

234 SOUTHCOTE LANE, READING, BERKSHIRE

PRELIMINARY ECOLOGICAL APPRAISAL

Final Document

March 2024

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

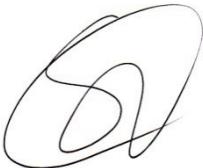
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The Preliminary Ecological Appraisal has been undertaken with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). This report has been produced in accordance with the CIEEM Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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Appendix 4 Baseline Habitats

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Gleeds to undertake a Preliminary Ecological Appraisal of 234 Southcote Lane, Reading. The purpose of the appraisal is to assess the site's ecological baseline and identify constraints and opportunities associated with development at the site, to inform a future planning application. The site is located on the outskirts of Reading and comprises a large building surrounded by areas of hardstanding associated with access and parking. Detailed proposals are not currently known but the development will entail the demolition of the existing building to construct housing and apartment units for a residential scheme in association with Reading Borough Council.

The main findings of the Preliminary Ecological Appraisal are:

- The site comprises a large building surrounded by areas of hardstanding associated with access and parking. Areas of modified grassland with associated scrub and scattered trees, introduced shrub and a line of trees are also present within the site boundary. The site has been assessed to be of moderate suitability for roosting bats in buildings and trees, and suitable for foraging and commuting bats, breeding birds, reptiles, and European hedgehog.
- Further surveys are required to determine the status of bats within the site, and once completed further mitigation and compensation measures for bats can be recommended. A Biodiversity Net Gain assessment is required to be prepared in conjunction with the application to ensure the proposals deliver a minimum of 10% net gain in biodiversity.
- Recommendations for the implementation of a sensitive lighting strategy, new native species planting, and sensitively timed works in relation to breeding birds and reptiles have been provided. Opportunities for enhancement have also been recommended including additional planting and the provision of bat and bird boxes.
- As further surveys are required, it is not possible at this stage to confirm that the proposals for the site meet the relevant legislation and planning policy, however it is considered that on completion of the further surveys there is scope to achieve this. If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Gleeds to undertake a Preliminary Ecological Appraisal to identify the ecological constraints and opportunities associated with the redevelopment of 234 Southcote Lane, Reading, Berkshire RG30 3BA (hereafter referred to as the site).

1.2 The Site

The site is located in Reading, Berkshire centred on National Grid Reference (NGR) SU 6877 7188 (**Map 1**).

The site is approximately 0.18 hectares in area and mainly comprises a large central building surrounded by areas of hardstanding associated with access and parking as well as areas of greenspace.

The surrounds largely comprise residential dwellings with associated gardens and road networks in all directions. Areas of communal greenspace also lie to the north and north-east, including sports grounds, allotment plots and Prospect Park, the latter of which is separated from the site by the A4 Bath Road to the north.

The wider landscape comprises further residential dwellings to the north, interspersed with blocks of woodland and a railway line to the east and south. Beyond the railway line to the south lies a substantial expanse of wetland, with its large waterbodies, bisected by the River Kennet and Holly Brook. Further west of the site lies Calcot Park golf course with managed grassland, trees and ponds.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study carried out during January and February 2024. The objectives of the appraisal are:

- To provide preliminary baseline information on the current habitats, the suitability of the site to support notable and protected species, and evidence of notable and protected species both on site and in the immediate vicinity of the site, where relevant;
- To identify the proximity of any statutory and non-statutory sites designated for nature conservation importance;
- To identify the likely ecological constraints associated with the proposals;

- To identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'¹;
- To identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and
- To identify the opportunities offered by the proposals to deliver ecological enhancements.

1.4 Site Proposals

We understand that the proposals comprise the demolition of the existing building to construct housing and apartment units for a residential scheme in association with Reading Borough Council.

It is understood that the detailed proposals for the site, including the proposed layout and any lighting schemes, are currently not available and are still being finalised at this stage.

It is anticipated that planning permission will be sought by the end of 2024 with construction commencing soon after permission has been granted.

¹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and 'Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Reading Borough Council administrative area. This information is then used to make necessary make recommendations for mitigation and enhancements in order to ensure any future planning application accords with relevant planning policy.

2.2 Planning Policy

2.2.1 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in December 2023. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 188 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 180 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 186, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats², including ancient woodland³. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly

² The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*"

³ Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

exceptional reasons and an adequate compensation strategy is in place. Paragraph 186 also states *“development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*. Paragraph 187 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.2.2 Local Policy

A new Reading Borough Council Local Plan was adopted on 4th November 2019 and sets out planning policies for development in Reading up to 2036. Two policies make specific reference to ecology and biodiversity:

- **EN12: Biodiversity and the Green Network**

This policy refers to the protection and enhancement of the biodiversity value of the Reading Borough Green Network, comprising statutory designated sites for nature conservation, the River Thames and its tributaries as well as any retained or newly created green space which may expand or link into the Green Network.

Reference is also made to the required maintenance and net gain in the biodiversity value of a site proposed for development. Where biodiversity loss cannot be avoided, mitigated or compensated for on site, off-site provisions should be factored into the development proposals following nationally recognised guidance. The provision of additional ecological enhancements, such as newly planted trees, wildlife ponds and bat boxes, should also be clearly laid out in any development proposals, wherever practicable.

- **EN14: Trees, Hedges and Woodlands**

This policy refers to the protection and increase of the quality and area of important trees, hedgerows, woodlands and waterside vegetation within the borough of Reading. The designs of new development proposals will consider this at all

stages, ensuring the planting and maintenance of these habitats and utilising off-site provisions where required. The success of this policy will ensure the retention and enhancement of the character and biodiversity value of the borough.

Reading's Biodiversity Action Plan was adopted in February 2021 and sets out several 'Themes for Action', one of which makes specific reference to the ecological impacts of planning and development:

- **C: Planning & Building Control**

This 'Theme for Action' refers to the requirement of the Reading Borough Council to continue assessing planning applications for their impact on protected and notable species and habitats. Reference is also made to the provision of additional documents as part of planning applications to set out an approach to achieving measurable biodiversity net gain in line with the council's approach, and for ongoing development projects to continue to provide and monitor the success of required ecological enhancement provisions.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Preliminary Ecological Appraisal. Any significant limitations to the survey methods are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this appraisal (Zone of Influence⁴), the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected. The appropriate survey radii for the various elements of the appraisal (i.e. desktop study and field survey) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to appraisal, its surroundings and the nature and scope of the proposals (if known when the appraisal was undertaken). Determination of the Zone of Influence is an iterative process and will be regularly reviewed and amended as the project evolves.

3.3 Scoping

Protected species considered within this appraisal are those species/species groups considered likely to be encountered given the geographical location and context of the site. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the potential ecological constraints and mitigation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

BRC (TVERC) was consulted on 23rd January for the following data:

- Records of non-statutory designated sites comprising Local Wildlife Sites (LWS) and Biodiversity Opportunity Areas within one kilometre of the site boundary; and
- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and as listed in the England Biodiversity List (**Appendix 1**); and

⁴ The Zone of Influence, as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities.

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2023) was reviewed on 8th February 2024 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

3.5 Field Survey

The field survey followed UK Habitat Classification (UKHab) methodology (The UK Habitat Classification Working Group, 2018) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas

of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**), photographs and target notes provided, where relevant.

The UKHab Survey Application, developed using the digital survey platform Coreo was used to map habitats in the field, collect the field survey data and photograph the site.

3.5.1 UKHab Survey

An assessment was made of all habitats within the site, which were classified based on the standardised UKHab survey methodology (CIEEM, 2017). The UKHab classification system comprises two major parts, a hierarchical Primary Habitat system and a list of Secondary Codes. The classification of Primary Habitats is hierarchical with five levels:

Level 1: Major ecosystem, currently covering terrestrial, freshwater and coastal ecosystems.

Level 2: Nine ecosystem types, based upon the Mapping and Assessment of Ecosystems and their Services (MAES) typology and corresponding with major habitat types within the European Nature Information System (EUNIS) habitat classification.

Level 3: 20 broad habitat types, corresponding directly with UK Biodiversity Action Plan Broad Habitats and closely to EUNIS.

Level 4: 80 habitats, including 47 UK Biodiversity Action Plan Priority Habitats, and further splits of Level 3 habitats.

Level 5: 104 habitats, including 69 Habitats Directive Annex 1 habitats and further splits of Level 4 habitats.

It should be noted that not all habitats will be classified to Level 5, for example modified grassland is classified at Level 3 and no Level 4 or Level 5 habitat is applicable. In addition, where Level 4 or 5 habitats are considered to be present on site there may be a requirement for further surveys by a specialist botanist to confirm or classify these habitat types.

During the field survey notes and photographs were taken in order to evidence the surveyor's classification of each habitat type.

Any invasive species⁵ encountered as an incidental result of the survey were recorded.

⁵ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.5.2 Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. The following species/species groups were considered during the appraisal.

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of Potential Roosting Features (hereafter abbreviated to PRFs) such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the suitability of the site to support roosting, foraging and commuting bats is based on a four-point scale as detailed in **Appendix 2**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved an assessment of the suitability of the site to support badger. Evidence of the species was recorded as an incidental result of the field survey and included locating badger setts, paths, and signs of territorial activity such as latrine sites.

Hazel Dormouse

The appraisal for the suitability of the site to support hazel dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the suitability of the site for hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the suitability for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the suitability of the site to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied

woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England Biodiversity List, and Local Biodiversity Action Plan (LBAP) species⁶, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.6 Field Survey Details

The field survey was carried out by Hugh Turner, Principal Ecologist of ECOSA (Natural England Bat Licence No. 2020-50816-CLS-CLS) and Joseph Hunt, Ecologist of ECOSA on 24th January 2024. The weather conditions were dry with approximately 80% cloud cover, an ambient temperature of 10°C and a light breeze.

During the survey, the surveyor was equipped with a high powered torch and a digital camera.

3.7 Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

⁶ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Introduction

This section details the results of the Preliminary Ecological Appraisal undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the ecological features recorded during the field survey.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. The nearest statutory designated site of nature conservation interest is Lousehill Copse Local Nature Reserve located approximately 1.1 kilometres north of the site.

4.2.2 Non-statutory Designated Sites

There are nine non-statutory designated sites of nature conservation importance situated within a one kilometre radius of the site. These are:

- Holly Brook (LWS) - Located approximately 380 metres south of the site and designated for supporting notable wetland habitats, invertebrate species and water vole.
- Prospect park (LWS) - Located approximately 430 metres north of the site and designated for supporting lowland mixed deciduous woodland, lowland wood pasture and notable species including stag beetle, grass snake *Natrix helvetica*, and noctule bat *Nyctalus noctula*.
- Kennet Valley East (Biodiversity Opportunity Area) - Located approximately 480 metres south of the site and designated for supporting the most extensive areas of reedbed habitat in Berkshire, wet woodland and lowland meadow habitat.
- Fobney and Kennet Valley Meadows (LWS) - Located approximately 480 metres south of the site and designated for supporting wetland and aquatic species including river water dropwort *Oenanthe fluviatilis*, fennel pondweed *Potamogeton pectinatus* and spiked water milfoil *Myriophyllum spicatum*.
- River Kennet (LWS) - Located approximately 790 metres south of the site and designated for supporting botanically rich riverine habitat and a wide range of notable species including rich invertebrate assemblages and water vole.

- Prospect College (LWS) - Located approximately 890 metres north-west of the site and designated for supporting grassland, woodland and scrub habitats important for invertebrates.
- Burghfield Gravel Pits (LWS) - Located approximately 940 metres south of the site and designated for supporting well-developed wooded areas that attracts wildfowl and other birds including Wildlife and Countryside Act Schedule 1 species.
- Meadway Fringe (LWS) - Located approximately 970m north west of the site and designated for supporting lowland mixed deciduous woodland and ancient woodland indicator species including field maple, wood anemone and wood speedwell.
- West Reading Woodlands (Biodiversity Opportunity Area) - Located approximately 970m north west of the site and designated for supporting lowland mixed deciduous woodland.

Further information on sites designated for nature conservation are provided in **Appendix 3**.

4.2.3 Summary

All non-statutory designated sites for nature conservation interest are of particular importance for nature conservation within Berkshire and are therefore of county value.

4.3 Habitats

4.3.1 Desktop Study Results

A review of the MAGIC database did not reveal the presence of any Habitats of Principal Importance within or adjacent to the site. A number of Habitats of Principal Importance were returned within a one kilometre search radius of the site, these include deciduous woodland, wood pasture and parkland, and coastal and floodplain grazing marsh and are mostly associated with non-statutory designated sites described in Paragraph 4.2.2.

Consultation with TVERC produced records of a number of notable plant species within one kilometre of the site boundary. These include English bluebell *Hyacinthoides non-scripta*, common valerian *Valeriana officinalis*, crosswort *Cruciata laevipes*, goldenrod *Solidago virgaurea*, quaking grass *Briza media* and wood-sorrel *Oxalis acetosella*.

4.3.2 **Field Survey Results**

Habitats within the site are shown on the Baseline Habitat Map (**Map 2**) and details of how each habitat has been classified based on the UKHab five-level hierarchical system, with relevant secondary codes, are provided in **Appendix 4**. Habitats are described in general terms using standard UKHab terminology. The main habitats recorded on site during the field survey were as follows:

Modified grassland (g4)

The areas of green space associated with the site are dominated by modified grassland habitat and largely bound the main central building. The areas of modified grassland to the east and south of the building show signs of active, regular management by mowing with its short sward height (**Figure 1**). There are also scattered trees present in these areas (**Figure 2**). The area of modified grassland to the north of the main building has a much more tussocky structure with little to no signs of active management (**Figure 3**). This area also contains patches of scattered scrub, dominated by bramble *Rubus fruticosus* (**Figure 4**) and butterfly bush *Buddleia davidii*, with these patches showing signs of past management by cutting (**Figure 5**). The areas of modified grassland within the site are dominated by grass species such as Yorkshire fog *Holcus lanatus* and perennial rye grass *Lolium perenne*.



Figure 1: Area of modified grassland showing signs of active management, located to the south-east of the building.



Figure 2: Scattered tree within modified grassland habitat.



Figure 3: Area of tussocky modified grassland to the north of the building showing signs of a lack of management.



Figure 4: Patch of bramble scrub.



Figure 5: Patch of scrub dominated by butterfly bush, showing signs of past management.

Developed land – sealed surface (u1b)

Areas of tarmac hardstanding associated with access and parking for the building divide up the areas of green space within the site, with the largest area located adjacent to the south-west boundary (**Figure 6**). Areas of ephemeral/ruderal grass and scattered grass interspersed with introduced, ornamental shrubs from the boundaries of this

larger area of hardstanding (**Figure 7**). There is also a raised flower bed of mortared brick construction present just to the south of the main building (**Figure 8**).



Figure 6: Larger area of tarmac hardstanding with boundary scattered grass.



Figure 7: Introduced, ornamental shrubs within area of scattered grass bordering hardstanding.



Figure 8: Raised flower bed.

Buildings (u1b5)

The site area is dominated by a large, single-storey former building which is currently in a state of disuse (**Figure 9**, **Figure 10** and **Figure 11**).



Figure 9: Eastern and north-eastern elevations of main on site building from the south-east.



Figure 10: North-west elevation of main on site building from the south-west.



Figure 11: North-western corner elevation of main on site building from the north-west.

Built Linear Features (u1e)

The site is divided up and partially bounded to the north and east by built linear features mostly consisting of mortared brick walls (**Figure 12**) but also wooden panel and metal chain-link fencing (**Figure 13**).



Figure 12: Mortared brick wall.



Figure 13: Wooden panel fence.

Line of Trees (w1h6 33)

The western boundary and the western half of the northern boundary consist of a continuous line of trees which runs parallel with the sections of fencing associated with these boundaries. The line of trees separates the site from residential plots to the north and west and largely consist of conifer species (**Figure 14**) such as western red cedar *Thuja plicata* and Leyland cypress *Cupressus × leylandii*. The understorey mostly consists of introduced, ornamental shrubs (**Figure 15**).



Figure 14: Conifer species dominated treeline with parallel fence forming part of the western site boundary.



Figure 15: Treeline with understorey and parallel fence forming part of the northern site boundary.

4.3.3 Summary

The habitats within the site are common and widespread within the wider landscape. The dominant habitats on site contain a low diversity of plant species and are of low ecological value. The area of modified grassland to the north of the main on site building, with scattered scrub and the line of trees have the highest relative ecological value.

4.4 Notable and Legally Protected Species

4.4.1 Bats

Desktop Study Results

Consultation with TVERC returned the following bat species within a two-kilometre radius of the site; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, brown long-eared bat *Plecotus auritus*. Daubenton's bat *Myotis daubentonii*, Nathusius' bat *Pipistrellus nathusii*, serotine *Eptesicus serotinus*, western barbastelle *Barbastella barbastellus* and *Myotis* bat species⁷.

Consultation with the MAGIC database revealed seven European protected species licences within two kilometres of the site, for common pipistrelle, soprano pipistrelle and brown long-eared bat. The closest and most recent of these licenses is located approximately 420 metres south-west of site and was granted in 2020 for the

⁷ There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

destruction of a resting place for soprano pipistrelle (licence ref. 2020-49490-EPS-MIT).

The remaining bat EPSP licenses within the desktop study area are for the destruction of resting places for common pipistrelle, soprano pipistrelle and brown long-eared bat.

Building Assessment

There is a large, single-storey former building located within the site, which is currently in a state of disuse with very limited permitted access. Externally, the building is of brick construction with the majority of the roof space being flat and comprising bitumen coated strawboard with associated fibre cement soffit boxes. A small area of roof associated with the entrance lobby is pitched, with a gable end and associated fibre cement barge boards. This area of roof is constructed from metal corrugated sheeting. Access doors are present on both the northern and southern south elevations, which were closed tight at the time of the survey.

External potential roosting and access features for bats comprised many gaps and cracks within and behind the soffit boxes, mostly located along the southern elevation of the building (see **Figure 16** and **Figure 17**).



Figure 16: Cracks and gaps in soffit boxes on southern elevation of building.



Figure 17: Gap behind soffit boxes on southern elevation of building.

The internal space of the building is divided into several different rooms including a large hall located in the western half of the building. The light levels were very low in all areas, with no artificial lighting being available at the time of the survey. The walls and ceiling were constructed of plaster boarding and no roof voids are present within the building.

No evidence of roosting bats was found within this internal space. However, access to this space is not restricted for bats given the external access features recorded, as well as holes which were identified in several places on the ceiling plaster boards. It is considered that the building could provide sufficient roosting opportunities for small

numbers of bats, although it is unlikely to support a high-status roost. This is due to the buildings location resulting in a lack of good connectivity to suitable and extensive foraging and commuting habitat, and the absence of roof voids or loft spaces. The building is therefore assessed as having moderate suitability for roosting bats.

Tree Assessment

A single semi-mature, scattered cherry tree on site was found to contain multiple PRFs for bats. These included a callus roll (**Figure 18**) and a rot hole (**Figure 19**) which were unable to be fully inspected, and therefore the full extent of these determined, during the survey. It is considered that the tree could provide sufficient shelter and protection for small numbers of bats on occasion. Although the tree is unlikely to support a high-status roost due to its size and isolation. The tree is therefore assessed as having moderate suitability for roosting bats.

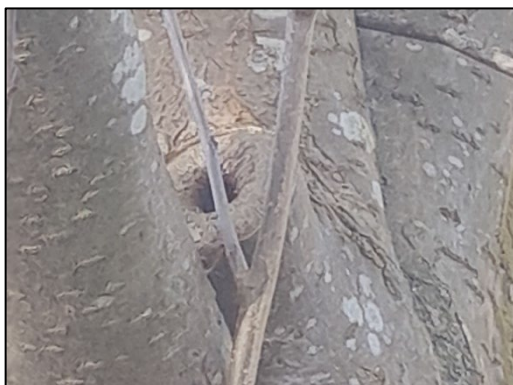


Figure 18: Callus roll present in standalone on site cherry tree.

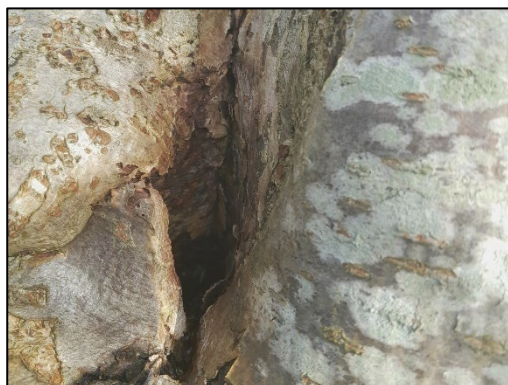


Figure 19: Rot hole present in standalone on site cherry tree.

The remaining trees present on site, including those which make up the boundary line of trees, were assessed as having negligible suitability to support roosting bats due to a lack of suitable PRFs recorded as present.

Foraging and Commuting Habitat

The site contains some limited habitat to support foraging and commuting bats in the form of small areas of scattered scrub, introduced shrub, a line of trees and scattered trees. The wider landscape provides suitable foraging and commuting habitat for bats in the form of extensive areas of woodland, waterbodies, hedgerows, lines of trees and scattered trees located within large areas of wetland and communal and private greenspace.

4.4.2 Otter

Desktop Study Results

Consultation with TVERC produced two records of otter *Lutra lutra* within the desktop study area. In 2012, one individual was recorded approximately 820 metres south-west of the site near Holly Brook, and in 2016 otter spraints were recorded approximately 900 metres south of the site near the River Kennet.

No granted EPSM licences in respect of otter were identified within a two kilometre radius of the site.

Field Survey Results

There are no aquatic habitats such as rivers or streams on site and no habitats which present suitable shelter or foraging opportunities for otter. There are no suitable habitats for this species which connect to the site, with the nearest watercourse being Holly Brook which lies approximately 280 metres south and is separated from the site by extensive residential areas with associated road networks. Therefore the species is not considered further in this report.

4.4.3 Badger

Desktop Study Results

Consultation with TVERC produced eight records of badger *Meles meles*, 18 records of badger setts, and one record of badger field signs within the desktop study area. The closest record of a badger individual was a dead individual on the A4 (Bath Road), approximately one kilometre north-west of the site boundary. The closest record of a badger sett was approximately 930 metres south-east of the site, associated with the railway line.

Field Survey Results

No evidence of badger was observed on site during the field survey. The site provides minimal foraging resources and no areas suitable for sett building by badger. More suitable habitat is present within the wider landscape which has very limited connectivity to the site. It is possible that badger may pass through the site on occasion but given the limited foraging habitat in the context of the local area it is unlikely that a significant population of badgers rely on the site as a resource. Therefore, this species is not considered further in this report.

4.4.4 Hazel Dormouse

Desktop Study Results

Consultation with TVERC produced no recent records of hazel dormouse *Muscardinus avellanarius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

No granted EPSM licences in respect of hazel dormouse were identified within a two kilometre radius of the site. However, this does not confirm the absence of the species group in the local area.

Field Survey Results

Suitable sub-optimal habitat for hazel dormouse on site is limited to the line of trees with ornamental shrub understorey and the adjacent areas of scrub within the northern areas of the site. These habitats are of generally poor quality for supporting hazel dormouse, lacking the structural diversity and foraging resources, which the species requires. The wider landscape supports a high density of well-connected areas of broad-leaved woodland of greater suitability to support hazel dormouse.

Given that the habitats on site which are suitable for hazel dormouse are of sub-optimal condition, limited size and have poor connectivity to more suitable habitat areas within the wider landscape, it is considered highly unlikely that the species is present on site. Therefore, this species is not considered further in this report.

4.4.5 Water Vole

Desktop Study Results

Consultation with TVERC returned three records of water vole *Arvicola amphibius* individuals within the desktop study area. These were all associated with the Holly Brook and River Kennet watercourses south of the site, with the closest located approximately 400 metres from the site boundary.

Field Survey Results

There are no aquatic habitats such as rivers or streams on site and no habitats which present suitable shelter or foraging opportunities for water vole. There are no suitable habitats for this species which connect to the site, with the nearest watercourse being Holly Brook which lies approximately 280 metres south and is separated from the site by extensive residential areas with associated road networks. Therefore the species is not considered further in this report.

4.4.6 Birds

Desktop Study Results

Consultation with TVERC returned 71 species of bird within a one kilometre radius of the site. Of these species, the red listed⁸, greenfinch *Chloris chloris*, starling *Sturnus vulgar*, wren *Troglodytes troglodytes*, house martin *Delichon urbicum*, swift *Apus apus* and house sparrow *Passer domesticus* and the amber listed⁹ woodpigeon *Columba palumbus*, dunnoek *Prunella modularis* and song thrush *Turdus philomelos* were considered most likely to breed within the site.

Field Survey Results

During the field survey several bird species including the amber listed¹⁰ woodpigeon, house sparrow, common gull *Larus Canus* and black-headed gull *Chroicocephalus ridibundus* were all recorded using the areas within the site boundary in addition to this, red kite *Milvus milvus*, magpie *Pica pica* and carrion crow *Corvus corone* were also recorded within the site boundary. Birds nest material was recorded in multiple places within gaps in the wooden soffit boxes on the southern elevation of the main building (**Figure 20**), as well as bird faeces stained on its brick walls nearby (**Figure 21**). The building also provides suitable nesting opportunities within the internal spaces accessed through gaps behind the soffits and holes which were identified in several places on the ceiling plaster boards.

⁸ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

⁹ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

¹⁰ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.



Figure 20: Gaps within and behind soffit boxes on building, creating potential access points for breeding birds.

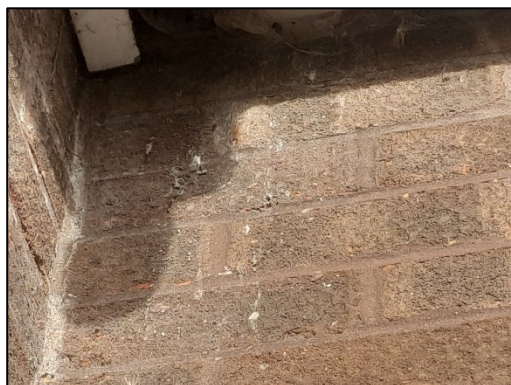


Figure 21: Bird faeces staining on brick walls of building.

Other than the on site building, habitat in the form of scattered scrub, introduced shrubs, scattered trees and a line of trees provide suitable habitat to support nesting birds on site. The wider landscape provides suitable habitat for breeding birds in the form of extensive areas of woodland, waterbodies, hedgerows, lines of trees and scattered trees located within large areas of wetland and communal and private greenspace.

Because of the scale and types of habitats present on the site, it is unlikely that the site supports notable populations or assemblages of wintering birds. Therefore, wintering birds are not considered further in this report.

4.4.7 Reptiles

Desktop Study Results

Consultation with TVERC returned two records of reptile species, both from 2009. These were a single grass snake *Natrix Helvetica*, located approximately 390 metres south of the site and one slow-worm *Anguis fragilis*, found approximately 970 metres east of the site.

No granted EPSM licences in respect of sand lizard *Lacerta agilis* or smooth snake *Coronella austriacus* were identified within a two kilometre radius of the site. However, this does not confirm the absence of these species in the local area.

Field Survey Results

During the field survey no evidence of reptiles was recorded within the site boundary. The modified grassland, scattered scrub, introduced shrub and line of trees on site provides suitable terrestrial habitat for the species. Piles of waste materials were also noted within the northern area of modified grassland and these could provide artificial refugia for the species group (**Figure 22**).



Figure 22: Scattered piles of waste material forming potential artificial refugia for reptiles.

Washing stations are likely to produce run-off of cleaning fluids which may contribute to making the site unsuitable. Far more suitable habitat is present in the surrounding area and it is considered highly unlikely that reptiles would disperse to the site. It is therefore assessed that the site is unsuitable for reptiles and this species is not considered further in this report.

4.4.8 Great Crested Newt

Desktop Study Results

Consultation with TVERC produced no records of great crested newt within the desktop study area and review of the MAGIC database produced no records of granted EPSM licences in respect of great crested newt within a two kilometre radius of the site.

In addition, no ponds, or records of great crested newt within ponds submitted as part of a great crested newt class survey licence return, were found within a 500 metre radius of the site as part of the MAGIC database review undertaken.

It should be noted that these results do not confirm the absence of the species in the local area.

Field Survey Results

The habitat on site is unsuitable for breeding great crested newt as there are no bodies of water present. The on site areas of modified grassland, scattered scrub and introduced shrub do provide some limited suitable terrestrial habitat for the species. The nearest waterbody is Holly Brook which lies approximately 280 metres south. However given that this watercourse contains flowing water, it is unsuitable for egg laying and therefore will not support great crested newt during their aquatic phase. The nearest pond is located within Prospect Park approximately 840 metres north-west of the site.

There are no breeding opportunities for great crested newt on site or within 500 metres of the site boundary. It is therefore assessed that the site is unsuitable for great crested newt and this species is not considered further in this report.

4.4.9 Invertebrates

Desktop Study Results

Consultation with TVERC returned two records of notable species within one kilometre of the site. These were stag beetle *Lucanus cervus* and white-letter hairstreak butterfly *Satyrrium w-album*. 98 recordings of stag beetle were returned between 2015 and 2022, with the closest approximately 40 metres south of the site boundary and recorded during 2022. In 2019 the notable species white-letter hairstreak was recorded 950 metres north-west of the site. Stag beetle and white-letter hairstreak are both Species of Principle Importance in England.

Other species of principal importance records returned within the desktop study area include the butterfly and moths; small heath *Coenonympha pamphilus*, white ermine *Spilosoma lubricipeda* *Timandra comae*, cinnabar *Tyria jacobaeae* and small blue *Cupido minimus*.

Field Survey Results

The modified grassland, introduced shrub and scattered scrub habitats present within the site are limited in their extent. The line of trees present lacks deadwood habitat for stag beetle and the site as a whole lacks elm *Ulmus* species which are the foodplant for white-letter hairstreak. The vegetation species present do flower in the spring/summer and provide leaf litter in the autumn/winter. Given these factors the site is likely to support numbers of common and widespread pollinating and terrestrial invertebrate species. The site is considered unlikely to support notable species or assemblages of invertebrates and therefore this species group is not considered further in this report.

4.4.10 Other Relevant Species

Desktop Study Results

Consultation with TVERC returned 26 records of European hedgehog *Erinaceus europaeus*, with the closest of these recorded approximately 190 metres north-west of the site boundary.

Three historical records of brown hare *Lepus europaeus* from 1999 were returned, approximately 700 metres from the site and associated with King's Academy playing field.

Field Survey Results

No evidence of any other relevant species was recorded within the site during the survey undertaken. The site provides suitable habitat for the Species of Principal Importance European hedgehog in the form of the modified grassland, scattered scrub, line of trees and areas of introduced shrub where these species may commute, forage, seek shelter and hibernate.

Evaluation

Given the further extensive suitable habitat in the surrounds, mostly associated with residential gardens, the on site habitats are assessed as being of no more than site value for European hedgehog.

4.5 Summary of Key Ecological Features

The following features are those with greatest ecological value that lie within the site's Zone of Influence:

- Moderate suitability for roosting bats in the on site building and tree roosting bats;
- Low suitability for foraging and commuting bats;
- Suitability for breeding birds;
- Suitability for reptiles; and
- Suitability for European hedgehog.

5.0 POTENTIAL ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS

5.1 Introduction

This section identifies potential constraints to the proposed development scheme based on the key ecological features as identified in Section 4.0 and summarised in Paragraph 4.5. Recommendations are included for mitigation and compensation based on the identified ecological constraints, and opportunities for enhancement are discussed.

5.2 Further Survey

Further ecological survey work will need to be undertaken prior to the submission of any planning application in order to allow the Local Planning Authority to fully assess the potential effects of the proposals on protected species. At this stage, it is therefore not possible to confirm that the proposals for the site meet the requirements of NPPF, the Reading Borough Council Local Plan and Reading's Biodiversity Action Plan (refer to Section 2.0). The full detail of mitigation measures cannot be established without the results of more detailed survey work. The results of the additional survey work will be incorporated into an Ecological Impact Assessment (EclA) report, which will provide an updated assessment of the ecological effects of the proposal and detailed mitigation, compensation and enhancement recommendations in light of the survey findings. The more detailed survey work recommended for the site at this stage are an endoscopic tree inspection for bats and bat emergence surveys.

Some of these surveys may not be required if all impacts on the target species can be avoided through sensitive scheme design and/or working methods.

Details of the survey requirements including survey effort and timings are provided in the relevant sections below.

5.3 Designated Sites

5.3.1 *Potential Constraints*

Multiple non-statutory designated sites of nature conservation interest are located within a one kilometre radius of the site. However, given the nature and scale of the proposals, the distance between these designated sites and the redevelopment works, and that no impact pathways to such sites have been identified, no potential impacts on designated sites or their qualifying features are anticipated as a result of the current proposals.

5.3.2 *Potential Mitigation and Compensation Measures*

Given that no potential constraints are anticipated, no mitigation or compensation measures are required in relation to designated sites.

5.3.3 Enhancement Opportunities

No enhancement measures are proposed in relation to designated sites.

5.4 Habitats

5.4.1 Potential Constraints

The current proposals will result in the demolition of the existing on site building. The scheme will also result in the loss of a small areas of modified grassland, scattered scrub, introduced shrub and scattered trees within the site, which will result in a net loss of vegetation cover.

5.4.2 Potential Mitigation Measures

The application will be required to be supported by a separate Biodiversity Net Gain assessment, as per the legislation set out within The Environment Act 2021. This will ensure that the proposals achieve a minimum of 10% net gain in biodiversity using a formalised biodiversity metric calculator.

5.4.3 Further Survey

To inform a biodiversity net gain assessment, the biodiversity metric calculator requires information regarding the current condition of the habitats on site. Therefore a walkover survey is required in order to collect the relevant information.

The condition of a habitat represents its relative quality judged against the perceived ecological optimum state for that particular habitat type. Therefore, habitat condition is specific to the habitat type and not comparable between habitat types.

The condition assessment will be based on the criteria within the Statutory Biodiversity Metric Condition Assessments (Natural England, 2023b). Some habitat types (for example most agricultural habitats and hardstanding) are not subject to assessment and are assigned default scores by the calculation tool.

For proposed habitat creation, retention and enhancement a 'Target Condition' is assigned, this is the condition that it is proposed the habitat will achieve post-development and is based on the same criteria as the condition assessment.

There is a possibility that due to the habitat types present within the site that seasonal constraints to the condition assessment may be applicable. For example, it will not be possible to robustly assess more ecologically valuable grasslands over winter months.

5.4.4 Compensation Measures

There are no current landscaping plans at this stage. Any new landscaping should be designed to incorporate appropriate native species and an ecologist will be consulted in any forthcoming landscape plans.

To compensate for the loss of this habitat, the planting of native species will be undertaken. Any new planting will incorporate native woody species, shrubs and/or trees of benefit to wildlife. Species should include native cherry *Prunus* species, pedunculate oak, field maple *Acer campestre*, ash, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, dog rose *Rosa canina*, dogwood *Cornus sanguinea*, and crab apple *Malus sylvestris*. These species will also provide flowers, fruit and/or seeds to benefit protected species utilising the site. Input from a suitably qualified ecologist will be sought where necessary.

5.4.5 Enhancement Opportunities

Any new planting to be undertaken will incorporate plant species listed on within the Royal Horticultural Society (RHS) 'Plants for Pollinators' list, including lavender *Lavandula* species, honeysuckle *Lonicera* species and *Viburnum* species (RHS, 2019). These will be of benefit for pollinating invertebrates.

5.5 Bats

5.5.1 Potential Constraints

The moderate suitability of the single on site building to support roosting bats has been identified as a potential constraint to the redevelopment proposals for the site. The proposed works involving the demolition of the building have the potential to injure and/or kill individuals, and destroy their roosts, if present.

The single semi-mature cherry present within the site has been assessed as having moderate suitability for tree roosting bats. If the tree is to be removed as part of the proposals this has the potential to result in the destruction of roosts and the killing or injury of bats, if present.

Details of any proposed lighting schemes for the site are not yet known. Light spill on habitats such as the line of trees, either during construction when works are undertaken after dark, or during operation as part of the external lighting strategy, has potential to result in the deterrence of foraging and commuting bats, resulting in a net loss and potential fragmentation of suitable habitat.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 1** for details.

5.5.2 Further Survey

The single on site building has been assessed to be of moderate suitability for roosting bats, due to the presence of multiple PRFs providing sufficient roosting opportunities

for small numbers of bats, albeit are unlikely to support a high-status roost. Given this assessment, further bat emergence surveys are required in order to ascertain the presence/likely absence of roosting bats within the building.

In accordance with the current best practice guidelines (BCT, 2023) for a building assessed as having moderate suitability to support roosting bats, two dusk emergence surveys will be required. Where the presence of roosting bats is confirmed during the surveys, an additional dusk emergence survey may be required, following which the data will allow for an assessment of the status of the roost present. The three surveys must be undertaken within the bat survey season (May to September, inclusive) with at least one of the surveys undertaken during the peak bat survey season (May to August, inclusive). Surveys must be undertaken at least three weeks apart from one another.

The dusk emergence survey will commence approximately 15 minutes before sunset until approximately two hours after sunset. Surveyors will be experienced and will be equipped with specialised bat detectors. The surveys will also utilise night vision aid (NVA) technology. This typically comprises devices installed with infra-red cameras which are set to record throughout the duration of each survey. These devices are far more effective than human eyes alone at identifying bats which are emerging or re-entering buildings. Upon completion of the surveys, identification of the bats present through bat call and video analysis can be undertaken to reveal the species utilising the site.

The on site standalone cherry tree has been assessed to be of moderate suitability for potential roosting bats, due to the presence of multiple PRFs providing occasional shelter and protection for small numbers of bats, albeit are unlikely to support a high-status roost. Given this assessment, further surveys are required in order to ascertain the presence/likely absence of roosting bats within the tree.

If the tree requires removal, a single endoscopic inspection will need to be undertaken to allow for an appropriate assessment of the PRFs to be made. In accordance with the current best practice guidelines (BCT, 2023), PRFs are classified into two groups; PRF-I's and PRF-M's. PRF-I's are those features which have been assessed as having the potential to support only small numbers of roosting bats and PRF-M's are those features which have been assessed as having the potential to support more significant numbers of roosting bats. If the PRFs identified on the standalone cherry tree are classified as PRF-I's, then no further survey work will be required. However, if any of the PRFs are classified as PRF-M then further survey work will be required.

Where PRF-M's have been identified on trees, three PRF inspection surveys will be required to re-assess PRFs and determine the presence/likely absence of bats utilising

appropriate equipment and methods. The three surveys must be undertaken within the bat survey season (May to September, inclusive) with at least one of the surveys undertaken during the peak bat survey season (May to August, inclusive). Surveys must be undertaken at least three weeks apart from one another.

Upon the completion of such surveys as required in respect of roosting bats in the on site building and cherry tree, further requirements and recommendations will be provided.

5.5.3 Potential Mitigation and Compensation Measures

The mitigation and compensation measures for potential roosting bats present within the on site building and cherry tree will be provided on completion of the further surveys.

If all of the PRFs identified on the standalone cherry tree are classified as PRF-I's, a precautionary method of work will be required in respect of the removal of the tree. If any of the trees PRFs are classified as PRF-M's, further surveys will be required (see Section 5.5.2).

If bats are confirmed to be roosting within the building or the tree, the roosts present will be characterised and prior to any works commencing a Natural England bat mitigation licence would need to be sought. The bat emergence survey data and bat tree endoscope inspection findings would be incorporated into the bat licence application to inform an appropriate mitigation strategy, which would include sensitive timing of works, sensitive working methods and the provision of compensatory roosting features, if required.

Details of any additional lighting proposed for the site are not yet known. However, if new lighting is to be introduced this should comprise directional lighting in order to minimise any spill on to both retained and newly created habitat, in particular the retained northern and western boundary treelines. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife (BCT, 2019). New lighting should be task related, and associated with entry/exit points of the new proposed facilities, and directed away from the retained line of trees along the northern and western site boundaries. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (BCT and the Institution of Lighting Professionals, 2023).

5.5.4 Enhancement Opportunities

Additional roosting opportunities may be provided by installing integrated cavity wall units in the fabric of the new residential buildings, such as Vivara Pro WoodStone Build-

In Bat Tube (or similar). The tubes should be located below the eaves, and wherever possible not above windows or doors to prevent accidental disturbance to bats utilising the feature. The features will ideally be positioned for accessibility for the species group into the wider landscape, and on southern elevations to allow the features to warm up. These boxes are self-contained and do not allow bats to access the rest of the building. Provision of boxes in 20% of the proposed dwellings would represent a robust enhancement.

Any new landscaping introduced at the site as part of the proposals (as detailed in Paragraphs 5.4.4 and 5.4.5) should indirectly benefit bats through additional food sources and nesting opportunities.

5.6 Birds

5.6.1 *Potential Constraints*

The removal of the on site vegetation and demolition of the on site building has the potential to injure and/or kill breeding birds, their nests and young, if present during the works. As a result, nesting birds have been identified as a potential constraint to the development.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981. Refer to **Appendix 1** for details.

5.6.2 *Potential Mitigation and Compensation Measures*

Any habitat removal and building demolition works should be undertaken outside of the breeding bird season, which extends from March to August (inclusive). If this is not possible, a suitably qualified ecologist should inspect the structures to be removed immediately prior to works commencing. Any active nests encountered should be left with an undisturbed and suitably sized buffer area scoped out by the supervising ecologist, until chicks have fledged and/or the nests are no longer in use.

5.6.3 *Enhancement Opportunities*

Additional nesting opportunities may be provided by installing artificial nesting features, such as bird boxes. These may be erected onto the walls of the proposed residential dwellings, using for example Vivara Pro WoodStone Bird Boxes or similar, or integrated into the fabric of the new buildings, using for example WoodStone House Sparrow Terraces and Ibstock Swift Bricks (or similar). Provision of boxes in 20% of the proposed dwellings would represent a robust enhancement. The boxes should be located below the eaves or gable ends, and wherever possible not above windows or doors to prevent droppings fouling these features. The boxes will be positioned at a minimum height of three metres, away from artificial light sources, sheltered from strong winds and ideally positioned for accessibility for the species group into the wider

landscape. The boxes should also not be installed on southern elevations as there is the potential for chicks in the nest to overheat in warmer temperatures. The boxes should also not be installed on southern elevations as there is the potential for chicks in the nest to overheat in warmer temperatures.

Any new landscaping introduced at the site as part of the proposals (as detailed in Paragraphs 5.4.4 and 5.4.5) should indirectly benefit breeding birds through additional food sources and nesting opportunities.

5.7 Reptiles

5.7.1 Potential Constraints

Given that individuals of common reptile species may use the site and pass through to reach further suitable habitat within the wider landscape, the removal of the on site vegetation has the potential to result in the killing and/or injury of reptiles during the works.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm, see **Appendix 1** for details.

5.7.2 Potential Mitigation and Compensation Measures

As a precautionary measure, to prevent the killing and/or injury of reptile individuals that may be present at the time of the vegetation clearance works, a precautionary destructive search will be required prior to the commencement of development works. This will involve a suitably qualified ecologist supervising two-stage vegetation removal, with an initial cut down to 150 millimetres before the topsoil is stripped. The clearance works will be undertaken in a directional manner, working north to south, to encourage individuals to disperse into the off-site adjacent suitable habitat of their own accord. Any reptile individuals encountered during the destructive search works will be relocated to these areas also. The works will need to be undertaken during the reptile active season which extends from April to October, inclusive.

Any storage of building materials will be preferentially located upon sealed surface habitat in the first instance.

5.7.3 Enhancement Opportunities

No enhancement opportunities in relation to reptiles are recommended at this time. Any new landscaping introduced at the site as part of the proposals (as detailed in Paragraphs 5.4.4 and 5.4.5) should indirectly benefit reptiles through additional foraging opportunities.

5.8 Other Relevant Species

5.8.1 Potential Constraints

The removal of on site vegetation has the potential to injure and/or kill European hedgehog if present during the works, and the installation of new barriers within the site may disrupt commuting pathways for the species. As a result, European hedgehog have been identified as a potential constraint to the development.

During construction works, there is the potential for individual hedgehogs to become trapped in excavations if left open at night.

European hedgehog is protected under Schedule 6 of the Wildlife and Countryside Act 1981 against killing or capturing them using certain methods (see **Appendix 1**).

5.8.2 Potential Mitigation and Compensation Measures

Any vegetation clearance works will take European hedgehog into consideration. Any individuals or nests encountered will be relocated to off-site adjacent suitable habitat.

If any new barriers are to be erected within the site, they should comprise post and rail fences, and not closed board fences or brick walls, to ensure the continued permeability of the site for European hedgehog. If post and rail fences are not possible, gaps should be created within the wooden boards or brick walls measuring a minimum of 13 by 13 centimetres to allow safe passage of individuals across the site, termed 'Hedgehog Highways' (Peoples Trust for Endangered Wildlife, 2018).

In the unlikely event that a hedgehog becomes trapped in excavations during construction works, a timber ramp will be inserted to allow the animal to escape of its own accord.

5.8.3 Enhancement Opportunities

No enhancement opportunities in relation to European hedgehog are recommended at this time. Any new landscaping introduced at the site as part of the proposals (as detailed in Paragraph 5.4.4 and 5.4.5) should indirectly benefit the species through additional foraging opportunities.

6.0 CONCLUSION

6.1 Conclusion

The single on site building has been assessed to be of moderate suitability for potential roosting bats. Further bat emergence surveys are required to determine whether any bat roosts are present. The standalone on site cherry tree has also been assessed to be of moderate suitability for potential roosting bats. A further bat tree endoscope inspection survey is required to determine whether any bat roosts are present.

Multiple non-statutory designated sites of nature conservation interest are located within a one kilometre radius of the site. However, given the nature and scale of the proposals, the distance between these designated sites and the redevelopment works, and that no impact pathways to such sites have been identified, no potential impacts on designated sites are anticipated as a result of the current proposals.

The site is assessed as being of low suitability for foraging and commuting bats, and suitable for breeding birds, reptiles, and European hedgehog. A Biodiversity Net Gain assessment is required to ensure the proposals deliver a minimum of 10% net gain in biodiversity. Mitigation and compensation measures in relation to bats will be provided on completion of the recommended further surveys, however recommendations for the implementation of a sensitive lighting strategy, native species planting, and sensitively timed works in relation to breeding birds and reptiles have been provided. Opportunities for enhancement, including additional planting, and the installation of bat roosting and bird nesting features have been highlighted.

As further surveys are required, it is not possible at this stage to confirm that the proposals for the site meet the requirements of NPPF and Local Planning Policy, in particular Policies EN12 and EN14 of the Reading Borough Council Local Plan and 'Theme for Action C' of Reading's Biodiversity Action Plan (refer to Section 2.0). However, it is considered that on completion of the further surveys there is scope to achieve this.

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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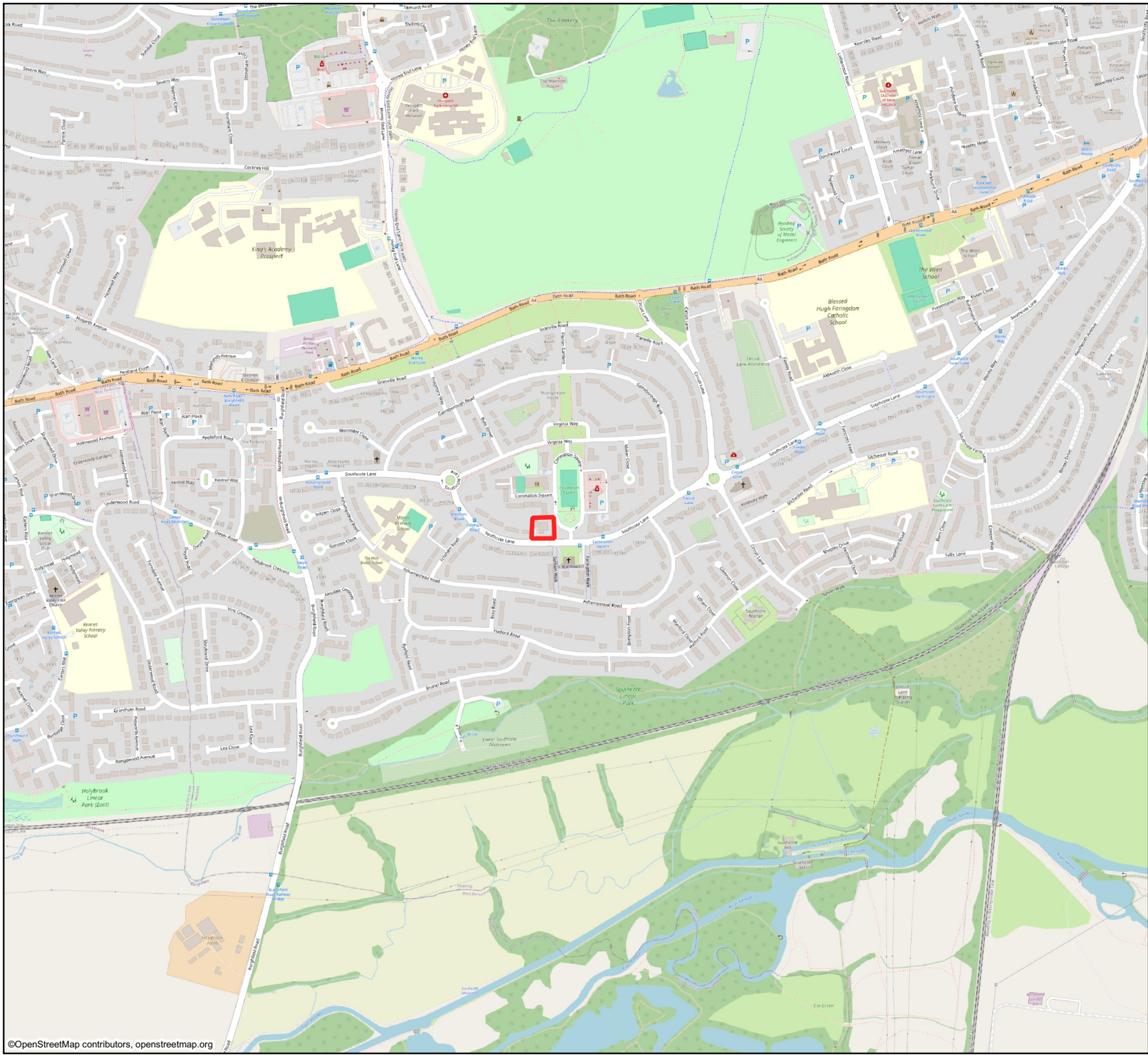
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Map 1 Site Location Plan



SOUTHCOTE LANE, READING BERKSHIRE

PRELIMINARY ECOLOGICAL APPRAISAL

Map 1 - Site Location Plan

Client:	Gleeds
Date:	January 2024
Status:	Draft

KEY

 Site Boundary



Prepared by: BA	Date: 250124
Last amended by:	Date:

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Map 2 Baseline Habitats



**SOUTHCOTE LANE, READING,
BERKSHIRE**

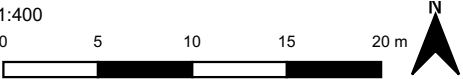
PRELIMINARY ECOLOGICAL APPRAISAL

Map 2- Baseline habitats

Client:	Gleeds
Date:	February 2024
Status:	Draft

KEY

-  Red Line Boundary
-  Small Urban Tree
-  Line of trees
-  Built linear features
-  Developed land; sealed surface
-  Modified grassland



Prepared by: BA	Date: 160224
Last amended by: N/A	Date: N/A

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Appendix 1 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
- To impair its ability to survive, breed, or rear or nurture their young;
- To impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is 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; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 2 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 1**¹¹.

Table 1: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹¹ Table adapted from (Collins, 2016)

Appendix 3 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSIs) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNRs) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNRs) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWSs), Sites of Importance for Nature Conservation (SINCs) or Sites of Nature Conservation Importance (SNCIs), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix 4 Baseline Habitats

Table 2: Summary of Baseline Habitats

Level 1	Terrestrial
Level 2	Grassland (g)
Level 3	Modified Grassland (g4)
Level 4	N/A
Level 5	N/A
Secondary Codes	Frequently mown (108) Active management (516) Scattered scrub (10) Neglected (518) Non-native (523) Tall or tussocky sward (128) Scattered trees (32)
	
Species List	
Creeping buttercup <i>Ranunculus repens</i>, ribwort plantain <i>Plantago lanceolata</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common dandelion <i>Taraxacum officinale</i>, deadnettle sp, <i>Lamium</i> cleavers <i>Galium aparine</i>, common groundsel <i>Senecio vulgaris</i>, herb Robert <i>Geranium robertianum</i>, daisy <i>Bellis perennis</i>, spear thistle <i>Cirsium vulgare</i>, ragwort <i>Senecio jacobaea</i>, wall barley <i>Hordeum murinum</i>, yarrow <i>Achillea millefolium</i>, wild strawberry <i>Fragaria vesca</i>, Yorkshire fog <i>Holcus lanatus</i>, perennial rye grass <i>Lolium perenne</i>, common nettle <i>Urtica dioica</i>, <i>Geranium</i> sp., ivy <i>Hedera helix</i> and lords & ladies <i>Arum maculatum</i>. Scattered scrub (10) – ash <i>Fraxinus excelsior</i>, bramble <i>Rubus fruticosus</i>, blackthorn <i>Prunus spinosa</i> and cherry <i>Prunus avium</i> Non-native (523) – Butterfly bush <i>Buddleia davidii</i>, Spanish bluebell <i>Hyacinthoides hispanica</i> and daffodil <i>Narcissus</i> sp. Scattered trees (32) – Hawthorn <i>Crataegus monogyna</i> and cherry <i>Prunus avium</i>	

Level 1	Terrestrial
Level 2	Urban (u)
Level 3	Built-up areas and gardens (u1)
Level 4	Developed land – sealed surface (u1b)
Level 5	N/A
Secondary Codes	Ruderal or ephemeral (81) Introduced shrub (847) Scattered grass (532) Flower bed (846) Mortared wall (853)
	
Species List	
Introduced shrub (847) – <i>Cotoneaster</i> sp., holly <i>Ilex aquifolium</i>, <i>Clematis</i> sp. Flower bed (846) – Spanish bluebell <i>Hyacinthoides hispanica</i> Scattered grass (532) and Ruderal or ephemeral (81) – Yorkshire fog <i>Holcus lanatus</i> and perennial rye grass <i>Lolium perenne</i>	

Level 1	Urban (u)
Level 2	Built-up areas and gardens (u1)
Level 3	Developed land – sealed surface (u1d)
Level 4	Buildings (u1b5)
Level 5	N/A
Secondary Codes	Educational Building (813)
	
Species List	
N/A	

Level 1	Terrestrial
Level 2	Urban (u)
Level 3	Built-up Areas and Gardens (u1)
Level 4	Built Linear Features (u1e)
Level 5	N/A
Secondary Codes	Mortared Wall (853) Fence (612)
	
Species List	
N/A	

Level 1	Terrestrial
Level 2	Woodland and forest (w)
Level 3	Broadleaved and mixed woodland (w1)
Level 4	Other woodland - mixed (w1h)
Level 5	Other woodland – mixed – mainly conifer (w1h6)
Secondary Codes	Line of trees (33)
	
Species List	
Line of trees (33) – Leyland cypress <i>Cupressus × leylandii</i>, western red cedar <i>Thuja plicata</i>, bramble <i>Rubus fruticosus</i>, cherry <i>Prunus avium</i> and ivy <i>Hedera helix</i>	