The Ecology Consultancy

King's House School / Update Preliminary Ecological Appraisal / Report for Land Use Consultants

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King's House School, London Borough of Richmond upon Thames

Update Preliminary Ecological Appraisal

Report for Land Use Consultants

Job Number	7514.6		
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Summary of key issues

The Ecology Consultancy was commissioned to carry out a Preliminary Ecological Appraisal (PEA) comprising a Phase 1 habitat survey, protected species assessment, and ecological evaluation of King's House School, London Borough of Richmond upon Thames. The main findings of the PEA are as follows:

- The site comprised of bare ground, semi improved grassland, ephemeral short / perennial, scattered scrub, and scattered trees. All habitats are of site value and potential assemblages of notable species on site are not expected to exceed local value.
- The site does not form part of any statutory or non-statutory nature conservation site.
- **Bats** – Buildings / trees with bat potential were identified on site. Further surveys have been carried out and are detailed in separate Ground level tree assessment report (The Ecology Consultancy, 2021a) and Preliminary Roost Assessment Report (The Ecology Consultancy, 2021b).
- **Badger** – Evidence of badger use was confirmed on site, a separate badger survey report produced by The Ecology Consultancy in January 2021 provides recommendations on further survey and mitigation (The Ecology Consultancy, 2021c).
- **Breeding birds**– Scattered trees and introduced shrub have potential to support breeding birds. Where these features are to be affected, they should be removed outside of the breeding bird season or cleared following a nesting bird check by an ecologist up to 48 hours prior to removal.
- **Invasive species** – Montbretia *Crocosmia x crocosmiiflora* was present within the site. Measures should be taken to prevent the spread of this species into the wild.
- **Recommendations** to enhance the biodiversity value of the site in accordance with national and local planning policies comprise native scrub, climbing plants and tree planting, construction of a biodiverse roof, species rich lawn, and faunal boxes.

1 Introduction

BACKGROUND TO COMMISSION

1.1 The Ecology Consultancy conducted a Preliminary Ecological Appraisal (PEA) of the King's House School, London Borough of Richmond upon Thames in December 2018 (The Ecology Consultancy, 2020). The Ecology Consultancy was subsequently commissioned by Land Use Consultants on behalf of King's House School in December 2020 to carry out an update PEA of the site. The appraisal was carried out in order to provide ecological information to inform a planning application. This appraisal considers land within the planning application site boundary (hereon referred to as 'the site') as indicated on the plan provided by the project architects (David Miller Architects, 2020).

SCOPE OF THE REPORT

1.2 The aim of this appraisal is to provide current baseline ecological information of the site. This will be used to identify any potential ecological constraints associated with the proposed development and/or to identify the need for additional survey work to further evaluate any impact that may risk contravention of legislation or policy relating to protected species and nature conservation. Where necessary, avoidance, mitigation/compensation and/or enhancement measures have been recommended to ensure compliance.

1.3 This appraisal is based on the following information sources:

- a desk study of the site and land within a 1 kilometre (km) surrounding radius;
- a Phase 1 habitat survey (JNCC, 2010) of the site to identify and map the habitats present;
- a protected species assessment of the site to identify features with potential to support legally protected species; and
- an evaluation of the site's importance for nature conservation.

1.4 This appraisal has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017) and as detailed in British Standard (BS) 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development (BSI, 2013).

1.5 The survey, assessment and report was conducted by John Myerscough BSc, MSc, an ecologist with over four years' experience, who is competent in carrying out Phase 1 habitat surveys and protected species assessments.

SITE CONTEXT AND STATUS

1.6 The proposed development is located at King's House School, Kings Road, London Borough of Richmond-upon-Thames. The site is located in a suburban environment with the local area dominated by residential properties and associated gardens. The nearest large areas of greenspace are East Sheen and Richmond Cemeteries and Pesthouse Common Site of Importance for Nature Conservation (SINC), an area of grassland habitat located 300 metres (m) east of the site. The site is approximately 0.4 hectares (ha) in size and is centred on Ordnance Survey National Grid reference TQ1871 7475.

DEVELOPMENT PROPOSALS

1.7 A number of the existing school buildings, including the existing music block, gym, PE store, side extension and garage will be demolished in order to create a central quad area and facilitate construction of the new teaching block. The new classroom block is due to be built to the South of the site resulting in the removal of two trees, (T20 and G2.1), as well as areas of scrub, introduced shrub and amenity garden (David Miller Architects, 2020). Proposed new landscaping includes areas of biodiverse green roofs and climbing plants.

RELEVANT LEGISLATION AND PLANNING POLICY

1.8 The following key pieces of nature conservation legislation are relevant to this appraisal. A more detailed description of legislation is provided in Appendix 5:

- The Conservation of Habitats and Species Regulations 2017 (as amended) (commonly referred to as the Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended);
- Natural Environment and Rural Communities Act 2006;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

1.9 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government (MHCLG, 2019) requires local authorities to avoid and minimise impacts on biodiversity and to provide net gains in biodiversity when taking planning decisions.

1.10 The Publication version of the new London Plan (GLA, 2020) places greater emphasis on green infrastructure and proposes that developments should incorporate green infrastructure. Policy G5 encourages Local Boroughs to develop their own 'Urban Greening Factor[1]' to identify the appropriate target for urban greening, based on the proportion of surface cover that contributes to ecosystem services. In the interim the target score is 0.4 for residential developments and 0.3 for commercial developments. Policy G6 states that 'development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain'.

1.11 The Richmond Local Plan (Richmond, 2009) deals with matters of strategic importance for spatial development in the borough, including policies regarding protection, enhancement, creation, promotion and management of biodiversity.

[1] https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/draft-new-london-plan/chapter-8-green-infrastructure-and-natural-environment/policy-g5-urban

2 Methodology

DESK STUDY

2.1 The following data sources were reviewed to provide information on the location of statutory designated sites[2], non-statutory designated sites[3], legally protected species[4], Species and Habitats of Principal Importance[5] and other notable species[6] and notable habitats[7] that have been recorded within a 1km radius of the site:

- Greenspace Information for Greater London (GiGl) the local Biological Records Centre, principally for species records and information on non-statutory sites;
- MAGIC (http://www.magic.gov.uk/) - the Government's on-line mapping service; and
- Ordnance Survey mapping and publicly available aerial photography.

HABITAT SURVEY

2.2 A habitat survey of the site was carried out on 17 December 2020 in clear, dry conditions. The survey covered all accessible areas of the site including boundary features, where possible. Habitats were described and mapped following standard Phase 1 habitat survey methodology (JNCC, 2010). Habitats were marked on a paper base map and subsequently digitised using ESRI ArcGIS for Desktop software. Habitats were also assessed against descriptions of Habitat of Principal Importance (HPI) as set out by the JNCC (BRIG, 2008)[8].

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2 Statutory designations include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR).

3 Non-statutory sites are designated by local authorities (e.g. Sites of Importance for Nature Conservation or Local Wildlife Sites).

4 **Legally protected species** include those listed in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981; Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); or in the Protection of Badgers Act 1992 (as amended).

5 **Species of Principal Importance** are those listed on Section 41 of the Natural Environment and Rural Communities Act, 2006.

6 **Notable species** include Species of Principal Importance under the Natural Environment and Rural Communities Act 2006; Local Biodiversity Action Plan (LBAP) species; Birds of Conservation Concern (Eaton *et al*., 2015); and/or Red Data Book/nationally notable species (JNCC, undated).

7 **Notable habitats** include Habitats of Principal Importance under the Natural Environment and Rural Communities Act, 2006; those included in an LBAP; Ancient Woodland Inventory sites; and Important Hedgerows as defined by the Hedgerow Regulations 1997.

8 Data required to confirm that certain habitats (including rivers and ponds) meet criteria for Habitats of Principle Importance is beyond that obtained during a Phase 1 habitat survey. In these cases the potential for such habitats to meet relevant criteria is noted but further surveys to confirm this assessment may be recommended

2.3 Records for dominant and notable plants are provided, as are incidental records of birds and other fauna noted during the course of the habitat survey.

2.4 Common names are used where widely accepted for amphibians, birds, fish, mammals, reptiles and vascular plants. Scientific names are provided for other groups but at first mention only if there is also an accepted common name.

2.5 The site was also surveyed for the presence of invasive plant species as defined by Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, detailed mapping of such species is beyond the scope of this commission and the locations on the habitat plan are indicative only.

2.6 Target notes (TN) are used to provide information on specific features of ecological interest or habitat features that were too small to be mapped.

PROTECTED AND NOTABLE SPECIES ASSESSMENT

2.7 The suitability of the site for legally protected species was assessed on the basis of relevant desk study records[9] combined with field observations from the habitat survey. The likely value of habitat for protected species occurrence was ranked on a scale from 'negligible' to 'present' as described in Table 2.1.

2.8 The assessment of habitat suitability for protected or notable species was based on professional judgement drawing on experience of carrying out surveys of a large number of urban and rural sites and best practice survey guidance on identifying field signs which includes that for the following species: badger (e.g. Roper, 2010); bats (Collins (ed.), 2016); great crested newt (Langton *et. al.* 2001); otter (Chanin, 2003); and reptiles (Gent and Gibson, 2003).

Table 2.1: Protected species assessment categories

Category	Description
Present	Presence confirmed from the current survey or by recent, confirmed records.
High	Habitat present provides all of the known key requirements for a given species/species group. Local records are provided by desk study. The site is within or close to a national or regional stronghold for a particular species. Good quality surrounding habitat and good connectivity.

[9] Primarily dependent on the age of the records, distance from the site and types of habitats at the site.

Moderate	Habitat present provides all of the known key requirements for a given species/species group. Several desk study records and/or site within national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, barriers to movement and disturbance.
Low	Habitat present is of relatively poor quality for a given species/species group. Few or no desk study records. However, presence cannot be discounted on the basis of national distribution, nature of surrounding habitats or habitat fragmentation.
Negligible	Habitat is either absent or of very poor quality for a particular species or species group. There were no desk study records. Surrounding habitat unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known national range for a species.

2.9 The findings of this assessment establish the need for protected species surveys that are required to achieve compliance with relevant legislation. Surveys are commonly required for widespread species such as bats, great crested newt, reptiles and badger, but may be necessary for other species if suitable habitat is present.

2.10 Surveys may be required where a site is judged to be of low suitability for a particular species/species group. However, in some cases there may be opportunities to comply with legislation, without further survey, through precautionary measures prior to and during construction.

SITE EVALUATION

2.11 The site's ecological importance has been evaluated broadly in line with guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2019a) which ranks the nature conservation importance of a site according to a geographic scale of reference: international, national, regional, county/metropolitan, district/borough, local/parish or of importance at the site scale. In evaluating the nature conservation i of the site, the following factors were considered: nature conservation designations; species/habitat rarity; naturalness; fragility and connectivity to other habitats.

DATA VALIDITY AND LIMITATIONS

2.12 Every effort has been made to provide a comprehensive description of the site; however, the following limitations apply to this assessment.

- The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site. It should not be taken as providing a full and definitive survey of any protected species group. Additional surveys may be

recommended if on the basis of the preliminary assessment or during subsequent surveys it is considered reasonably likely that protected species may be present.

- The ecological evaluation is preliminary and may change subject to the findings of further ecological surveys (should these be required).
- Even where data for a particular species group is provided in the desk study, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest, the area may simply be under-recorded. As such the desk study is only part of the assessment of the suitability of the site to support protected species and notable species
- Where only four figure grid references are provided for protected species by third parties, the precise location of species records can be difficult to determine and they could potentially be present anywhere within the given 1km x 1km square. Equally six figure grid references may be accurate to the nearest 100m only.
- The survey was carried out in December, which is a sub-optimal time of year for botanical surveys, with many species having finished flowering and at their dormant stage. As such, the species list recorded in the current survey is unlikely to be comprehensive, but, due to the nature of habitats present at the site, this has not affected the identification of habitats or assessment of their nature conservation importance.
- The Phase 1 habitat survey does not constitute a full botanical survey or provide accurate mapping of invasive plant species.
- Ecological survey data is typically valid for two years unless otherwise specified.

2.13 Despite these limitations, it is considered that this report accurately reflects the habitats present, their biodiversity values and the potential of the site to support protected and notable species.

3 Results

DESIGNATED SITES

Statutory Sites of Importance for Nature Conservation

3.1 The proposed development site is not subject to any statutory nature conservation designations. One statutory site was present within 1km of the site, Richmond Park which is Special Area of Conservation (SAC), National Nature Reserve (NNR) and Site of Special Scientific interest (SSSI) (see Table 3.1).

Table 3.1: Statutory Designated Sites

Site Name	Distance from site and orientation	Reason for designation
Richmond Park SAC	800m south	Richmond Park is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. Many of these beetles are indicative of ancient forest areas where there has been a long continuous presence of over-mature timber. The site is at the heart of the south London centre of distribution for stag beetle.. Qualifying species: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II: • Stag beetle *Lucanus cervus*
Richmond Park NNR	800m south	Habitats include dry acid and neutral grassland, species-poor wet grassland, mire, plantation woodlands, streams, ponds, veteran trees, scrub and bracken. Richmond Park is a nationally important site due to the outstanding number of veteran oak trees and the significance of the insects they support. Over 1000 species of beetle have been recorded in the park, many of which are linked to dead and decaying wood while others are associated with wetland habitats and deer droppings.
Richmond Park SSSI	800m south	Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife. In particular, Richmond Park is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. In addition the Park supports the most extensive area of dry acid grassland in Greater London.

SAC

3.2 Richmond Park SAC is located 800m south from the site. Due to the size of site and lack of decaying wood habitat the proposed development is unlikely to have a significant impact on the favourable conservation status of the qualifying species, Stag beetle.

However, enhancement measures for stag beetle can be provided post development and are provided in section 4.

SSSI: Impact Risk Zones

3.3 The site lies within the Impact Risk Zone (IRZ) of Richmond Park SSSI located 800m south of the site, IRZs are intended as a tool for local planning authorities to identify when specific types of development may require consultation with Natural England regarding their potential impact on statutory designated sites.

3.4 The proposed development does not fall into the type of development that the Local Planning Authority would need to consult with Natural England for either IRZ.

Non-statutory designated nature conservation sites

3.5 The proposed development site is not subject to any non-statutory nature conservation designations, six statutory sites are present within 1km of the site (see Table 3.2).

Table 3.2: Non-statutory Designated Sites

Site Name	Distance from site and orientation	Reason for designation
East Sheen and Richmond Cemeteries and Pesthouse Common Site of Local Importance for Nature Conservation	300m east	Two cemeteries and a common with grassland habitats and scattered trees."
Terrace Field and Terrace Garden Site of Local Importance for Nature Conservation	550m south west	A hay meadow and park. Habitats on site include amenity grassland, Hedge, planted shrubbery, scattered trees, scrub, and semi-improved neutral grassland
River Thames and tidal tributaries Site of Metropolitan Importance for Nature Conservation	800m west	The Thames, London's most famous natural feature, supports many fish and birds, creating a wildlife corridor running right across the capital.

Table 3.2: Non-statutory Designated Sites

Site Name	Distance from site and orientation	Reason for designation
Richmond Park and associated areas Site of Metropolitan Importance for Nature Conservation	800m south	The site includes Richmond Park and Sudbrook Park Golf Courses as well as Ham, Petersham, East Sheen and Palewell Commons. Together, these form an extensive area of high-quality wildlife habitats.
Royal Mid-Surrey Golf Course Site of Borough Importance for Nature Conservation	950m north	This large golf course has areas of acid grassland and wetland habitat of value to local wildlife.
Petersham Meadows Site of Borough Importance for Nature Conservation	950m south west	Meadows adjacent to the River Thames.

PHASE 1 HABITAT SURVEY

Overview

3.6 The site comprised a single school building with a complex design and outbuildings as well as associated hard standing playground and small areas of introduced shrub, amenity grassland, ephemeral short / perennial, continuous scrub, scattered scrub, and scattered trees. No Habitats of Principal Importance were present on site.

3.7 Phase 1 habitat types are mapped in Appendix 1, Figure 1, areas are given in Table 3.3. A description of dominant and notable species and the composition of each habitat is provided below.

Table 3.3: Phase 1 Habitat Areas

Phase 1 Habitat	Extent (m^2)	%
Buildings	1534	33.89
Hardstanding	2416	53.39
Continuous scrub	209	4.62
Introduced shrub	119	2.63
Amenity grassland	178	3.93
Ephemeral / short perennial	18	0.40

Table 3.3: Phase 1 Habitat Areas

Phase 1 Habitat	Extent (m^2)	%
Scattered scrub	52	1.14
TOTAL	**4526**	**100.00**

Habitat description

Buildings

3.8 One main school building (B1) as well as two outbuildings (B2 and B3) were present on site. The main building was complex in design, one to two storeys, and varied in age with the oldest sections in the west of the site. B1 also included both flat roof areas clad in roofing felt (section B1.7) and pitched areas clad in either concrete or clay tiles (sections B1.1 to B1.2). (See Appendix 3, Photographs 1 and 2).

3.9 B2 and B3 were both single storey storage structures constructed from timber. (See Appendix 3, Photograph 3).

Hardstanding

3.10 Concrete paving and tarmac surrounded the main building on site. This included a car park in the west of the site. Extensive areas of soft play artificial surfaces were also present in the north and east of the site.

3.11 There were small areas of self-seeded annuals and perennials such as herb-Robert, doves-foot cranesbill and redshank growing through cracks in the hardstanding.

Continuous scrub

3.12 An area of continuous scrub was present along the southern boundary of the site, in a raised bed supported by wooden boards in the east. Species included mature Leylandii, holly, bramble, ivy, and sapling ash. (Appendix 3 Photograph 4)

Introduced shrub

3.13 Small areas of introduced shrub and planted beds were present around the main building. These included frequent Leylandii cypress, Hydrangea, paperplant, firethorn, red robin and rosemary (See Appendix 3, Photograph 5).

Amenity grassland

3.14 There was a single area of amenity grassland in the south of the site; (See Appendix 3, Photograph 5). The areas comprised of short lawn dominated by moss species with

frequent red fescue and annual meadow grass, occasional white clover, selfheal, common daisy and black medick.

Ephemeral / short perennial

3.15 A small area of ephemeral short / perennial vegetation was present in the south of the site. The area around the main building comprised locally dominant green alkanet as well as frequent strawberry, common chickweed and cleavers.

Scattered scrub

3.16 An area of scattered scrub located in the south east corner of the site comprised of locally dominant sapling buddleia, cherry laurel, and ash (See Appendix 3, Photographs 6).

Scattered trees

3.17 There were four mature holm oak trees in the east of the site. Other trees on site included a pair of mature common lime, yew, false acacia and strawberry tree on the western boundary. In the garden in the south of the site tree species included ash, holly and cherry (See Appendix 3, Photograph 7 and 8).

PROTECTED AND INVASIVE SPECIES ASSESSMENT

3.18 The potential for the site to support protected species has been assessed using criteria provided in Table 2.1 based on the results of the desk study and observations made during the site survey of habitats at the site. Other legally protected species are not referred to as it is it is considered that the site does not contain habitats that would be suitable to support them. The following species/species groups are potentially present at the site:

- bats;
- great crested newts;
- reptiles;
- badgers;
- breeding birds; and
- invasive plant species.

3.19 The table also summarises relevant legislation and policies relating to protected species. Key pieces of statute are summarised in Section 1 and set-out in greater detail in Appendix 5.

Table 3.3: Protected Species Assessment

Habitat/ species	Status [10, 11]	Likelihood of occurrence
Bats	HR WCA S5 SPI	The data search returned 279 records, including 13 roost records for eight species including serotine, daubenton's bat, natterer's bat, Leisler's bat, noctule, soprano pipistrelle, common pipistrelle, Nathusius' pipistrelle and brow long eared from within 1km of the site. The most recent roost record was of soprano pipistrelle bat in 2008. **Buildings – MODERATE**: Building section B1.1, B1.2, B1.4 and B1.6 contained features such as hole in soffit box and missing mortar around ridge tile which could be utilised by roosting bats (Appendix 2, Target Note 2, 3, 4, 5, 6 and 8, and Appendix 3, Photograph 9 and 10 **Trees – LOW:** Five trees (T1, T2, T3, T4 and T17) on site were assessed as being of low value to roosting bats. **Commuting** **MODERATE:** The site contained trees which provided linear commuting and foraging corridors of potential value to bats, and these features provided connectivity to suitable off-site roosting and foraging habitat such as East Sheen SINC. **As buildings with potential to support roosting bats will be removed as part of the re-development, they are considered further in Section 4 of this report. Trees with bat roosting potential are addressed in a separate Ground level Tree Assessment report. Further details on trees are provided in the separate Ground level tree assessment report (The Ecology Consultancy, 2021a)**

[10] The following abbreviations have been used to signify the legislation regarding different species: HR = Conservation of Habitats and Species Regulations 2017 (as amended); WCA S1 = Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); WCA S5 = Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); WCA S9 = Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); PBA = Protection of Badgers Act, 1992; WMA = Wild Mammals (Protection) Act, 1996.

[11] The following abbreviations have been used to signify the policy of conservation assessments applying to notable species: SPI = Species of Principal Importance under the NERC Act 2006; LBAP = Local Biodiversity Action Plan species; BoCC = Birds of Conservation Concern - amber list / red list (Eaton *et al*., 2015); and/or RD/NN = red data book/nationally notable species (JNCC, undated).

Table 3.3: Protected Species Assessment

Habitat/ species	Status [10, 11]	Likelihood of occurrence
Great crested newt	HR WCA S5	**NEGLIGIBLE:** The data search did not return any great crested newt records from within 1km of the site. Two ponds were present within 500m (as identified on 1:25,000 OS maps). Of the two ponds identified, the closest one was recorded 256m north-east of the site. Small areas of ephemeral short / perennial, scattered scrub and introduced shrub on site offered limited suitable terrestrial habitat for great crested newts on site. However, the site is isolated from any standing water bodies by the B353 which would form a barrier to dispersal of any great crested newts using the ponds. **As there is a negligible likelihood of great crested newt being present at the site, this species is not considered further in this report.**
Reptiles	WCA S1 SPI	**NEGLIGIBLE**: The data search returned 14 records of two reptile species; common lizard and grass snake. The nearest record was for a common lizard located 721m south east of the site in 2009. Introduced shrub habitats provide limited potential to support widespread reptile species, in particular common lizard, slow-worm and grass snake. However due to the limited extent of the habitat, lack of habitat diversity and poor connectivity to more suitable off site habitats the site has been assessed as having negligible potential to support widespread reptile species. **Considering the above, there is a negligible possibility that widespread reptiles may occur at the site and as such they are considered further in Section 4 of this report.**
Breeding birds	WCA S5 SPI BoCC	**HIGH:** The desk study returned numerous records of bird species. These included Species of Principal Importance and London BAP species that could potentially utilise the site such as song thrush, and dunnock which are BoCC Red List species. Scattered trees and introduced shrub on site were considered to have potential to support nesting bird species. **As habitat suitable for breeding birds will be removed as part of development they are considered further in Section 4 of this report.**
Badgers	PBA	**PRESENT:** Evidence of badger use was confirmed on site, further information is provided in the badger survey report for the site, produced by The Ecology Consultancy in January 2021 (The Ecology Consultancy, 2021c). The data search returned eight badger records from within 1km of the site with the most recent record from 2015. **Badgers were confirmed present on site, and therefore are considered further in Section 4 of this report.**

Table 3.3: Protected Species Assessment

Habitat/ species	Status [10, 11]	Likelihood of occurrence
Invasive species	WCA S9	**PRESENT:** Areas of Montbretia *Crocosmia x crocosmiiflora*, were present in areas of introduced shrub in the south of the site (see Target Note 1). There are several desk study records for invasive species within 1km of the site, including Japanese knotweed and other species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). **Invasive species Montbretia which were listed on Schedule 9 is present on site, therefore this species will be considered further in Section 4 of this report**

NATURE CONSERVATION EVALUATION

3.20 The proposed development site is not subject to any nature conservation designations. It is situated in a suburban area with commercial / residential premises and roads. The habitats within the garden contain a limited range of commonly occurring and widespread habitats, with the exception of the mature trees. However, in combination with adjoining private gardens makes up a valuable habitat in the urban context and provides a stepping-stone habitat for wildlife moving between sites. The habitat is therefore considered to be of importance within the site only.

3.21 The site can also provide an important ecosystem service for educating the pupils of King's House School about the value of biodiversity through the provision of a new outdoor learning area and planting.

3.22 The habitats on site were suitable for a range of note-worthy species, including Species of Principal Importance and London BAP species, as reported in the desk study or recorded during the survey, as follows:

- roosting and foraging bats;
- breeding birds including dunnock, house sparrow, starling and other widespread but declining species of bird; and
- badger; and
- hedgehog.

3.23 The habitats within the site are limited in extent and common which would make them unsuitable to support scarce or rare species, such as Barbastelle bat, smooth snake or sand lizard. Therefore, the populations/assemblages of notable species on site is unlikely to exceed local level.

4 Potential Impacts and Recommendations

4.1 This section summarises the potential impacts on habitats and protected and notable species that may be present at the site. The impact assessment is preliminary and further detailed assessment and surveys will be required to assess impacts and design suitable mitigation, where appropriate.

4.2 The following key ecological issues have been identified:

- Mature holm oak trees – to be retained and protected during the development of the site;
- habitats suitable for roosting bats is present – measures must be taken to avoid killing or injuring bats;
- habitats suitable for breeding birds are present on site– measures must be taken to avoid killing birds or destroying their nests;
- habitat suitable for badger is present;
- invasive plant species are present on site – measures must be taken to avoid causing the spread of these species into the wild;
- habitat suitable for hedgehog is present – measures should be taken to continue to accommodate this species post-development and precautionary measures adopted to avoid killing/injury; and
- a range of measures should be undertaken to satisfy the requirement for ecological enhancement included in planning policy.

CONSTRAINTS AND MITIGATION/COMPENSATION

Designated sites

4.3 The proposed development site is more than 300m away from any statutory or non-statutory designated site. Accordingly, the ecological function of the designated sites will not be significantly impacted by lighting or increased footfall to any of the sites.

Habitats

4.4 The development will remove sections of building, hardstanding, scattered trees, introduced shrub and amenity grassland to facilitate development of a new teaching block. All habitats scheduled for removal are common and widespread, therefore no particular constraints were identified in relation to the intrinsic value of the habitats present. All the mature trees on site will be retained and protected on site, however any

constraints related to species identified on site should be considered prior to habitat removal

4.5 Working under the principle of 'net-gain' as supported by planning policy, any habitats to be permanently removed should be compensated for through soft landscaping within any future development proposals, including planting schemes of recognised value to wildlife.

4.6 As part of the landscaping plan for the site new shrub and tree planting is being included on the southern and eastern boundary. The new planting will offset the loss of any habitat being lost as part of the redevelopment and will ensure the stepping-stone between gardens is retained.

Bats – buildings

4.7 Further bat surveys have been conducted in 2019. Details of findings and recommendations provided in a separate Preliminary Roost Assessment report which should be read in conjunction with this report (The Ecology Consultancy, 2021b).

Badger

4.8 Evidence of badger use was confirmed on site, a separate badger survey report produced by The Ecology Consultancy in January 2021 provides recommendations on further survey and mitigation and should be read in conjunction with this report (The Ecology Consultancy, 2021c).

Breeding birds

4.9 All breeding birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended).

4.10 The proposed works have the potential to impact breeding birds during the site clearance phase, with the removal of scattered trees and introduced shrubs. These works should be carried out September to February inclusive, to avoid any potential offences relating to breeding birds during their main bird breeding season (Newton et al., 2011).

4.11 If the construction of the new building and site clearance during the breeding season is unavoidable then potential nesting habitat must be inspected shortly before work commences to identify active birds' nests. Should they be present, the nest and a suitable buffer of habitat around it must be retained until the young have left the nest.

Stag Beetle

4.12 There was limited amount of dead wood on site, however the mature trees on site offered some value to stag beetles and 222 records for stag beetle were returned from the desk study.

4.13 Recommendations on the provision of stag beetle, a Richmond BAP species, habitat are also included further in section 4.

Hedgehogs

4.14 Habitats on site suitable for hedgehogs was present in the form of scrub and introduced shrub and 78 records for hedgehog were returned from the desk study.

4.15 To ensure habitats are maintained for hedgehog, a Richmond BAP species, post development new tree and shrub planting of known wildlife value will be planted on the southern and eastern boundary (David Miller Architects, 2020).

Wild mammals

4.16 Wild mammals are protected under the Wild Mammals Act 1996. This site contains small areas of suitable habitat to support fox and hedgehog. To avoid contravention of the act areas of introduced shrub must be checked before vegetation is removed.

Other protected species

4.17 Works must stop immediately, and advice sought from a suitably qualified ecologist in the unlikely event that any protected species are found during site clearance or construction.

Environmental best practice

4.18 Best environmental practice measures which should be implemented include:

- adherence to best construction practice including CIRIA guidance (Connolly and Charles, 2015); and
- the protection of retained trees in accordance with British Standards Institution (2012) BS 5837:2012 guidelines (BSI, 2012).

Removal of Schedule 9 invasive species

4.19 It is an offence to allow the spread of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) into the wild. Montbretia was recorded on site. If the

area where it was recorded is likely to be impacted by works it is recommended that this species is removed.

4.20 For newly grown plants appearing in an area, immediate hand-pulling is the recommended option ensuring that all corms are removed. It should then be disposed by drying then burning. Alternatively, plants and soil containing corms and seeds can be scraped down to 75 centimetres and buried at a depth of 2m or sent to a suitably licensed waste disposal facility (Property Care Association, 2018).

FURTHER SURVEY REQUIREMENTS

4.21 Table 4.1 lists further survey requirements as recommended in the constraints section.

Table 4.1: Further survey requirements

Species/ Habitat	Survey Requirement	Number of surveys and seasonal considerations
Bats	Dusk and Dawn surveys of buildings assessed as having potential to support roosting bats,	Two emergence/re-entry survey visits are required for any features with moderate roost potential. Emergence surveys must be carried out between May and September with at least one of these surveys between May and August (Collins, 2016). Immediately prior to the first emergence/roost survey a formal inspection will need to be undertaken of the internal and external features of the building.
Birds	Nesting bird check	If vegetation clearance and building demolition is carried out between September and the end of February, no survey is required. Otherwise, individual surveys are required up to 48 hours prior to demolition/vegetation clearance works (Newton et al., 2011)
Badgers	Badger Survey Completed December 2020 (The Ecology Consultancy, 2021c).	Further details provided in the badger survey report produced for the site (The Ecology Consultancy, 2021c).

OPPORTUNITIES FOR ECOLOGICAL ENHANCEMENT

4.22 Planning policy at the national and local level and strategic biodiversity partnerships encourage inclusion of ecological enhancements in development projects. Ecological enhancements can also contribute to green infrastructure and ecosystem services such as storm water attenuation and reducing the urban heat island effect. The following measures would be suitable for integration into the site's design but would require a more detailed design to successfully implement.

Native scrub and tree planting

4.23 Native tree and scrub species and areas of wildflower grassland are included in the landscaping plans to enhance the site (David Miller Associates, 2020). Wildlife planting

should be integral to any soft landscape plans and should include native species and/or species of recognised wildlife value. The use of nectar-rich and berry producing plants will attract a wider range of insects, birds and mammals and continue to accommodate those already utilising the site. Where possible, larger shrub/trees should be under-planted to create greater structure and cover for wildlife.

4.24 Tree species could include a mixture of fruiting, trees which could be utilised by the school children, and trees of value to wildlife. Suitable species cherry, plum, apple hazel as well as rowan, Hawthorn and birch.

Biodiverse/Biosolar roof

4.25 A biodiverse roof is included as part of the landscaping proposals on site (David Miller Associates, 2020). Biodiverse roofs provide numerous benefits to wildlife as well as allowing for water attenuation, therefore reducing the requirement for water tanks which have no ecological value. Biodiverse designs make use of wildflower grass seed and plug planting on a permeable substrate, on top of a waterproofing membrane. Biodiverse roofs tend to thrive in combination with PV panels as the panels create varied microclimates and moisture levels and are often termed 'biosolar'.

4.26 Biodiverse/biosolar designs are preferable to standard sedum mat roofs that deliver little in the way of biodiversity value and ecosystem services (storm water attenuation, urban cooling etc.), as they are typically less species-rich and have a shallower substrate depth. The biodiverse roof should include additional habitat features such as temporary pools, invertebrate boxes or log piles and varying substrate depths. In addition, it is important that the specification is sufficiently detailed so that it combines how the solar panel supports interface with the biodiverse roof. This includes specification of how to draw water beneath the panels. Furthermore, there will be a need to provide enough space between each row of panels to ensure that tall vegetation does not negatively impact on solar panels.

4.27 It is recommended that advice is sought from a professional green roof consultancy such in order to design the specification of the green roof in-line with the environmental goals of the development.

Climbing plants

4.28 Landscaping should include the use of climbing plants growing on a support structure to provide vertical nesting habitat and foraging resources for birds and invertebrates. The support structure should ideally be placed 50-100mm off the façade. Plants should comprise native species or non-native species of recognised wildlife value and either

deciduous or evergreen species depending on the specification. Species of known wildlife value could include hop, ivy, honeysuckle, clematis and jasmine.

Species rich lawn turf

4.29 If areas of amenity grassland are proposed, it is recommended that these should be sown with a seed mix that realises a species rich lawn turf[12]. This herb rich amenity grassland will enhance the site for wildlife, whilst maintaining a tidy finish to landscaping.

Provision of nesting opportunities for birds

4.30 It is recommended that bird boxes suitable for declining species such as house sparrow and swift (both Richmond and London BAP species and Species of Principal Importance) should be installed on site. The inclusion of woodcrete bird boxes are recommended as they are available in a range of designs, are long lasting compared to wooden boxes and insulate occupants from extremes of temperature and condensation. The boxes should be cleaned out yearly during the winter months (September-February) and old boxes should be replaced or repaired as necessary.

Provision of roosting opportunities for bats

4.31 Bat boxes should be installed on site post-development. The results of the recommended further bat surveys would provide more details of the most suitable designs and locations. Woodcrete boxes are recommended as they include a broad range of designs, are long lasting compared to wooden boxes and insulate occupants from extremes of temperature and condensation. Bat boxes should be positioned between 3-5m above ground level facing southeast – southwest in a location that will not be lit by artificial lighting. Locating bat boxes along the retained trees one site would be recommended as this part of the site is subject to less disturbance by light pollution.

Provision of stag beetle habitat

4.32 All mature trees on site should be retained to provide future breeding habitat. Where trees are felled, a tall (c0.5m) stump should be left to minimise potential drying out effects on larvae already present in roots. Felled logs should be placed as close to the stump as possible and partly buried in the soil to provide future breeding habitat. Wood mulch (preferably from hardwood) can be placed on the shaded side (usually north) of logs and stumps to create additional aboveground habitat for stag beetles; the south /unshaded side should be left clear in order to allow warming by sunshine (Sprecher, 2002). Further breeding habitat can be provided with a series of hardwood posts of oak, beech or fruit trees (e.g. apple Malus domestica), preferably with the bark still attached. Posts are c.

[12] For example Wildflower Turf http://www.wildflowerturf.co.uk/Products/species-rich-lawn-turf.aspx

1m in length x a minimum 10cm diameter (although larger logs up to 50cm diameter will provide better habitat long term) hammered vertically into the ground to a depth of 70-90 cm. Posts should be arranged in groups of up to 20 posts arranged in a circle to mimic a natural tree system. Where larvae are found during mitigation, these should loosely reburied close to a tree root.

Good horitcultural practice

4.33 Good horticultural practice should be utilised, including the use of peat-free composts, mulches and soil conditioners, native plants with local provenance and avoidance of the use of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

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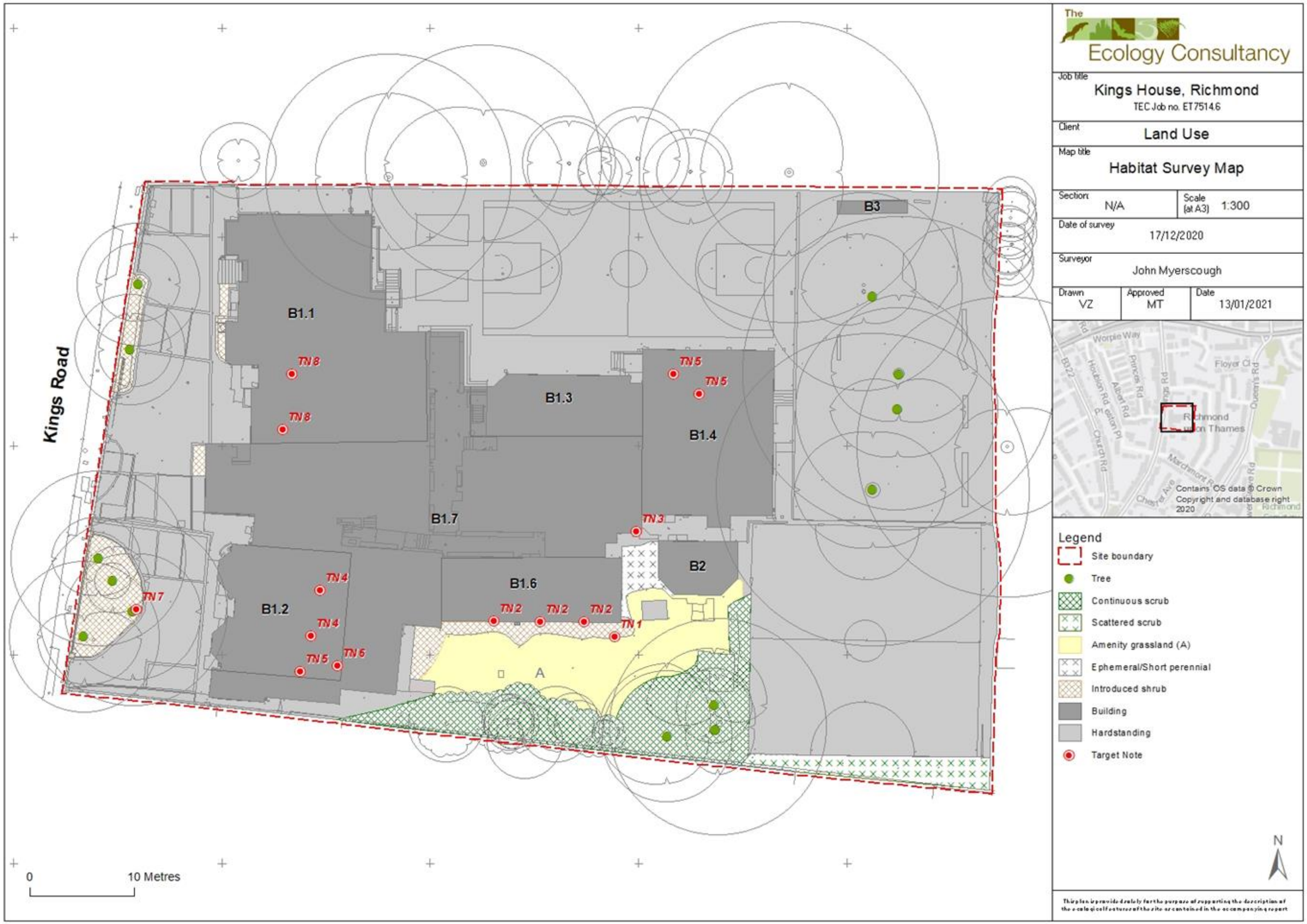
Appendix 1: Habitat Map

Figure 1: Habitat Map



Appendix 2: Target Notes

Target Notes List for King's House School, Richmond from the Phase 1 habitat survey and protected and notable species assessment carried out on 17 December 2020.

Target note (TN)	Description
1	Schedule 9 montbretia
2	PRF - Hole in soffit box
3	PRF - Hole in timber sarking
4	PRF - Gap in dormer frame
5	PRF - Missing mortar round ridge tile
6	PRF - Gap between wall and soffit box
7	False acacia with potential roosting features
8	PRF - Raised / missing roofing tiles

Appendix 3: Photographs

Photograph 1
Building 1: sections B1.1, B1.3 and B1,4 north elevation.

Photograph 2
Building 1: Section B1.6 Southern and eastern elevation.

Photograph 3
Building 2 southern elevation And Building 1 section B1.4 southern elevation

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Photograph 4
Raised area of continuous scrub in the south of the site.

Photograph 5
Beds of introduced shrub and amenity grassland on south of site.

Photograph 6
Scattered scrub, South east corner of site.

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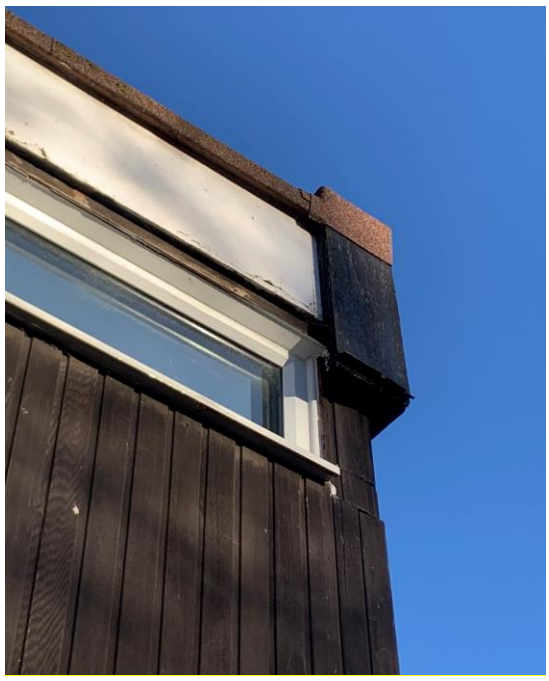
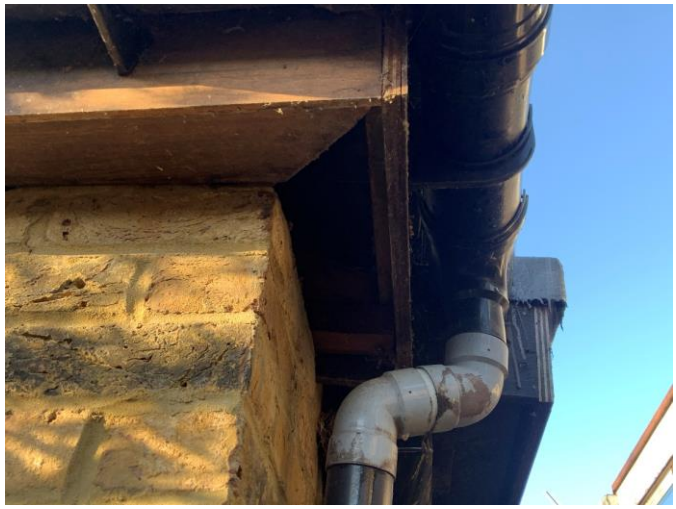
Photograph 7
Semi mature ash trees in the south of site.

Photograph 8
Line of mature holm oak trees

Photograph 9
PRF: Hole in timber sarking (Target note 3)



Photograph 10
PRF: Hole in soffit box(Target note 2)



Appendix 4: Plant Species List

Plant Species List for King's House School, London Brough of Richmond-upon-Thames compiled from Phase 1 habitat survey carried out on 17 December 2020.

Scientific nomenclature and common names for vascular plants follow Stace (2010). Please note that this plant species list was generated as part of a Phase 1 habitat survey, does not constitute a full botanical survey and should be read in conjunction with the associated results section of this PEA.

Abundance was estimated using the DAFOR scale as follows:
D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally
c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker, t=tree, h=hedgerow, w=water

Latin Name	Common name	Abundance	Qualifiers
Acer pseudoplatanus	Sycamore	R	t,s
Arbutus unedo	Strawberry-tree	R	T, p
Artemisia spp.	Mugworts	O	
Aucuba japonica	Spotted-laurel	O	p
Bambusoideae spp.	Bamboo	O	p
Bellis perennis	Daisy	F	
Brachyglottis spp.	Aster species	F	p
Bryophite species	Moss species	LD	
Buddleja davidii	Buddleia	O	
Buxus sempervirens	Box	R	p
Campanula rotundifolia	Harebell	R	
Carex pendula	Pendulous sedge	O	
Conyza canadensis	Canadian fleabane	O	
Cotoneaster spp.	Cotoneasters	R	
Cuprocyparis leylandii	Leyland cypress	LD	
Dryopteris sp.	Fern	R	
Epilobium sp.	Willowherbs	O	
Euphorbia sp	Spurge	F	
Fatsia japonica	Paperplant	O	P
Festuca rubra	Red fescue	F	
Fragaria sp.	Strawberry	O	
Fraxinus excelsior	Ash	O	T
Galium aparine	Cleavers	R	
Galium sp.	Galium species	R	
Geranium molle	Dove's-foot crane's-bill	O	
Geranium robertianum	Herb-Robert	F	
Hebe spp.	Hebe	F	P
Hedera helix	Ivy	D	
Hyacinthoides non-scripta	Bluebell	R	

Latin Name	Common name	Abundance	Qualifiers
Hydrangea sp.	Hydrangea	R	p
Ilex aquifolium	Holly	O	
Iris sp.	Iris	O	
Jasminum officinale	Summer jasmine	R	
Lamium purpureum	Red dead-nettle	O	
Medicago lupulina	Black medick	F	
Pentaglottis sempervirens	Green alkanet	O	
Persicaria maculosa	Redshank	R	
Photinia	Red robin	F	
Platanus x hispanica	London plane	R	T, p
Poa annua	Annual meadow-grass	F	
Prunella vulgaris	Selfheal	O	
Prunus laurocerasus	Cherry laurel	F	
Prunus sp.	Cherry	R	T
Pyracantha spp.	Firethorns	F	
Quercus ilex	Holm oak	F	T, p
Robinia pseudoacacia	False-acacia	x	
Rosa sp.	Rose	x	
Rosemarinus officinalis	Rosemary	x	
Rubus fruticosus agg.	Bramble	x	
Stellaria media	Common chickweed	x	
Taraxacum sp.	Dandelion	x	
Taxus baccata	Yew	x	
Tilia x europaea	Common lime	x	
Trifolium repens	White clover	x	
Trifolium sp.	Clover	x	

Appendix 5: Legislation and Planning Policy

Important notice: This section contains details of legislation and planning policy applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

A NATIONAL LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive[13] is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991;
- Countryside and Rights of Way (CRoW) Act 2000;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992:
- Wild Mammals (Protection) Act 1996.

Species and species groups that are protected or otherwise regulated under the aforementioned domestic and European legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds,

[13] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

hazel dormouse, invasive plant species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2017 (as amended) (which includes smooth snake, sand lizard, great crested newt and natterjack toad), all bat species, otter, hazel dormouse and some plant species) are given below. **These should be read in conjunction with the relevant species sections that follow.**

- In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- The Conservation of Habitats and Species Regulations 2017 (as amended) does not define the act of 'migration' and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.
- In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests': i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:

  a) to impair their ability:

  (i) to survive, breed, or reproduce, or to rear or nurture young;

  (ii) to hibernate or migrate

  b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also currently protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level);
- Intentional or reckless obstruction of access to any place of shelter or protection:
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity of a local population.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). Among other things, this makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy an egg of any wild bird:
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl, black redstart, hobby, bittern and kingfisher receive additional special protection under Schedule 1 of the Act and Annex 1 of the European

Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;
- Intentional or reckless disturbance of dependent young of such a bird.

How is the legislation pertaining to birds liable to affect development works?

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird breeding season which typically runs from March to August[14]. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Those species of bird listed on Schedule 1 are additionally protected against disturbance during the breeding season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Herpetofauna (Amphibians and Reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita* and great crested newt *Triturus cristatus* receive full protection under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. The pool frog *Pelophylax lessonae* is also afforded full protection under the same legislation. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of species listed on Schedule 2
- Deliberate disturbance of any Schedule 2 species as:

a) to impair their ability:

(i) to survive, breed, or reproduce, or to rear or nurture young;

(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate

[14] It should be noted that this is the main breeding period. Breeding activity may occur outwith this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

b) to affect significantly the local distribution or abundance of the species

- Deliberate taking or destroying of the eggs of a Schedule 2 species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Species such as the adder *Vipera berus*, grass snake *Natrix natrix,* common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis* are listed in respect to Section 9(1) & (5). For these species, it is prohibited to:

- Intentionally (or recklessly in Scotland) kill or injure these species
- Sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

Common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *L. helveticus* are listed in respect to Section 9(5) only which affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale.

How is the legislation pertaining to herpetofauna liable to affect development works?

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places of those amphibian and reptile species protected under The Conservation Habitats and Species Regulations 2010 (as amended). A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake

those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the Wildlife and Countryside Act 1981 (as amended).

Badger

Badgers *Meles meles* receive protection under The Protection of Badgers Act 1992 which consolidates the previous Badger Acts of 1973 and 1991. The Act makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett[15] or any part thereof
- Intentionally or recklessly disturb[16] a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

How is the legislation pertaining to badgers liable to affect development works?

A Development Licence[17] will be required from the relevant countryside agency (e.g. Natural England) for any development works liable to affect an active badger sett, or to disturb badgers whilst in the sett. Depending on the nature of the works and the specifics of the sett and its environs, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. The countryside agencies have issued guidelines on

[15] A badger sett is defined in the legislation as *"any structure or place which displays signs indicating current use by a badger"*. This includes seasonally used setts. Natural England and DEFRA have issued guidance on what is likely to constitute current use of a badger sett: https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects

[16] For guidance on what constitutes disturbance and other licensing queries, see Natural England and DEFRA guidance https://www.gov.uk/guidance/badgers-protection-surveys-and-licences.

[17] Natural England will only consider issuing a licence where detailed planning permission (if applicable to operation) has already been granted

what constitutes a licensable activity. N.B. there is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

Invasive Plant Species

Certain species of plant, including Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera* are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Such species are generally non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to plant or otherwise cause these species to grow in the wild.

How is the legislation pertaining to invasive plants liable to affect development works?

Although it is not an offence to have these plants on your land per se, it is an offence to cause these species to grow in the wild. Therefore, if they are present on site and development activities (for example movement of spoil, disposal of cut waste or vehicular movements) have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this happening prior to the commencement of works.

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to:

- Mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

B NATIONAL AND EUROPEAN LEGISLATION AFFORDED TO HABITATS

Statutory Designations: National

Nationally important areas of special scientific interest, by reason of their flora, fauna, or geological or physiographical features, are notified by the countryside agencies as statutory Sites of Special Scientific Interest (SSSIs) under the National Sites and Access to the Countryside Act 1949 and latterly the Wildlife & Countryside Act 1981 (as amended). As well

as underpinning other national designations (such as National Nature Reserves which are declared by the countryside agencies under the same legislation), the system also provides statutory protection for terrestrial and coastal sites which are important within a European context (Natura 2000 network) and globally (such as Wetlands of International Importance). See subsequent sections for details of these designations. Improved provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).

The Wildlife & Countryside Act 1981 (as amended) also provides for the making of Limestone Pavement Orders, which prohibit the disturbance and removal of limestone from such designated areas, and the designation of Marine Nature Reserves, for which byelaws must be made to protect them.

Statutory Designations: International

Special Protection Areas (SPAs), together with Special Areas of Conservation (SACs) form the Natura 2000 network. The Government is obliged to identify and classify SPAs under the EC Birds Directive (Council Directive 2009/147/EC (formerly 79/409/EEC)) on the Conservation of Wild Birds). SPAs are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. Protection afforded SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles (nm) is given by The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SPAs in UK offshore waters (from 12-200 nm).

The Government is obliged to identify and designate SACs under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora). These are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and territorial marine waters out to 12 nm are protected under The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SACs in UK offshore waters (from 12-200 nm).

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, in particular recognizing wetlands as ecosystems that are globally important for

biodiversity conservation. Wetlands can include areas of marsh, fen, peatland or water and may be natural or artificial, permanent or temporary. Wetlands may also incorporate riparian and coastal zones adjacent to the wetlands. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. This effectively extends the level of protection to that afforded to sites which have been designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs).

Statutory Designations: Local

Under the National Sites and Access to the Countryside Act 1949 **Local Nature Reserves** (LNRs) may be declared by local authorities after consultation with the relevant countryside agency. LNRs are declared for sites holding special wildlife or geological interest at a local level and are managed for nature conservation, and provide opportunities for research and education and enjoyment of nature.

Non-Statutory Designations

Areas considered to be of local conservation interest may be designated by local authorities as a **Wildlife Site**, under a variety of names such as **County Wildlife Sites** (CWS), **Listed Wildlife Sites** (LWS), **Local Nature Conservation Sites** (LNCS), **Sites of Biological Importance** (SBIs), **Sites of Importance for Nature Conservation** (SINCs), or **Sites of Nature Conservation Importance** (SNCIs). The criteria for designation may vary between counties.

Together with the statutory designations, these are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined. The level of protection afforded to these sites through local planning policies and development frameworks may vary between counties.

Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside land holding statutory designations such as SSSIs. Locally-developed criteria are used to select these sites, according to their value for education, scientific study, historical significance or aesthetic qualities. As with local Wildlife Sites, RIGS are a material consideration when planning applications are being determined.

C NATIONAL PLANNING POLICY

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) replaced Planning Policy Statement (PPS9) in April 2012 as the key national planning policy concerning nature conservation, and was updated in July 2018. The NPPF emphasises the need for suitable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species – that is those listed as UK Biodiversity Action Plan priority species – is also listed as a requirement of planning policy. In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 40 of the Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' They are referred to in this report as Species of Principal Importance and Habitats or Principal Importance. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

D REGIONAL PLANNING POLICY

The London Plan (Publication version 2020)

The London Plan is the statutory Spatial Development Strategy for Greater London prepared by the Mayor of London in accordance with the Greater London Authority Act 1999 (as amended). Chapter 8 includes nine policies relating to the protection, enhancement, creation,

promotion and management of biodiversity and green infrastructure in support of the London Environment Strategy (GLA, 2018). Four of these Green Infrastructure and Natural Environment policies (G1, G5, G6 & G7) are considered relevant to this assessment, as detailed below.

Policy G1 Green infrastructure

A London's network of green and open spaces, and green features in the built environment should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits.

B Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.

C Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:

1) identify key green infrastructure assets, their function and their potential function

2) identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.

D Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

A Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

B Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).

C Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature

A Sites of Importance for Nature Conservation (SINCs) should be protected.

B Boroughs, in developing Development Plans, should:

1) use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks

2) identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them

3) support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans

4) seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context

5) ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.

C Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:

1) avoid damaging the significant ecological features of the site

2) minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site

3) deliver off-site compensation of better biodiversity value.

D Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.

E Proposals which reduce deficiencies in access to nature should be considered positively

Policy G7 Trees and woodlands

A London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

B In their Development Plans, boroughs should:

1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site

2) identify opportunities for tree planting in strategic locations.

C Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

London's Environment Strategy (2018)

The London Environment Strategy set out an ambitious vision for improving London's environment for the benefit of all Londoners. This is the first strategy to bring together approaches to every aspect of London's environment, integrating the following areas:

- Air quality
- Green infrastructure
- Climate change mitigation and energy
- Waste
- Adapting to climate change
- Ambient noise
- Low carbon circular economy

The overall aim of the strategy is for London to be the world's greenest global city by making it greener, clearer and ready for the future. The London Environment Strategy combines multiple previous strategies including the Biodiversity Strategy (GLA, 2002).

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

Proposal 5.2.1.a The London Plan includes policies on the protection of Sites of Importance for Nature Conservation (SINCs) and Regionally Important Geological Sites (RIGS)

Proposal 5.2.1.b The Mayor will develop a biodiversity net gain approach for London, and promote wildlife-friendly landscaping in new developments and regeneration projects

E LOCAL PLANNING POLICY

RICHMOND LOCAL PLAN

The following policies, saved from the 2018 Local Plan are of potential relevance to this site:

POLICY LP 9

Floodlighting

Floodlighting, including alterations and extensions, of sports pitches, courts and historic and other architectural features will be permitted unless there is demonstrable harm to character, biodiversity or amenity and living conditions.

The following criteria will be taken into account when assessing floodlighting:

> *"3. the impacts on biodiversity and wildlife;"*

Favourable consideration will be given to the replacement or improvement of existing lighting where it provides improvements to existing adverse impacts.

POLICY LP 15

Biodiversity

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.

POLICY LP 16

Trees, Woodlands and Landscape

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.

POLICY LP 17

Green roofs and walls

Green roofs and/or brown roofs should be incorporated into new major developments with roof plate areas of 100sqm or more where technically feasible and subject to considerations of visual impact. The aim should be to use at least 70% of any potential roof plate area as a green / brown roof.

The onus is on an applicant to provide evidence and justification if a green roof cannot be incorporated. The Council will expect a green wall to be incorporated, where appropriate, if it has been demonstrated that a green / brown roof is not feasible.

The use of green / brown roofs and green walls is encouraged and supported in smaller developments, renovations, conversions and extensions.

The Ecology Consultancy

The Ecology Consultancy is part of the Temple Group.

Making places better for people and wildlife

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