



Preliminary Ecological Appraisal

Little Cottage

Ridge Lane

Meopham

Kent

DA13 0DP

Date: December 2023

1 Summary

Site	Little Cottage, Ridge Lane, Meopham, Kent, DA13 0DP
Central OS Grid Reference	TQ 64340 62756
Report Commissioned by	WS Planning & Architecture
Report Purpose	To inform a full Planning Application.
Date of Survey	21 st November 2023
Author	Chelsea Evans BSc (Hons), Ecologist
Reviewed & Approved by	Graeme Down BSc (Hons) PhD MCIEEM, Principal Ecologist

Considerations	Description	Comments & Recommendations
Ecological Importance of the Site	The site comprises non-native and ornamental hedgerows (h2b), built-up areas and gardens, vegetated garden (u1, 828), developed land (sealed surface) (u1b), buildings (u1b5) and artificial unvegetated unsealed surface (u1c).	The non-native and ornamental hedgerows are of site importance. All other habitats are of negligible importance.
Further Assessments / Surveys	Badgers	A pre-construction badger survey, c. six weeks before site clearance / construction commences.
Avoidance and General Mitigation	Priority habitats: Ancient Woodland and Deciduous Woodland	Precautionary methods of demolition and construction.
	Hedgerows	Protect these retained features during demolition and construction.
	Bats – foraging and commuting	Implement a sensitive lighting strategy.
	Hazel dormice	Implement a sensitive lighting strategy.
	Hedgehog	Provide hedgehog links within any new fencing.
	Site measures	Cover trenches or provide planked escape routes to allow any animals that fall in to escape. Store materials off the ground.
Enhancements	To increase the ecological value of the site.	Plant five native trees within the site boundary, install wildlife boxes for birds, bats and hedgehogs, and incorporate native nectar and pollen rich planting within the garden design.
Conclusion	Avoidance and mitigation measures for ecological receptors are possible to secure by condition, including the pre-commencement badger survey. The proposal offers opportunities for biodiversity enhancements within the site.	

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Appendix 1 Legislation and Planning Policy

Appendix 2 UK Habitat Map

Appendix 3 Wildlife Friendly Planting

2 Introduction

2.1 Background

David Archer Associates was commissioned by Planit Consulting on behalf of WS Planning & Architecture to undertake a Preliminary Ecological Appraisal (PEA) at Little Cottage, Ridge Lane, Meopham, Kent, DA13 0DP, herein referred to as 'the site'. This report will support a planning application for one residential unit and associated soft and hard landscaping.

2.2 Site Location and Description

The site is located within Meopham at central Ordnance Survey Grid Reference TQ 64340 62756. The site totals c. 0.1ha, comprising non-native and ornamental hedgerows, built up areas and gardens (vegetated gardens), developed land (sealed surface), buildings and artificial unvegetated unsealed surface.

The site is situated within a semi-rural location and surrounded by residential houses and gardens to the north, and woodland to the east, south and west. The wider area comprises rural settlement, agricultural land and pockets of deciduous woodland.

2.3 Scope of Survey

The PEA comprised a single visit to the application site. The red line boundary used for the purposes of this assessment is shown in the existing site plan shown in **Figure 2.1**. The study area was also extended to consider the following ecological features according to certain distances around the site boundary:

- 5km for statutory designated sites for nature conservation that form part of the National Site Network (NSN) and Ramsar sites;
- 2km for statutory sites of national and local importance designated for nature conservation;
- 2km for non-statutory sites designated for nature conservation;
- 2km for protected and notable species records (extended to 5km for bats);
- 2km for granted European Protected Species Mitigation (EPSM) licences;
- 500m for Priority Habitats;
- 250m for water-bodies (in relation to great crested newts); and
- 30m for badger setts.

2.4 Development Proposal

The proposed development includes construction of one residential unit and associated soft and hard landscaping (**Figure 2.1**). This requires removal of Buildings B1 – B9, artificial unvegetated unsealed surface and a small parcel of vegetated garden.

2.5 Objective

The objective of this PEA is to identify any further ecological surveys and / or mitigation required, and potential enhancement opportunities in accordance with planning policy, and European and UK wildlife legislation (**Appendix 1**).

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Area = 1,103.4m²

Scale: 1:1250

Site Location Plan

W5 PLANNING & ARCHITECTURE

1000002020

February 2023

112500RA3

RES E. Twineley

East Little Cottage, Ridge Lane, Meopham, DA13 0DP

Site

Site Location Plan

0 25 50 75 100 125m

SCALE: 1:1250

W5 PLANNING & ARCHITECTURE

1000002020

February 2023

112500RA3

RES E. Twineley

East Little Cottage, Ridge Lane, Meopham, DA13 0DP

Site

Site Location Plan

0 25 50 75 100 125m

SCALE: 1:1250

Ricary

Primrose Cott

Little Cottage

As Proposed Site Plan

SCALE 1:200

WIS PLANNING & ARCHITECTURE

Project Name:	Little Cottage
Date:	February 2023
Scale:	1:300(RA3)
Client:	Mrs E Twineley
Location:	Little Cottage, Ridge Lane Meopham DA13 9DP
Drawn By:	WJA
Checked By:	WJA
Approved By:	WJA
Version:	1.0

J004292-CD-13

3 Methodology

3.1 Surveyor & Reviewer

The site was surveyed by Ecologist Chelsea Evans, who is licensed to survey for great crested newts (licence number: 2023-113030-CL08-GCN) and is also registered under beaver class licence CL51. Chelsea has amassed over 200 hours of bat survey and training time since beginning bat work (including Preliminary Roost Assessments (PRAs), nocturnal roost emergence/re-entry surveys, activity surveys and hibernation surveys) in 2021. Chelsea has also been specifically trained on conducting PRAs and undergoes regular in-house assessment of these by Associate Director (Ecology) Claire Munn, under whose bat licence Chelsea is accredited. Chelsea is a FISC level-4 botanist (last assessed June 2023).

This report was reviewed by Principal Ecologist Graeme Down, who is licensed to survey for great crested newts and bats (licence numbers: 2015-19299-CLS-CLS and 2022-10910-CL18-BAT). Graeme has been a practising ecologist since 2007, is highly experienced in Habitats Regulations Assessment (HRA) and ornithological surveys and is a FISC level-4 botanist. Graeme has also held development licences for badgers and is a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and therefore subject to the CIEEM Professional Code of Conduct.

3.2 Desk Study

Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) database was accessed on 20th November 2023 for information on statutory sites designated for nature conservation within a 2km radius of the site. Consideration for NSN sites was extended to a 5km radius where the potential risk of impact to interest features of such sites may extend over a wider area. Such sites include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). A 5km search radius was also applied to internationally designated Ramsar sites, as well as sites currently under public consultation for future designation as SACs, SPAs and Ramsar sites.

The MAGIC Impact Risk Zones (IRZs) were used to assess whether the proposed development may impact on any Sites of Special Scientific Interest (SSSI), and thus whether consultation with Natural England is needed to discuss how impacts might be avoided or mitigated.

Kent and Medway Biological Records Centre (KMBRC) was also consulted on 7th November 2023 for the following information for a 2km radius around the application site:

- Non-statutory nature conservation designations, such as Local Wildlife Sites (LWS);
- Legally protected species, such as great crested newts, reptiles, birds and bats; and
- Notable / priority species, such as those listed under Section 41 of the NERC Act, 2006.

3.3 Habitat Survey

The survey involved a site visit on 21st November 2023 to record and map habitat types and ecological features within the site. The survey was undertaken in accordance with *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017). The habitats present on-site have been characterised under the UK Habitat Classification Habitat Definitions V2.0 (The UK Habitat Classification Working Group, 2023) and the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2023). A minimum habitat parcel size of 25m² was employed, and wherever possible, habitats were characterised to Level 5, the

most detailed level available. Habitats were plotted on a Habitat Plan (**Appendix 2**). Features of interest were identified as target notes on the Habitat Plan (**Appendix 2**).

Note that the UK Habitat Classification forms the basis for the DEFRA Biodiversity Metric 4.0 and that the Metric requires assessment of the 'condition' of the habitat. This is based on criteria as defined within the Metric Technical Supplement. The condition assessment to inform the Metric is not directly comparable to evaluation of habitat importance in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

Aerial photographs, maps and field observations were used to identify habitats in the wider landscape which could be impacted by development of the site.

Weather conditions during the survey were 10°C, a light air (Beaufort 1), 100% cloud cover and dry.

3.4 Protected and Notable Species Assessment

The site was inspected for evidence of and assessed for potential to support protected and notable species. This included species listed under the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, the *Wildlife and Countryside Act 1981 (as amended) (WCA)*, and those given extra protection under the *Natural Environment and Rural Communities (NERC) Act 2006*, *Countryside and Rights of Way (CROW) Act 2000*, and the *Protection of Badgers Act 1992*.

MAGIC was also accessed on 20th November 2023 to identify any European Protected Species Mitigation (EPSM) licences granted by Natural England within a 2km radius of the site.

The following protected / notable species were considered within the assessment.

3.4.1 Great Crested Newts and Common Toads

The site was assessed for suitability to support the legally protected great crested newt *Triturus cristatus* and the notable common toad *Bufo bufo*. The assessment was undertaken in accordance with the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, *et al.*, 2001).

Based on Natural England (2015) guidance, surveys of land greater than 250m from the nearest water-body are normally appropriate in relation to great crested newts when all of the following conditions are met:

- a) Maps, aerial photos, walkover surveys or other data indicate that the water-body/bodies has/have potential to support a large great crested newt population;
- b) The development footprint contains particularly favourable habitat, especially if it constitutes the majority available locally;
- c) The development would have a substantial negative effect on that habitat; and
- d) There is an absence of dispersal barriers.

The proposed development does not meet criteria a, b and c above, and therefore consideration was given to water-bodies on and within 250m of the site using OS maps and aerial images.

3.4.2 Reptiles

The site was assessed for suitability to support reptiles with reference to the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and *Froglife Advice Sheet 10 An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation* (Froglife, 1999).

3.4.3 Badgers

The site and a 30m zone around the site (where accessible), were surveyed for badger *Meles meles* evidence such as setts, latrines, pathways, footprints, snuffle holes and badger hairs. Any setts recorded were classified according to published criteria (Harris, *et al.*, 1989).

3.4.4 Bats

Potential for the site to support roosting, foraging and commuting bats was assessed in line with the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists Good Practice Guidelines* (Collins, 2016).

3.4.4.1 Roosting

The buildings on site were assessed for suitability to support roosting bats per the scales in **Table 3.1**. Equipment used to investigate the buildings included binoculars, a ladder, and a high-power torch. All buildings were described and surveyed for bats and their evidence, which includes droppings, staining, scratch marks and feeding remains.

Table 3.1: Classifying the bat roosting suitability of buildings (Collins, 2016).

Low / negligible roosting suitability	Buildings with few, if any, features suitable for roosting.
Moderate roosting suitability	Features with moderate roosting potential, with roosting features appearing less suitable.
High roosting suitability	With significant roosting potential, either because they contain a large number of suitable features or those features present appear optimal.
Confirmed roost	Evidence of bat occupation found.

3.4.4.2 Foraging and Commuting

The site was assessed for its suitability to support foraging and commuting bats according to **Table 3.2**.

Table 3.2: Classifying the suitability of bat foraging and commuting habitat (Collins, 2016).

Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated or poorly connected to habitat in the surrounding landscape. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that bats may use for commuting such as tree-lines and scrub or linked back gardens. Habitat that connects to the wider landscape that bats may use for foraging such as trees, scrub grassland and water.

High	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, tree-lines 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.
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3.4.5 Hazel Dormouse

The site was assessed for potential to support the hazel dormouse *Muscardinus avellanarius*, in accordance with the *Dormouse Conservation Handbook* (Bright, *et al.*, 2006). Dormice typically use connected woodland, hedgerows and scrub that contain suitable food plants. Aerial images were used to assess the connectivity of any suitable habitat on the site to woodland and hedgerows within the wider area.

3.4.6 Other Species

The site was assessed for suitability to support other protected and notable fauna species / assemblages including birds, invertebrates and mammals.

3.4.7 Invasive Species

The site was searched for invasive plants such as giant hogweed *Heracleum mantegazzianum*, Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Fallopia japonica*, and rhododendron *Rhododendron ponticum*.

3.5 Evaluation

Designated sites, habitats and species (where presence has been identified) have been evaluated in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

These guidelines aim to give consistency in evaluating the importance of the ecological features within and around a site, which help inform any effects or impacts a scheme will have upon them.

A value of the ecological features (designated sites, habitats or species) has been assigned according to their level of importance using the following terms:

- International and European
- National
- Regional
- Local
- Site
- Negligible

3.6 Limitations and Assumptions

Access was available to the entire site. However, the loft void of Building B1 could only be inspected from the ladder at the entrance of the loft hatch, with the void not being boarded and being too cluttered with items to permit safe inspection. There was no internal inspection of Buildings B2 – B9. All buildings on site were recorded as being very well sealed and no potential bat access points. Therefore, the lack of internal access is not considered to represent a significant constraint.

The baseline conditions reported represent those identified at the time of the survey. Although a reasonable assessment of the site can be made during a single survey, seasonal variations are not observed.

The survey date falls outside the optimal season for botanical work. However, the habitat descriptions and evaluations are considered to be accurate due to the common and widespread habitats recorded and the vegetation being clearly visible at the time of survey.

This PEA provides an overview of the likelihood of protected / notable species occurring on the site (negligible, low, moderate, or high). Absence of a species cannot be presumed where no evidence was found. Further surveys have been recommended where there is reasonable likelihood of a protected species being present and impacted by the development proposal. This is based on the suitability of the habitat and any evidence observed.

This PEA does not constitute a full botanical survey or a Phase 2 pre-construction survey for Japanese knotweed.

Access to survey within 30m of the site was not possible due to private ownership. Therefore, the presence of badger setts within this area cannot be excluded. A pre-construction badger survey has been recommended. Therefore, the limited access to assess the potential for badger presence is not considered to represent a significant constraint.

The results of this assessment will remain valid for 12 months from the date of the survey i.e. until November 2024, after which the assessment should be updated, if a planning application has not been submitted within this timeframe.

4 Results and Evaluation

The following section presents the results, evaluation and discussion of the designated sites, habitats and protected / notable species, which may be impacted by the proposed development.

4.1 Designated Sites

4.1.1 Statutory Sites

Statutory sites designated for nature conservation within the vicinity of the site are provided in **Tables 4.1** and **4.2**. Prior to the UK's departure from the European Union SACs formed part of a wider European network known as Natura 2000s protected sites; whilst the SACs are now reclassified under UK law as forming part of the National Site Network (NSN), the sites designated prior to Brexit are likely to remain of **European importance**. SSSIs are of **national importance** and Local Nature Reserves (LNR) are of **local importance**.

The site falls within the Halling to Trottiscliffe Escarpment SSSI Impact Risk Zone (IRZ), however the development does not meet criteria for impacts that would likely lead to a significant effect on this SSSI. Therefore, no consultation with Natural England and no mitigation is required for this SSSI.

There are no habitats or species within the site that serve as qualifying features of the nearby statutory sites. The application site is not ecologically linked to these sites due to the intervening land being rural settlement and open farmland (OS, 2023). The development is also highly unlikely to indirectly impact any designated sites in the local area due to the small nature of the site and the proposed building will replace the existing residential building. No significant impacts on statutory sites are expected.

No further action is recommended.

Table 4.1: Statutory designated sites of international importance within 5km of the application site.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
North Downs Woodlands SAC	2.7km E	287.35	Annex I habitats that are a primary reason for selection of this site: 9130 <i>Asperulo-Fagetum</i> beech forests 91J0 <i>Taxus baccata</i> woods of the British Isles Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: 6210 semi-natural dry grassland and scrubland facies on calcareous substrates (<i>Festuca-brometalia</i>) (important orchid sites).

Table 4.2: Statutory designated sites of national importance within 2km of the application site.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Halling to Trottiscliffe Escarpment SSSI	1.6km SE	600.58	The site is designated for: • Providing chalk grassland and beech woodland on chalk; and • Supporting breeding assemblages of green woodpecker <i>Picus viridis</i>, greater spotted woodpecker <i>Dendrocopos major</i>, lesser spotted woodpecker <i>Dendrocopos minor</i>, nuthatch <i>Sitta europaea</i> and hawfinch <i>Coccothraustes coccothraustes</i>.

4.1.2 Non-Statutory Sites and Priority Habitats

Non-statutory sites designated for nature conservation that are located within 2km of the application site are provided in **Table 4.3**. LWSs are of are of **local importance**.

The development will be small enough and located far enough from any of these sites for there to be any direct or indirect impacts on their habitats.

Further, there does not appear to be any direct public path, hydrological link or other habitat connectivity between these sites and the application site (OS, 2023). No significant impacts on non-statutory sites are expected.

No further action is recommended in relation to non-statutory designated sites.

Table 4.3: Non-statutory sites within 2km of the application site.

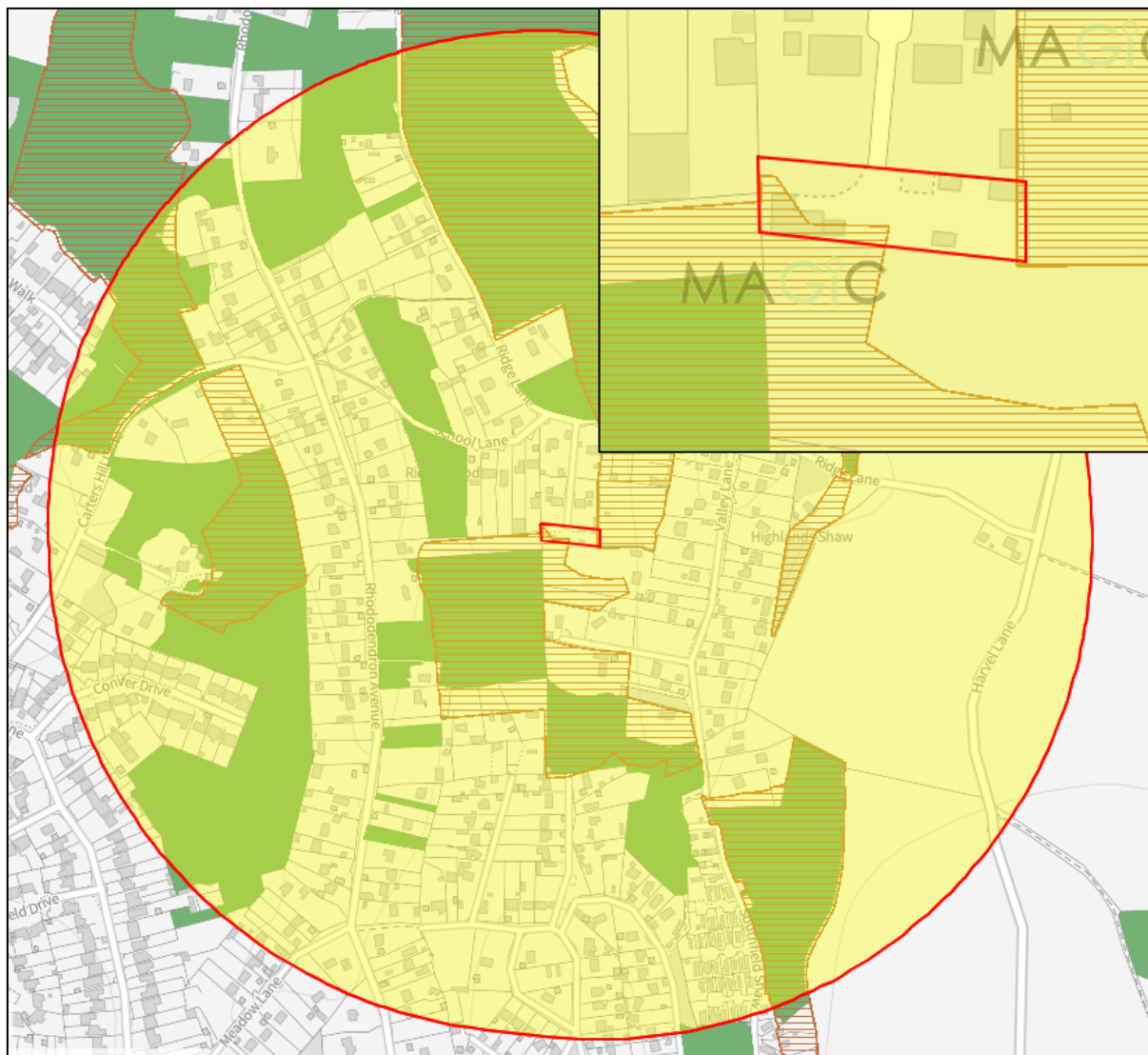
Site Name	Distance & Direction from Site	Reasons for Designation
GR14 Whitehorse Wood and Holly Hill LWS	c. 0.2km NE	Information not provided.
GR10 Happy Valley, Meopham LWS	c. 0.6km NE	Information not provided.
GR08 Luxon Wood, Great Buckland LWS	c. 1.7km NE	Information not provided.
GR06 Strawberry Hill, Pasture & Woodland, Meopham	c. 1.5km NE	Information not provided.

Priority Habitats (Section 41, NERC Act 2006) are present within 500m. These include Ancient Woodland and Deciduous Woodland. MAGIC (2023) shows Ancient Woodland being present within south-western portion of the site and along the eastern site boundary (**Figure 4.1**). However, during

the PEA survey no woodland was recorded within the site boundary and the site is separated from the off-site woodland by a well-established Cherry laurel hedge which was present on all boundaries with the exception of the eastern portion of the northern boundary.

Ancient Woodland is located east of the eastern site boundary, south of the southern site boundary and west of the western boundary, as shown in **Figure 4.1**. Due to the close proximity of the Ancient Woodland to the site and the potential for this to be impacted during construction, further action is outlined in **Section 5**.

Figure 4.1: Priority habitat Ancient Woodland (brown lines) and priority habitat deciduous woodland (green blocks) within 500m of the application boundary (red line).



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4.2 Habitats

The habitats below were recorded within the site during the survey. No protected, Habitats of Principal Importance (HPIE) or locally important floral species or habitats were recorded within the site during the survey. Habitat types are described below and shown on the UK Habitat Map (**Appendix 2**).

Table 4.4: Habitats recorded on-site (UK Habitats Classification).

Primary Habitat (code)	Secondary Habitat within Primary Habitat (code)	Ecological Condition Status
Buildings (u1b5)	-	N / A
Built up areas and gardens (u1)	Vegetated garden (828)	N / A
Developed land, sealed surface (u1b)	-	N / A
Artificial unvegetated unsealed surface (u1c)	-	N / A
Non-native and ornamental hedgerow (h2b)	Active management (516)	N / A
Built linear features (u1e)	Fence (612)	N / A

4.2.1 Buildings

A description of the buildings within the site is provided in relation to their bat roosting suitability in **Section 4.3.6**.

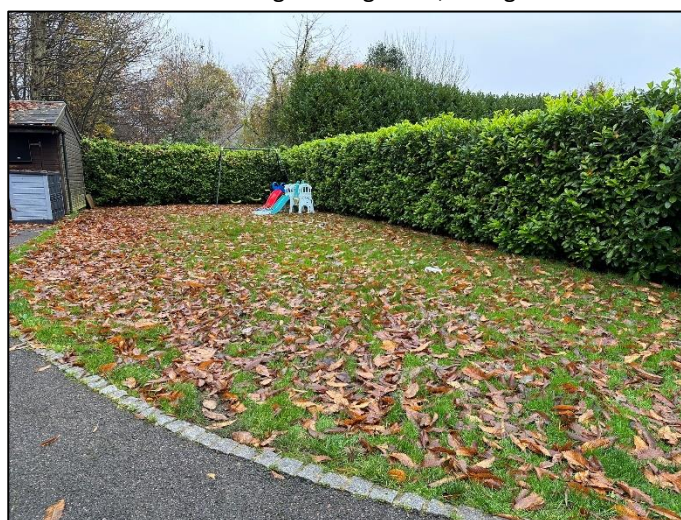
4.2.2 Built up areas and gardens

Built up areas and gardens are located within the north-western portion of the site (**Photo 4.1**). This conforms to UK Habitat Classification Code u1. The UK Habitat Classification secondary code 828 (vegetated garden) is applicable. Species comprise rough meadow-grass *Poa trivialis*, annual meadow-grass *Poa annua*, perennial ryegrass *Lolium perenne*, dandelion *Taraxacum officinale* agg., daisy *Bellis perennis*, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, ragwort *Jacobaea vulgaris* and spear thistle *Cirsium vulgare*. The ecological condition status of built up areas and gardens and vegetated gardens is not required.

Vegetated gardens are common and widespread in the local area and is therefore of **negligible** importance.

No further action is required.

Photo 4.1: Vegetated garden, facing west



4.2.3 Developed land (sealed surface)

Developed land (sealed surface) was present within the western portion of the site (**Photo 4.2**). This conforms to UK Habitat Classification Code u1b. Developed land (sealed surface) lacks any ecological value and is therefore of **negligible** importance.

No further action is required.

Photo 4.2: Developed land (sealed surface), facing north-west



4.2.4 Artificial unvegetated unsealed surface

Artificial unvegetated unsealed surface was present within the eastern portion of the site (**Photo 4.3**). This conforms to UK Habitat Classification Code u1c. Artificial unvegetated unsealed surface lacks any ecological value and is therefore of **negligible** importance.

No further action is required.

Photo 4.3: Artificial unvegetated unsealed surface, facing east



4.2.5 Hedgerows

Intact non-native and ornamental hedgerows were recorded on all boundaries, apart from the eastern portion of the northern boundary. The hedgerows on site conform to UK Habitat Classification Code h2b due to the only species present, cherry laurel *Prunus laurocerasus*, being a neophyte. The UK

Habitat Classification secondary code 516 (active management) is applicable to each hedgerow. The ecological condition status of non-native and ornamental hedgerows is not required.

Despite the hedgerows connecting to off-site ancient woodland, the hedgerows themselves are of limited ecological value being only single non-native/ornamental species. The hedgerows are therefore of **site** importance. These hedgerows are not considered to be important under the *Hedgerow Regulations Act 1997* due to forming a private curtilage.

Further action has been recommended in **Section 5**.

4.2.5.1 Hedgerow 1 (H1)

Hedgerow H1 is located on the western portion of the northern boundary (**Photo 4.4**). H1 is c. 2.5m tall and c. 1m wide.

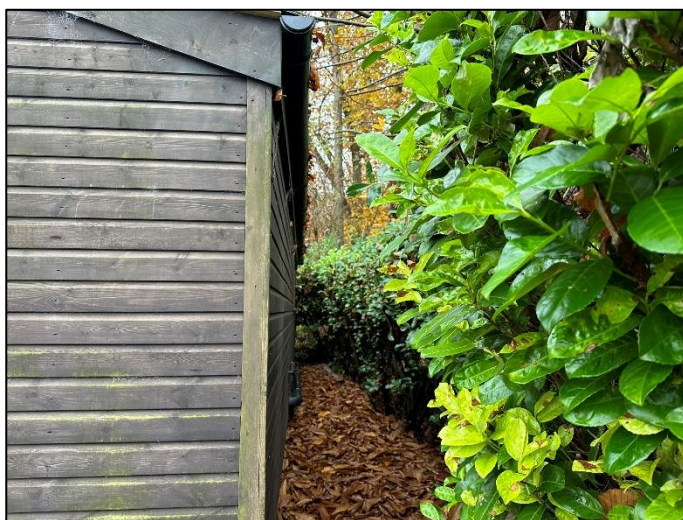
Photo 4.4: Hedgerow 1 (H1), facing west



4.2.5.1 Hedgerow 2 (H2)

Hedgerow H2 is located on the western boundary (**Photo 4.5**). H2 is c. 2.5m tall and c. 1m wide.

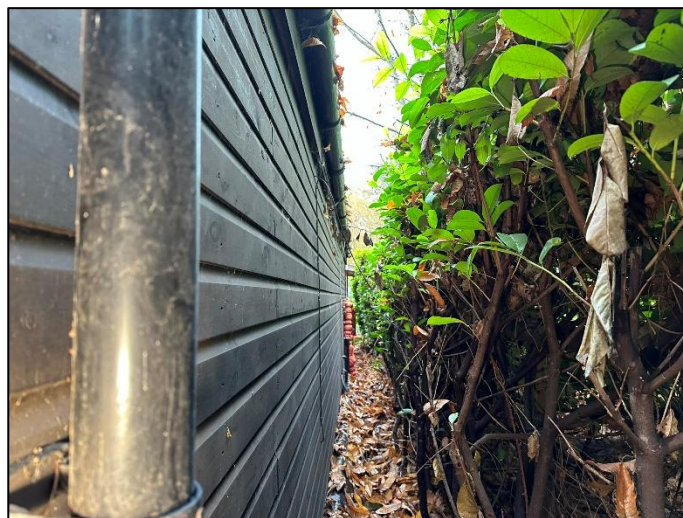
Photo 4.5: Hedgerow 2 (H2), facing south



4.2.5.1 Hedgerow 3 (H3)

Hedgerow H3 is located on the southern boundary (**Photo 4.6**). H3 is c. 3m tall and c. 1.5m wide.

Photo 4.6: Hedgerow 3 (H3), facing east



4.2.5.1 Hedgerow 4 (H4)

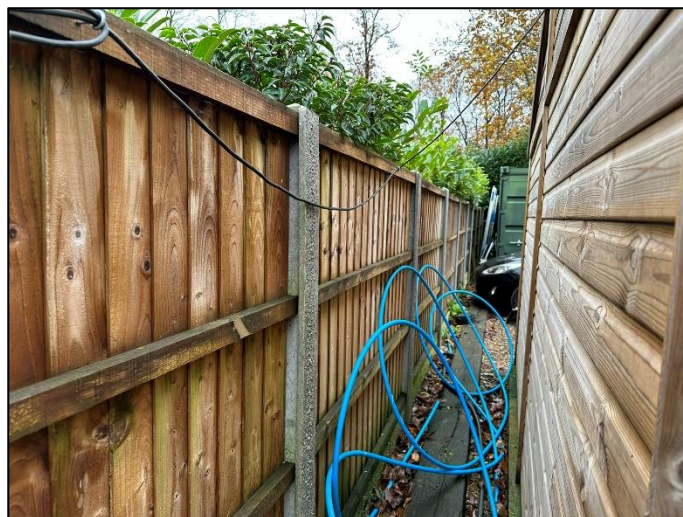
Hedgerow H4 is located on the eastern boundary. H4 is c. 4m tall and c. 1.5m wide.

4.2.6 Built linear features

Built linear features, which conform to UK Habitat Classification code u1e, were recorded along the eastern portion of the northern boundary (**Photo 4.7**) in the form of a solid wooden fence. The UK Habitat Classification secondary code 612 (fence) is applicable. This lacks any ecological value and is therefore of **negligible** importance.

No further action is required.

Photo 4.7: Fence along the eastern portion of the northern boundary, facing east



4.3 Protected and Notable Species

Records of protected / notable species for the last ten years have been considered within the assessment below. Older records have been considered where appropriate. None of the records pertain to the site, and MAGIC did not return any records of granted EPSM licences from within 2km.

4.3.1 Invertebrates

KMBRC did not return any records for invertebrates that are listed on *Schedule 5* of the *WCA*. Numerous records of Section 41 (NERC Act, 2006) moths and butterflies were returned. Most of these records originate from Trosley Country Park, which is c. 1.2km south from the site.

Habitats to be significantly impacted by the proposals (vegetated garden) are unlikely to support rare or notable species. Limited nectaring opportunities are available for butterflies. The site therefore holds **negligible** potential for rare / notable invertebrates.

No further action is required.

4.3.2 Great Crested Newts and Common Toads

KMBRC returned no records of great crested newt *Triturus cristatus* and common toad *Bufo bufo*. No water-bodies were recorded within the site boundary and no water-bodies are located within 250m (OS, 2023). The site does not provide any possible places of shelter or hibernation for amphibians, including great crested newts. The lack of water-bodies within 250m of the site means that great crested newts are likely to be absent.

The site therefore holds **negligible** potential for great crested newts and **impacts to other amphibians are not expected**.

No further action is required.

4.3.3 Reptiles

KMBRC returned 10 records of common lizard *Zootoca vivipara*, five records of grass snake *Natrix helvetica*, and four records of slow-worm *Anguis fragilis* and adder *Vipera berus*. The most recent of these records dates from 2020 for grass snake and the nearest of these records is c. 1.4km south-west for grass snake.

The hedgerow provides habitat structure that common lizards and slow-worms typically require and provides connectivity between off-site woodland and adjacent gardens. The small nature of the vegetated garden and the lack of sward height and thatch means this is highly unlikely to support reptiles. Overall, the site offers limited habitat suitability for reptiles. The site therefore holds **low** suitability for common lizards and slow-worms.

The existing hedgerows will be retained, therefore, no further action is required.

4.3.4 Birds

KMBRC returned no records of bird species listed as Annex I (Birds Directive) and / or Schedule 1 (*WCA*) that would be likely to breed on-site. The records included species of Red- and Amber-listed Birds of Conservation Concern (BoCC) (Stanbury *et al.*, 2021) that could breed on-site as follows: starling *Sturnus vulgaris*, house sparrow *Passer domesticus*, greenfinch *Chloris chloris*, dunnoek *Prunella modularis* and wren *Troglodytes troglodytes*.

No birds were recorded during the survey.

Bird interest (nesting / foraging) is likely to be confined to the hedgerows. The site therefore holds **low** potential for widespread species of nesting bird. The site overall is, however, considered to hold **negligible** potential for bird species listed as Annex I (Birds Directive) and / or Schedule 1 (WCA). The small nature of the site, lack of connectivity to open areas of fields or water, and heavy levels of disturbance mean that the site has **negligible** potential for notable wintering bird species and assemblages. However, more suitable for nesting / foraging birds is present immediately off-site within the woodland.

The existing hedgerows will be retained, therefore, no further action is required.

4.3.5 Badgers

KMBRC returned no records of badgers *Meles meles*. No badger setts or evidence of badgers were recorded within the site boundary. Woodland is present immediately south of the site boundary and within the local area which provides high quality habitat for badgers.

A pre-construction badger survey has therefore been recommended in **Section 5**.

4.3.6 Bats

KMBRC returned records for nine bat species dating from 1984 - 2021: serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, whiskered *Myotis mystacinus*, Natterer's *Myotis nattereri*, Leisler's *Nyctalus leisleri*, noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared *Plecotus auritus*. These records comprised four maternity roosts, six hibernation roosts and 13 unknown roost records. The nearest roost record was for a maternity roost for *Pipistrellus* sp. in 1996. The roost is recorded as being c. 0.4km north-west of the application boundary.

4.3.6.2 Roosting (Buildings)

The relevant buildings on site have been described below. Refer to **Appendix 2** for the building locations.

Building B1

Building B1 is a modern 'L – shaped' residential cabin (**Photo 4.8**). The building comprises of a pitched roof and weatherboard walls. The building is well-sealed and with no potential access points for bats. A vaulted ceiling is present within the eastern portion of the building and a loft void is present within the western portion (see **Figure 4.2** for location). The loft comprises a ridge beam, rafters and plastic lining (**Photos 4.9** and **4.10**). The loft measures c. 1.5m in height to the apex. No light egress or gaps in the lining were present. No evidence of bats was noted on or within the building. Therefore, Building B1 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.8: The northern elevation of Building B1, facing south-west.



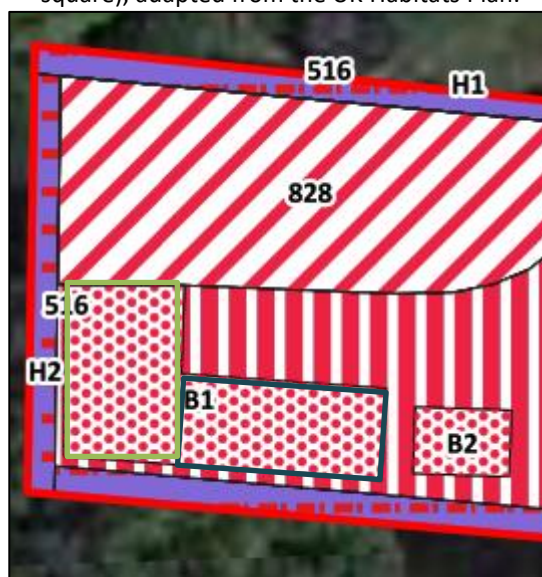
Photo 4.9: View within the loft void, facing north.



Photo 4.10: The plastic lining and rafters in the loft.



Figure 4.2: The location of the loft void (shown by green square) and the vaulted ceiling (shown by blue square), adapted from the UK Habitats Plan.



Building B2

Building B2 is a shed that measures L x 4.5m and W x 3m (**Photo 4.11**). The building comprises of a pitched roof and weatherboard walls. The building is well sealed with no bat access points or external roosting opportunities. Internally the building is light and subject to high levels of human disturbance. No evidence of bats was noted on the building. Building B2 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.11: The eastern and northern elevations of Building B2, facing south.



Building B3

Building B3 is a cabin that measures L x 6m, W x 3m (**Photo 4.12**). The building comprises of a flat roof with weatherboard walls. The building is well sealed with no bat access points or external roosting opportunities. No evidence of bats was noted on the building. Building B3 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.12: The northern elevation of Building B3, facing south



Building B4

Building B4 is a dog kennel that measures L x 5m and W x 3.5m (**Photo 4.13**). The building comprises of a flat roof with weatherboard and open steel mesh walls. The building is generally sealed, although a potential access point exists though the open steel mesh wall. Internally the building is light and subject to high levels of dog disturbance. No evidence of bats was noted on the building. Building B1 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.13: The southern elevation of Building B4, facing north.



Building B5

Building B5 is a dog kennel that measures L x 5m and W x 3.5m (**Photo 4.14**). The building comprises of a corrugated pitched roof with weatherboard and open steel mesh walls. The building is generally sealed and no gaps are present at the base of the corrugated pitched roof (**Photo 4.15**), although a potential access point exists though the open steel mesh wall. Internally the building is light and subject to high levels of dog disturbance. No evidence of bats was noted on the building. Building B1 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.14: The western and southern elevations of Building B5, facing north-east



Photo 4.15: The gaps underneath the corrugated roof are filled preventing bat access.



Buildings B6 and B7

Buildings B6 and B7 are containers which each measure L x 7m and W x 2.5m (**Photo 4.16**). The buildings are well sealed with no bat access points or external roosting opportunities. Therefore, Buildings B6 and B7 are of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.16: Buildings B6 and B7, facing north-east



Building B8

Building B8 is a caravan (**Photo 4.17**). The building is well sealed with no bat access points or external roosting opportunities. Therefore, Building B8 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.17: Building B8, facing south-east.



Building B9

Building B9 is a caravan (**Photo 4.18**). The building is well sealed with no bat access points or external roosting opportunities. Therefore, Building B9 is of **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

Photo 4.18: Building B9, facing north-east.



Overall Suitability for Roosting Bats in Buildings

The roost assessment concluded that Buildings 1 – 9 hold **negligible** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season.

No further action is required.

4.3.6.3 Foraging and Commuting

Suitable habitat for foraging and commuting bats was recorded within the site in the form of hedgerows. However, these occupy a small area, and more suitable habitat for foraging and commuting bats was recorded within the adjacent woodland. The site is therefore of **low** suitability for foraging and commuting bats.

Precautionary measures for foraging and commuting bats have been recommended in **Section 5**.

4.3.7 Hazel Dormice

KMBRC did not return any records for dormice *Muscardinus avellanarius*. The site is located within the dormouse natural range. The on-site hedgerows offer poor quality habitat for hazel dormice as they do not provide a suitable food source or connect to other hedgerows north of the application boundary. However, they do connect to suitable woodland off-site to the east, south and west. According to aerial imagery, the off-site woodland is of a size that could support a viable population of dormice and is suitably connected to other pockets of woodland. The site is therefore considered to hold **low** potential for dormice.

Precautionary measures for dormice have therefore been recommended in **Section 5**.

4.3.8 Hedgehogs and Other Section 41 Priority / Rare Species

KMBRC did not return any records of hedgehog *Erinaceus europaeus*.

The site has **low** potential for hedgehogs in the form of sheltering habitat at the base of the hedgerows. More suitable habitat is present in the adjacent gardens, woodland and surrounding landscape.

Further action for hedgehogs has been recommended in **Section 5**.

4.3.9 Invasive Plants

No invasive plant species listed under Schedule 9 of the *WCA* were noted on site during the survey.

No further action is required.

5 Further Surveys, Avoidance, Mitigation and Enhancement Recommendations

This section discusses recommendations for further surveys, avoidance, mitigation, and possible enhancements in line with relevant wildlife legislation and planning policy (see **Appendix 1**).

5.1 Further Surveys

5.1.1 Badgers: Setts

No badger setts were recorded within the site. However, badger setts can appear at any time where suitable habitat has been identified. A badger survey on and within 30m around the site by an ecologist c. six weeks before clearance / construction begins is recommended. This should allow time for any mitigation / avoidance measures to be designed, and preparation of a Natural England badger Development Licence application if required.

5.2 Avoidance and Mitigation

5.2.1 Priority Habitat: Ancient Woodland and Deciduous Woodland (off-site)

In accordance with an arboricultural briefing note produced in support of the proposed development, impacts through damage to tree crowns or Root Protection Zones (RPZs) during construction are not expected. Operational impacts are not expected. In order to avoid the possibility of temporary construction impacts such as dust generation, a precautionary method of working during building demolition and erection should be adopted. Specifically:

- Removal of any concrete slabs should be carried with the use of dust suppression and by locating any excavator with a toothless bucket on the existing hardstanding and working backwards from the boundary line.

5.2.2 Hedgerows

Retain native hedgerows and protect where required during construction with Heras fencing in line with *Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012* (British Standards Institution, 2012).

5.2.3 Bats

The following measures should be implemented within the development to minimise impacts on foraging and commuting bats caused by artificial lighting (BCT & ILP, 2023):

- Direct any task lighting used during construction away from the hedgerows on-site (retained and new), the off-site woodland and any newly installed bat boxes;
- Set any necessary security lighting on short timers with a sensitivity to large moving objects only;
- Consider installing internal light fittings in a recess where installed in proximity to windows facing the boundary vegetation in order to reduce glare and light spill;
- Limit lighting times to provide dark periods;
- LED light sources should be used wherever possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capabilities. A warm spectrum light (ideally <2700 Kelvin) should be used to reduce the blue light component. Lights should feature peak

wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012). Luminaires should be mounted on the horizontal, i.e. with no upward tilt. Avoid the use of UV light and do not use metal halide, fluorescent light sources; and

- As a last resort, use hoods or cowls to avoid light being directed at the sky or towards the hedgerows on-site (retained and new) and the off-site woodland.

5.2.4 Hazel Dormice

The precautionary measures detailed in **Section 5.2.3** will minimise impacts on hazel dormice, in the unlikely event that they are present, caused by artificial lighting.

5.2.5 Hedgehog

In order to avoid / minimise potential impacts to hedgehogs, install any new garden fences with either a 13cm tall gap along the base or provide hedgehog links (13cm x 13cm holes at the base) at 10m intervals to allow hedgehogs to move freely between gardens and adjacent habitats.

5.2.6 General Site Measures

Use these precautionary measures to avoid / minimise impacts to wildlife:

- Cover any trenches, holes or deep pits overnight, or use secured planks to allow any animals that fall in to escape during construction. A member of staff should check the site at the end of each working day to ensure that these provisions to protect nocturnal species (such as hedgehog and badger) have been made; and
- Store materials off the ground on pallets to prevent reptiles from taking refuge under them.

5.3 Enhancements

The recommendations below are designed to enhance the value of the site for wildlife, as encouraged through the National Planning Policy Framework (2021), and to help achieve meaningful biodiversity net gain in the context of both national and local biodiversity priorities and targets:

- 1) Plant five native trees of local provenance within the site boundary. Refer to **Appendix 3** for suitable species.
- 2) Incorporate native nectar and pollen rich planting within the garden design. Refer to **Appendix 3** for suitable species.
- 3) Install two long lasting general bird boxes onto the new building at least 3m above the ground, avoiding direct sunlight (not directly south-facing) and prevailing wind.
- 4) Install one Greenwood Half and Half Bat Box Bat Box (or suitable long-lasting alternative) onto the new building. Install the bat box at least 5m above the ground and face in a southerly direction, so that it receives sun for part of the day. Place the box clear of any obstructions to allow access for bats (e.g. over-hanging branches).
- 5) Provide a hedgehog house within a sheltered location e.g. at the base of a hedgerow along the southern boundary.

6 Conclusion

The development can proceed with minimal impact to habitats and protected / notable species if the avoidance and mitigation measures outlined within **Section 5**, and any measures arising from the further badger survey, are implemented.

There is also the opportunity to enhance the development for local wildlife in the long-term by implementing the enhancement measures.

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Appendix 1 Legislation & Planning Policy

Legislation

Conservation of Habitat and Species (Amendment) (EU Exit) Regulations (CHSR) 2019

The *CHSR 2019* transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

The purpose of the 2019 amendments applied to the legislation were to ensure the continued functionality of the Regulations once the UK has left the European Union, with no policy changes included.

Wildlife & Countryside Act (WCA)

The *WCA 1981*, as amended by the *Countryside and Rights of Way Act (CROW) 2000* and the *Natural Environment and Rural Communities Act (NERC) 2006*, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

Natural Environment & Rural Communities (NERC) Act

The *NERC Act 2006* amends the *CROW Act*, by further extending the requirement to have regard for biodiversity to all public authorities, which includes local authorities and local planning authorities and requires that the Secretary of State consults Natural England (NE) in the publication of the list of living organisms and habitat types deemed to be of principal importance in conserving biodiversity.

Relevant Protected Species Legislation

Species	Relevant Legislation	Level of Protection
Reptiles (adder, grass snake, common lizard & slow-worm)	Partially protected under <i>Schedule 5</i> of the <i>Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - intentionally kill or injure these animals. - sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead animals or part of these animals.
Badger	<i>Protection of Badgers Act, 1992.</i>	It is an offence to: - wilfully kill, injure, take, possess, or cruelly ill-treat a badger, or to attempt to do so. - intentionally or recklessly interfere with a sett.
Bats	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i> . Full protection under <i>Schedule 5</i> of the <i>Wildlife and Countryside Act, 1981 (as amended)</i> . Protected by the <i>Wild Mammals (Protection) Act 1996</i> .	It is an offence to: - intentionally kill, injure, or take any species of bat. - intentionally or recklessly disturb bats. - intentionally or recklessly damage destroy or obstruct access to bat roosts.
Hazel Dormouse	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i> . Full protection under <i>Schedule 5</i> of the <i>Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - deliberately capture, injure or kill hazel dormice. - damage or destroy a dormouse resting place or breeding site. - deliberately or recklessly disturb a hazel dormouse while it's in a structure or place of shelter or protection. - block access to structures or places of shelter or protection. - possess, sell, control or transport live or dead hazel dormice, or parts of hazel dormice.
Wild Mammals	The <i>Wild Mammals (Protection) Act 1996</i> .	This makes it an offence to: crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering. This may apply during site clearance for development, particularly where burrowing animals such as foxes and rabbits are present, since such animals could be crushed or asphyxiated in their burrows by heavy machinery.

National Planning Policy

National Planning Policy Framework (NPPF)

The NPPF sets out current government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning application (MHCLG, 2021). The NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development, following the principles of the mitigation hierarchy. The goals set out within the NPPF are for developments to minimise impacts on and provide net gains for biodiversity, including at the catchment or landscape scale.

The NPPF works in conjunction with Government Circular 06/2005 *'Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System.'*

Regional and Local Planning Policy and Guidance

Local Structure Plans

County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A 'UK Post-2010 Biodiversity Framework' was published in July 2012, and succeeded the UKBAP. Much of the work for the UK BAP is now focussed at a country level due to devolution and the creation of country-level biodiversity strategies.

The UKBAP lists of priority species and habitats are still valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats as required under Section 41 of the NERC Act (2006).

UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (2012) was produced in response to a change in strategic thinking following the publication of the Convention of Biological Diversity's Strategic Plan for Biodiversity 2011–2020. The Strategic Plan consists of 20 new biodiversity targets for 2020, termed the 'Aichi biodiversity targets' and the launch of the new EU Biodiversity Strategy in May 2011.

The framework sets a structure for action across the UK between now and 2020, including a shared vision and priorities for UK-scale activities to help deliver the Aichi targets and the EU Biodiversity Strategy. A major commitment by Parties to the Convention of Biological Diversity is to produce a National Biodiversity Strategy and/or Action Plan (NBSAP).

Natural England Standing Advice

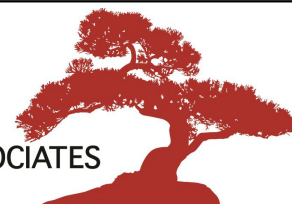
Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

Appendix 2 UK Habitat Plan



Legend

- Application site boundary
- h2b - Non-native and ornamental hedgerow
- u1 - built-up areas and gardens
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- 516 - Active Management
- 828 - Vegetated Garden
- 612 - Fence



DAVID ARCHER ASSOCIATES

Chesham House, Eastbourne Road, Halland,
East Sussex, BN8 6PT
Tel: 01825 346919; 07568 411939
Email: info@davidarcherassociates.co.uk
Web: www.davidarcherassociates.co.uk

Project:	Little Cottage, Ridge Lane, Meopham, Kent, DA13 0DP
Title:	UK Habitat Plan
Client:	WS Planning
Date:	21/11/2023

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Appendix 3 Wildlife Friendly Planting

Table A3.1: 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>
Guelder 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>
Mezereon	<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>
Privet	<i>Ligustrum ovalifolium</i>
Purple willow	<i>Salix purpurea</i>

Common Name	Scientific Name
Snowy mespilus	<i>Amelanchier canadensis</i> , <i>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 A3.2: 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</i> agg.
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 A3.3: 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.