100cm), dominated by creeping thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*) and field bindweed (*Convolulus arvensis*).	
3	Piles of compost and garden waste. Virginia creeper (*Parthenocissus quinquefolia*) – an invasive species listed on WCA Schedule 9 - was also present in this area, overgrowing the closeboard boundary fence.	

4	A shrub belt at the eastern boundary included mature sycamore (*Acer pseudoplatanus*), semi-mature hawthorn (*Crataegus monogyna*), yew (*Taxus baccata*), plum (*Prunus sp.*) and privet (*Ligustrum vulgare*). Ground cover was dominated by ivy (*Hedera helix*).	
5	South-facing banks, heavily dominated by bindweed and large stands of vetch. Grasses were less frequent (approximately 30%) and dominated by false oat grass. Ruderal species were encroaching from garden boundaries and included creeping thistle and bramble (*Rubus fruticosus*). Log piles were present on the bank, overgrown by bindweed.	
6	Mature trees outside the southern boundary, including scots pine (*Pinus sylvestris*), ash (*Fraxinus excelsior*), sycamore and willow (*Salix sp.*), with low to medium bat roost potential.	
7	Trees to the south east of the reservoir top, including ash and sycamore, had negligible bat roost potential.	

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8	A dilapidated garden shed to the south east of the reservoir top had gaps in the roof and walls causing high light levels. Cracks and crevices were limited; negligible bat roost potential.	
9	An on-site willow with low to moderate bat roost potential due to an ivy covered trunk.	
10	Scrub and shrubs in the south-west corner of the site, dominated by ash saplings, bramble, privet and ivy.	
11	Dense stand of bramble (approximately 1.5m tall) adjacent to the southern boundary.	
12	The boundary to the north between the fences and hoarding was rough grass, ruderals and saplings including cherry (*Prunus avium*), elder (*Sambucus nigra*), bramble and nettle (*Urtica dioica*). Virginia creeper - WCA Schedule 9 species - was present along much of the fence line.	

13	An overgrown area to the western boundary (outside the SINC designated area): Hard-standing, rough grass and scrub. Species included hazel (*Coryllus avellana*), sycamore, ash, bramble, ivy, creeping cinquefoil (*Potentilla reptans*), great willowherb (*Epilobium hirsutum*), nettle, ragwort (*Senecio jacobaea*) and cock's foot (*Dactylis glomerata*). A brick built building to the north of this area was well sealed, covered in ivy and bindweed, and of negligible bat roosting potential.	
14	An open, block built control building with a concrete flat roof to the west of the site: Negligible bat roost potential.	

4 Protected Species – Results and Evaluation

Flora and habitats

4.1 The reservoir top (Target Note 1) was neutral semi-improved grassland dominated by grasses with frequent to abundant forbs. At the time of survey, in August, the vegetation was brown and desiccated in the shallow soils on the reservoir roof. To the west of this was an area of less species rich rough, taller grassland (Target Note 2), with pockets which were more characteristic of acidic grassland (Target Note 2a). Acid grassland is a Camden BAP habitat. However, much of the eastern part of the site was rough grass species dominated by thistles, dock and bindweed (Target Note 2b). A shrub belt (Target Note 4) at the western boundary included mature and semi-mature trees.

4.2 Virginia creeper, listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) (WCA), was recorded on the site at +the northern boundary (Target Notes 3 and 12). It is an offence to introduce, or allow such species to grow in the wild. These species are classed as 'controlled waste' and must be disposed of appropriately at a licensed landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

4.3 Japanese knotweed (*Fallopia japonica*), listed on Schedule 9 of the WCA (as amended) had previously been recorded at the site and been treated with herbicide (JBA, 2010a). This species was not recorded during the current site visit, however, if knotweed is found during construction, it is recommended that further spraying is undertaken to eradicate this species from the site.

4.4 Spiked sedge (*Carex spicata*) was recorded in very small quantities, within discrete areas which are scheduled to be retained, and as such, this plant should not be impacted by the proposed development. This species is cited within the SINC designation due to its rare status in Camden.

4.5 The desk study highlighted a number of rare plant species, some of which could potentially be found in grassland habitats. However, many of these were historic records, and have not been recorded during the period over which JBA botanists have been visiting the site – including the current site visit during August, when the majority of these species would still be identifiable. Other plant species noted in the desk study were woodland and aquatic species which would not be found in habitats such as those within the site boundary.

4.6 Under current proposals, the area of grassland to the east which includes the remnant pocket of acidic grassland, a Camden BAP habitat, will not be impacted by the development.

4.7 No further survey is necessary.

Bats

4.8 Mature trees along the southern boundary (Target Notes 6) and a willow (Target Note 9) were considered to provide low to moderate roosting opportunities for bats. There were no other suitable trees or buildings within the site.

4.9 The site was dominated by semi-improved grassland, which provides moderate quality foraging habitat for bats. The shrub belt to the west and trees at the southern boundary provided good quality foraging habitat for bats, and potential commuting routes between the site and surrounding habitat.

4.10 Bat surveys were undertaken by James Blake Associates (JBA, 2010b) in August 2010. Very low numbers of common pipistrelles were recorded foraging at the site boundaries, and within adjacent gardens. No roosting bats or bats exhibiting roosting behaviour were recorded at the site during the surveys. The reservoir has also been inspected internally, and no signs indicating the presence of roosting bats (current or past) were found.

4.11 Given the well sealed nature of the reservoir and the lack of change in habitat type or quality at the site, it was considered unlikely that the use of the site by bats had changed since previous surveys.

Reptiles

4.12 The majority of the site, suitably managed semi-improved grassland, provided good quality foraging and sheltering habitat for reptiles. Surrounding shrubs, trees and log piles along the south-facing bank, and the bank itself (Target Note 5), provided sheltering, hibernation and basking opportunities for reptiles.

4.13 The SINC designation cites Gondar Gardens as the only known population of slow worms in Camden..

4.14 Records of common lizard were over 2km from the site, and records of grass snake were historic.

4.15 Reptile surveys were undertaken by Entec UK Ltd in September 2008 and May to July 2009. Further survey was carried out by James Blake Associates from August to

September 2010 (JBA, 2010c). These surveys all recorded a low population (peak count of less than five adults) of slow worms, all of which were found at the south-facing bank at the south-east of the site (Target Note 5).

4.16 Due to the abundance of suitable reptile habitat at the site, and records of slow worms on and close to the site, it is recommended that reptile surveys are undertaken to assess the presence or likely absence of reptiles using the site, and update the population status of this species if it remains at the site.

4.17 Reptile surveys were updated by JBA Consultancy Services between the 28th August and the 2nd October 2013. A peak count of 5 adult slow worms on one visit was recorded; these were mainly confined to the south facing bank at the south-east of the site, in line with previous surveys. An individual slow worm was also recorded on the northern boundary. Full details of these surveys are the subject of a separate report.

4.18 A reptile mitigation method statement (JBA, 2010d) details measure that will be taken to relocate any slow worms from the construction area to the south-facing bank at the south-east of the site, following the installation of reptile exclusion fencing around the perimeter of the receptor area and construction zone. However, as no slow worms have been recorded within the area in which ground works will take place, it is unlikely that many (if any) slow worms will need to be moved.

4.19 If the procedures detailed in the mitigation method statement are followed (including on-going habitat management), it was considered that the development could proceed with minimal risk of impact to individual slow worms, or to the local conservation status of reptiles.

Birds

4.20 The shrub belt at the eastern boundary, and trees within and surrounding the site provided potential nesting and foraging opportunities for birds.

4.21 Bird species observed during the field survey included green woodpecker. The site provided potential habitat for a range of nesting widespread and common species. BAP and red-listed species such as skylark, yellowhammer, grey partridge, song thrush, bullfinch, dunnock and spotted flycatcher, which were identified in the desk study, could use habitats such as those within the site boundary.

4.22 Breeding bird surveys were carried out by James Blake Associates between March and June 2010 (JBA, 2010e). Six surveys were undertaken, during which 23 species

were recorded. Of these, two BoCC Red Listed species (starling and house sparrow) and one BoCC Amber Listed species (dunnock) were recorded using trees within the site.

4.23 Due to the proposed retention of the trees and boundary vegetation, it was considered unlikely that any nesting or foraging habitat would be significantly impacted by the development.

4.24 Any trees/ hedgerows proposed for retention should be suitably protected from harm during the construction works following British Standard: BS5837 (2012).

4.25 Site clearance and works proposed to any buildings, trees or hedges should be conducted outside the main bird breeding season (which is March until September). If vegetation removal is necessary between these dates, an ecologist should survey the site for active bird nests immediately prior to works. If nests are identified, there may be a delay in the clearance of some vegetation until all young birds have fledged.

Amphibians

4.26 There were no ponds or waterbodies within the site. The closest pond identified on OS maps was 500m south-east of the site boundary.

4.27 The semi-improved grassland, trees, shrub belt and log piles at the proposed development site provided suitable foraging, sheltering and hibernation opportunities for amphibians, including great crested newts, in their terrestrial phase.

4.28 Due to the distance between the proposed development site and the closest pond, and the ecological barriers between it and the site, such as roads and buildings, it was considered unlikely that great crested newts would be using the proposed development site during their terrestrial phase.

4.29 No further survey is recommended.

Invertebrates

4.30 The semi-improved grassland, trees, shrub belt and areas of scrub provided suitable habitat for common and widespread invertebrates. However, these habitats, were of limited extent and therefore unlikely to support a significant assemblage of BAP or rare invertebrates. The log piles on the south-facing bank provided rotting deadwood, which in the future may become suitable for breeding stag beetles, but are currently not sufficiently rotted to provide optimal habitat for this BAP species.

4.31 Invertebrates noted during the survey included common blue and gatekeeper butterflies.

4.32 The data search highlighted recent records of small heath, grizzled skipper and white-letter hairstreak butterflies (all BAP species) within the same 2km square as the site. Other records were historic or of species less likely to be found at the site due to lack of suitable habitat. Caterpillar food plants were present for small heath and grizzled skipper, as were basking and nectaring opportunities for butterflies.

4.33 Under current proposals, less species rich areas of the site, including the ruderal rough grassland at the eastern boundary, will be enhanced and managed as a wildlife area by London Wildlife Trust. Appropriate management of the grassland will increase species diversity, and ensure that the grassland does not revert to scrub and become encroached by ruderal species, thus increasing the value of the habitat for butterflies and other grassland insects. Therefore, it is considered unlikely that the local population status of rare, priority or protected invertebrates will be adversely affected by the proposed development.

Hedgehogs, hares and badgers

4.34 No signs of badger or hedgehog activity were recorded on the site. The grassland, shrub belt and areas of scrub and ruderal vegetation provided moderate quality habitat for foraging badgers and hedgehogs. The site was not considered suitable for sett creation due to the lack of suitable cover and likely regular disturbance, however, hedgehogs are likely to inhabit adjacent gardens, and potentially forage on the site.

4.35 Although the site provided potential foraging habitat for brown hare, it was not considered of sufficient extent to support a population of this species and similar habitat was lacking in the surrounding area.

4.36 There are no records of badgers within the surrounding area. There are records of hedgehogs within 50m of the site from 2004. Records of brown hare within the surrounding area were historic.

4.37 It is recommended that, where possible, shrubs and scrub are retained to provide sheltering habitat for hedgehogs, and areas of grassland are retained to provide foraging habitat for this BAP species.

Dormice

4.38 The site was sub-optimal for dormice: The shrub belt was gappy, with infrequent mature trees, and lacked fruit and nut bearing species such as hazel. The area at Target Note 13 supported hazel but was isolated, and the vegetation structure was not suitable for dormice. There was no suitable habitat for this species surrounding, or connected to, the site.

4.39 The desk study did not highlight records of dormice in the surrounding area.

4.40 Further survey is not recommended.

Other Protected, BAP or Rare Species

4.41 There were no water courses within the site or within 50m of the site boundary. Protected species associated with aquatic habitats, such as otter and/or water vole, would not be impacted by the proposed development.

Impacts to Statutory/Non-Statutory Conservation Sites

4.42 Westbere Copse, a statutory designated conservation site, was within a 2km radius of the site. It was considered unlikely that the development would impact on this site, due to the limited size of the proposed development site and significant infrastructure between the site and other nature conservation sites (statutory or non-statutory).

4.43 The site itself is designated as a Grade II SINC: To ensure that the proposed development does not impact on the interest features of the SINC, the slow worm habitat will be retained, enhanced and suitably managed. The core area for slow worms, following a number of years of survey, has been shown to be the south facing slopes – which are proposed for retention, and will not be impacted by the development.

4.44 The Ecological Action Plan (JBA, 2010f), details plans for a Wildlife Area including native and fruit bearing shrub and tree planting, rotational management of the retained grassland, creation of hibernacula and the construction of a pond. It was considered that by implementing the actions specified within this plan, the site could be enhanced for slow worms, and other wildlife, post-development.

5 Key Recommendations, Further Surveys and Precautionary Methods

5.1. Further surveys for reptiles, as detailed in Section 4, have now been completed.

5.2. Precautionary clearance of the site, buildings and trees will be necessary, as detailed in Section 4, to avoid infringing legislation which protects all nesting birds.

5.3. The invasive species Virginia creeper (*Parthenocissus quinquefolia*) is listed on Schedule 9 of the Wildlife and Countryside Act 1981, as amended. It is an offence to plant or otherwise cause Schedule 9 species to grow in the wild, and as such, these plant species are classed as 'controlled waste' and must be disposed of appropriately at a licensed landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

5.4. Under current proposals construction works will only impact the ruderal area to the west and the grassland on the reservoir roof (with no ground works within the eastern grassland area, south-facing banks, or boundary trees/shrub). Although the reservoir roof will be removed, grassland will be re-established within the retained reservoir bowl. Therefore, it was considered that impacts on local flora and fauna would be negligible and the site could be enhanced for wildlife if some or all of the following recommendations are implemented:

6 Enhancement Recommendations

6.1 The following suggestions will enhance the value of the site for wildlife. At least a third of these additional recommendations will need to be implemented to maximize credits under Eco2 of the Code for Sustainable Homes.

6.2 The addition of six bat boxes on retained trees within the site would provide additional roosting opportunities. Schwegler bat boxes are recognised as being suitable for roosting bats and long lasting. Bat boxes should ideally be located south facing (between south east and south west) and above 5m. Boxes such as Schwegler 2F, suitable for pipistrelles would be suitable for this site.

6.3 The addition of three general purpose nest boxes (Schwegler 1B or similar) and three starling boxes (Schwegler 3SV or similar) on the new buildings or retained trees on site will provide additional nesting opportunities for BoCC red listed species such as house sparrow and starling, recorded close to site, and well adapted to an urban setting. General purpose boxes may also be used by a variety of other birds

and bats. Boxes should be located out of direct sunlight and close to, but not restricted by, vegetation.

6.4 To encourage black redstarts, two open-fronted nest-boxes should be used within the development, appropriately located under structures, such as over hangs, balconies, escape routes and within utility buildings. Holes or access points should allow for small birds to pass through them but prohibit access to larger birds, particularly pigeons. A number of access point opportunities is preferable. Several nest boxes should be used to give black redstarts a choice of nesting locations.

6.5 Landscaping could incorporate native or wildlife attracting trees, shrubs, and wildflower areas as these would likely be of benefit to a variety of wildlife including, birds, bats and invertebrates.

6.6 The construction of reptile hibernacula at the boundary of the site, particularly to the southern boundary, would enhance the site for reptiles in the future. These could be created by partially burying wood and rubble and covering with earth.

6.7 The incorporation of a stag beetle loggery close to the shrub belt would enhance the site for stag beetles (a London and UK BAP priority species) which are known to be present in the surrounding area.

6.8 The incorporation of green and brown roofs would encourage invertebrates, providing a food source for a variety of wildlife including bats and birds. Rare birds such as black redstart (a Local BAP and WCA Sch. 1 species) have been found to benefit from green roofs, when installed in the London area (EA, 2013).

6.9 The creation of a wildlife friendly pond would enhance the site for invertebrates, providing a food source for a variety of bats, birds, reptiles and amphibians, and provide foraging habitat for amphibians and grass snakes which may colonise the site in future. In order to encourage wildlife, a pond should include the following:

- *Banks should be sloping, with shallow edges, allowing colonisation and dispersal of amphibians. Water depth should be variable to create differing thermal opportunities, between up to a maximum of 1m.*
- *Marginal planting at the edges of the pond should be included, to encourage invertebrates and facilitate amphibian breeding. See Appendix D for a suggested pond plant species list.*
- *The pond should be no more than 50% shaded by any surrounding vegetation or buildings.*

7 Conclusion

7.1 The site predominantly consisted of semi-improved grassland with frequent ruderals. A shrub belt, boundary trees and a south facing bank formed a variety of habitats for reptiles, bats, birds and hedgehogs.

7.2 Reptile surveys identified a good population of slow worms using the site. A Reptile Mitigation Method statement has been prepared, and should be implemented prior to start of works.

7.3 By following the proposed Reptile Mitigation Method Statement and Ecological Action Plan, the key habitats, protected species, and local wildlife in general, can be protected during development, and preserved and enhanced in the longer term.

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Appendices

Appendix A: Phase 1 habitat map

Appendix B: Plant species list

Forbs

Common Name	Scientific Name	Semi-improved Grassland	Ruderal
Yarrow	*Achillea millefolium*	✓	
Bur chervil	*Anthriscus caucalis*	✓	
Mugwort	*Artemisia vulgaris*		✓
Black knapweed	*Centaurea nigra*		✓
Creeping thistle	*Cirsium arvense*	✓	✓
Spear thistle	*Cirsium vulgare*	✓	
Field bindweed	*Convolvulus arvensis*	✓	
Hawks-beard	*Crepis spp.*	✓	
Foxglove	*Digitalis purpurea*	✓	
Great willowherb	*Epilobium hirsutum*		✓
Cleavers	*Galium aparine*		✓
Wood avens	*Geum urbanum*		✓
Red dead nettle	*Lamium purpureum*	✓	
Nipplewort	*Lapsana communis*		✓
Meadow vetchling	*Lathyrus pratensis*	✓	
Oxeye daisy	*Leucanthemum vulgare*	✓	
Bird's-foot trefoil	*Lotus corniculatus*	✓	
Common mallow	*Malva sylvestris*	✓	✓
Ribwort plantain	*Plantago lanceolata*	✓	
Creeping cinquefoil	*Potentilla reptans*	✓	✓
Meadow buttercup	*Ranunculus acris*		✓
Common sorrel	*Rumex acetosa*	✓	
Broad leaved dock	*Rumex obtusifolius*	✓	
Common ragwort	*Senecio jacobaea*	✓	
Red campion	*Silene dioica*		✓
Sow thistle	*Sonchus spp.*		✓
Chickweed	*Stellaria media*	✓	
Comphry	*Symphytum spp.*	✓	
Dandelion	*Taraxacum officinale*	✓	
Red clover	*Trifolium pratense*	✓	
Nettle	*Urtica dioica*		✓
Tufted vetch	*Vicia cracca*	✓	

Trees and shrubs

Common Name	Scientific Name	Semi-improved Grassland	Ruderal	Shrub belt	Boundary/scattered trees
Sycamore	*Acer pseudoplatanus*		✓	✓	✓
Hazel	*Corylus avellana*		✓		
Hawthorn	*Crataegus monogyna*			✓	
Ash	*Fraxinus excelsior*		✓		✓
Ivy	*Hedera helix*	✓	✓	✓	✓
Laburnum	*Laburnum anagyroides*		✓		
Privet	*Ligustrum sp.*		✓	✓	
Virginia Creeper	*Pathenocissus quinquefolia*	✓			
Scots pine	*Pinus sylvestris*				✓
Blackthorn	*Prunus spinosa*			✓	
Prunus	*Prunus spp.*		✓		
Bramble	*Rubus fruticosus*	✓	✓	✓	
Willow	*Salix sp.*				✓
Elder	*Sambucus nigra*		✓		
Yew	*Taxus baccata*			✓	

Grasses

Common Name	Scientific Name	Semi-improved Grassland	Ruderal
Bent sp.	*Agrostis sp.*	✓	
Sweet vernal grass	*Anthoxanthum odoratum*	✓	
False oat grass	*Arrhenatherum elatius*	✓	✓
Cocksfoot	*Dactylis glomerata*	✓	✓
Yorkshire fog	*Holcus lanatus*	✓	
Rough meadow grass	*Poa trivialis*	✓	

Appendix C: Relevant protected species legislation

Species	Relevant Legislation	Level of Protection
Bats	○ Full protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended ○ Classified as European protected species under Conservation of Habitats and Species Regulations 2010, as amended ○ Also protected by the Wild Mammals (Protection) Act 1996	Under the WCA (1981), it is an offence to: • intentionally kill, injure, or take any species of bat • intentionally or recklessly disturb bats • intentionally or recklessly damage destroy or obstruct access to bat roosts
Birds	○ Protection under the Wildlife and Countryside Act (1981) as amended	Under the WCA (1981), it is an offence to: (with exceptions for certain species): • Intentionally kill, injure or take any wild bird • Intentionally take, damage or destroy nests in use or being built (including ground nesting birds) • Intentionally take, damage or destroy eggs Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst nesting
Widespread reptiles	○ Partially protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended.	Under the WCA (1981), it is an offence to: • intentionally kill or injure these animals • sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead animals or part of these animals

Appendix D: Suggested pond and pond margin plants.

Deep water plants

English Name	Latin Name
Broad-leaved pondweed	*Potamogeton natans*
Common water crowfoot	*Ranunculus aquaticus*
Frogbit	*Hydrocharis morsus-ranae*
Water soldier	*Stratiotes aloides*
Water violet	*Hottonia palustris*

Shallow water plants

English Name	Latin Name
Arrowhead	*Sagittaria sagittifolia*
Brooklime	*Veronica beccabunga*
Floating sweetgrass	*Glyceria fluitans*
Water forget-me-not	*Myosotis scorpioides*
Water mint	*Mentha aquatica*
Water plantain	*Alisma plantago-aquatica*

Marginal plants

English Name	Latin Name
Bugle	*Ajuga reptans*
Common valerian	*Valeriana officinalis*
Devil's-bit scabious	*Succisa pratensis*
Lesser celandine	*Ranunculus ficaria*
Meadow buttercup	*Ranunculus acris*
Ragged robin	*Lychnis flos-cuculi*