Land to the rear of 24 Hampton Road
Twickenham
Middlesex
TW2 5QB

Preliminary Ecological Appraisal

Report prepared by Vicky Potts; reviewed by John Wenman
Ref: R3101/b

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1 EXECUTIVE SUMMARY

1.1.1 John Wenman Ecological Consultancy LLP was commissioned by Mr A.P. Davies to undertake a Preliminary Ecological Appraisal (PEA) of land to the rear of 24 Hampton Road, in Twickenham (OS grid reference: TQ 15157 72808). The PEA was commissioned to accompany a planning application to be submitted to London Borough of Richmond upon Thames seeking consent to redevelop the land (refer to '*Proposed Site Plan*' in **Appendix 5**).

1.1.2 The site covers an approximate area of 0.14ha which includes the existing detached house and building of 24 Hampton Road and the land to the rear of the property – currently mostly recently cleared bare ground - with access along a driveway along the side of the house. The following UK Habitat Classification (UKHab) habitats were observed during the site walkover: u1 Built-up areas and gardens, u1b Developed land; sealed surface, u1b5 Buildings, u1c Artificial unvegetated, unsealed surface and u1e Built linear features.

1.1.3 The desk study revealed that the site is not statutorily or non-statutorily designated for its wildlife interest. Furthermore, the proposed residential development will not adversely affect any nearby designated sites or habitats of principal importance for conservation (as defined under the NERC Act 2006).

1.1.4 The site is unlikely to currently support populations of protected and notable species of local importance; however, key species may cross or use the site to a limited extent and recommendations for habitats and protected species are set out and summarised below:

- Protection measures for the mature eucalyptus tree (**ulc -1171**);
- Sensitive lighting scheme for bats;
- Precautionary avoidance measures for amphibians and reptiles;
- Enhancing the ecological value of the site by making use of native plant species of local provenance; and using bat and bird boxes onto the new dwellings and;
- Hedgehog highway to maintain ecological permeability across the site.

2 INTRODUCTION

2.1 Background

2.1.1 John Wenman Ecological Consultancy LLP was commissioned by Mr A.P. Davies to undertake a Preliminary Ecological Appraisal (PEA) of land to the rear of 24 Hampton Road, in Twickenham (OS grid reference: TQ 15157 72808). The PEA was commissioned to accompany a planning application to be submitted to London Borough of Richmond upon Thames seeking consent to redevelop the land (refer to '*Proposed Site Plan*' in **Appendix 5**).

2.2 Site Location and Context

2.2.1 The building and land to the rear of 24 Hampton Road ('*the site*') covers an approximate area of 0.14ha on the northern side of Hampton Road in Twickenham, Middlesex (OS grid reference: TQ 15157 72808).

2.2.2 The site is in a residential setting with further residential properties and their gardens to the south, north and west. A church and car park are located to the east. A tree lined recreational field is situated approximately 45 metres to the east. Allotments are approximately 380 metres northwest, which are adjacent to the Crane River that flows approximately 490m northwest of the site. The River Thames is also approximately 890 metres to the east of the site.

2.2.3 Bushy Park and Home Park - a Site of Special Scientific Interest (SSSI) - is situated approximately 1.78 kilometres to the south. The site is designated for large populations of ancient and veteran trees, extensive areas of semi-natural lowland dry acid grassland, and its internationally significant populations of rare invertebrates. The extensive woodland and lowland grassland of Richmond Park designated as a National Nature Reserve (NNR) and SSSI is situated 3.04 to the east of the site. Kempton Park Reservoirs SSSI is situated 3.56 kilometres to the southwest.

2.2.4 The extensive areas of open grassland, woodland, and the River Thames in the surrounding area are likely to be of ecological value to a diversity of amphibians, birds, invertebrates, mammals and reptiles.

2.3 Objectives

2.3.1 The aim of this PEA is to understand the nature of the site and assess its ecological value. The key objectives are:

- to identify any likely ecological constraints associated with the planning proposals;
- establish appropriate mitigation measures in accordance with the mitigation hierarchy (i.e., avoid > minimise > remediate > compensate);
- determine any additional surveys following on from this preliminary stage; and
- recognise opportunities for biodiversity enhancement in line with national and local planning policy (i.e., Biodiversity Net Gain).

3 LEGISLATIVE BACKGROUND

3.1 Overview

3.1.1 The following legislation is considered relevant for the purpose of this preliminary ecological appraisal:

- Wildlife and Countryside Act (W&CA) 1981 (as amended)
- Conservation of Habitats and Species Regulations ('Habitat') Regulations 2017
- Countryside and Rights of Way (CRoW) Act 2000
- Natural Environment and Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

3.1.2 These acts hold relevance to both protected and invasive species and the degree of protection varies depending on faunal/floral group or species. For example, some species of European importance receive full protection within the UK under the Habitat Regulations (e.g., bats), whereas others, may only be afforded protection through national legislation such as the Wildlife and Countryside Act 1981 (as amended) (e.g., common lizard). For a detailed overview of species-specific legislation, please refer to **Appendix 1**.

3.2 European Protected Species Mitigation Licensing

3.2.1 The government's statutory conservation advisory organisation, Natural England, is responsible for issuing European Protected Species Mitigation Licences (EPSML), which permit activities that would otherwise lead to an infringement of the Habitat Regulations 2019. An EPSML can be issued if the following three tests have been met:

- **Regulation 55(9)(a)** - there is "*no satisfactory alternative*" to the derogation;
- **Regulation 55(9)(b)** - the derogation "*will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*"; and
- **Regulation 55(2)(e)** - the derogation is for the purposes of "*preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment*".

3.2.2 Local Planning Authorities (LPAs) have a statutory duty under Regulation 7(3e) of the Habitat Regulations 2019 to regard requirements of the Habitats Directive in the exercise of their functions. Consequently, the LPA must consider and determine whether these three tests are likely to be satisfied by an application affecting European protected species before granting planning permission.

4 PLANNING POLICY

4.1 National Planning Policy

4.1.1 The ODPM Circular 06/2005 provides guidance on the application of the law relating to planning and nature conservation in England, stating that '*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*.'

4.1.1 The revised National Planning Policy Framework (NPPF), published in July 2021, sets out the Government's planning policies for England and how they should be applied. Section 15 of the NPPF sets out the approach local authorities should adopt to conserve and enhancing the natural environment when preparing planning policy and when considering planning applications. Paragraph 180 sets out the principles local authorities should apply when determining planning applications as follows:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be

encouraged, especially where this can secure measurable net gains for biodiversity.

4.2 Local Planning Policy

4.2.1 The London Borough of Richmond upon Thames adopted the Local Plan for the borough in July 2018, which replaced previous policies within the Core Strategy and Development Management Plan. The Plan sets out policies and guidance for the development of the borough until July 2033 or until it is superseded. The council are in the process of preparing a new Local Plan for Richmond borough.

4.2.2 The development plan includes policy Policy LP 15 relevant to biodiversity and new development as follows:

***A.** The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats. Weighted priority in terms of their importance will be afforded to protected species and priority species and habitats including National Nature Reserves, Sites of Special Scientific Interest (SSSI) and Other Sites of Nature Importance as set out in the Biodiversity Strategy for England, and the London and Richmond upon Thames Biodiversity Action Plans. This will be achieved by:*

1. protecting biodiversity in, and adjacent to, the borough's designated sites for biodiversity and nature conservation importance (including buffer zones), as well as other existing habitats and features of biodiversity value;

2. supporting enhancements to biodiversity;

3. incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate; major developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible;

4. ensuring new biodiversity features or habitats connect to the wider ecological and green infrastructure networks and complement surrounding habitats;

5. enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise; and

6. maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.

***B.** Where development would impact on species or a habitat, especially where identified in the relevant Biodiversity Action Plan at London or local level, or the Biodiversity Strategy for England, the potential harm should:*

1. firstly be avoided (the applicant has to demonstrate that there is no alternative site with less harmful impacts),

2. secondly be adequately mitigated; or

3. as a last resort, appropriately compensated for.

4.2.3 The development plan also includes policy Policy LP 16 relevant to trees, woodlands and landscape and new development as follows:

***A.** The Council will require the protection of existing trees and the provision of new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits.*

***B.** To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will:*

Trees and Woodlands *1. resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value; or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland;*

2. resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees;

3. require, where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT);

4. require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species is encouraged where appropriate;

5. require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations). The Council may serve Tree Preservation Orders or attach planning conditions to protect trees considered to be of value to the townscape and amenity and which are threatened by development.

Landscape *1. require the retention of important existing landscape features where practicable;*

2. require landscape design and materials to be of high quality and compatible with the surrounding landscape and character; and

3. encourage planting, including new trees, shrubs and other significant vegetation where appropriate.

5 SURVEY METHODOLOGY

5.1 Desk Study

5.1.1 A desktop study was conducted by Vicky Potts - a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) before and after visiting the site. The study utilised data from the local environmental record centre (Greenspace Information for Greater London (GiGL)) and online resources to acquire information on the nature of the site and its surroundings and highlight any potential ecological features.

5.1.2 Greenspace Information for Greater London (GiGL) was commissioned to undertake a search of pre-existing records of protected and/or notable species and non-statutorily designated wildlife sites held by them within a 1km radius around a central point inside the site.

5.1.3 The DEFRA Data Services Platform was used to obtain geospatial datasets for designated sites (i.e., RAMSAR, SPA, SAC, SSSI) and habitat inventories (i.e., Priority Habitat Inventory, Ancient Woodland Inventory) to be analysed in QGIS. The Multi-Agency Geographical Information Centre (MAGIC) website was examined for granted European protected species applications. Furthermore, geospatial datasets and Google Earth satellite imagery were used to determine the extent and connectivity of habitats, how the site is linked to the surrounding landscape and whether the development could have wider scale impacts on biodiversity.

5.1.4 Historical OS maps and Google Earth satellite imagery were consulted to provide insight into historic and current land use; such information helps contextualise the continuity of habitats and determine the importance of existing ecological features.

5.1.5 The type of soil on site was inferred using geological information taken from the British Geological Survey and on-site interpretation.

5.1.6 The London Borough of Richmond upon Thames adopted Local Plan (2018-2033) was referred to for aims and targets regarding wildlife in the Borough. The London Borough of Richmond upon Thames Council Tree Preservation Order (TPO) map was checked for protected trees on site.

5.2 Field Survey

5.2.1 A site walkover was undertaken on the 19th April 2022 by John Wenman - a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The site was surveyed using the UK Habitat Classification (UKHab) system (Butcher *et al.* 2020) in accordance with the CIEEM Guidelines for Preliminary Ecological Appraisal 2nd Edition (CIEEM 2017). Particular attention was given to evidence of protected and priority species (NERC Act 2006 Section 41 species of principal importance) and the site's potential to support such species.

5.2.2 Photographs of habitats and other ecological features were taken during the site walkover and mapped using QGIS software after the survey visit (**Appendices 2 & 3**). Botanical species were listed to aid habitat classification (**Appendix 4**).

5.3 Survey Constraints

5.3.1 Full access was available to the site. All ecological survey work is subject to seasonal constraints because not all plant and animal species are visible throughout the year and therefore the report represents a snapshot of the site at the time of the survey only. The plant species list (**Appendix 4**) should not be considered a comprehensive list of species present.

6 DESK STUDY FINDINGS

6.1 Designated Sites and Habitats

6.1.1 The desktop study revealed that the land to the rear of 24 Hampton Road ('*the site*') is not statutorily or non-statutorily designated for its wildlife interest, and contains no habitats mapped in the priority habitat inventory (NERC Act 2006 Section 41 habitats of principal importance (HPI)). However, the site is located inside the Impact Risk Zone for Bushy Park and Home Park SSSI.

6.1.2 Bushy Park and Home Park a Site of Special Scientific Interest (SSSI) is situated approximately 1.78 kilometres to the south. The site is designated for large populations of ancient and veteran trees, extensive areas of semi-natural lowland dry acid grassland, and its internationally significant populations of rare invertebrates. The extensive woodland and lowland grassland of Richmond Park designated as a National Nature Reserve (NNR), Special Area of Conservation (SAC) and SSSI is situated 3.04 to the east of the site. Kempton Park Reservoirs SSSI is situated 3.56 kilometres to the southwest.

6.1.3 There are eight local nature reserves (LNR) within five kilometres of the site. The closet site is Hams Lands LNR which situated approximately 970 metres to the east. The site includes *areas of grassland and scrub with abundant wildlife. The site was once extensively excavated for gravel, then back-filled over time with a variety of soil types from all over London. This has created a unique mosaic of different vegetation types attracting many butterfly and bird species. In spring, the site is full of hawthorn blossom and in the summer, the meadows support hundreds of wild flowers.*

6.1.4 Crane Park Island is the second closest LNR situated approximately 2.24 kilometres to the west. The site comprises an area of grassland, wet woodland, read bed and a pond, with species including kingfishers, water voles and frogs.

6.1.5 There are seven sites of importance for nature conservation (SINCs) within the search area, including three sites of Metropolitan importance. There is also one proposed SINC. An area to the south of the search radius is

designated as an area of deficiency (i.e, a built-up areas more than one kilometre walking distance from an accessible Metropolitan or Borough site).

6.2 Protected and Notable Species

6.2.1 The search of the GiGL database revealed a range of protected and notable species records dating from 1805. In this report, recent records are defined as fewer than ten years old.

6.2.2 The recent amphibian data held by GiGL comprised single common frog (*Rana temporaria*) and common toad (*Bufo bufo*) – a priority species (NERC Act 2006 Section 41 species of principal importance) – records. Common frog (*R. temporaria*) was recorded 24m to the northeast of the site in 2020; common toad (*B. bufo*) was recorded 623m to the northwest of the site in 2017. There are no records of great crested newt (*Triturus cristatus*) – a European protected species – within the search area. Recent reptile records are for slow worm (*Anguis fragilis*) recorded 786m to the northeast of the site in 2011.

6.2.3 The recent data maintained by GiGL include these bird species listed under Annex 1 of the Birds Directive: little gull (*Hydrocoloeus minutus*), common tern (*Sterna hirundo*), and kingfisher (*Alcedo atthis*). The records also include these bird species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended): little gull (*Hydrocoloeus minutus*), crossbill (*Loxia curvirostra*), firecrest (*Regulus ignicapilla*), and redwing (*Turdus iliacus*). Other species recorded that are on the Birds of Conservation Concern (BOCC) Red list include: skylark (*Alauda arvensis*), white-fronted goose (*Anser albifrons*), linnet (*Linaria cannabina*), grey wagtail (*Motacilla cinerea*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*) and mistle thrush (*Turdus viscivorus*), starling (*Sturnus vulgaris*), and turtle dove (*Streptopelia turtur*).

6.2.4 GiGL holds bat records for at least seven species in the search area: Daubenton's bat (*Myotis daubentonii*), lesser noctule (*Nyctalus leisleri*), noctule bat (*Nyctalus noctula*), Nathusius' pipistrelle (*Pipistrellus nathusii*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygameus*), and brown long-eared bat (*Plecotus auritus*). Records also include those for unidentified *Nyctalus* species and a pipistrelle (*Pipistrellus*

sp.). The closest records are for unidentified bats 24m to the northeast and common pipistrelle 129m to the north.

6.2.5 The GiGL database holds historical records for other mammals (excluding bats): European water vole (*Arvicola amphibius*) – approximately 576m to the northwest of the site. Recent records are held for the West European hedgehog (*Erinaceus europaeus*) recorded in 2020 – approximately 24m to the northeast of the site.

6.2.6 There are a few recent invertebrate records held by GiGL in the search area: stag beetle (*Lucanus cervus*), small heath (*Coenonympha pamphilus pamphilus*), brown hairstreak (*Thecla betulae*) and white-letter hairstreak (*Satyrium w-album*) – priority species (NERC Act 2006 Section 41 species of principal importance). Stag beetle was recorded 39m northwest in 2016. The purple emperor (*Apatura iris*) - a local species of conservation concern - and a butterfly (*Lycaena phlaeas eleus*) – have been recorded just under 350m from the site.

6.3 Historic and Current Land Use

6.3.1 Google Satellite imagery dating from 2022 shows the site as a garden habitat with scattered trees. Historic OS mapping (i.e., OS One Inch, 1885-1900) depict the site as a built-up area with properties along Hampton Road.

6.4 Geology, Soils and Topography

6.4.1 The geology of the site is superficial deposits of sand and gravel and sedimentary bedrock, mud and sand.

6.5 London Borough of Richmond upon Thames Council Information

6.5.1 The London Borough of Richmond upon Thames planning website showed that the eucalyptus tree in the garden is subject to a TPO (T5 Eucalyptus).

7 FIELD SURVEY FINDINGS

7.1 Overview

7.1.1 The land to the rear of 24 Hampton Road ('*the site*') was characterised by an area of recently cleared land with tree stumps and bare ground, and a mature tree towards the northern end (**Photographs 1 & 2**). Access to the land was via a gravel driveway from Hampton Road on the southeastern boundary. The detached house and buildings associated with the site were situated along the south-western boundary and are included in the site for context but are not part of the new development.

7.1.2 The following UK Habitat Classification (UKHab) habitats were observed during the site walkover: u1 Built-up areas and gardens, u1b Developed land; sealed surface, u1b5 Buildings, u1c Artificial unvegetated, unsealed surface and u1e Built linear features. Secondary habitats included; 17 ruderal/ephemeral, 68 mortared wall, 69 fence, 73 bare ground, 1160 introduced shrub, and 1171 mature tree.

7.1.3 The UKHab primary habitats with secondary codes are detailed below; associated photographs are displayed in **Appendix 2**, the habitat survey is mapped with labels, target notes and floral assemblages in **Appendix 3**, and a full botanical list from the survey is presented in **Appendix 4**.

7.2 u1 Built-up areas and gardens

1160 introduced shrubs

7.2.1 A small patch of introduced shrubs was present to the north of the detached house and along the western boundary. Shrubs present included holly (*Ilex aquifolium*) and a palm (**Photograph 1**).

7.3 u1b Developed land; sealed surface

7.3.1 The south-eastern end of the site comprised a gravel driveway providing access to the site (**Photograph 2**). Three concrete foundations from former outbuildings were present close to the northern side of the site (**Photographs 3, 4 & 5**).

7.4 u1b5 Buildings

7.4.1 The existing house at 24 Hampton Road was situated on the south-western side of the site. The building was not surveyed as it is not part of the development, but it within the site's (ownership) boundary (**Photograph 6**).

7.5 u1c Artificial unvegetated, unsealed surface

17 Ruderal/ephemeral/ 73 Bare ground/ 1171 Mature tree

7.5.1 Most of the site comprised of bare ground with occasional tree stumps and sparse cover of ruderal vegetation (approximately ground 10% cover) where the site had been recently cleared (**Photograph 7**). Species present across the site included creeping bent (*Agrostis stolonifera*), false oat grass (*Arrhenatherum elatius*), annual meadow grass (*Poa annua*), cleavers (*Galium aparine*), wavy bitter cress (*Cardamine flexuosa*), smooth sow thistle (*Sonchus oleraceous*), parsley piert (*Aphanes arvensis*), red dead nettle (*Lamium purpureum*), green alkanet (*Pentaglottis sempervirens*), common field speedwell (*Veronica persica*), bramble (*Rubus fruticosus* agg.), creeping buttercup (*Ranunculus repens*), nettle (*Urtica dioica*), and sycamore (*Acer pseudoplatanus*) seedlings. Two piles of bricks were piled towards the north-western side of the site (**Photograph 8; Target notes 1 & 2**). There was a small patch of ruderal vegetation with approximately 60 - 70% ground cover towards the centre of the site at the northern end (**Photograph 9**). The species present included the same species as above with the addition of perennial sow thistle (*Sonchus arvensis*), shepherds' purse (*Capsella bursa-pastoris*), petty spurge (*Euphorbia peplus*), bluebell (*Hyacinthoides* sp.) and hedge bindweed (*Calystegia sepium*). A mature eucalyptus (*Eucalyptus globulus*) tree, which lacked bat roosting features, was present also (**Photograph 10**). A pile of chippings had been formed amongst the ruderal vegetation (**Photograph 11; Target note 3**).

7.6 u1e Built linear features

68 Mortared wall/ 69 Fence

7.6.1 The boundaries around the north-western and south-west facing sides of the site were bordered with walls with sparse ivy (*Hedera helix*) cover (**Photograph 12**). The boundaries along the north-eastern and south-

eastern facing sides of the site were bordered with timber paneled fencing (**Photograph 13**).

8 DISCUSSION

8.1 Assessment of Existing Ecological Value

Designated sites and habitats

8.1.1 The desk study revealed that the land to the rear of 24 Hampton Road ('*the site*') is not statutorily or non-statutorily designated for its wildlife interest and therefore not currently recognised as being of international, national or county level conservation significance. Bushy Park and Home Park SSSI is the closest statutorily designated site 1.78km from the site.

8.1.2 The site is characterised by unvegetated bare ground where the site has been recently cleared of former trees, with a few patches of tall ruderal vegetation (u1c – 17/73). This habitat currently is of very limited ecological value.

8.1.3 The mature eucalyptus tree (1171) is of higher ecological value as a resource for species such as nesting birds but is no ecological importance beyond the scale of the site. The small patch of introduced shrubs (u1 - 1160) were of negligible ecological interest. The remaining sections of the site comprised of developed land with sealed surfaces including a gravel driveway and concrete foundations (u1b) and built linear features including a wall (u1e - 68) with some sparse ivy cover and timber paneled fences (u1e - 69), features and habitats of no ecological importance. There are no habitats of principal importance on site.

Bats

8.1.4 The site's open habitat currently is of limited suitability for commuting and foraging bats, and the site, as a whole, is too small to act as a significant resource of importance locally; however, bat species recorded nearby may make use of neighbouring mature trees and garden habitats for feeding and could therefore feed on site, particularly around the site margins and mature tree.

8.1.5 The mature eucalyptus tree (**u1c – 1171**) lacked any visible bat roost features and therefore is considered to be of negligible suitability for roosting bats. The site lacked any other opportunities suitable for roosting bats.

Hazel dormice

8.1.6 There are no habitats capable of supporting a hazel dormice (*Muscardinus avellanarius*) population on site. Furthermore, GiGL hold no local records for dormice within a kilometre radius of the site. For these reasons it is considered highly unlikely that dormice are present on site and this species is not considered further in this report.

Amphibians

8.1.7 There is no standing water on site to support breeding amphibians such ash the full protected great crested newt (GCN) (*Triturus cristatus*). There are no ponds shown on mapping within 500m of the site; a lake is situated 1.18 kilometres to the east at Ham Lands Local Nature Reserve. Furthermore, the closest record of works under a GCN licence is over 4.7 kilometres to the east. For these reasons it is considered highly unlikely that GCN would be found on site, and therefore they are not considered further in this report.

8.1.8 The unvegetated ground (**u1c**) and sealed surfaces (**u1b**) on site are not considered suitable habitats for amphibians as they provide no sheltering or foraging habitats. The piles of bricks (**TN1** & **TN2**) and wood chippings (**TN3**) could offer sheltering opportunities; however, they are isolated from suitable habitats which would to enable amphibians to traverse the site. Common toad has been recorded 24 metres to the northeast at the recreational ground, however, residential properties and a church with car parking act as barriers to movement onto site. It is therefore considered unlikely that amphibians will breed, forage or take refuge on site currently.

Reptiles

8.1.9 The unvegetated ground (**u1c**) and sealed surfaces (**u1b**) on site currently lacks the structural diversity for reptiles to bask, forage and take shelter. Furthermore, the closest record of a reptile species (slow worm) 786m to the north east, it is therefore considered unlikely that reptiles will be present on site.

Nesting birds

8.1.10 The mature eucalyptus tree (**u1c - 1171**) provides birds, some limited foraging and nesting opportunities within the site, but currently the site provides poor habitat for birds and is unlikely to support communities for conservation importance.

Badgers (and other mammals)

8.1.11 The site is small and there was no evidence of badger (*Meles meles*) activity (i.e., setts trails, snuffle holes or mammal diggings) on site and as such it is unlikely that this species is present and is not considered further in this report.

8.1.12 The habitats on site including unvegetated ground (**u1c**) and sealed surfaces (**u1b**) do not provide suitable conditions to support otter (*Lutra lutra*) or water vole (*Arvicola amphibius*) – both European protected species – and therefore they are not considered further in this report.

8.1.13 Hedgehog (*Erinaceus europaeus*) – a priority species (NERC Act 2006 Section 41 species of principal importance) – has been recorded locally, however there are currently limited habitats suitable on site for hedgehog to forage, shelter and hibernate although this species may cross the site and seek shelter beneath piles of bricks and chippings on site.

8.2 Impact of Proposals

Planning proposals

8.2.1 The planning proposals are for the erection of three new dwellings on site with associated access, parking and landscaping (refer to '*Proposed Site Plan*' in **Appendix 5**).

Designated sites and habitats

8.2.2 The site is not statutorily or non-statutorily designated for its wildlife interest, but it is located inside the Impact Risk Zone for Bushy Park and Home Park SSSI. However, the planning proposals do not fall under any category that would require the local planning authority to consult Natural England. Furthermore, the site does not adjoin locally important sites i.e. Local Nature

Reserves or Sites of Importance for Nature Conservation (SINC) and therefore impacts on these from development are highly unlikely to occur. Any construction activities have potential to result in pollution and adverse environmental impacts so up-to-date guidelines and legislation should be adhered to throughout (refer to recommendations in **Section 9.1**).

8.2.3 The mature eucalyptus (**u1c – 1171**) will be retained and should be protected during the course of the work (refer to recommendations in **Section 9.1**).

8.2.4 The site does not support habitats of principal importance for biodiversity (HPI) as defined as under Section 41 of the NERC Act 2006 and therefore development will not lead to the loss of HPI. Development will lead to the loss of ground with some vegetation cover and formerly scattered trees and may therefore lead to the loss of some biodiversity. A biodiversity net gain calculation using the Biodiversity Metric 3.1 (Natural England 2021) could be conducted to guide measures to achieve positive net gains for biodiversity (refer to recommendations in **Section 9.1**).

Bats

8.2.5 The proposed development site lacks potential roosting site and therefore will not result in the loss of bat roosts.

8.2.6 The pre-existing records indicate that bats likely roost nearby and may utilise the site as a foraging area. The proposals will likely lead to an increase in artificial lighting from the new dwellings, although there will be existing lighting from nearby dwellings. Artificial lighting has been shown to alter the activity of nocturnal species and certain bat species have been found to be especially averse to lighting and actively avoid lit areas. Bats that emerge later in the evening, such as *Plecotus* and *Myotis* species, have a reduced tolerance to lighting. As the intensity of light increases, even species that are relatively light tolerant, such as *Pipistrellus* species, are delayed in their emergence from their roosts. *Pipistrellus* bats can cope with light levels above 14 lux whilst light-sensitive species such as Daubenton's bat (*Myotis daubentonii*) struggle with light levels above 1 lux (Fure 2006). Lighting from development could therefore result in an adverse impact on local bat activity and therefore to avoid that a sensitive lighting scheme

should be designed with the aim of reducing light spillage and maintaining dark corridors on site (refer to recommendations in **Section 9.2**).

Amphibians and reptiles

8.2.7 There is a low chance that locally recorded priority species (NERC Act 2006 Section 41 habitats of principal importance), such as common toad (*B. bufo*) recorded locally and nearby, could be found on site. If the site is left unmanaged for an extended period, then amphibians and reptiles could colonise the site and be adversely affected by the work. Therefore, simple avoidance measures should be adopted to prevent potential injury or death of individual amphibians and reptiles during construction (refer to recommendations in **Section 9.3**).

Other mammals

8.2.8 The site potentially could be used by small mammals such as hedgehog (*Erinaceus europaeus*) – a species of principal importance under Section 41 of the NERC Act 2006) and without measures to maintain ecological permeability, development could have an adverse impact; however, there would be scope to do that (refer to recommendations in **Section 9.4**).

9 RECOMMENDATIONS

9.1 Habitats

9.1.1 The mature eucalyptus (**u1c – 1171**), which is subject to a Tree Preservation Order should be protected during construction. Protection measures will be considered fully as part of an arboricultural assessment; however, as a guide can be summarised as follows:

- erection of tree protection fencing in advance of site clearance, enclosing root protection areas (RPAs);
- prohibition of construction activities, material storage, use of vehicles, fires etc. within the fenced RPAs to prevent damage to tree roots and soil compaction; and
- maintenance of an adequate water supply to the tree during and after construction.

9.1.2 All construction activities must comply with up-to-date pollution prevention guidelines and environmental protection legislation to mitigate impacts on surrounding habitats through ground disturbance, surface water flow, dust and chemicals.

9.2 Bats

9.2.1 During construction, artificial lighting should be kept to a minimum and if security lighting is required, this should be controlled by passive infra-red motion sensors.

9.2.2 Lighting should be avoided wherever possible but if essential, factors such as column height, light source, use of passive infra-red motion sensors and light spillage should be considered carefully when designing the lighting. If brighter lighting is required, lighting with low or no UV content e.g., low pressure sodium lights, or warm LED lamps should be used instead of mercury and metal halides, and luminaires or other directional light accessories should be used to ensure that light spillage onto the mature (**u1c – 1171**) is avoided (BCT and ILE, 2018). Turning off lighting at night will avoid extended periods of time when areas would be lit, and this can be tailored to suit human health and safety as well as wildlife needs.

9.3 Amphibians and Reptiles

9.3.1 In order to avoid contravening legislation and harming individual amphibians and reptiles during the works, the following precautionary avoidance measures should be adopted during the course of the construction:

- the site should be kept short prior to the commencement of construction to minimise the likelihood of amphibians and reptiles being present during excavations;
- during construction, any open excavations and trenches should be backfilled before nightfall or alternatively, escape ramps installed to allow individual amphibians and reptiles to escape if they become trapped;
- any building materials or excavated material that need storing on site prior to use/disposal should be raised off the ground on pallets or in skips to avoid them providing temporary resting places or hibernation sites for amphibians or reptiles; and
- if any amphibians and reptiles are encountered during the course of the construction, work must stop immediately and a licensed ecologist should be called to site to provide further advice; work must only continue once further written advice has been received. If common toads or frogs are found during works, they must be carefully moved out of the construction zone and to a similar habitat to where they were found.

9.3.2 Adhering to the simple avoidance measures outlined above should ensure that amphibians and reptiles are protected from reckless killing and injury during any subsequent works.

9.4 Biodiversity Enhancement and Net Gain

9.4.1 A Biodiversity Net Gain (BNG) strategy should be developed by using the Biodiversity Metric 3.0 (Natural England 2021) to establish the change in biodiversity units resulting from the proposed development to guide measures to increase the site's biodiversity value. The BNG strategy should guide the development at the design stage and aim to deliver an overall net gain in biodiversity units.

9.4.2 The development proposals provide opportunities for the enhancement of the site's biodiversity value to help achieve a biodiversity net gain. The

inclusion of the following recommendations would be of ecological benefit and be in line with the National Planning Policy Framework (NPPF), local planning policies:

- Use of hedgerows and/or open fencing to facilitate the movement of wildlife such as hedgehogs, or alternatively create 13cm x 13cm holes in timber panel fencing with '*hedgehog highway*' signs to maintain ecological permeability across the site;
- New shrub and tree planting, making use of native plant species of local provenance incorporated into the landscaping scheme;
- Installation of integral bat roost and bird nest boxes into the proposed residential dwellings.

10 REFERENCES

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APPENDIX 1 – LEGISLATIVE BACKGROUND

Amphibians

The seven native species of amphibian receive protection under the W&AC 1981 (as amended). The four widespread and common amphibians (common frog, toad, smooth newt and palmate newt) receive only limited protection – making their sale illegal.

The great crested newt (*Triturus cristatus*) receives full protection under the W&CA 1981 (as amended) and under the Habitat Regulations 2019. The combined legislation makes it illegal to:

- intentionally or recklessly kill, injure or take a great crested newt;
- possess or control any live or dead specimen or anything derived from a great crested newt;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt; and
- intentionally or recklessly disturb great crested newts; in particular, any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

Great crested newts (*T. cristatus*) and common toads (*Bufo bufo*) are species of principal importance for the conservation of biodiversity in England (*'UKBAP Priority Species'*) under Section 41 of the NERC Act 2006.

Badgers

Badgers are protected by the Protection of Badgers Act 1992. The Act makes activities such as development that would harm or disturb badgers or damage, obstruct or destroy their setts illegal. If badgers are to be affected by the proposed development, activities can be undertaken only under a licence issued by Natural England.

Bats

All bat species in Britain are fully protected by the W&CA 1981 (as amended) and by the Habitat Regulations 2019. In summary, the combined legislation makes it an offence to:

- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a bat;
- deliberately, intentionally or recklessly disturb bats; in particular, any disturbance which is likely to impair the ability of bats to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating bats, to hibernate or migrate; or to significantly affect the local distribution or abundance of the species; and
- deliberately kill, injure or take any bat.

Birds

All wild birds are protected under the W&CA 1981 (as amended). The Act makes it an offence to kill, injure or take a wild bird or to damage or destroy the nest of a wild bird whilst in use or being built. Species listed on Schedule 1 of the Act, such as barn owls and kingfishers, are afforded additional protection against disturbance while nesting.

Hazel dormice

Hazel dormice receive full protection under the W&CA 1981 (as amended) and under the Habitat Regulations 2019. These make it illegal to:

- intentionally or recklessly kill, injure or take a dormouse;
- possess or control any live or dead specimen or anything derived from a dormouse;
- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a dormouse; and
- intentionally or recklessly disturb dormice; in particular, any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

Invasive non-native plants

The W&CA 1981 (as amended) provides the primary controls on the release of non-native species into the wild in Great Britain. It is an offence under Section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9, Part II. The species listed in the Act include Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*).

Otters

Otters are fully protected by the W&CA 1981 (as amended) and by the Habitat Regulations 2019. In summary, the combined legislation makes it an offence to:

- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by

an otter;

- deliberately, intentionally or recklessly disturb otters; in particular, any disturbance which is likely to impair the ability of otters to survive, breed or reproduce or nurture their young; or to significantly affect the local distribution or abundance of the species; and
- deliberately kill, injure or take any bat.

Reptiles

The four widespread reptiles most likely to be encountered (adder, grass snake, slow worm and common lizard) are protected under the W&CA 1981 (as amended). The Act makes it an offence to intentionally kill, injure, possess or sell any of the species.

The aforementioned species are all listed as being of principal importance for the conservation of biodiversity in England (*'UKBAP Priority Species'*) under Section 41 of the NERC Act 2006.

Water voles

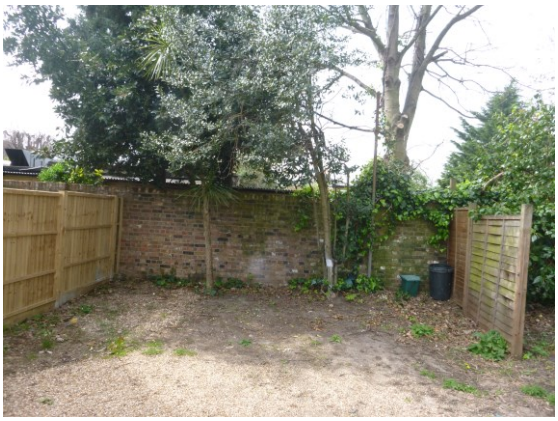
Since April 2008, water voles have received full protection under Section 9 in Schedule 5 of the W&CA 1981 (as amended). This makes it an offence to intentionally kill, injure or take water voles or to possess or control live or dead water voles or derivatives. It is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

The water vole is listed as being of principal importance for the conservation of biodiversity in England (*'UKBAP Priority Species'*) under Section 41 of the NERC Act 2006.

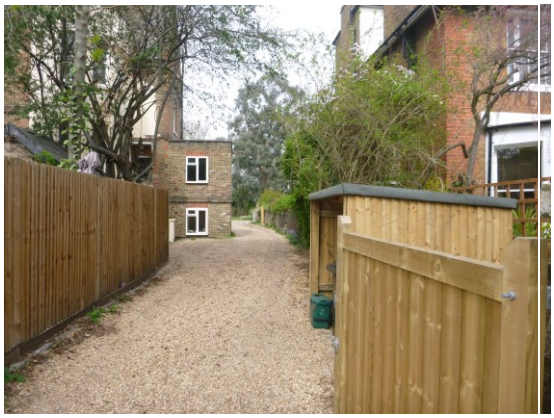
Wild mammals

Under the Wild Mammals (Protection) Act 1996 it is an offence to intentionally inflict unnecessary suffering, as specified by the Act, on any wild mammal.

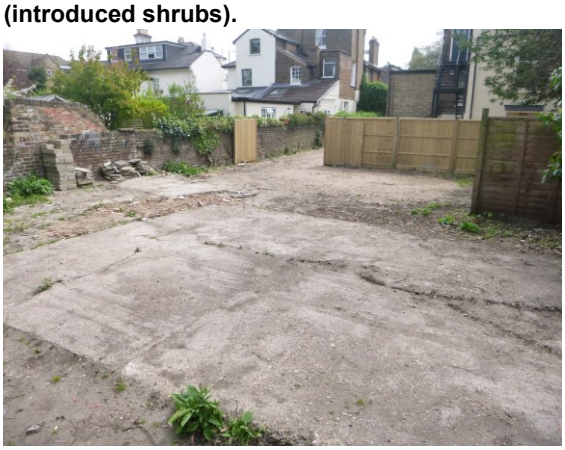
APPENDIX 2 - SITE PHOTOGRAPHS



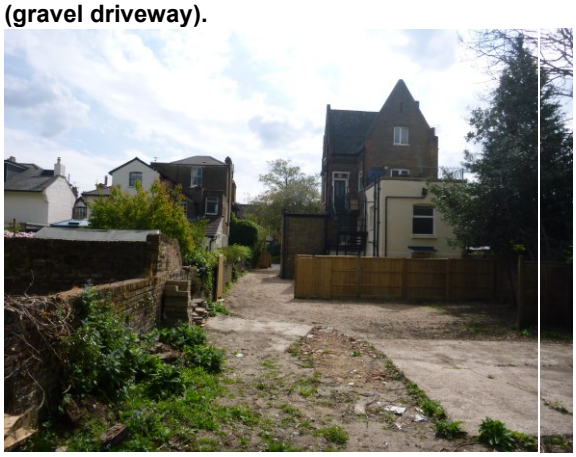
1. U1 Built-up areas and gardens 1160 (introduced shrubs).



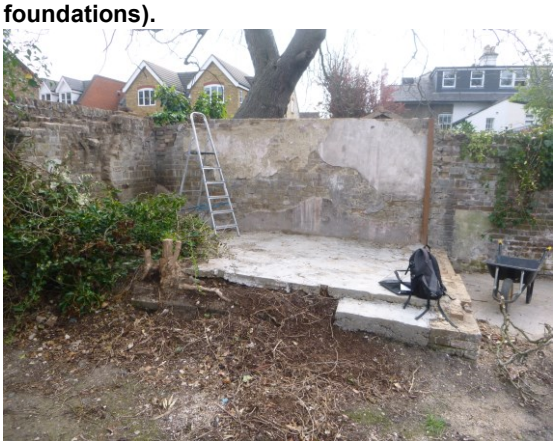
2. U1b Developed land; sealed surface (gravel driveway).



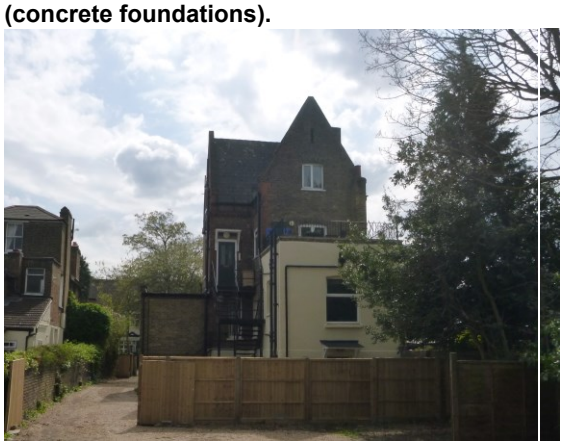
3. U1b Developed land; sealed surface (concrete foundations).



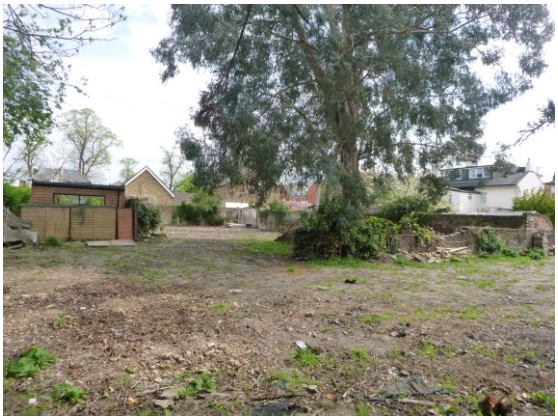
4. U1b Developed land; sealed surface (concrete foundations).



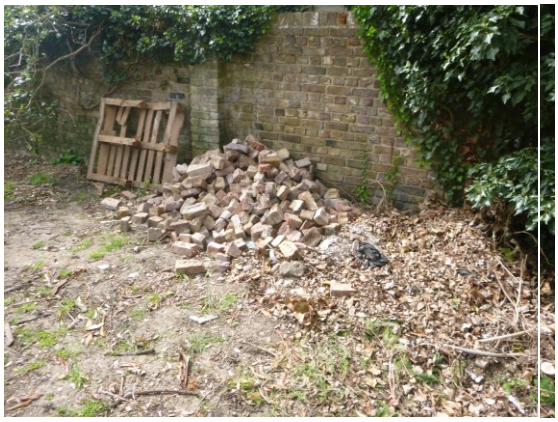
5. U1b Developed land; sealed surface (concrete foundations).



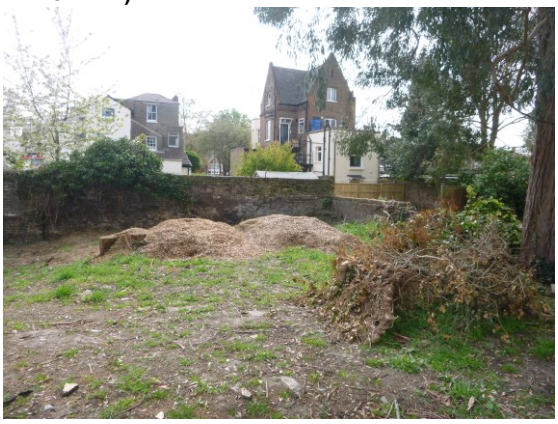
6. U1b5 Buildings (existing house).



7. Recently cleared bare ground (U1c - 17/73/1171)

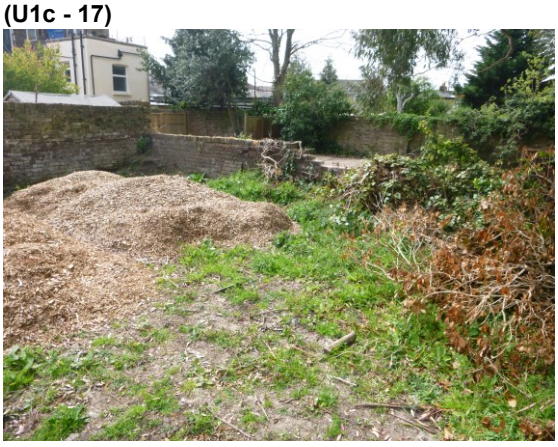


8. Pile of bricks (Target note 1)

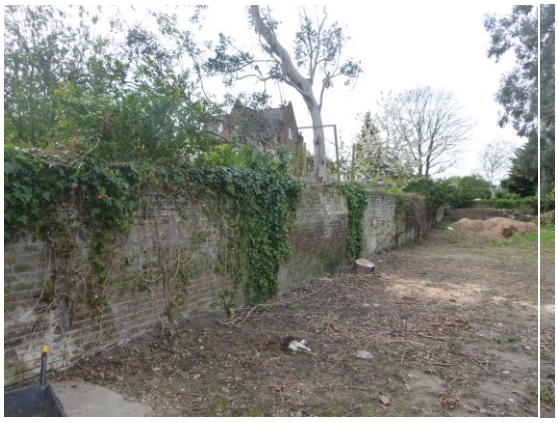


9. Patch of ruderal vegetation beneath the tree (U1c - 17)

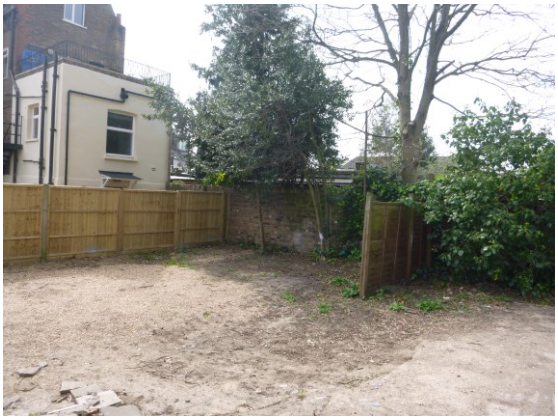
10. Mature tree (U1c - 1171)



11. Pile of chippings (Target note 3)

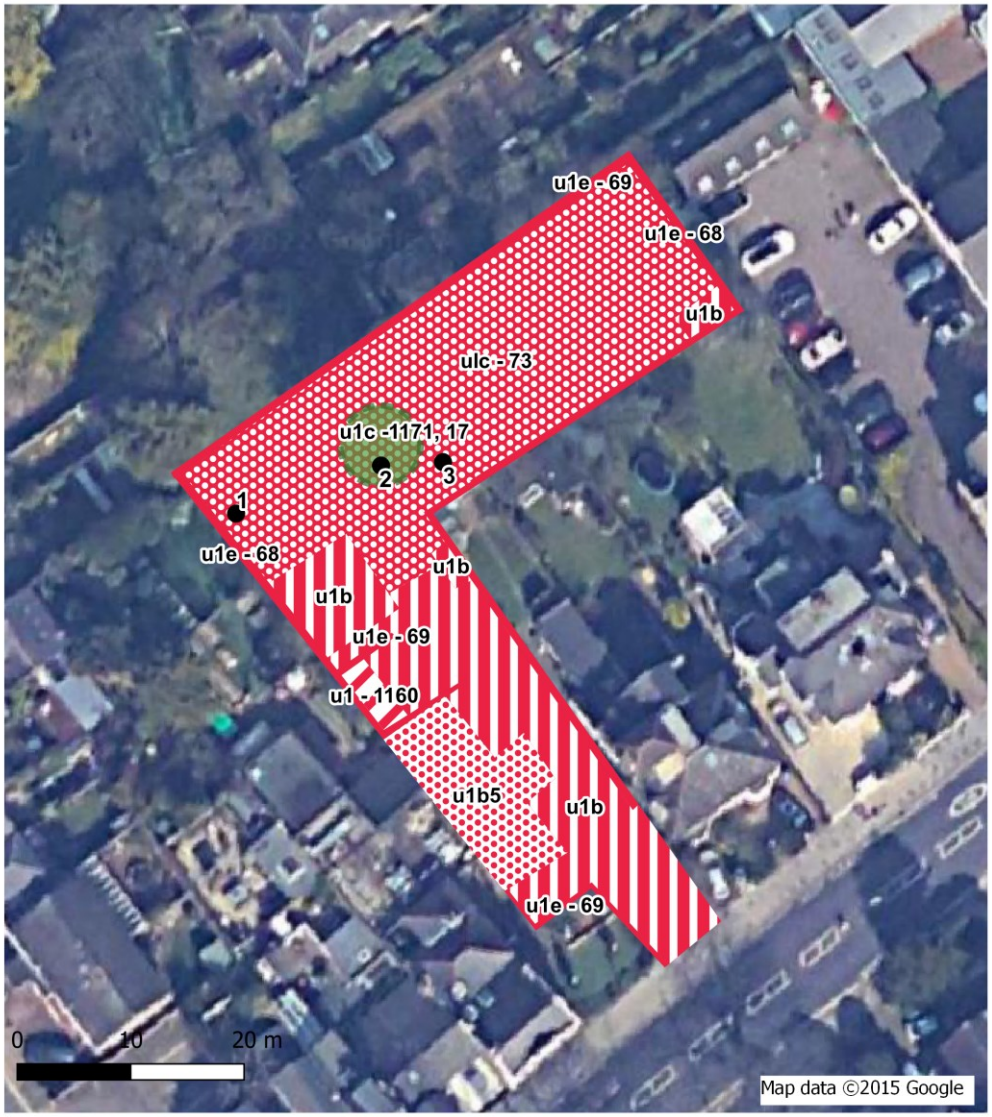


12. Mortared wall with sparse ivy cover (U1e – 68)



13. Fence (U1e – 69)

APPENDIX 3 – UK HABITAT CLASSIFICATION SURVEY PLAN



Land rear of 24 Hampton Road, Twickenham

Preliminary Ecological Appraisal UKHab Survey Plan

Key:

- Target note

Secondary habitats

- 1171 - mature tree
- 1160 - introduced shrub
- 73 - bareground
- 69 - fence
- 68 - mortared wall
- 17 - ruderal/ephemeral

Primary habitats

- u1 - built-up areas and gardens
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- u1e - built linear features
- site boundary

Surveyor: John Wenman
Mapped by: Vicky Potts
Date: April 2022

JOHN WENMAN ecological consultancy

UK HABITAT CLASSIFICATION SURVEY NOTES

Reference	Habitat Description
u1 - 1160	**Built-up areas and gardens** - small patch of introduced shrubs was present to the north of the detached house and along the western boundary. Shrubs present included holly (*Ilex aquifolium*) and a palm (**Photograph 1**).
u1b	**Developed land; sealed surface** - gravel driveway the south-eastern end of the site providing access to the site (**Photograph 2**). Three concrete foundations from former outbuildings were present in the northern end of the site (**Photographs 3, 4 & 5**).
u1b5	**Building** - existing house at 24 Hampton Road was present towards the south-western end of the site. The building was not surveyed as it is not part of the development, but it within the site's (ownership) boundary (**Photograph 6**).
u1c – 17/73/1171	**Artificial unvegetated, unsealed surface** - majority of the site comprised of barge ground with occasional tree stumps and sparse cover of ruderal vegetation (approximately ground 10% cover) where the site had been recently cleared (**Photograph 7**). Species present across the site included creeping bent (*Agrostis stolonifera*), false oat grass (*Arrhenatherum elatius*), annual meadow grass (*Poa annua*), cleavers (*Galium aparine*), wavy bitter cress (*Cardamine flexuosa*), smooth sow thistle (*Sonchus oleraceous*), parsley piert (*Aphanes arvensis*). red dead nettle (*Lamium purpureum*), green alkanet (*Pentaglottis sempervirens*), common field speedwell (*Veronica persica*), bramble (*Rubus fruticosus agg.*), creeping buttercup (*Ranunculus repens*), nettle (*Urtica dioica*), and sycamore (*Acer pseudoplatanus*) seedlings. Two piles of bricks were piled towards the north-western side of the site (**Photograph 8; Target notes 1 & 2**). A small patch of ruderal vegetation with approximately 60 -70% ground cover was present towards the centre of the site towards the northern end (**Photograph 9**). The species present included the same species as above with the addition of perennial sow thistle (*Sonchus arvensis*), shepherds purse (*Capsella bursa-pastoris*), petty spurge (*Euphorbia peplus*), bluebell (*Hyacinthoides non-scripta*) and hedge bindweed (*Calystegia sepium*). A mature eucalyptus (*Eucalyptus globulus*) tree was present also which had no bat roosting features (**Photograph 10).** A pile of chippings was present amongst the ruderal vegetation (**Photograph 11; Target note 3**).
u1e - 68	**Built linear features** - boundaries around the north-western and south-western facing sides of the site were bordered with walls with sparse ivy (*Hedera helix*) cover (**Photograph 12**).
u1e - 69	**Built linear features** - boundaries along the north-eastern and south-eastern facing sides of the site were bordered with timber panelled fencing (**Photograph 13**).

APPENDIX 4 – PLANT SPECIES RECORDED DURING THE SURVEY

Plant common name	Scientific name
Annual meadow grass	*Poa annua*
Bluebell	*Hyacinthoides non-scripta*
Bramble	*Rubus fruticosus* agg.
Cleavers	*Galium aparine*
Common field speedwell	*Veronica persica*
Creeping bent	*Agrostis stolonifera*
Creeping buttercup	*Ranunculus repens*
Eucalyptus	*Eucalyptus globulus*
False oat grass	*Arrhenatherum elatius*
Green alkanet	*Pentaglottis sempervirens*
Hedge bindweed	*Calystegia sepium*
Holly	*Ilex aquifolium*
Ivy	*Hedera helix*
Nettle	*Urtica dioica*
Palm	
Parsley piert	*Aphanes arvensis*
Perennial sow thistle	*Sonchus arvensis*
Petty spurge	*Euphorbia peplus*
Red dead nettle	*Lamium purpureum*
Shepherds purse	*Capsella bursa-pastoris*
Smooth sow thistle	*Sonchus oleraceous*
Sycamore	*Acer pseudoplatanus*
Wavy bitter cress	*Cardamine flexuosa*

APPENDIX 5 – PROPOSED SITE PLAN