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PRELIMINARY ECOLOGICAL APPRAISAL

SPENCERS WOOD PRIMARY SCHOOL

Report Title: Preliminary Ecological Appraisal for SPENCERS WOOD PRIMARY SCHOOL

Report Status: Final

Job No: P5937J3010/NS

Date: July 2024

Quality Control: Revisions

Version	Date	Issued By
Initial	08/07/2024	

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Quality Standards Control

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<i>Revision</i>	-
Date	08/07/2024
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Note

The advice which we have prepared and provided within this report is in accordance with the CIEEM Code of Professional Conduct. We confirm that the opinions expressed are our true and professional opinions. Opinions and information provided in the report are based on Jomas Associates Ltd using reasonable skill, care and diligence in the preparation of the same in compliance with the CIEEM Code of Professional Conduct.

Validity of Data

The findings of the site survey are valid for a period of 24 months from the date of the survey. If approved works have not commenced by this date, then an updated site survey could be required to inform any changes to the habitats present on site in order to inform any updated mitigation and or precautionary measures required on site.

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The methodology adopted and the sources of information used by JA in providing its services are outlined in this report. The work described in this report was undertaken in **2024** and is based on the conditions encountered and the information available during the said period of time. The scope of this report and the services are accordingly factually limited by these circumstances.

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Forecast cost estimates do not include such costs associated with any negotiations, appeals or other non-technical actions associated with the agreement on measures to meet the requirements of the authorities, nor are potential business loss and interruption costs considered that may be incurred as part of any technical measures.

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Executive Summary

Land at Church Lane, Hyde End Lane and Hyde End Road, Three Mile Cross, Spencer's Wood, RG7 1TL (Grid ref: SU 77741 93130) is being promoted for development by the applicant, RIVINGTON STREET STUDIO. It is understood the proposed development includes the delivery of a new 1FE school with associated hard and soft landscaping. Full details of the development should be referred to in the planning application (O/2013/0346).

The proposed development site measures approximately 2.2ha and consists of grassland and recently cleared / bareground. No buildings or mature trees are within the development boundary.

Habitats on the site are considered to be of moderate ecological value and there is potential for the presence of protected species. The site has moderate potential for foraging and traversing reptile species, foraging and traversing mammals (inc. bats), foraging and traversing common invertebrates and ground nesting birds. The site has moderate potential for use by foraging and moderate potential for traversing bats due to connectivity to suitable habitats in the wider landscape. It is therefore advised that these areas are retained or better enhanced to provide further opportunities, enhancements are recommended from section 6.5 onwards. By retaining and enhancing suitable habitat, the risk to protected species and habitats is low and reasonable avoidance measures. If the habitats are to be removed the following appropriate precautionary and mitigation measures are highlighted below.

The further surveys and precautionary methods are recommended:

- Further reptile presence / absence in line with current guidance to inform on further mitigation or enhancements to avoid injury or death to reptile species.
- Adherence of standard pollution prevention measures from GOV.UK.
- A robust CEMP will be required to ensure no impacts are in place to non-statutory sites.
- Clearance grassland should be outside of nesting bird season (march to august inclusive) or under the supervision of a suitable qualified ecologist.
- During the works any holes, trenches, and/or ditches be supplied with an inclined mammal ladder to provide a means of escape. Future fencing on the site must ensure use of mammal gates/gravel boards to allow for movement.
- Two ponds are within 250 of the site and GCN are known to be in the local landscape. The site is thought to hold low potential for GCN due to connectivity and lack of suitable habitat. However, as a precautionary measure, a reasonable avoidance measures statement (RAMS) for great crested newts should be drafted ahead of works. If at any point a GCN is encountered, all work is to cease, and Jomas Associates contacted immediately.
- The development should seek to achieve of biodiversity net gain of at least 10% in line with the Environment Act 2021 and provision of enhancements for birds, bats, invertebrates and small mammals.

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1 INTRODUCTION AND AIMS

- 1.1** Jomas Associates was commissioned by RIVINGTON STREET STUDIO to undertake a Preliminary Ecological Appraisal (PEA) at Land at Church Lane, Hyde End Lane and Hyde End Road, Three Mile Cross, Spencer's Wood, RG7 1TL (Grid ref: SU 72497 67233).
- 1.2** This report has been prepared in support of the application being submitted by RIVINGTON STREET STUDIO ('The Applicant') to Wokingham Borough Council ('the Council') for the development at Land at Church Lane, Hyde End Lane and Hyde End Road, Three Mile Cross, Spencer's Wood, RG7 1TL (Grid ref: SU 72497 67233) ('the site').
- 1.3** The objectives of this PEA were to:
- Map the main ecological features within the site and compile a plant species list for each habitat type;
 - Make an initial assessment of the presence or likely absence of species of conservation concern, survey the buildings on site, and identify the presence or likely absence of bats and nesting birds;
 - Identify any legal and planning policy constraints relevant to nature conservation which may affect the development;
 - Determine any potential further ecological issue;
 - Determine the need for further surveys and mitigation; make recommendations for minimising impacts on biodiversity and providing net gains in biodiversity, where possible, in accordance with Section 15: Conserving and Enhancing the Natural Environment, of the National Planning Policy Framework (NPPF) (MHCLG, 2023).
- 1.4** The site survey was undertaken by Daniel Bardey BSc (hons) MRes, a suitably qualified ecologist, on the 20th May 2024. Daniel is a qualifying member of the Chartered Institute of Ecology and Environmental Management and holds wildlife licences issued by Natural England for bats CL18 class 2, great crested newts CL08 class 1 and barn owl CL29. Weather conditions were suitable with 30% overcast and a slight breeze. The timing of the survey was inside the optimal period for surveying buildings and botanical surveys, however some short-lived annual species may not have been identified. This is not seen as a major constraint as the ecologist is still able to make a robust assessment of the habitats present and their overall potential to support protected species.
- 1.5** It is understood the proposed development includes the delivery of a new 1FE school with associated hard and soft landscaping. Full details of the development should be referred to in the planning application (O/2013/0346).

2 METHODOLOGY

Preliminary Ecological Appraisal

- 2.1 The methods outlined in the CIEEM Guidance for Preliminary Ecological Appraisals (2017) were used for this survey. The field survey comprised of an extended UKHabitat Survey (UKHab, 2023) of the proposed development site. This is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites.
- 2.2 Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support legally protected species, other species of conservation concern and any listed species of principal importance under the NERC Act (2006). When appraising the overall potential of protected species during the survey, the habitat(s) on site were assessed as present, high, moderate, low, and negligible.
- 2.3 Invasive species listed under Schedule 9 of the Wildlife Countryside Act (1981 as amended) were searched for and recorded.
- 2.4 The survey was undertaken by Daniel Bardey BSc (hons) MRes, Ecologist and follows CIEEM institutes Code of Professional conduct when undertaking surveys (CIEEM, 2016). Daniel is a qualifying member of the Chartered Institute of Ecology and Environmental Management and holds wildlife licences issued by Natural England for bats CL18 class 2, great crested newts CL08 class 1 and barn owl CL29 (licence number available upon request).

Desktop Study

- 2.5 Jomas Associates undertook a basic internet-based search of statutory designated sites within 2km of the site using the Natural England/DEFRA web-based MAGIC database (www.MAGIC.gov.uk) for MAGIC. The applicant has commissioned local biological records search from the Thames Valley Environmental Records Centre (TVERC) to comment on the presence of local species or SNIC's. It should note that a lack of records does not guarantee a species absence from the surrounding area.
- 2.6 Ordnance survey maps and aerial images of the site were examined online using bing.com/maps and maps.google.co.uk.
- 2.7 The Wokingham Borough Council Local Plans were consulted for details on policies relevant to designated sites, protected species and general ecology protection.

Zone of Influence (Zol)

- 2.8 The Zol is used to assess any potential direct and indirect impacts or risks to the site and the immediate surrounding habitats. The Zol is also used to determine the feasibility for enhancements for the site and within the surrounding areas/habitats. The Zol is based on the following: the site itself, the areas directly adjacent to the site and areas up to 2km outside of the site including statutory and non-statutory designated sites. The Zol looks for potential impacts to habitats and species with possible connectivity to the site itself.

Preliminary Roost Assessment and Preliminary Ground Level Tree Roost Assessment

2.9 The survey followed guidelines by the Bat Conservation Trust (2023) Bat Surveys Good Practice Guidelines 4th edition. The trees were assessed as either negligible, low, moderate, high, or confirmed, refer to table 1 below. A Ground Level Tree Roost Assessment (GLTRA) was carried out during the optimal period for surveying as the trees are devoid of dense foliage.

■ **Table 1: Roost Classification, adapted from the Bat Conservation Trust (2023) Bat Surveys Good Practice Guidelines 4th edition.**

Category	Description of Roosting Habitat	Number of Surveys Required
Negligible	Little to no suitable locations for roosting, not ideal for supporting bats.	No further surveys.
Low	A structure with one or more potential roosting spaces that could be used by opportunistic individual. The features and surrounding habitats do not provide enough suitable conditions and or space for use as a maternity or hibernation roost. A tree that could contain potential roosting features but not observed from ground.	One Survey carried out between the May and August.
Moderate	A structure or tree with one or more potential roosting spaces that could be use by individuals based on the features (size, shelter, conditions, and surrounding habitat) but unlikely to support a roost of high conservation value.	Two further surveys between May-September with one survey between May and August.
High	A structure or tree with one or more potential roosting spaces that are suitable for use regular use and or larger numbers of bats for a more prolonged period due to the conditions and surrounding habitats. A tree with one or more potential roost sites suitable for use by a larger number of bats.	Three further carried out between May to September with two undertaken between May to August. The surveys must be undertaken three weeks apart, spaced surveys are preferred.
Confirmed	Positive evidence of bats - i.e. droppings, individuals, or bat records.	

3 CONSTRAINTS

- 3.1** Due to time of year, it is possible that certain flowering herbs and or ephemerals may have not been recorded during the survey and an extensive species list was not obtained but it is considered that the species characteristic to the habitats on site were recorded. The survey provides a snapshot of the site and does not show seasonal differences. Ecological surveys are limited by factors that affect the presence of plants and animals such as activity levels at time of year, weather, migration patterns, and behaviour. The survey was undertaken in May and represents a valid sample of ecological evidence present on that date. This report is not designed, nor is it required to, present a complete inventory of flora/fauna.
- 3.3** The client is responsible for reading and understanding the advice given in this report. The client must ensure that, where recommended, avoidance, mitigation, and compensation is followed through.

4 RESULTS

UKHabitat Survey

- 4.1 The site measures approximately 2.2ha.
- 4.2 The site is irregular in shape and located in a semi-rural area of Spencer's Wood, approximately 6.5km south of Reading. The site is set immediately among a parcels of open grassland fields to the northwest, east and south, and residential dwellings to the southwest. The wider landscape consists of multiple parcels of broadleaved woodland and open grassland fields, as well as residential dwellings and industrial areas (figure 1).



■ **Figure 1: Wider landscape surrounding the site (Google Maps, 2024)**

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- 4.3 There are 2 known waterbodies within 250m of the site assessed from satellite imagery, and OS maps. The closest waterbody is approximately 60m south of the site, whilst the other is estimated to be 185m west of the site. It is thought these waterbodies are natural or recently built wildlife ponds.
- 4.4 There are two broad habitat types found within the site and on the site boundaries, these are:
- G3c – other neutral grassland
 - 510 - recently cleared / bare ground

Table 2: Habitat Descriptions and Evaluation

UKHabitat Classification	
G3c – other neutral grassland	
Several parcels of species rich mixed grassland are scattered throughout the edges and centre of the site. This habitat is thought to be succeeding from the previously cleared land and consisted of: Buddleja (<i>Buddleja davidii</i>), common nettle (<i>Urtica dioica</i>), aster sp. (<i>Aster spp.</i>), Yorkshire fog (<i>Holcus lanatus</i>), buttercup (<i>Ranunculus spp.</i>), garlic mustard (<i>Alliaria petiolata</i>), oxeye daisy (<i>Leucanthemum vulgare</i>), bedstraw (<i>Galium spp.</i>), poppy (<i>Papaver spp.</i>), comfrey (<i>Symphytum officinale</i>), white campion (<i>Silene latifolia</i>), cocksfoot (<i>Dactylis glomerata</i>), rye grass (<i>Lolium perenne</i>), red campion (<i>Silene dioica</i>), mint (<i>Mentha spp.</i>), common milk pea (<i>Lathyrus pratensis</i>), bristly oxtongue (<i>Helminthotheca echinoides</i>), flixweed (<i>Descurainia sophia</i>), broad leaved dock (<i>Rumex obtusifolius</i>), borage (<i>Borago officinalis</i>), clover (<i>Trifolium spp.</i>), herb robert (<i>Geranium robertianum</i>), creeping buttercup (<i>Ranunculus repens</i>), dogwood (<i>Cornus spp.</i>), prunus sp. (<i>Prunus spp.</i>) and mustard (<i>Sinapis spp.</i>).	 Neutral grassland to the north of site.

Potential Constraints:

This habitat is of value to several groups including nesting and foraging birds, foraging and traversing mammals (inc. bats), reptiles and insects.

Further reptile surveys should be undertaken to ensure no injury/death takes place to these species, if the grassland is to be cleared within nesting bird season, the habitat should be checked by a trained ecologist immediately within 24 hours ahead of clearing.



- Neutral grassland to the south of site.

Condition Assessment - GOOD

- A - YES
- B - YES
- C - YES
- D - YES
- E - YES
- F – YES

510 – recently cleared / bare ground	
Description: cleared former habitat that is now bare ground with emerging plants characteristic of those establishing in the other neural grassland.	 Cleared land / bare ground to the south of site.

Potential Constraints: This habitat is of low ecological value. No further surveys recommended. Condition Assessment: N/A	 Cleared land / bare ground to the east of site.
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Preliminary Roost Assessment

- 4.5** No buildings within the site.

Preliminary Ground Level Tree Roost Assessment

- 4.6** No mature/semi-mature within the site.

5 IMPACT ASSESSMENT

Statutory and Non-Statutory Sites

- 5.1** There is one statutory site within 2km of the site, Stanford End Mill and River Loddon Site of Special Scientific Interest (SSSI). Located 1.9.5km south of the site, Stanford End Mill meadows, a series of traditionally-managed seasonally waterlogged hay meadows, and a 4 km stretch of the River Loddon, a tributary of the River Thames. The valley is situated on Tertiary deposits of Valley Gravel and River Alluvium overlying London Clay. The site is of interest particularly for nationally important populations of two rare plants: the fritillary *Fritillary meleagris*, a native bulb of unimproved damp meadows now mainly confined to scattered localities in southern Britain, and the Loddon pondweed *Potamogeton nodosus*, a very rare aquatic species for which this length of the River Loddon is the national stronghold.
- 5.2** No non-statutory sites within 2km of the site were returned by the TVERC.
- 5.3** There are no priority habitats within the site. The closest of which is a parcel of deciduous woodland found 310m southeast of the site. The wider areas hosts parcels of coastal and floodplain grazing marsh, good quality semi improved grassland, deciduous woodland, traditional orchard, ancient woodland and wood-pasture and parkland (BAP Priority Habitat).
- 5.4** Given the development proposals, distance between the sites, it is considered that the proposals are unlikely to have any impacts on the statutory sites or priority habitats, but minor pollution may impact the immediate area without adequate mitigation. A robust CEMP will be required for the proposals to minimise impacts to adjoining habitats.
- 5.5** Due to the size and nature of the development it is unlikely the local planning authority needs to seek further advice or permission from Natural England in relation to impacts to statutory sites within 2km of the site. However as good practice it is recommended that pollution prevention measures from GOV.UK (2016) are in place during and post construction to prevent any potential indirect impacts from the site to surrounding sites.
- 5.6** The proposed development with avoidance, mitigation and compensation measures in place, along with biodiversity enhancements, will not cause negative impacts on local wildlife and will ensure connectivity within the wider landscape. See section 6 of this report for further details.

Protected Habitats

- 5.7** No habitats onsite may meet the criteria for any section 41 habitats.
- 5.8** Any trees adjacent to the site should be protected during the demolition and construction phases of the development with a root protection zone (RPZ) of at least five metres.

European Protected Species Mitigation Licences

- 5.9** There are 12 European Protected Species Mitigation (EPSM) licences granted within 2km of the site, all of which relate to bats. The closest of which is 290m south-east of the site and permitted the destruction of a breeding site for brown long eared (*Plecotus auratus*) and common pipistrelle (*Pipistrellus pipistrellus*) bats. Other species listed among these other licences include soprano pipistrelle (*Pipistrellus pygmaeus*).

Planning Policies

- 5.10** The planning policies look to paragraphs 174-182 of the National Plan Policy Framework (2023), in particular paragraph 174 (d), 'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'; as well as paragraph 179 (b), 'promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'; and 180 (d), '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'.
- 5.11** The site has moderate potential for use as nesting sites for local birds, foraging common species of invertebrates, moderate potential for foraging and traversing mammals and reptiles, and foraging bats. The development should ensure that minimal light spills onto boundary habitats. The future lighting on site must ensure a lighting plan that is direct, low light spill, low lux and have hooded designs. These prescribed further mitigation, and enhancement measures recommended within this report would ensure a retention of biodiversity and ensure net gain.

Protected Species

Plants

- 5.12** All plant species recorded on the site are common and widespread, and it is considered that no rare or threatened plant species are present on the site. It is likely that some short-lived annual species were missed due to the timing of the survey. There is scope to enhance the site by incorporating wildlife planting within the plot, biodiverse ones rather than use of sedum mats, particularly would be attractive for use and benefit both local invertebrates and foraging birds and bats
- 5.13** All trees adjacent to the site that are scheduled for retention under the development proposals should be protected during the demolition and construction phases of the development with a root protection zone (RPZ) of at least five meters.

Bats

- 5.14** All bat species are legally protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and under Regulation 43 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. It is an offence to deliberately capture or kill a wild animal of a European protected species, deliberately disturb any such animal and/or to damage or destroy a breeding site or resting site making bats a material consideration in the planning process. The TVERC records search returned 124 records for bats within the local area. This consisted of 4 bats at species level: brown long eared bat (14 records), common pipistrelle (50 records), noctule (5 records) and soprano pipistrelle (8 records). The remaining records were only identified to genus/order level and consisted of bat (2 records), long eared bat (5 records), myotis bat (5 records), Nyctalus bat (1 record), pipistrelle bat (32 records).
- 5.15** No buildings or trees are within the site and the site has been assessed as hosting negligible potential for roosting bats.
- 5.16** The site is considered to be of moderate for foraging and traversing bats, due to the open parcels of grassland, suitable connecting habitats (woodland and grassland) and high records of common species within the local landscape. Bat species are light sensitive, and the proposals must incorporate an appropriately designed landscaping scheme, that will enhance the site for traversing and foraging bats and along with measures proposed in section 6.2, it is unlikely that the development will adversely affect local bat populations.

Birds

- 5.17** The site is characterised by grassland habitat and cleared ground. The site is thought to host a moderate probability of ground nesting birds during the nesting season (1st March to 31st August). Clearance of vegetation or work on parcels of the grassland with potential to contain nesting birds should be carried out outside this period. Should any clearance of grassland be required during the nesting season any such areas to be cleared should first be inspected by an ecologist/supervised by an ecologist. If an active nest is then found clearance a suitable buffer will be established until the nest is no longer active.
- 5.18** The proposal should incorporate an appropriately designed landscaping scheme that will enhance the site for nesting and foraging birds along with measures proposed in section 6. It is unlikely that the development will adversely affect local bird populations.

Badgers

- 5.19** Badgers (*Meles meles*) are legally protected under The Protection of Badgers Act 1992 and, as such, are of consideration when applying the principles of the NPPF (MHCLG, 2023). It is a criminal offence to:
- Wilfully kill, injure, or take any badger;
 - Possess or cruelly ill-treat a badger;
 - Possess any dead badger or part of one;
 - Possess or control a living, healthy badger;

- Intentionally or recklessly damage, destroy or obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

5.20 No evidence indicating that badgers have excavated setts on the site was found during the survey and no evidence of foraging or dispersal activity was found (e.g. snuffle holes, latrines, pathways, hair, and feeding remains). No setts were seen in the adjacent habitats surrounding the site. [REDACTED]

Great Crested Newts & Amphibians

5.21 GCN are legally protected under section 9 of the Wildlife and Countryside Act 1981 (as amended) and regulation 43 of The Conservation of Habitats and Species Regulations (2017) thus making GCN a material consideration of the planning process.

5.22 From studying OS maps and aerial photographs, two waterbodies were identified within 250m of the site. The TVERC returned 7 records of GCN within 2km of the site. Due to connectivity and lack of suitable habitat on site there is low potential to encounter GCN during the works. As a precautionary measure, a Reasonable Avoidance Measures Statement for Great Crested Newt should be drafted and kept on site, with all contractors being made aware of the presence to GCN within the local landscape. At any point during the development GCN are encountered, all work is to cease, and Jomas Associates contacted immediately.

Reptiles

5.23 The TVERC search returned 5 record for grass snakes (*Natrix natrix*) and slow worms (*Anguis fragilis*) within 2km of the site. One record contained a peak count of 120 adult slow worms within the local landscape. Further surveys should be undertaken to determine the presence/absence of reptiles within the site. All surveys should follow current guidance, with the result determining any further mitigation needed to avoid injury or harm. All British reptiles are protected from intentional killing, injuring and sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Hedgehogs

5.24 Hedgehog (*Erinaceus europaeus*) are protected under UK law by the Wildlife and Countryside Act 1981 (as amended) and are listed as a species of principle importance for biodiversity conservation in the Section 41 list of the NERC Act (2006). Local records returned 17 records of hedgehogs. During the works any holes, trenches, and/or ditches should be supplied with an inclined mammal ladder to provide a means of escape. Future fencing on the site must ensure use of mammal gates/gravel boards to allow for movement as noted in the recommendations section.

Invertebrates

5.25 This site is likely to support both common such as butterflies, moths, flies, bees, and beetles.

- 5.26** The sites habitats are likely to support moderate numbers of common invertebrate species, such as butterflies, moths, flies, bees, and beetles. It is not considered that any further surveys are necessary.
- 5.27** The proposal incorporates an appropriately designed landscaping scheme that will enhance the site along with measures proposed in section 6.2, it is unlikely that the development will adversely affect local invertebrate populations.

6**CONCLUSIONS**

- 6.1** Habitats on the site are considered to be of moderate ecological value and the presence of protected species being likely in the form of reptiles. Further surveys in line with professional guidance to confirm the presence/absence of reptile species. The site has potential for use by foraging and traversing bats due to connectivity to suitable habitats on site and in the wider landscape. The grassland provides suitability for use local invertebrates and nesting birds. Any grassland areas should be cleared outside of nesting bird seasons or checked ahead of clearance by a suitable trained ecologist. A suitable exclusion zone should be implemented until the nests are no longer active. This supervision of grassland clearance will be in addition to any mitigation given following the reptile presence/absence surveys. It is therefore advised that these areas are retained and enhanced to provide further opportunities, enhancements are recommended from section 6.5 onwards. By retaining and enhancing suitable habitat, the risk to protected species and habitats is low and reasonable avoidance measures (as indicated in 6.3.) are an appropriate precautionary and mitigation measure. Due to the close proximity to local wildlife sites a robust CEMP should be implemented.
- 6.2** The nature of the proposed development, with additional surveys, mitigation, and precautionary measures in place, will ensure that the proposals will have no adverse impacts upon surrounding habitats, protected species, and wildlife in general. The following further methods are recommended:

■ 6.3 impacts, mitigation and enhancements to local species

■ **Table 3: Potential Key Species/Habitats on Site and Proposed Avoidance, Mitigation, Compensation and Enhancement**

<i>Species/Habitats</i>	<i>Impact</i>	<i>Avoidance and Mitigation</i>	<i>Compensation and Enhancements</i>
Statutory and Non-statutory sites.	Potential pollution damage during construction works.	Adherence of standard pollution prevention measures from GOV.UK; fuel kits to be kept on site and fuelling of all vehicles done off-site. A robust CEMP in place ahead of works.	N/A
Nesting birds	Some disturbance to nesting birds might be encountered during the construction phase.	Adherence to vegetation removal outside of bird nesting season March to August (inclusive) under the supervision of a qualified ecologist.	Installation of nest boxes placed either within retained mature trees or incorporated into new building walls. Foraging enhancement of site by new native trees within site and around boundaries.
Bats	Potential loss of roost and foraging/traversing habitat.	Retain existing suitable habitat on site where possible.	Planting of native and wildlife-friendly species throughout the proposed development, bat box incorporated into new build and low impact lighting scheme implemented
Invasive species	N/A	N/A	N/A
Invertebrates	Potential loss of shelter, foraging and breeding grounds.	Retainment of suitable habitat wherever possible.	Biodiversity enhancement by planting of native/wildlife species throughout the site (including green roof); installation of insect boxes where possible.
Reptiles	Potential loss of shelter, foraging.	Presence / Absence surveys. Retainment of suitable habitat wherever possible.	Enhance boundaries wherever possible to ensure connectivity across landscape and to maintain foraging grounds.
Great Crested Newt	Low risk to the loss of shelter and traversing grounds.	GCN RAMs Work to cease if GCN encountered and Jomas Associates contacted.	Enhance local landscape for British amphibians (e.g. pond creation post development).
			Native planting promoting foraging. Hedgehogs only: provision of connectivity to wider landscape along with resting places for hedgehogs

- 6.4** In line with local and national policy (NPPF 2019¹), the new development should seek to provide biodiversity enhancements.

The following suggestions would enhance the site for wildlife:

Recommended Biodiversity Enhancements

6.5 Urban tree planting

Is it recommended to plant small to medium trees within the site boundary.

Resilience including climate adaptation:

- Selection of trees identified as being resilient and adaptable to the range of circumstances expected in urban areas as a consequence of climate change;
- Planting of a wide range of trees and plant material sources that increase genetic diversity. A best practice approach is to apply a '10–20–30' formula to develop a diverse tree population - no more than 10% of any species, 20% of any genus or 30% of any family; and,
- Selection of trees should be tailored to local site conditions.

Biodiversity:

Native species support a greater diversity of other species, enhance local biodiversity and increase resilience to pests/diseases and climate change. A list of native and non-native species that are beneficial to pollinating insects is provided in Appendix 6.

6.6 Planting species-rich hedgerows

All hedgerow planting should utilise native species or species with a known benefit to wildlife.

- Select the species mix. Include native species such as hazel *Coryllus avellana*, hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. Ideally plant at least five different species to provide a good quality hedgerow.

6.7 Native wildflower planting in new modified grassland

The proposed modified grassland on the site provides low ecological value and will benefit from seeding the edges with wildflower seeds. Wildflowers germinate best on loose and crumbly soil, and the best time to sow the seed is in mid-spring or early autumn. Wildflowers usually flower between May and September, attracting a wide range of pollinators. After the first flowering season, the grassland should be mown in late summer, leaving the cuttings for a few days so that any seeds can fall to the ground.

- 6.12** The biodiversity enhancements (and precautionary mitigation measures) should be informed by all ecological surveys and should form part of a Biodiversity Enhancements and Mitigation

¹ <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Plan (BEMP), to be secured by an appropriate planning condition. This should ensure compliance with local and national policies.

6.13 Faunal Features

Generalist bird boxes

Incorporating generalist bird boxes, suitable for widely distributed bird species, in appropriate locations can be provided within the site.

Bat boxes

The bat boxes can be incorporated where possible into the post-development.

Invertebrate features

In conjunction with incorporation of pollinator planting, installation of habitat features specifically to benefit invertebrates near pollinator planting can provide additional cover, food and nesting/resting habitat for invertebrates.

Invertebrate loggery

Invertebrate loggery are beneficial for invertebrates, however hedgehogs and reptiles also benefit from them, as they use them as shelter. They can be custom designed and built to fit available space and local requirements.

Log piles

Log piles are another option to provide habitat for invertebrates, which also could be used by other species such as hedgehogs and reptiles within the woodland. The logs, could be provided through management of the woodland, retaining the logs on site.

Hedgehog houses/ domes

The hedgehog *Erinaceus europaeus* is a UK native mammal. Their habitat includes hedgerows, woodland edges, parks and gardens. Hedgehogs are in serious decline in rural and urban areas in the UK. Loss and damage of suitable habitat is the main threat they face. However, the loss of connectivity in urban areas, due to impermeable fencing, loss of green in gardens, road kills, and increasing development, are causes that are impacting negatively on their populations in urban environments.

Eco Hedgehog Hole Fence Plate

A hole measuring 13cm by 13cm is ideal size for a hedgehog to pass through but too small for most large mammals such as foxes and domestic cats. Once the hole in the fence/wall has been created, fixing an Eco Hedgehog Hole Plate to the fence will ensure that the hole won't get blocked or stretched.

The Eco Hedgehog Hole Plate is made from 100% recycled plastic, mostly derived from plastic waste. It is UV-stabilised, giving it a longer lifetime span against rot and sun exposure.



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1. Schwegler hedgehog dome
2. Hedgehog highway gap in fence (Image sourced from hedgehog street.org. Photo credit Sean Hill)
3. Log Piles
4. Bat brick
5. Bat box on tree (Images sourced from Bat Conservation Ireland © Paul van Hoof)
6. Bat box on building
7. Bat boxes on post (Image sourced from nestbox.co.uk).

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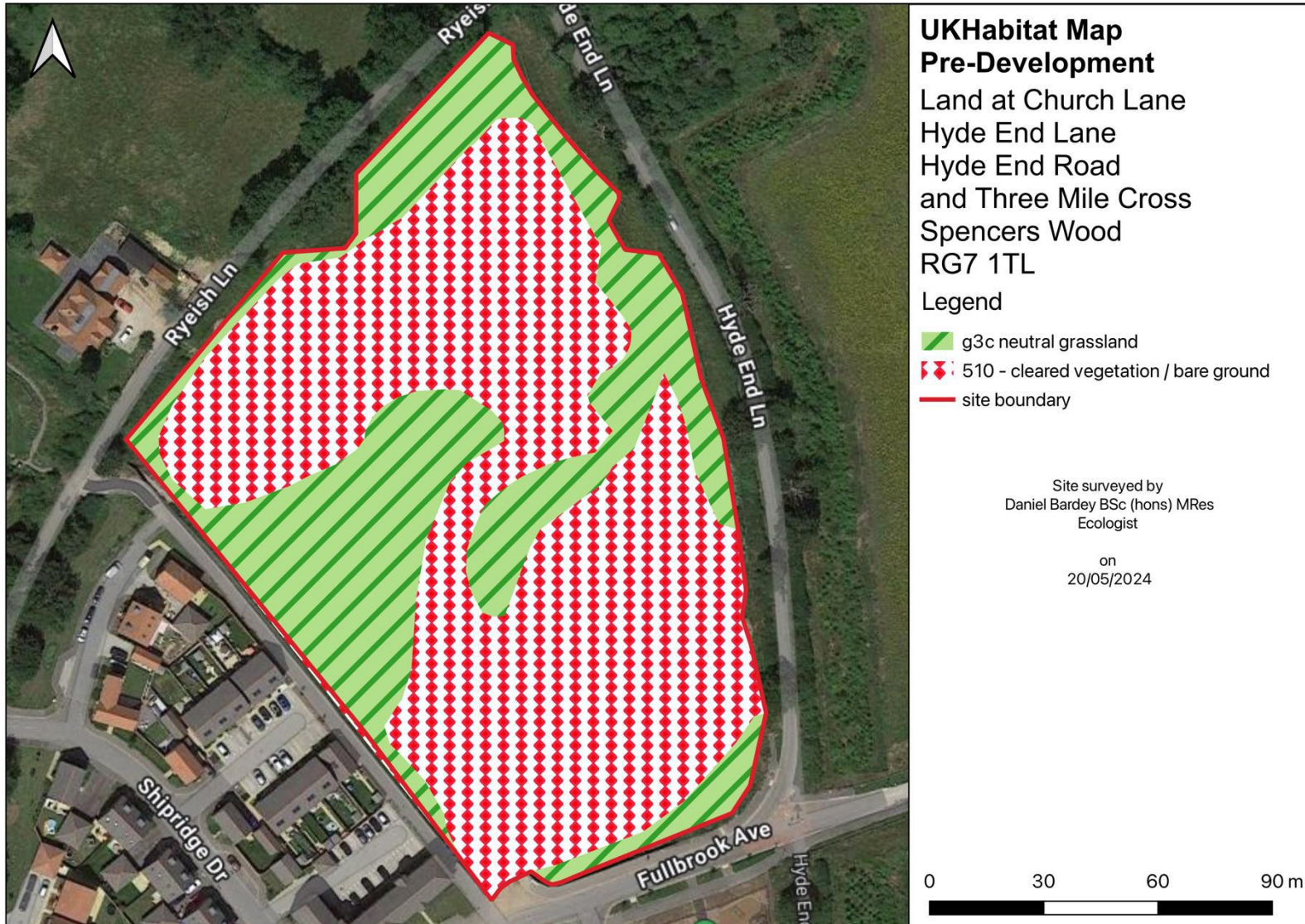
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APPENDIX 1: UKHabitat Map



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APPENDIX 2: Site Photos



Photo 1: cleared / bare ground at entrance to site.



Photo 2: grassland and cleared ground centre to site facing south.



Photo 3: grassland and cleared ground centre to site facing east.



Photo 4: grassland and cleared ground centre to site facing north.



Photo 5: grassland and cleared ground centre to site facing west.



Photo 6: grassland to the west of site facing west.



Photo 7: grassland to the west of site facing west.



Photo 8: grassland to the west of site facing south.



Photo 9: cleared ground to the north of site facing east.



Photo 10: grassland to the north of site facing west.



Photo 11: grassland to the north of site facing south.



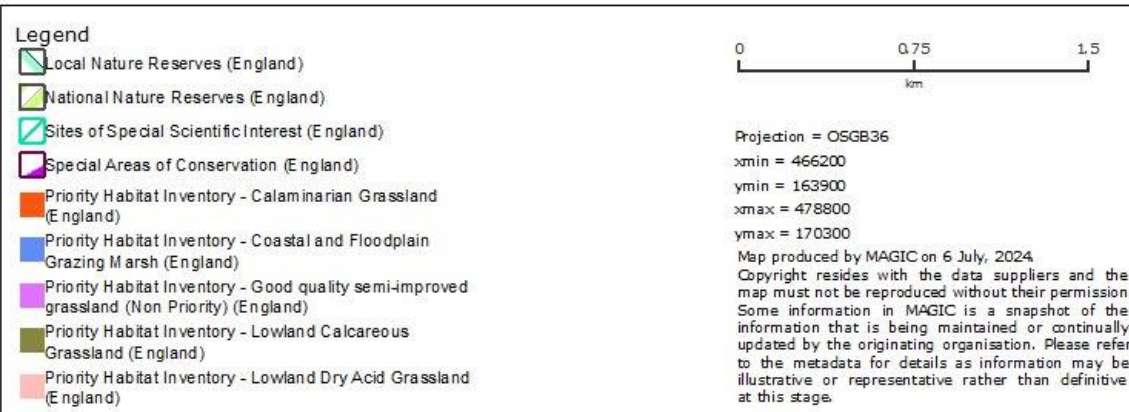
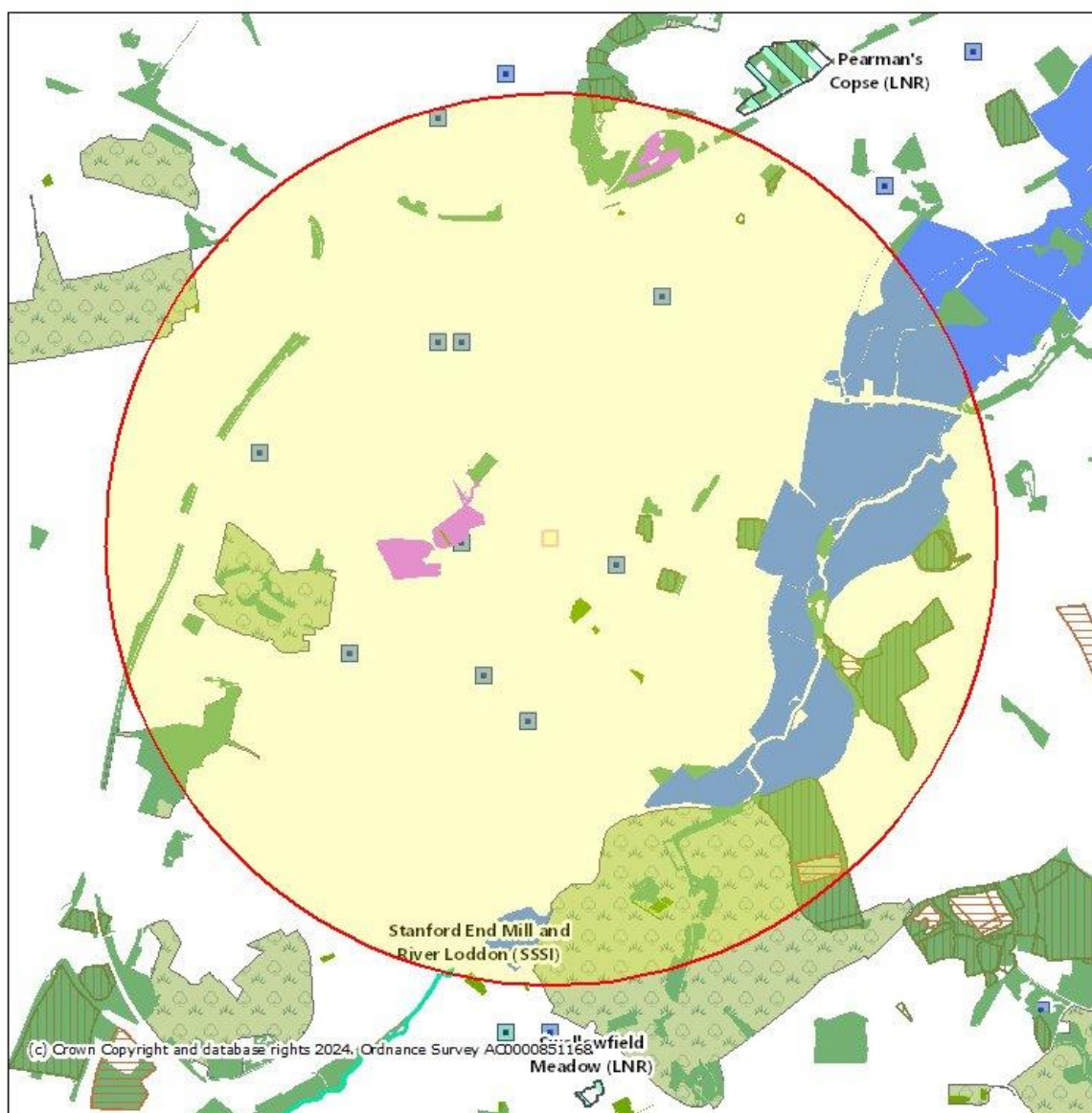
Photo 12: grassland and cleared ground centre to site facing south.

	
Photo 13: cleared ground to the east of site facing south.	Photo 14: cleared ground to the east of site facing south.
	
Photo 15: grassland to the south of site facing west.	Photo 16: grassland to the south of site facing east.
	
Photo 17: cleared / bare ground centre to site.	Photo 18: cleared / bare ground at southern entrance to site.

10 APPENDIX 3: Statutory Nature Sites, Priority habitats and ESPMS within 2km

MAGiC

Magic Map



11 APPENDIX 4: Non-statutory Sites within 2km

NO SITES RETURNED FROM TVERC.

This section details the legislation relevant to the protection of species and habitats. It also details the relevant policies within national, regional, and local planning policy.

National Planning Policy Framework (NPPF) (MHCLG, 2023)

The revised National Planning Policy Framework (NPPF), updated in February 2019 and revised July 2021 and September 2023, sets out the Government's planning policies for England and how these should be applied. The revised NPPF continues to stress the importance of the local authority contribution to improving and protecting the environment through development of a systematic approach to enhancing biodiversity, minimising waste and pollution, and mitigation/adaptation to climate change impacts. Chapter 15 requires that local planning authorities, when considering planning applications, should aim to conserve and enhance biodiversity. This is underpinned by Planning Practice Guidance 2014 (MHCLG, revised 2019) which suggests:

The NPPF is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution;

Biodiversity enhancement in and around development should be led by a local understanding of ecological networks, and should seek to include habitat restoration, re-creation and expansion; improved links between existing sites; buffering of existing important sites; new biodiversity features within development; and securing management for long term enhancement. New or improved habitat needs to be located where it can best contribute to local, national and international biodiversity restoration.;

Where a development cannot satisfy the requirements of the 'mitigation hierarchy', planning permission should be refused as per paragraph 180 of the NPPF; and

Sufficient green infrastructure should be designed into a development to make the proposal sustainable. High-quality networks of multifunctional green infrastructure contribute a range of benefits, including ecological connectivity, facilitating biodiversity net gain and nature recovery networks and opportunities for communities to undertake conservation work.

The New London Plan (Greater London Authority, 2021)

The New London Plan is the Spatial Development Strategy for Greater London and aims to set out a framework for development across London over the next 20-25 years. Chapter 8 of the Plan is dedicated to Green Infrastructure and the Natural Environment. Key policies within this chapter for consideration here are:

Policy G1 Green Infrastructure highlights the requirements for green infrastructures and outlines that the existing network of open spaces and green features within London's built environment should be retained, protected and enhanced through development proposals. Developments should incorporate appropriate elements of new green infrastructure to integrate in the wider green infrastructure network across London.

Policy G5 Urban greening introduces the Urban Greening Factor, which has been developed by the Mayor as a measure of changes in green infrastructure as a result of a development. It is proposed that Borough's tailor the requirements to be delivered under Urban Greening depending on their individual existing green assets and requirements. The policy states 'that major developments should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures

such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage’.

Policy G6 Biodiversity and Access to Nature seeks to ensure that SINC’s are retained and protected from harm caused by new developments. It also advises that Borough Development Plans should support the protection and conservation of priority species and habitats that occur outside of the SINC network and support the creation of habitats and habitat features which are relevant and beneficial within an urban context. The policy also states that development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain, although use of a recognised metric and a quantified assessment of this is not specified.

Policy G7 Trees and Woodlands states that development should seek to retain and protect trees of value. Where trees will be lost, they should be adequately replaced based on the existing value and benefits of the removed trees. Planting of additional trees should generally be included within developments, including larger canopied species which can provide more benefits.

The Mayor’s Biodiversity Strategy balances the adopted London Plan (consolidated with alterations since 2011) with Policy 5 seeking to ensure opportunities are taken to green the built environment within development proposals and utilise open spaces in ecologically sensitive ways. Policy 13 states that funding will be increased for biodiversity projects in London to ensure projects incorporate biodiversity provision.

The Environment Act 2021

In 2021 the Environment Act gained Royal Assent, providing a new legislative framework for developments to consider in respect of potential environmental impacts and opportunities. Within the Environment Act there is a call for all developments to deliver a 10% net gain for biodiversity using a measured approved metric approach. This is due to become mandatory from January 2024 in England.

Biodiversity Laws

Statutory protection is afforded to certain wild habitats and species through European Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora (the ‘Habitats Directive’). This has been adopted into UK legislation under the 2017 Habitats Regulations. At the national level protection is found in the Wildlife and Countryside Act (WCA 1981; as amended) and it is designed to protect species and habitats considered to be of principal importance in order to conserve biodiversity.

Under Regulation 43 of the Habitats Regulations it is an offence to deliberately capture or kill a wild animal of a European protected species, deliberately disturb any such animal and to damage or destroy a breeding site or resting site. Since August 2007 amendments to the Conservation (Natural Habitats) Regulations 1994 have changed the term ‘deliberately disturb’ such that it is an offence if the species are disturbed in such a way that it is likely to significantly affect the colony’s ability to survive, breed or rear their young; or affect the local distribution or abundance of that species.

The WCA 1981 (as amended) is the principle mechanism for the statutory protection of wild flora and fauna in the United Kingdom. Reptiles, including slow worms and grass snakes, are protected under Schedule 9(1) against intentional killing and injuring. Nesting birds are also protected under the WCA 1981 (as amended) which makes it an offence to intentionally kill, injure or take them, take, damage or destroy their nest whilst in use or being built, or to take or destroy their eggs.

All species of bats are strictly protected through UK and European regulations. Bats have been placed on protected lists due to the overall steady decline of species over the last century. Under section 9 in conjunction with Schedule 5 of the WCA 1981 (as amended), all bats are protected from intentional or reckless disturbance. Additional protection for all bat species is provided under Schedule 2 of The Conservation of Habitats and Species Regulations. Licences are needed if the disturbance is to produce a significant effect on the bat colony, which would otherwise be an offence. These may be granted for the purposes specified under section 16 of the WCA 1981 as well as under Section 55 under the Habitat Regulations, following the submission of a licence application to Natural England.

Badgers are protected under the Badger Protection Act 1992 and under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); badgers are classified as a species of conservation concern under the UK Biodiversity Action Plan and listed under Appendix 3 of the Bern Convention under Appendix 3 of the Bern Convention.

Table A5.1: Native and wildlife-friendly shrubs (Natural England, 2008).

Common Name	Scientific Name
Hazel	<i>Corylus avellana</i>
Elder	<i>Sambucus nigra</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Dog rose	<i>Rosa canina</i>
Gelder rose	<i>Viburnum opulus</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius</i>
Wayfaring tree	<i>Viburnum lantana</i>
Shrubby cinquefoil	<i>Potentilla fruticosa</i>
Raspberry	<i>Rubus idaeus</i>
Alder buckthorn	<i>Frangula alnus</i>
Wild privet	<i>Ligustrum vulgare</i>
Barberry	<i>Berberis × stenophylla</i>
Barberry	<i>Berberis vulgaris</i>
Bell heather	<i>Erica cinerea</i>
Bilberry	<i>Vaccinium myrtillus</i>
Black currant	<i>Ribes nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Buckthorn	<i>Rhamnus catharticus</i>
Butcher's-broom	<i>Ruscus aculeatus</i>
Cowberry	<i>Vaccinium vitis-idaea</i>
Cross-leaved heath	<i>Erica tetralix</i>
New Zealand holly	<i>Olearia macrodonta</i>
Daphne	<i>Daphne odora</i>
Dogwood	<i>Cornus sanguinea</i>
Field rose	<i>Rosa arvensis</i>
Firethorn	<i>Pyracanthus angustifolia</i>
Flowering Currant	<i>Ribes sanguineum</i>
Gooseberry	<i>Ribes uva-crispa</i>
Hebe 'Midsummer Beauty'	<i>Hebe</i> sp.
Himalayan honeysuckle	<i>Leycesteria formosa</i>
Holly	<i>Ilex aquifolium</i>
Japanese quince	<i>Chaenomeles japonica</i>
Lilac	<i>Syringa vulgaris</i>
Mexican orange	<i>Choisya ternata</i>
Mezereum	<i>Daphne mezereum</i>
Midland hawthorn	<i>Crataegus laevigata</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osier	<i>Salix viminalis</i>
Portugal laurel	<i>Prunus lusitanica</i>

Common Name	Scientific Name
Privet	<i>Ligustrum ovalifolium</i>
Purple willow	<i>Salix purpurea</i>
Snowy mespilus	<i>Amelanchier canadensis, Amelanchier lamarckii</i>
Spindle	<i>Euonymus europaeus</i>
Spurge laurel	<i>Daphne laureola</i>
Sweet briar	<i>Rosa rubiginosa</i>
Wild privet	<i>Ligustrum vulgare</i>

Table A5.2: Native and wildlife-friendly trees (Natural England, 2008).

Common Name	Scientific Name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Wych elm	<i>Ulmus glabra</i>
Whitebeam	<i>Sorbus aria agg.</i>
Rowan	<i>Sorbus aucuparia</i>
Aspen	<i>Populus tremula</i>
Apple	<i>Malus domestica</i>
Bird cherry	<i>Prunus padus</i>
Common alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Downy birch	<i>Betula pubescens</i>
Field maple	<i>Acer campestre</i>
Hornbeam	<i>Carpinus betulus</i>
Juniper	<i>Juniperus communis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Small-leaved lime	<i>Tilia cordata</i>
Pear	<i>Pyrus communis</i>
Scots pine	<i>Pinus sylvestris</i>
Sessile oak	<i>Quercus petraea</i>
Silver birch	<i>Betula pendula</i>
Sweet chestnut	<i>Castanea sativa</i>
Wild cherry	<i>Prunus avium</i>
Wild service-tree	<i>Sorbus torminalis</i>
Yew	<i>Taxus baccata</i>

Table A5.3: Moth pollinator species (Butterfly Conservation, 2019).

Common Name	Scientific Name
Honeysuckle	<i>Lonicera periclymenum</i>
Jasmine	<i>Jasminum officinale</i>
Evening primrose	<i>Oenothera biennis</i>

Sweet rocket	<i>Hesperis matronalis</i>
Night-scented stock	<i>Matthiola bicornis</i>
Aubretia	<i>Aubretia</i> sp.
Cuckooflower	<i>Cardamine pratensis</i>
Forget-me-not	<i>Myosotis</i> sp.
Honesty	<i>Lunaria annua</i>
Pansy	<i>Viola</i> sp.
Primrose	<i>Primula veris</i>
Wallflower	<i>Erysimum</i> sp.
French marigold	<i>Tagetes</i> sp.
Ice plant	<i>Sedum</i> sp.
Knapweed	<i>Centaurea</i> sp.
Lavender	<i>Lavendula</i> sp.
Marjoram	<i>Origanum vulgare</i>
Michaelmas daisy	<i>Aster amellus</i>
Mint	<i>Mentha</i> sp.
Scabious	<i>Scabiosa</i> sp.
Thyme	<i>Thymus</i> sp.

GARDENING FOR BATS

All sixteen species of bats in the UK eat insects, and need a good supply of these from spring through to the autumn. By growing flowers attractive to a range of insects, our gardens can become important feeding stations for bats, birds and other wildlife.



Many plants depend on insects

We grow flowers in our gardens for our own enjoyment. But colour and perfume are really the plants' way of advertising themselves to insects. Sweet nectar and protein-rich pollen are bait to encourage insects to visit. In return, pollen is carried from one flower to another on their bodies so the flowers are fertilised.

Bats need insects

Flying uses a lot of energy, so bats have huge appetites. All our UK bats eat insects. Five species, including the long-eared bat, prefer moths, but most bats rely more heavily on flies as food than any other insect group. Especially important are craneflies, and a range of midge families and their relatives. Pipistrelles, the bats most likely to visit your garden, depend on catching very large numbers of tiny insects, some of which are pests.

Flower shape and insect tongues

Flowers with long narrow petal tubes, such as evening primrose and honeysuckle, are visited by moths and butterflies. Only their long tongues can reach deep down to the hidden nectar. Short-tongued insects include many families of flies and some moths. They can only reach nectar in flowers with short florets. By planting a mixture of flowering plants, vegetables, trees and shrubs, you can encourage a diversity of insects to drop in and refuel.

Follow these general rules

- ? Plant flowers varying not only in colour and fragrance, but also in shape.
- ? Daisies and daisy-like flowers are open with a mass of shallow florets.
- ? Pale flowers are more easily seen in poor light.
- ? Single flowers have more nectar than double varieties
- ? Native wild flowers or those closely related are most useful
- ? Flowers with landing platforms and short florets such as daisy or carrot family attract many insects.
- ? Many flowering vegetables such as beans and courgettes are also good for insects.

Plant trees and shrubs

These are important in providing

- food for insect larvae
- food for adult insects
- shelter for flying insects

- roosting opportunities for bats.

In a small garden, choose trees that can be coppiced – cut down to the ground every few years – to allow new shoots to spring from the base. Young shoots and leaves will support leaf-eating insects, even if they do not produce flowers. Hawthorn and elder are useful small trees.

Create a wet area

A pond, a marshy area, even a half-tub made into a mini-pond can attract insects. Many of the tiny flies favoured by bats start life in water as aquatic larvae.

Say NO to insecticides

Chemical pesticides kill natural predators and so may do more harm than good. They reduce bats' insect prey, and surviving insects carry traces of poison.

Encourage natural predators

Hoverflies, wasps, ladybirds, lacewings, ground beetles and centipedes are the gardener's friends. As natural predators they help keep the balance, eating many pests.

- ? Allow some weeds to grow to provide ground cover for natural predators
- ? Grow favourites of hoverflies and other predators close to the flowers and vegetables that tend to become infested.
- ? Leave hollow-stemmed plants to overwinter as shelter for ladybirds.
- ? Leave heaps of dead leaves and brushwood undisturbed for hedgehogs.
- ? Most garden birds are effective predators. Provide them with regular food and water.

Prevent a CATastrophe

Many bats and other small mammals fall prey to Britain's most dangerous four-legged predator, the domestic cat. Cats do not need to stay out all night. Bring your cat in an hour before sunset so bats can emerge undisturbed.

(Send for our special leaflet on cats and bats.)

The Bat Conservation Trust, 15 Cloisters House
8 Battersea Park Road, London SW8 4BG
Tel 0845 1300 228 Fax 020 7627 2628

enquiries@bats.org.uk www.bats.org.uk

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August 2004

The following basic set of guidelines is summarized from the latest Guidance Note (08/18)² provides a concise checklist of points to consider with any lighting scheme:

- *Use professional lighting design engineers to model and predict light spill so that it can be avoided.*
- *Reduce light levels to the minimum necessary to meet legal and safety requirements.*
- *Reduce horizontal and upward/downward light spillage to the minimum achievable. The use of cowling, masks, louvers etc. and limiting the height of lighting columns may be important depending on the design of the lighting units. No bare bulbs. Lighting should only light the target area.*
- *Use non-reflective surfaces within the area to be lit to minimise indirect (reflected) spillage of light. The use of planting or other structures to add screening.*
- *Reduce the duration of lighting. The use of lighting 'curfews' can also be helpful - especially in the vicinity of bats roosts. For example, the emergence of bats, typically within the hour after sunset, may be disrupted (delayed) by raised light levels and this may result in a loss of feeding opportunities.*
- *Consider the type of light to be used and whether a different type or design may reduce potential impacts on bats and other wildlife. Narrow spectrum lighting with minimal UV emission should be used.*
- *Use 'screen planting' to limit light spill into dark areas.*
- *Use narrow spectrum light sources to lower the range of species affected by lighting, as research has shown that spectral composition does impact biodiversity.*
- *Use light sources that emit minimal ultra-violet light*
- *Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue short wave length content they should be of a warm / neutral colour temperature <4,200 kelvin.*

For more details, please refer to:

<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

http://www.bats.org.uk/pages/bats_and_lighting.html

<http://www.batsandlighting.co.uk/index.html>

² <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

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