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By email only

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Date: 16th October 2020
Our ref: 551291dpOct20FV01_PEA_Update

Dear Mark

Cambridge Road Estate – Updated Ecological Site Walkover

Greengage Environmental Ltd were appointed by Cambridge Road (RBK) LLP to undertake an updated ecological site walkover of the Cambridge Road Estate in the Royal Borough of Kingston upon Thames. The walkover was undertaken to confirm whether the findings of the Preliminary Ecological Appraisal (PEA) undertaken by Greengage in June 2019 are still considered valid and identify any change in the ecological value of the site.

This walkover survey was undertaken in support of a hybrid Outline Planning Application for a mixed use development, including demolition of existing buildings and erection of up to 2,170 residential units (Use Class C3), 290sqm of flexible office floorspace (Use Class E), 1,395sqm of flexible retail/commercial floorspace (Use Class E/Sui Generis), 1,250sqm community floorspace (Use Class F2), new publicly accessible open space and associated access, servicing, landscaping and works.

The survey followed an abbreviated version of the Phase 1 Habitat Survey methodology[1]. The extents of habitats mapped during the 2019 PEA were checked in addition to the condition of habitats, using the condition assessment methodology set out in the DEFRA Biodiversity Metric 2.0 Technical Supplement[2]. The updated walkover was undertaken on Monday 12th October 2020.

Based on the findings of the survey, Greengage can confirm that there have been no significant changes in the ecological status of the site. Habitats are the same in type and extent as described in the PEA report (ref: 551291dpNov19FV01_PEA). There were no significant changes in species composition of the habitats or changes in the condition assessment criteria for each habitat type. Additionally, no further evidence of the potential for the site to support notable and/or protected species was identified beyond that described in the PEA report.

The Phase 1 Habitat Map is shown in Figure 1 and site photos are provided in Appendix 1.

Given the lack of change in site ecology, conclusions drawn from the 2019 PEA report are considered valid and robust. Full condition assessments for habitats on site are set out in the Biodiversity Impact Assessment (BIA) report (ref: 551291dpOct20FV01_BIA).

[1] JNCC, 1990. Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. Field Manual. 6th ed. Peterborough: Joint Nature Conservation Committee.
[2] Natural England, 2019. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity. Technical Supplement Beta Edition. Natural England Joint Publication JP029

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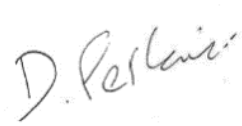
Yours sincerely



Daniel Perlaki
Ecological Consultant
For and on behalf of Greengage Environmental Ltd

FIGURE 1 PHASE 1 HABITAT MAP

CAMBRIDGE ROAD ESTATE DRAFT

Approx Red Line Boundary

Habitats

- J1.2 - Cultivated/disturbed land - amenity grassland
- J1.4 - Introduced shrub
- J3.6 - Buildings
- J3.6.1 - Hardstanding

1 2 3 4 5 6

0 100 200 300 400 m

N

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Fig 1.0 Site Plan and Habitat Map

Project Number 551292
September 2019
1 to 1400 at A3

APPENDIX 1 SITE PHOTOGRAPHS

Photograph 1 – Amenity grassland habitat with scattered trees

Photograph 2 – Buildings with hanging clay tiles provide nesting opportunities for birds such as house sparrow (*Passer domesticus*)

Photograph 3 – Hardstanding across the site is the most common habitat

Photograph 4 – There are limited areas of planting beyond amenity grassland on site

Greengage

Cambridge Road Estate, Cambridge Road (RBK) LLP
Preliminary Ecological Appraisal – November 2020

QA

Cambridge Road Estate – Preliminary Ecological Appraisal

Issue/Revision:	Draft	Final
Date:	June 2020	November 2020
Comments:		
Prepared by:	Daniel Perlaki	Daniel Perlaki
Signature:		
Authorised by:	Mike Harris	Mike Harris
Signature:		
File Reference:	551291dpNov19DV02_PEA	551291dpNov19FV02_PEA

CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Greengage Environmental Ltd was commissioned to undertake a Preliminary Ecological Appraisal by Cambridge Road (RBK) LLP of the Cambridge Road Estate, in the Royal Borough of Kingston.

1.2 This document is a report of this survey and has been produced to support a hybrid Outline Planning Application for a mixed use development, including demolition of existing buildings and erection of up to 2,170 residential units (Use Class C3), 290sqm of flexible office floorspace (Use Class E), 1,395sqm of flexible retail/commercial floorspace (Use Class E/Sui Generis), 1,250sqm community floorspace (Use Class F2), new publicly accessible open space and associated access, servicing, landscaping and works.

1.3 Detailed permission is sought for access, layout, scale, appearance and landscaping of Phase 1 for erection of 452 residential units (Use Class C3), 1,250sqm community floorspace (Use Class F2), 290sqm of flexible office floorspace (Use Class E), 395sqm of flexible retail/commercial floorspace (Use Class E/Sui Generis), new publicly accessible open space and associated access, servicing, parking, landscaping works including tree removal, refuse/recycling and bicycle storage, energy centre and works ("the Proposed Development").

1.4 This survey aimed to establish the ecological value of this site and the presence/likely absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

1.5 Habitats recorded on site were common and widespread and of little value beyond the site boundary itself. However, the potential to support a number of protected species was recorded. Specifically, the site is considered to have:

- Low potential to support foraging bats;
- Moderate potential to support roosting bats;
- Confirmed presence of nesting birds; and
- Low potential to support west European hedgehog.

1.6 The survey also identified the presence of a non-statutory site (Kingston Cemetery Site of Importance for Nature Conservation) within 20m. Although several statutory designated sites are present within a 2km radius of the site, all are outside the likely zone of impact of the development.

1.7 In lieu of mitigation, the Proposed Development stands to impact nesting birds and hedgehogs through site clearance and habitat loss. As such, avoidance, mitigation and compensation recommendations are outlined in this report. These include the production of a Construction Environment Management Plan (CEMP), scheduling site clearance

outside of the nesting bird season where possible, or where not possible, following a check of any suitable nesting bird habitat by a suitably qualified ecologist prior, provision of bird and bat boxes to compensate for lost opportunities and provision of soft landscaping designed with local biodiversity in mind.

1.8 Additionally, further bat emergence/re-entry and activity surveys are recommended to determine the level of impact to foraging and roosting bats and identify appropriate mitigation actions.

1.9 To demonstrate compliance with emerging planning policy, biodiversity net gain (BNG) is required as a consequence of the Proposed Development. Interventions to assist in delivering BNG have been selected to compliment local conservation objectives and provide habitat for:

- Stag beetle;
- Bats;
- Black redstart; and
- House sparrow.

1.10 To contribute to delivering this, ecological enhancement recommendations are made, including:

- Provision of extensive, substrate-based biodiverse roofs on suitable flat roof areas;
- Biodiverse roof enhancements to provide additional invertebrate habitat features;
- Wildflower turf incorporated on any 'amenity grassland' areas;
- Wildlife friendly soft landscaping in public realm; and
- Diverse tree planting.

1.11 Additional enhancement recommendations include provision of additional bird nest boxes and bat boxes across the site.

1.12 Demonstration of compliance with BNG policy is presented in a stand-alone report (ref 551291dpNov19FV02_BIA). It is recommended that an Ecological Management Plan (EMP) is secured through planning condition to ensure delivery of BNG for the masterplan site. Providing BNG is demonstrated and mitigation and further survey recommendations outlined in this report are adhered to, the Proposed Development can be fully compliant with all relevant UK and EU legislation, and local and national planning policy.

1.13 As the Proposed Development is to take place over a period of 10 - 15 years, ecological data collected through the PEA and the further surveys recommended within this report will need to be updated for future phases. Ecological data generally remains valid for up to 18 months, occasionally 24 months depending on the species and the site context. Therefore, it is recommended that as individual phases come forward that, where the existing Preliminary Ecological Appraisal (PEA) is more than 12 months old, an update PEA is undertaken covering the phase in question. The update PEA will also include

advice on whether any further surveys are required and whether there is a requirement to update any previously undertaken bat surveys.

1.14 In addition to the survey elements mentioned above, it is recommended that a high level, overarching Ecological Management Plan is prepared for the site. The site wide EMP would detail the high-level ecological mitigation and enhancement measures to be implemented on site as part of the development. Individual Phase EMPs could then be produced with specific detail for that plot/phase using the high-level information from the site wide EMP. This approach would allow for a consistent approach to ecological mitigation and enhancement across the site, ensuring the measures implemented work both at the individual plot/phase level and at the wider site level.

2.0 INTRODUCTION

2.1 Greengage was commissioned to undertake a Preliminary Ecological Appraisal by Cambridge Road (RBK) LLP of the Cambridge Road Estate, in the Royal Borough of Kingston upon Thames.

2.2 This document is a report of this survey and has been produced to support a hybrid Outline Planning Application for a mixed use development, including demolition of existing buildings and erection of up to 2,170 residential units (Use Class C3), 290sqm of flexible office floorspace (Use Class E), 1,395sqm of flexible retail/commercial floorspace (Use Class E/Sui Generis), 1,250sqm community floorspace (Use Class F2), new publicly accessible open space and associated access, servicing, landscaping and works.

2.3 Detailed permission is sought for access, layout, scale, appearance and landscaping of Phase 1 for erection of 452 residential units (Use Class C3), 1,250sqm community floorspace (Use Class F2), 290sqm of flexible office floorspace (Use Class E), 395sqm of flexible retail/commercial floorspace (Use Class E/Sui Generis), new publicly accessible open space and associated access, servicing, parking, landscaping works including tree removal, refuse/recycling and bicycle storage, energy centre and works ("the Proposed Development").

2.4 This survey aimed to establish the ecological value of this site and the presence/likely absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

SITE DESCRIPTION

2.5 The survey area extends to approximately 9 hectares and is centred on National Grid Reference TQ190690, OS Co-ordinates 519074, 169085.

2.6 The estate is located within the Norbiton Ward in the Royal Borough of Kingston upon Thames, approximately 850m east of Kingston town centre. The site is bound to the north by A2043 – Kingston Road and to the south by Kingston Cemetery and Crematorium. The estate currently contains 832 residential homes distributed across:

- Four 15-storey residential tower blocks;
- Sixteen 5/4-storey terraced flats; and
- Numerous areas of 2-storey terraced housing.

2.7 The estate and assessment boundary also include the Bull and Bush Hotel and Piper Community Hall.

2.8 The site is situated in a residential area, sub-urban in character. Residential development dominates land use to the north, east and west of the site, including a newly constructed

student accommodation adjacent the site to the north. South of the site is Kingston Cemetery, beyond which lies the Hogsmill River (300m south). Southeast of the site features outdoor recreation areas. Green infrastructure provision in the area is formed by street trees, the cemetery, Hogsmill River, recreation grounds and residential gardens.

3.0 METHODOLOGY

3.1 The PEA (which included an Extended Ecological Phase 1 Survey) was undertaken in accordance with guidance in the Joint Nature Conservation Committee (JNCC) (2010) Handbook for Phase 1 Habitat Survey[1] and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal[2], in accordance with BS42020:2013: Biodiversity[3]. The overall assessment consisted of:

- Site specific biological information gained from statutory and non-statutory consultation; and
- A site walkover, protected species scoping assessment and phase 1 habitat survey.

3.2 The site-specific consultation provided the ecological context for the site survey carried out on the 17th and 19th of June 2019.

3.3 An update walkover survey of the site was completed on the 12th October 2020 to assess any change in habitats and overall ecological value on site since the June 2019 survey.

3.4 The survey boundary and existing site is shown at Figure 1.

3.5 Greengage undertook the site walkover during dry weather conditions. Features within the site boundary and accessible features immediately bordering it were evaluated and the extent and distribution of habitats and plant communities were recorded and supplemented with target notes on areas or species requiring further commentary. Fauna using the area were recorded and areas of habitat suitable for statutorily protected species were identified where present, with an active search carried out for evidence of such use.

DESKTOP REVIEW

3.6 A review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website[4]) was undertaken for the site and its vicinity. In addition, a biological records search from Greenspace Information for Greater London (GiGL) was reviewed to identify the location and citations of local non-statutory designated sites and presence of records for notable and protected species. This provided the overall ecological context for the site, to better inform the Phase 1 Survey.

ON SITE SURVEYS

Flora

3.7 The extent and distribution of different habitats on site were identified and mapped according to the standard Phase 1 Survey methodologies, supplemented with target notes describing the dominant botanical species and any features of interest. Any

present protected plant species and invasive/non-natives were also noted. A habitat map has been produced to illustrate the results, as shown at Figure 1.

Fauna

3.8 The Phase 1 Survey specifically included assessments to identify the potential value for notable, rare and protected species at site. This involved identifying potential habitats in terms of refugia, breeding sites and foraging areas in the context of species known to be present locally and regionally.

3.9 The likelihood of occurrence is ranked as follows:

- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
- Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
- Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
- High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
- Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.

3.10 The species surveyed for included:

Badger (Meles meles)

3.11 The potential for badger to inhabit or forage within the study area was assessed. Evidence of badger activity includes the identification of setts (a system of underground tunnels and nesting chambers), grubbed up grassland (caused by the animals digging for earthworms, slugs, beetles etc.), badger hairs, paths, latrines and paw prints.

Bat Species (Chiroptera)

3.12 The site visit was undertaken in daylight and the evaluation of bat potential comprised an assessment of natural features on site that aimed to identify characteristics suitable for bat roosts, foraging and commuting. In accordance with Bat Conservation Trust's Good Practice Guidelines[5] and methods given in English Nature's (now Natural England) Bat Mitigation Guidelines[6] consideration was given to:

- The availability of access to roosts for bats;
- The presence and suitability of crevices and other places as roosts; and
- Signs of bat activity or presence.

3.13 Definite signs of bat activity were taken to be:

- The bats themselves;
- Droppings;
- Grease marks;
- Scratch marks; and
- Urine spatter.

3.14 Signs of possible bat presence were taken to be:

- Stains; and
- Moth and butterfly wings.

3.15 Features with potential as roost sites include mature trees with holes, crevices or splits (the most utilised trees being oak, ash, beech, willow and Scots pine), caves, bridges, tunnels and buildings with cracks or gaps serving as possible access points to voids or crevices.

3.16 Additionally, linear natural features such as tree lines, hedgerows and river corridors are often considered valuable for commuting and semi-natural habitats such as woodland, meadows and waterbodies can provide important foraging resources. Consideration was given to the presence of these features both immediately within and adjacent to the assessment area.

Great Crested Newt (Triturus cristatus)

3.17 An assessment was carried out to identify any potential habitats that may support great crested newt (GCN) and other native amphibians. The aquatic and terrestrial habitats required generally include small, still ponds or water bodies suitable for breeding; and woodland or grassland areas where there is optimal invertebrate prey potential.

Reptiles

3.18 The potential for reptile species on site was assessed during the walkover survey. Possible species include grass snake (Natrix natrix), smooth snake (Coronella austriaca), adder (Vipera berus), common and sand lizard (Lacerta vivipara and L. agilis) and slow worm (Anguis fragilis). These native reptile species generally require open areas with low, mixed-height vegetation, such as heathland, rough grassland, and open scrub or,

in the case of grass snake, waterbody margins. Suitable well drained and frost-free areas are needed so they can survive the winter.

Dormouse (Muscardinus avellanarius)

3.19 During the walkover survey the potential for dormouse to be present on site was assessed. This included observations for suitable habitat such as well-layered woodland, scrub and linking hedgerows, particularly those comprised of species offering suitable food sources such as honeysuckle and hazel, in addition to direct evidence such as characteristically gnawed hazelnuts, chewed ash keys and honeysuckle flowers, or nests.

Birds

3.20 During the walkover survey, the potential for breeding, wintering and migratory birds was assessed. In particular, this includes areas of trees, scrub, heathland and wetlands that could support nests for common or notable species.

Invertebrates

3.21 As part of the walkover survey the quality of invertebrate habitat and the potential for notable terrestrial and aquatic invertebrate species was considered. There is a wide variety of habitats suitable for invertebrates including wetland areas, heathland, areas of bare sandy soil, ephemeral brownfield vegetation and meadows.

Biodiversity Action Plan priority species/ Species of Principal Importance

3.22 Where consultation and desk-study indicate the presence of BAP priority species (Species of Principal Importance) not protected by statute, effort was made to establish the potential for the site to support these species.

SURVEYORS

3.23 Daniel Perlaki, who undertook the surveys at site, has an undergraduate degree in Ecology (BSc Hons), a Master's degree in Conservation Science and Policy and is a Graduate member of CIEEM. Dan has over 3 years of experience as an Ecological Consultant and has undertaken numerous Preliminary Ecological Appraisals and further Phase 2 surveys on urban and sub-urban sites in London and Surrey.

3.24 Mike Harris has a Bachelor's degree in Environmental Biology (BSc Hons), a Natural England Great Crested Newt Licence (2015-17819-CLS-CLS) and Dormouse Licence (2016-21291-CLS-CLS), is a Chartered Environmentalist (CEnv) and is a Full member of CIEEM. Mike has over 17 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

3.25 This report was written by Daniel Perlaki and reviewed and verified by Mike Harris who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

CONSTRAINTS

3.26 The PEA was undertaken during an optimal time of year during suitable conditions by a suitably qualified ecologist.

3.27 Residential gardens were not accessible during the survey. Habitats classification has been assumed based on observations whilst on site and satellite images.

3.28 Additionally, an underground parking/storage area is present across much of the site. Access could not be gained into these areas. This lack of access was taken into consideration when making recommendations for further survey.

3.29 No significant constraints that stand to impact conclusions drawn in this report therefore presented themselves.

4.0 RESULTS

DESKTOP REVIEW

Designations

4.1 Consultations with the local biological record centre (GiGL) and the MAGIC dataset have confirmed that there are no statutory designations of national or international importance within the boundary of the site.

4.2 There are, however, seven statutory designated sites within a 2km radius. This includes three Local Nature Reserves (LNRs), one Special Area of Conservation (SAC), one National Nature Reserve (NNR) and two Sites of Special Scientific Interest (SSSIs).

4.3 Records from GiGL also identified ten non-statutory Sites of Importance for Nature Conservation (SINCs) within 2km of the site boundary. SINCs are recognised by LPAs as important wildlife sites and their protection is a material consideration in the planning process.

4.4 Table 4.1 below gives the locations and descriptions of a selection of the nearest/most relevant local designations.

Table 4.1 Statutory and Non-Statutory Designated Sites within Search Radius

Site Name	Approximate Location	Description
Statutory Designations		
Richmond Park SAC	2km north	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. 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 (Lucanus cervus).
Richmond Park SSSI	2km north	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.
Bushy Park and Home Park SSSI	2km west	Bushy Park and Home Park SSSI is of special interest for its nationally important saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities. These features occur within and are supported by the wider habitat mosaic. The saproxylic invertebrates include those associated with heartwood decay, bark and sapwood decay and with fungal

Site Name	Approximate Location	Description
		fruiting-bodies found within the veteran trees which are located throughout the site, notably in the large areas currently managed as wood pasture. Lowland dry acid grassland communities present include National Vegetation Classification (NVC) types U1 sheep's fescue (Festuca ovina)-common bent (Agrostis capillaris)-sheep's sorrel (Rumex acetosella) grassland and U4 sheep's fescue-common bent -heath bedstraw (Galium saxatile) grassland community which are found within the grassland mosaic of the site.
Richmond Park NNR	2km north	Richmond Park is London's largest NNR. It is notable for its rare beetles which feed on dead and decaying wood. Main habitats: woodland, lowland grassland Management: the reserve is owned and managed by The Royal Parks
Raeburn Open Space LNR	1km southeast	Raeburn Open Space is one of the few remaining relics of the Berrylands estates past agrarian use. Part of the site was previously temporary allotments. The site consists of rough grassland, tall herbs, overgrown hedgerows and young trees, along with a narrow belt of trees along the riverside and an area of amenity grassland. Eleven species of butterfly have been recorded as have a variety of bird species. The site is valuable as a strategic link between the Hogsmill River Park and the green corridor leading to The Wood and Richard Jeffries Bird Sanctuary.
Rose Walk LNR	1km southeast	No information on designation. Forms part of The Hogsmill River Park
Elmbridge Open Space LNR	1.2km southeast	No information on designation. Forms part of The Hogsmill River Park
Non-Statutory		
Kingston Cemetery SINC (Local importance)	20m south	Kingston Cemetery was opened in 1855 on what were previously the fields of Bonner Hill. Prior to this, all burials had taken place in Kingston Churchyard and the overflow site in Union Street. The latter has now become the Memorial Gardens. Kingston Cemetery lies between Kingston town centre and Norbiton, in an area of high-density housing. The Hogsmill River runs along its southern side, where there is a narrow strip of woodland. This area adjacent to the riverbank is rather scruffy, with litter and rubbish lying around, and the overgrown vegetation makes it difficult to reach the riverbank. It provides a variety of scrubby, tall herb and ruderal habitats, which is no doubt home to a range of wildlife. Just across the river is the Hogsmill Valley Sewage Works. The remainder of Kingston Cemetery consists largely of well-tended graves, but with a variety of localised habitat features. There are many pedunculate oaks (Quercus robur), mainly growing in lines, and some of which may predate the cemetery. These are likely to be of importance to the bats and birds that have been recorded from the area, as well as for invertebrates. The grassland is mostly closely cut, but retains some diversity, particularly to the east of the site, where red fescue (Festuca rubra) and red clover (Trifolium pratense) are found.

Site Name	Approximate Location	Description
Hogsmill River in Central Kingston SINC (Local importance)	300m southwest (at nearest point)	Upstream, the river in the town centre runs between vertical concrete banks, as it passes beneath various road bridges and between the buildings of the Guildhall complex. Downstream of the Clattern Bridge, on the north bank of the river, a fig tree (Ficus carica) has established a precarious hold through the concrete. Although the artificial nature of the banks through the town centre otherwise mostly precludes vegetation getting a roothold, there are places where gravely margins remain, such as upstream where the river passes over a weir. Beyond the weir, fennel pondweed (Potamogeton pectinatus) occurs. The banktop vegetation includes crack willow (Salix fragilis), ash (Fraxinus excelsior), and honeysuckle (Lonicera periclymenum) as well as naturalised species such as rosemary (Rosemarinus officinalis).
Hogsmill Valley Sewage Works and Hogsmill River SINC (Borough grade I importance)	300m south	This site includes part of an active sewage works and the adjacent length of the River Hogsmill, comprising several open lagoons and various connecting habitats consisting of mown grassland, scrub and tall herb stands. The River Hogsmill is mostly in an artificial channel but its wider corridor here is predominantly wooded, providing important seclusion for breeding and wintering birds. The former has included lapwing (Vanellus vanellus), redshank (Tringa tetanus), sand martin (Riparia riparia), grey wagtail (Motacilla cinerea), kingfisher (Alcedo atthis), water rail (Rallus aquaticus), reed bunting (Emberiza schoeniclus) and the nationally rare little ringed plover (Charadrius dubius). Large numbers of swifts (Apus apus), swallows (Hirundo rustica) and martins (Delichon urbicum) feed over the site in summer. Important wintering and passage species include teal (Ana crecca) and other wildfowl, common and jack snipes (Gallinago gallinago, Lymnocryptes minimus), and green and common sandpipers (Tringa ochropus, Actitis hypoleucos). There is also an important gull (Larus spp.) and cormorant (Phalacrocorax carbo) roost. The site is important for foraging bats and is one of the few known sites in the area supporting slow-worms (Anguis fragilis). The non-operational parts of the site are managed by Thames Water as a nature reserve.
Coombe Wood Golf Course SINC (Borough grade II importance)	900m northeast	This golf course has an important area of acid grassland, as well as scrub, woodland and some neutral grassland. Bents (Agrostis spp.) and fescues (Festuca spp.) characterise the relict acidic swards, together with sheep's sorrel (Rumex acetosella) and some bare and lichen-dominated gaps. More neutral grassland supports lady's bedstraw (Galium verum) and common bird's-foot-trefoil (Lotus corniculatus). Scrub contains both common gorse (Ulex europaeus) and broom (Cystisus scoparius), a reminder of the area's past as a common supporting heathland.

Biodiversity Action Plans

4.5 UK Biodiversity Action Plans (BAPs) have been developed which set priorities for nationally important habitats and species. To support the BAPs, Species/Habitat Statements (otherwise known as Species/Habitat Action Plans) were produced that provide an overview of the status of the species and set out the broad policies that can

be developed to conserve them. A list of priority species of conservation importance was also developed.

4.6 The UK BAP was succeeded in 2012 by the UK-Post 2012 Biodiversity Framework which informed the creation of the Biodiversity 2020 strategy; England's contribution towards the UK's commitments under the United Nations Convention of Biological Diversity.

4.7 Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the Habitats and Species of Principle Importance list (as required under section 41 of the Natural Environment and Rural Communities (NERC) Act).

4.8 Local Biodiversity Action Plans (LBAPs) ensure that national action plans (the UK BAP/Biodiversity 2020) are translated into effective action at the local level and establish targets and actions for locally characteristic species and habitats.

London BAP

4.9 The London BAP is divided into Species Action Plans (SAPs) and Habitat Action Plans (HAPs) focusing on species and habitats requiring conservation within the Greater London Area. Of particular note are:

- Bats SAP;
- House sparrow SAP;
- Stag beetle SAP;
- Parks and Urban Green Spaces HAP;
- Private Gardens HAP; and
- Built structures.

4.10 The Royal Borough of Kingston upon Thames does not have an operational BAP, therefore the London BAP applies in this instance.

Species Record

4.11 The information provided in the biological data search from GiGL identified records of a number of notable, protected and BAP priority species within 2km search radius of the site. Among others, these include the following species of relevance to the site:

- Reptiles including slow worm and grass snake (Natrix helvetica);
- Birds including swift, house martin, kestrel (Falco tinnunculus), swallow, herring gull (Larus argentatus), lesser black-backed gull (Larus fuscus), grey wagtail, spotted flycatcher (Muscicapa striata), house sparrow (Passer domesticus), dunnock (Prunella modularis), bullfinch (Pyrrhula pyrrhula), starling (Sturnus vulgaris) and song thrush (Turdus philomelos);
- West European hedgehog (Erinaceus europaeus);

- Bats including serotine (Eptesicus serotinus), Daubenton's (Myotis daubentonii), natterer's (Myotis nattereri), Leisler's (Nyctalus leisleri), noctule (Nyctalus noctula), Nathusius' pipistrelle (P. nathusii), soprano pipistrelle (P. pygmaeus), common pipistrelle (P. pipistrellus) and brown long-eared bat (Plecotus auritus);
- Stag beetle (Lucanus cervus); and
- Marbled white butterfly (Melanargia galathea).

4.12 The species listed above are primarily those known to be in the area that may be impacted by Proposed Development, or that stand to benefit as a consequence of potential ecological enhancements at the site and inform site-specific mitigation and enhancement recommendations described in the following chapter.

Detailed Description of Site: Habitats

4.13 The following is based upon information gathered during the ecological walkover surveys undertaken in June 2019. An update walkover of the site was also conducted in October 2020, given the time that had lapsed. The October 2020 survey concluded that there had been no significant change to the habitats on site or the ecological value assigned during the June 2019 surveys and that the recommendations and conclusions remained robust and valid.

4.14 The habitats presented across the assessment site consist of the following Joint Nature Conservation Committee (JNCC) Phase 1 Habitat categories, as mapped at Figure 1:

- Buildings/hardstanding (J3.6);
- Scattered trees (A1);
- Dense scrub (A2.1);
- Amenity grassland (J1.2); and
- Introduced shrub (J1.4).

4.15 The habitats presented across the assessment site consist of the following Joint Nature Conservation Committee (JNCC) Phase 1 Habitat categories, as mapped at Figure 1:

Target Notes

4.16 Target notes have been used to illustrate and describe ecological features of the site and provide more detail on the above habitat classifications. Target note locations are shown of Figure 1.

Target Note 1

4.17 Target note 1 describes the two-storey terraced house units. These are of brick construction with pitched tile roofs and hanging clay tile facias. Each unit also has a flat

roof garage. These are relatively uniform across the site with numerous broken, missing or raised hanging tiles.

Target Note 2

4.18 Target note 2 describes the hardstanding across the site. Sealed surfaces across the site are varied, including asphalt roads, paving slabs, hard-surfaced play areas and carparks. Much of the hardstanding has under-croft parking beneath it which was not accessible during the survey.

4.19 Mortar and cracks in hardstanding has allowed some early colonising/ruderal plants to establish including willowherb (Epilobium sp.), Canadian fleabane (Erigeron canadensis), ornamental Euphorbia sp., knotgrass (Polygonum aviculare), chickweed (Stellaria media), dandelions (Taraxacum spp.), smooth sow-thistle (Sonchus oleraceus), black medick (Medicago lupulina), greater plantain (Plantago major), wall rocket (Diplotaxis tenuifolia), green alkanet (Pentaglottis sempervirens) and fat hen (Chenopodium album). These occur sporadically and inconsistently across the site.

Target Note 3

4.20 Target note 3 describes the amenity grassland across the site. This is present in a large park area to the north of site, roadside verges, play areas and gardens. This is all mown to a uniform low level across the site. Areas of heavy pedestrian use show erosion and bare ground. Species present include wall barley (Hordeum murinum), ryegrass (Lolium perenne), smooth sow-thistle, bristly oxtongue (Helminthotheca echioides), common daisy (Bellis perennis), dandelions, shepherd's purse (Capsella bursa-pastoris), chickweed, yarrow (Achillea millefolium), Geranium spp., creeping buttercup (Ranunculus repens), ribwort plantain (Plantago lanceolata) and birds-foot trefoil (Lotus corniculatus).

Target Note 4

4.21 Target note 4 describes the introduced shrub habitat across the site. This has been used to describe the gardens across the site which are not turfed over. As such, there is much variation across the site in the species composition of this habitat, particularly owing to the different uses of the spaces and non-native ornamental species present.

4.22 Species recorded include bramble (Rubus fructicosus agg.), mugwort (Artemesia vulgaris), variegated hollies (Ilex aquifolium), Dracaena trees, Clematis spp., Geranium spp., common mallow (Malva neglecta), poppies (Papaver spp.), ornamental bamboos (Bambusoidaea spp.), roses (Rosa spp.), New Zealand flax (Phormium tenax), broad-leaved sweet pea (Lathyrus latifolius), cherry laurel (Prunus laurocerasus), cabbage (Brassica oleracea), beetroot (Beta vulgaris), Lady's mantle (Alchemilla vulgaris), lilac (Syringa sp.), Japanese maple (Acer palmatum), star jasmine (Trachelospermum

jasminoides), lavender (Lavandula angustifolia), rosemary (Rosmarinus officinalis) and white stonecrop (Sedum album).

Target Note 5

4.23 Target note 5 describes a small patch of dense scrub habitat towards the east of the site. It is composed of bramble, sycamore (Acer pseudoplatanus) saplings, old man's beard (Clematis vitalba), firethorn (Pyracantha sp.) and creeping thistle (Cirsium arvense). There is a potential fox den present within this patch of scrub.

Target Note 6

4.24 Target note 6 describes the scattered trees across the site. Species include London plane (Platanus x hispanica), sycamore (Acer pseudoplatanus), lime (Tilia x europaea), birch (Betula pendula), Lawson cypress (Chamaecyparis lawsoniana), cherry (Prunus avium), beech (Fagus sylvatica), false acacia (Robina pseudoacacia), elder (Sambucus nigra), Corsican pine (Pinus nigra), whitebeam (Sorbus aria), hawthorn (Crataegus monogyna), goat willow (Salix caprea), weeping willow (Salix x chrysocoma), horse chestnut (Aeseculus hippocastanum), hybrid black poplar (Populus serotine) rowan (Sorbus aucuparia), tree-of-heaven (Ailanthus altissima), oak (Quercus robur), common alder (Alnus glutinosa), Norway maple (Acer platanoides) and an unidentified palm.

4.25 There is significant variation between the quality and value of the trees across the site. Further detail on the trees across site can be found in the stand alone Arboricultural Assessment.

Detailed description of Site: Species

Badger

4.26 Badgers have not been recorded within 2km of the site since 2012. Additionally, habitats present on the Cambridge Road Estate offer a poor foraging resource and the site is poorly connected to other habitats and sites of value. Therefore, it is considered highly unlikely that badgers would use the site.

4.27 No evidence of badgers was recorded during the site visit. Accordingly, the site is considered to have negligible potential to support badgers.

Bats

Foraging and Commuting

4.28 High levels of external street lighting are present on site, which is likely to deter the majority of bat species from using the site. Additionally, habitats on the site are common and widespread in the area and are likely to be of limited value for foraging bats. Additionally, habitats adjacent the site and in the wider landscape are more likely to

attract foraging bats present in the area, including the cemetery and Hogsmill River just south of the site.

4.29 However, the varied nature of the introduced shrub habitat means certain areas are likely to attract invertebrate prey for foraging bats. Additionally, alleys and tree lines on site provide linear landscape features which may be of benefit for navigating bats. As such, the site is considered to have low potential to support foraging bats.

Roosting

4.30 Features with the potential to support roosting bats were recorded across the site. The most common and notable features are hanging clay tiles on the two-storey terraced houses. Across the site there are multiple properties with broken, missing or raised hanging tiles, which could provide crevices and access to small cavities behind tiles, potentially of value to Pipistrelle spp.. Other potential roosting features recorded include:

- A hole in a soffit box of a two-storey buildings off Cambridge Grove Road;
- Missing/broken bricks on the four-storey blocks off Burritt Road;
- Lifted pitched roof/ridge tiles on three-storey units of Cambridge Grove Road;
- Gaps leading into an underground storage/parking area;
- Lifted ridge tile on the more recently constructed units on Willingham Way; and
- Lifted wooden cladding on Piper Hall.

4.31 The underground parking/storage areas were not inspected internally, therefore the presence of potential roosting features within these areas could not be assessed. Therefore, they were considered to have potential to support roosting bats as a precaution.

4.32 Whilst the roosting features are of low suitability and generally confined to small numbers per building, owing to the total number of potential roosting features, the site as a whole was considered to have moderate potential to support roosting bats.

Great Crested Newt

4.33 There are two records for GCN within 2km of the site, however both of which are >700m away. There are no suitable breeding ponds on the site, or within 500m and terrestrial habitat on the site itself is of negligible value for GCN, owing to a lack of structure, cover and potential refugia. Accordingly, the site is considered to have negligible potential to support GCN.

Reptiles

4.34 There are biological records for slow worm within 1.2km of the site and records for grass snake within 400m of the site. It is considered likely that these records are associated with the cemetery and Hogsmill River/sewage treatment works to the south.

4.35 Terrestrial habitat on site is of limited value for reptiles, with all grass areas mown very close to ground level and regularly maintained. Additionally, the private gardens are limited in extent and disconnected, limiting the likelihood of suitability for reptile populations. As such, the site is considered to have negligible potential to support reptiles.

Dormouse

4.36 There is no suitable habitat on site to support dormice.

Water Vole and Otter

4.37 There is no suitable habitat on site to support water voles and otters.

Birds

4.38 Foraging habitat on site is limited to the introduced shrub habitat within residential gardens and berry trees across the site and the large areas of amenity grassland. However, these habitats are common, widespread and not likely to be of value at beyond site level.

4.39 Nesting opportunities on site are found within trees across the site, atop the flat roofs of the tower blocks and within the small patch of scrub habitat (see target note 5). Additionally, some of the missing hanging clay tiles were being used by nesting house sparrow.

4.40 During the site survey, the following species were recorded:

- House sparrow;
- Ring-necked parakeet (Psittacula krameria);
- Jackdaw (Corvus monedula);
- Carrion crow (Corvus corone);
- Blue tit (Cyanistes caeruleus);
- Feral pigeon (Columba livia domestica);
- Wood pigeon (Columba palumbus);
- Blackbird (Turdus merula); and
- Robin (Erithacus rubecula).

4.41 During the site visit, it was observed that the tower blocks were being used as perches by large numbers of jackdaw. The cemetery appears to support a large flock of jackdaws which frequently use the site.

4.42 Overall the site has confirmed presence of nesting house sparrow and high potential to support other nesting/foraging birds.

Invertebrates

4.43 The site is located within 2km of a significant stag beetle population, and there are biological records of stag beetle within 100m of the site. Despite moderate levels of tree cover across the site, there is no woodland habitat and very little deadwood to provide a resource for stag beetle larvae.

4.44 Records for notable lepidoptera and other pollinators are scarce, and those recorded within 2km of the site are unlikely to be found on habitats present within the site itself. However, this does not confirm their absence and the gardens across site are likely to provide a nectar/pollen source for pollinators despite being common and widespread habitats in the immediate locale.

4.45 The site is considered to have low potential to support invertebrates.

Protected Plant Species

4.46 No protected plant species were recorded on the site visit.

Invasive/Non-native species

4.47 No invasive/non-native species listed on Schedule 9 of the Wildlife and Countryside Act (as amended) 1981 were recorded on the site. However, a stand of Japanese knotweed (Fallopia japonica) was identified <200m southeast of the site.

4.48 A number of species listed on the London Invasive Species Initiative's (LISI) Species of Concern lists were recorded during the site visit, notably tree-of-heaven (Ailanthus altissima), Buddleja davidii and cherry laurel.

Other BAP Species

4.49 There are numerous records of hedgehog within 1km of the site, and the gardens may provide suitable foraging habitat. However, the gardens are isolated from each other, limited the extent of suitable habitat. The site is considered to have low potential to support hedgehog.

Fox

4.50 A potential fox (Vulpes vulpes) earth was identified in the small patch of scrub to the east of the site. It is considered highly likely that foxes forage on the site owing to its suburban setting and external bin stores.

5.0 EVALUATION AND DISCUSSION

BASELINE SUMMARY

5.1 The assessment site and its surroundings have potential to support the following ecological receptors of note, which could therefore be impacted upon by the Proposed Development, as indicated in Table 5.1 below. Comment on further recommendations for each receptor is provided; further detail and discussion can be found at paragraph 5.2 onward:

Table 5.1 Baseline Summary

Receptor	Presence/Potential Presence	Comments
Designated Sites: Statutory	Nearest is 1km from site	No construction phase impacts are predicted owing to the distance from the site and presence of significant physical barriers. It is important to note that any future development will be phased and undertaken on individual plots. Operational phase impacts could potentially arise associated with the increased local population and footfall within statutory designated sites. This is mitigated by the inclusion of external recreational areas within the site itself, and the high levels of outdoor recreation areas present in the area.
Designated Sites: Non-Statutory	Present within 20m of the site	The closest non-statutory designation is Kingston Cemetery SINC. All other SINCs are >300m from site and are unlikely to be adversely affected by construction phase impacts. As the development is to occur in a phased approach within an already highly urbanised area, it is considered unlikely that the Proposed Development will arise in significant adverse impacts upon Kingston Cemetery SINC during construction phase. A Construction Environment Management Plan (CEMP) should be produced to detail mitigation relating to construction phase impacts upon Kingston Cemetery SINC.
Foraging bats	Low potential	The Proposed Development has the potential to impact foraging bats during the construction phase through the loss of foraging habitat. As such, compensatory planting and a bat sensitive lighting strategy are recommended. Further surveys are recommended to determine the value of the site for foraging bats and the results of these surveys should be used to further inform mitigation and enhancement measures

Receptor	Presence/Potential Presence	Comments
Roosting bats	Moderate potential	The Proposed Development includes the demolition of all buildings present across the site. This has the potential to permanently destroy bat roosts and injure or kill bats, should roosts be found to be present. As such, emergence/re-entry surveys are recommended to confirm the presence/likely absence of roosting bats and to assess likely impacts associated with the development. This will allow the identification of suitable mitigation and enhancement for roosting bats and further inform any proposed mitigation and enhancement measures.
Birds	Confirmed present	Demolition of buildings, general site clearance and the removal of some trees has the potential to destroy active bird nests, remove existing suitable perching habitat, in particular for jackdaws, and remove/reduce the availability of forging habitat. Timing vegetation clearance and/or demolition works outside of nesting season, where possible, is recommended to avoid impacts to nesting birds. Where this is not possible, any potentially suitable nesting habitat should be checked for the presence of active nests prior to any clearance work being undertaken. Perching habitat will be replaced through the development of new residential buildings on the site and the extensive landscaping proposed across the site as part of the future development will more than adequately mitigate the loss of bird foraging habitat. In addition to the above, a CEMP should be produced for each phase of the development which details measures that will be put in place to minimise and mitigate any potential impact from increased noise, dust and other emissions on the ecological receptors on site and in the wider surrounding area, including the population of jackdaw in the adjacent Kingston Cemetery.

Receptor	Presence/Potential Presence	Comments
Invertebrates	Low potential	Vegetation clearance on site at the start of each individual plot will remove habitat that has value, albeit relatively low value, for notable invertebrate, in particular stag beetle. However, the Proposed Development includes extensive landscaping including multiple biodiversity focused living roof and invertebrate enhancement features including dead wood habitat. Therefore, any impact from site clearance will be more than adequately mitigated through the creation of significantly better habitat post development. As the development will be delivered in individual plots over multiple phases, there will always be habitat suitable for notable invertebrate available on site.
Invasive/Non-native species	Confirmed present	Japanese knotweed is not present on site. However, it is present within 200m of the site, therefore it is recommended that the CEMP includes details on biosecurity measures that should be adhered to during construction phases to prevent the spread of Japanese knotweed. Three LISI species of concern (category 3) were identified within the site. These should be removed during site clearance and disposed of appropriately.
Other BAP species	Low potential	The site has low potential to support hedgehog. Hedgehogs could be impacted during site clearance. A destructive hand search of potentially suitable hedgehog refugia should be undertaken by an ecologist prior to clearance of introduced shrub habitat.
Fox	High potential	Whilst foxes are not protected under any biodiversity conservation legislation, the Wild Mammals (Protection) Act 1996 makes it an offense to crush or asphyxiate any wild mammal. As there is a potential fox earth on site, it should be confirmed that there are no foxes within the earth that could be subject to crushing during site clearance.

DISCUSSION AND RECOMMENDATIONS

5.2 Discussion is provided below on the key ecological receptors that stand to be impacted/benefit from proposed works; high level commentary on appropriate mitigation, compensation and enhancement actions is also provided.

5.3 In addition to the survey elements mentioned above, it is recommended that a high level, overarching Ecological Mitigation Plan is prepared for the site. The site wide EMP would detail the high-level ecological mitigation and enhancement measures to be

implemented on site as part of the development. Individual Plot/Phase EMPs could then be produced with specific detail for that plot/phase using the high-level information from the site wide EMP. This approach would allow for a consistent approach to ecological mitigation and enhancement across the site, ensuring the measures implemented work both at the individual plot/phase level and at the wider site level.

Designated sites

Statutory

5.4 There are no predicted impacts during site preparation/construction owing to the distance from the site and presence of physical barriers.

5.5 Potential operational impacts are limited to increased footfall. This is not considered a significant impact. The proposed development site is already residential in nature; therefore, the local population will not increase significantly. The Proposed Development includes provision of outdoor amenity areas within the site itself. Additionally, there is a strong provision of outdoor recreational spaces within the vicinity of the site, spreading footfall. Finally, all statutory designated sites within 2km, particularly Richmond Park and Bushy Park, are already subjected to very high visitation levels and subsequent disturbance with the management measures implemented at each of the site taking into consideration the recreational value these sites provide. The proposed redevelopment of Cambridge Road Estate is not expected to increase this disturbance significantly.

Non-Statutory

5.6 The only non-statutory designated site which may stand to be impacted during site preparation/construction is Kingston Cemetery SINC, which is a site of local importance. Impacts upon the SINC are considered highly unlikely owing to the phased approach to the Proposed Development and the location of the site in an urbanised area. Production of a CEMP is recommended to detail measures to minimise construction phase impacts.

5.7 See paragraph 5.6 relating to operational impacts.

Bats

Foraging

5.8 Before an assessment of impacts upon foraging bats can be undertaken, bat activity surveys should be undertaken to understand the ways in which bats use the site, both spatially and temporally. Bat activity surveys consisting of walked transect routes and extended periods of monitoring with static bat detectors are recommended. Owing to the site being of 'low' value for foraging bats, this should consist of a walked transect in summer (August 2019), Autumn (September/October 2019) and Spring (April/May

2020). Additionally, once per season a one-week period of monitoring using static bat detectors should be undertaken.

5.9 General recommendations for mitigation and enhancement for bats and prior to these surveys being undertaken include provision of compensatory foraging habitat through soft-landscaping proposals, biodiverse roof provision and implementation of a bat-sensitive lighting strategy during construction and occupancy. The lighting strategy should reflect best practice guidance published by the Bat Conservation Trust and Institute of Lighting Professionals (2018)[7]. This should include:

- Directional lighting, controlling light spill particularly on semi-natural habitats post-development. Use of lighting hoods and minimising the height of lighting columns on external lights will contribute to this. Recessing internal ceiling lights into the ceiling would also support this;
- Use of appropriate luminescence for the uses of the areas;
- Implementation of lighting controls to prevent illumination when not required;
- Use of 'warm white' spectrum lighting (<2700K); and
- Peak wavelengths should not be higher than 550nm to reduce the light component most harmful to bats.

Roosting

5.10 Should they be present on site, roosting bats stand to be impacted during site clearance. As such, emergence/re-entry surveys should be undertaken to confirm the presence/likely absence of roosting bats from site. As the site is considered to have moderate potential to support roosting bats, two emergence/re-entry surveys are recommended for each potential roosting feature identified.

5.11 Results from emergence/re-entry surveys will inform the level of mitigation, compensation and enhancement required for roosting bats.

Birds

5.12 Potential impacts upon birds exist, through destruction of nests and loss of foraging/perching habitat.

5.13 To avoid destroying nests which are in use, it is recommended that site clearance for each phase commences outside of the breeding bird season (taken to run from March-August inclusive). Areas can only be cleared when nesting birds are confirmed as absent. Where this is not possible, areas of suitable nesting habitat for birds should be checked for the presence of active nests by a suitably qualified ecologist immediately prior to them being cleared. Should an active bird nest be present the suitably qualified ecologist should advise accordingly.

5.14 Throughout site preparation and construction, much of the site will remain as existing for use by birds. As the development is to be phased, nesting, perching and foraging opportunities will be retained in the areas of the site where works have yet to commence/where works are finished. Furthermore, 66% of the trees existing on site will be retained including all of the Category A trees and more than 70% of the Category B trees.

5.15 A CEMP should be produced to detail measures to mitigate construction phase impacts. This will be sufficient to mitigate impacts upon jackdaws using the site.

5.16 Each development phase should provide compensatory nesting and foraging habitats through incorporation of nest boxes suitable for species known to be nesting at site pre-development (house sparrows) and through provision of soft-landscaping and biodiverse roofs.

5.17 As house sparrows are known to be nesting on site and are subject to a London SAP, the Proposed Development should align with the objectives of the SAP. Specifically, Action 2.5 of the SAP is to:

"Promote the involvement of the public in constructing a large number of sparrow nest boxes in London through establishing 'sparrow champions' in London boroughs."

Invasive/Non-native species

5.18 The CEMP, which should be secured through planning condition, should include biosecurity measures to prevent the spread of invasive species onto the site.

5.19 Site clearance should include the removal of tree-of-heaven, cherry laurel and Buddleja davidii where possible.

5.20 Any soft landscaping associated with the Proposed Development should incorporate native species of known wildlife value. Species from the LISI Species of Concern list should be avoided.

BAP Species

5.21 During site clearance of habitat with potential to support hedgehog (introduced shrub/scrub), contractors should watch for hedgehog. Should a hedgehog be discovered, works should cease until the individual has been moved to a suitable area of habitat that is not predicted to be impacted by the current phase of the development.

5.22 Hard and soft landscaping should be designed with hedgehog in mind. Specifically, soft-landscaped areas should be connected within the site, and to potential habitat outside of the development site boundary. Fences should have holes cut at the bottom to facilitate hedgehog movement across the site.

Fox

5.23 Subsequent PEAs for each phase will include an active search for fox earths/dens. Should any fox earths/dens be identified during site clearance of any phase, these should be excavated by hand to prevent injury to foxes.

Ecological Enhancement

5.24 In order to comply with emerging planning policy and best practice guidance, ecological enhancements of the site are required to demonstrate biodiversity net gain (BNG) on-site where possible. This must take the form of area-based habitat creation, creation of linear habitat and integrated urban green infrastructure solutions. Specifically:

- All suitable flat roof areas should incorporate extensive, substrate-based biodiverse roofs, where possible. These should be seeded, and plug planted with suitable species mixes on a low-nutrient substrate. This should also be installed under PV arrays on roof areas set aside for energy generation as integrated bio-solar solutions exist;
- Further enhancement of biodiverse roofs should include provision of log-piles to provide a food source for stag beetle larvae. Sandy piles, rock piles and water trays should also be incorporated to provide nesting opportunities for aculeate hymenoptera and further habitat diversity;
- Recreational areas where amenity grassland would typically be incorporated should feature wildflower turf to improve the floral diversity of these areas; and
- Diverse, native tree-planting should be included across the site taking into account the wider ecosystem services benefits of trees utilising best practice guidance[8].

5.25 In addition to the above measures to deliver BNG and the compensation outlined for protected species above, additional bird and bat boxes for suitable species known to be present should be incorporated into the built form of new buildings across the site.

5.26 Demonstration of delivery of BNG is provided in a standalone report (ref: 551291dpNov19FV02_BIA). The measures to deliver BNG should be secured through planning condition.

6.0 SUMMARY & CONCLUSION

6.1 Greengage was commissioned by Cambridge Road (RBK) LLP to undertake a Preliminary Ecological Appraisal of the Cambridge Road Estate in order to establish the ecological value of this site and its potential to support notable and/or legally protected species.

6.2 The site is dominated by common and widespread habitats with limited ecological value. Where the PEA identified value for a number of notable and protected species and habitats, key mitigation, compensation and enhancement actions have been outlined to enable legislative and policy compliance (see context at Appendix 2) and to ensure protection and habitat enhancement within the completed development. Additionally, the key mitigation, compensation and enhancement actions aim to achieve net gains in biodiversity for the site. A separate report evidencing BNG has been produced (ref: 551291dpNov19FV02_BIA).

6.3 Key actions should be included within EMP and CEMP documents for the site which could be secured through planning condition.

FIGURE 1 SITE PLAN AND HABITAT MAP