ethos
Environmental Planning

Preliminary Ecological Appraisal Report

Tudor Cottage, Cherhill



March 2023

Ecology | Green Space | Community | GIS
Unit 1, Brassmill Lane Enterprise Centre | Bath | BA1 3JN
01225444114 | info@ethosep.co.uk
www.ethosep.co.uk

Report Produced for **Bradfield Properties Ltd**

Written by:	**Becky Morris, Ecologist**
Checked by:	**Rachel Fayers, Principal Ecologist**
Approved by:	**Jim Phillips, Managing Director**
Issue:	**V1**
Date:	**March 2023**
Project:	**ETH23-058**

CONTENTS

		Page(s)
SUMMARY		3
1	INTRODUCTION	4
2	POLICY AND LEGISLATION	6
3	METHODOLOGY	9
4	BASELINE ECOLOGICAL CONDITIONS	13
5	DEVELOPMENT PROPOSALS	24
6	ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES	25
7	CONCLUSION	28

SUMMARY

Introduction	• The site is located at Cherhill, Calne, Wiltshire and is subject to plans for outline planning permission for residential development of three properties. • This Preliminary Ecological Appraisal (PEA) has been written to assess the potential ecological impacts the development proposals may have and to recommend species-specific mitigation and compensation where applicable.
Surveys undertaken	• This Preliminary Ecological Appraisal was completed following a UK Habitat Classification survey at the site in February 2023, which was extended to include an assessment for protected species. • A structures inspection for bats was undertaken on the outbuilding on site.
Key results	• The site comprised an area of grassland as part of a garden lawn, an outbuilding and with boundary hedgerows. • The hedgerows were assessed as potentially suitable habitat for foraging and commuting bats and nesting birds. • Calstone and Cherhill Down SSSI is located 530m south of the site. • Evidence of roosting bats was identified in one section of the building on site (droppings and feeding remains). Remains of swallow nests were also found in this building.
Recommendations	• Precautionary mitigation is recommended for nesting birds, badger, hedgehog, reptiles and GCN to be provided within a Construction Environment Management Plan. • Preliminary recommendations for ecological compensation and enhancement features have been recommended for the site. • A Biodiversity Net Gain assessment should be undertaken to identify the potential for the proposals to deliver net gain. • Further surveys for bats are recommended, comprising activity surveys and static detector surveys. • A LUX baseline assessment should be undertaken in regard to bats on site.

1 INTRODUCTION

1.1 Ethos Environmental Planning (Ethos) have undertaken this Preliminary Ecological Assessment (PEA) of Tudor Cottage, Cherhill (Central Grid Reference SU 04082 70217), hereafter referred to as the 'site' as shown in Figure 1.

Figure 1 Site location



1.2 The site comprised 1.5 hectares and included neutral grassland as part of a domestic garden, hard standing access drive, garage and outhouse and woodland boundary.

1.3 The proposals for the site consist of three new residential properties with associated access and greenspace.

1.4 This PEA has been written based on the guidelines provide in *CIEEM (2017) Guidelines on Ecological Report Writing*.

1.5 The key aims of the report are:

- to identify the existing habitats on site;
- to identify the potential for protected species;
- to identify if any further surveys are required with regards to protected habitats or species, to inform an Ecological Impact Assessment;

- to preliminary identify key ecological constraints to the project and make recommendations for design options to avoid significant effects on important ecological features/resources;
- to identify possible mitigation and compensation measures to ensure there is no negative impact on habitats and protected species during construction and in operation; and
- to identify potential ecological enhancement opportunities to seek a net gain in biodiversity.

2 POLICY AND LEGISLATION

2.1 National Policy

2.1.1 The National Planning Policy Framework (NPPF) sets out national planning policy, including policies of relevance to conserving and enhancing the natural environment. Policies of relevance to the proposed development (parts of paragraphs 174, 180 and 185) have been summarised below:

Para 174: Planning policies and decisions should contribute to and enhance the natural and local environment by:

(a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).

(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.

Para 180: When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

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.

Para 185: c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

2.2 Local Policy

2.2.1 In Wiltshire, the Development Plan includes the Wiltshire Core Strategy incorporating saved policies from district local plans, Wiltshire Housing Site Allocations Plan and made Neighbourhood Plans. The following relevant policies have been taken from the Wiltshire Core Strategy (adopted 2015). Important text relevant to this PEA has been underlined.

Delivering strategic objective 5: protecting and enhancing the natural, historic and built environment

Core Policy 50 – Biodiversity and Geodiversity

Protection
Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services.

All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

Biodiversity enhancement
All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

2.3 Relevant Legislation

2.3.1 The **Habitats Directive** (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all, the Directive protects over 1,000 animals and plant species and over 200 "habitat types" (e.g., special types of forests, meadows, wetlands, etc.), which are of European importance. The habitats Directive and parts of the Birds Directive are transposed into legislation by the **Conservation of Species and Habitat Regulations 2017** (as amended).

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

2.3.3 The **Natural Environment and Rural Communities Act 2006** (the NERC act) places a duty on all public authorities, including local planning authorities, to consider biodiversity in

their work. Local planning authorities are to ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and aims to enhance biodiversity.

2.3.4 The **Environment Act 2021** includes provision for biodiversity net gain to be applied to every planning permission. Schedule 14 of the draft Environment Bill sets out amendments to the Town and Country Planning Act 1990 for the inclusion of biodiversity net gain as follows:

(1) The biodiversity gain objective is met in relation to development for which planning permission is granted if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.

(2) The biodiversity value attributable to the development is the total of—

(a) the post-development biodiversity value of the onsite habitat,

(b) the biodiversity value, in relation to the development, of any registered offsite biodiversity gain allocated to the development, and

(c) the biodiversity value of any biodiversity credits purchased for the development.

(3) The relevant percentage is 10%."

The Environmental Act received Royal Assent in November 2021, meaning that by November 2023 the expectation for all planning permissions to include a biodiversity net gain of at least 10% will become a legal requirement.

3 METHODOLOGY

3.1 Approach

3.1.1 The overall assessment has been informed by guidelines provided in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, Second Edition.

3.2 Desktop Study

3.2.1 A background data search was received from Wiltshire and Swindon Biological Records Centre (WSBRC) on 6th February 2023. The search area included records of non-statutory designated sites and protected and notable species within 1km of the proposed development site.

3.2.2 An additional search for statutory designated sites within 1km of the development site and granted European Protected Species (EPS) licences within 1km of the site boundary was undertaken using publicly available information (DEFRA Magic map).

3.3 UK Habitat Classification Survey

3.3.1 A UKHab survey was undertaken on 1st February 2023. The survey incorporated detailed assessment of the land within the development boundary, including a description and mapping of all key features and habitat types. The survey was carried out to identify the range of habitats within the site and the predominant and notable species of flora.

3.4 Protected Species Surveys

NERC S. 41 Mammals

3.4.1 The survey included an assessment of the habitats on site for their potential to support NERC Section 41 species such as hedgehog (*Erinaceus europaeus*), polecat (*Mustela putorius*), harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).

Badger

3.4.2 The survey for badger (*Meles meles*) included a search of the development site for any evidence of badgers, including setts, foraging signs (snuffle holes), runs and latrines.

Hazel Dormouse

3.4.3 The survey included an assessment of the potential of the site for hazel dormouse (*Muscardinus avellanarius*), focusing on the connectivity and suitability of the habitat on site.

Riparian Mammals

3.4.4 The survey included an assessment of the potential of the site to support riparian mammals such as otter (*Lutra lutra*) and water vole (*Arvicola amphibius*). focusing on the connectivity and suitability of the habitat on site.

Bats

3.4.5 The habitats on site were assessed for their suitability to support foraging and commuting bats. This assessment was also contextualized through examination of suitable habitat and features in the wider landscape and possible flight-lines across the proposed site following natural linear features such as hedgerows.

3.4.6 A physical external and internal inspection of the building on site was undertaken. The physical search includes a search for live animals and a search for other signs that give an indication of past or present occupancy as outlined below. In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated or at least be indicative of species type), signs of staining, urine splashing, characteristic odours, and accumulations of discarded prey remains.

Birds

3.4.7 The bird survey included an assessment of the habitats on site for their potential to support protected and notable species of bird as well as their potential to support breeding birds.

Reptiles

3.4.8 The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. Where possible, attempts to confirm reptile presence on site were made following *Froglife Advice Sheet 10 – Surveying for Reptiles* through direct observation in reptile "hotspots" and checking of any existing refugia.

Amphibians

3.4.9 The habitats on site were assessed for their potential to support amphibian species, including great crested newt (*Triturus cristatus)* (GCN). This included an examination of suitable waterbodies and for breeding terrestrial habitat and terrestrial habitats which may provide sufficient structured vegetation in which amphibians may forage or hibernate.

3.4.10 In addition to the on-site assessment, *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) recommend that a desktop analysis of ponds within 500m of the site be undertaken, to identify any potential breeding ponds which may require further survey.

Ponds within 500m of the site were mapped on GIS with an OS OpenData base map at 1:10,000 resolution.

Invertebrates

3.4.11 Due to the many invertebrate taxonomic groups that exist, the often-large differences in invertebrate diversity between habitats and the many survey techniques available, invertebrate surveys are highly specific to individual sites. Therefore, an assessment of the potential site for invertebrates was undertaken, including the need for targeted surveys.

3.6 Personnel

3.6.1 The experience of the report authors and surveyors on site are included within Table 3. The survey team have worked together on numerous similar projects and have a complimentary range of skills and experience which are considered to have provided a robust ecological appraisal of the site.

Table 1 Surveyors on site

Ecologist	Position	Qualifications/ Licences	Experience
Martin Smith	Senior BNG Consultant	BSc (Hons), Grad CIEEM Class 2 Bat Licence (NE) Class 1 dormouse licence (NE) Class 1 GCN Licence	Martin is a qualified tree climber, bat worker, and also holds licences for dormouse and GCN. Martin leads on designing the bird surveys for the Ethos team. Martin manages several projects for ethos and is experienced at providing suitable mitigation for various projects
Rachel Fayers	Principal Ecologist	BSc (Hons), ACIEEM Class 2 Bat Licence (NE) Class 1 GCN Licence (NE)	Rachel is a practised ecologist and conservationist with over 12 years' experience in the field and is a licensed bat worker. Rachel is responsible for managing ecology surveys, appraisals and projects through various stages of planning and implementation.
Becky Morris	Ecologist	PhD, DIC, MSc, BSc, MCIEEM Class 1 GCN Licence	Becky has 16 years' experience working as an Ecological Consultant, specialising in botanical surveys. She holds a great crested newt survey licence.

3.7 Limitations

3.7.1 The UKHab survey was undertaken in February, which is outside of the of the optimal period for undertaking botanical surveys (March to October inclusive). To get an accurate assessment of the grassland a survey should be undertaken during the growing season.

4 BASELINE ECOLOGICAL CONDITIONS

4.1 Desktop Study

Statutory and Non-statutory Sites

4.1.1 One statutory designated sites were present within 1km of the site; and no non-statutory sites were identified by the data search.

Calstone and Cherhill Downs SSSI

4.1.2 Calstone and Cherhill Down SSSI is located approximately 530m south of the site to the south of the A4. According to the SSSI citation Calstone and Cherhill Downs is an extensive area of herb-rich chalk grassland of exceptional botanical quality. The flora supports a diverse population of invertebrates including an outstanding assemblage of butterflies and a nationally rare cricket. The site comprises one of the best remaining examples in North Wiltshire of unimproved downland.



Figure 2 Statutory designated sites within 1km.

4.2 Habitats

General Site Description

4.2.1 The site comprises neutral grassland managed as long amenity lawn, access track with an outbuilding and bordering hedgerows. The site is bordered by residential development to the north and west, with a large network of arable fields and hedgerows to the south and east of the site and Cherhill Downs further to the south.

UKHab Survey

4.2.2 Figure 5 displays the key habitats using the UK Habitat classifications. Descriptions of the habitats are provided in the following section.

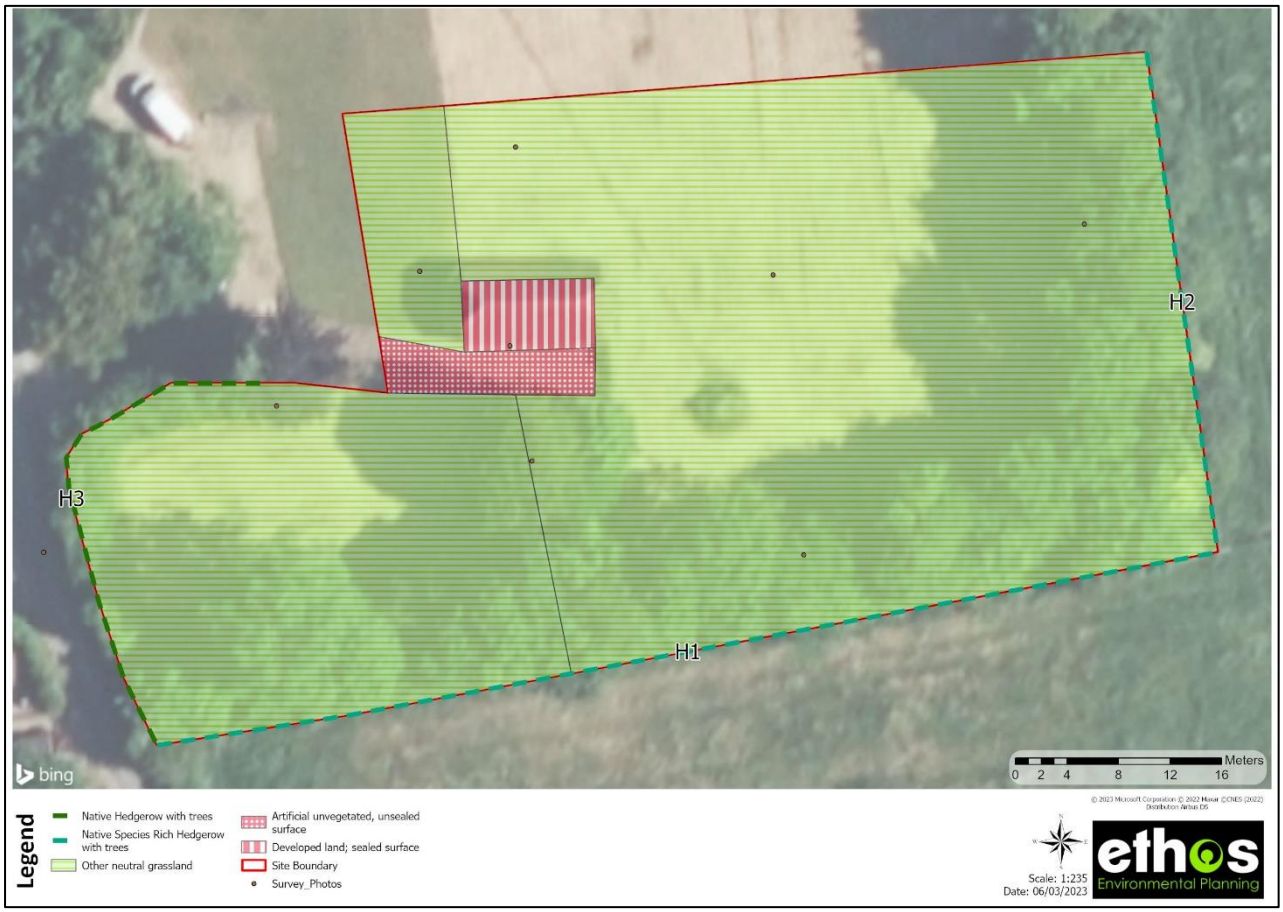


Figure 3 UK Habitat survey

Developed Land; Sealed Surface

4.2.3 A section of the site is developed land, sealed surface; these areas included the concrete driveway from the site entrance to the structure on site. The structure is described in Section 4.9 in relation to bat potential.



Photo 1 Driveway with three yew trees and a maple tree

Neutral grassland

4.2.4 The majority of the site comprised neutral grassland used as an amenity lawn with was which was in poor condition. The fields were dominated by false oat-grass (*Arrhenatherum elatius*) with some patches of red fescue (*Festuca rubra*), yarrow (*Achillea millefolium*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), dandelion (*Taraxacum officinale* agg.), Yorkshire fog (*Holcus lanatus*), Dove's-foot crane's-bill (*Geranium molle*) and cock's-foot (*Dactylis glomerata*) as shown in Photos 2 and 3.



Photo 2 Neutral grassland lawn



Photo 3 Close up of grassland

Hedgerows

4.2.5 Two of the hedgerows (H1 and H2) on site are native hedgerows and H3 and H4 are non-native ornamental hedgerows. All the hedgerows are described and summarised in the table 2 below.

Hedgerow number	Species	Photograph
H1	Species rich hedge with trees - Dominated by beech. Walnut, elder, bird cherry, privet, field maple. Ground cover is dominated by ivy. Remnants of nettles at ground.	
H2	Hedge with trees and species rich. Species include: hazel, beech, apple, lilac, elder, beech, field maple, maple sp.	
H3	Non-native hedge with cypress, privet and other ornamental species.	
H4	Non-native hedge along road with privet and other ornamental species.	

Table 2 Description of hedgerows on site

4.3 NERC S. 41 Mammals

4.3.1 Two hedgehog records were identified by the desk study. The records are dated from 1977 and 1980, grid references were only to 4 figures but records are from north of the site. There are also three records of brown hare, the most recent is from 2019 approximately 500m east of the site within open farmland. There are no records of polecat or harvest mice.

4.3.1 The site mainly comprised large areas of neutral grassland as part of a long garden lawn bordered by hedgerows, which would contain some suitability to support hedgehog for foraging and shelter. The site is within the village of Cherhill and is bordered by residential gardens to the east and south, it is considered likely that hedgehog are present on the site and use the hedgerows for commuting and foraging. The site is also well-connected to the wider landscape of arable fields to the north and west of the site, providing suitable habitat for hedgehog.

4.3.2 Brown hare favour areas of open farmland with patches of long grass to 'lay-up' during the day. The grassland within the site does not provide good habitat for brown hare and therefore they are considered to be absent from the site and are not considered further in this appraisal.

4.3.3 The site is considered potentially suitable for polecat particularly commuting through the site however, due to limited habitat the site is not considered to be an important resource for this species. Polecats are not protected from disturbances and therefore this species is not considered further in this appraisal.

4.3.4 The site is considered unsuitable for harvest mouse due to a lack of suitable habitat. The species is therefore considered likely absent from the site and is not considered further in this appraisal.

4.4 Badger

4.4.1 There are 6 records of badger returned within the data search dated between 2009 and 2017. The closest of these are in the neighbouring field immediately south of the site where there are 3 separate records.

4.4.2 The majority of the site comprised neutral grassland garden lawn with hedgerows and a woodland boundary which would provide some possible suitable habitat for foraging and commuting badgers.

4.4.3 No badger setts or other signs of badger activity were identified on or adjacent to the development site. Therefore, it is considered that badgers could be using the site and badger mitigation are considered further in terms of mitigation during construction and a pre-works check to make sure no new setts have appeared.

4.5 Hazel Dormouse

4.5.1 No records of dormouse were returned in the data search.

4.5.2 The site is linked to a network of hedgerows and a few small patches of woodland in the wider environment. The largest area of woodland is located 1.1 km to the north of the site.

4.5.3 Suitable habitat for dormouse on site is limited to the hedgerows and trees on the site boundaries.

4.5.4 There are no records of dormice for this site but because the hedgerows are considered to be suitable habitat for dormice and the impacts of the development on the hedgerows are unknown, this species will be considered further in this report.

4.6 Otter

4.6.1 The desk study identified no records of European otter (*Lutra lutra*).

4.6.2 The site contains no watercourses. The nearest watercourse is the River Brook which is located 170m north of the site but is separated from the site by roads and domestic properties.

4.6.3 No evidence of otter was identified during the survey and because there is no suitable habitat on the site and therefore they are considered absent from the site and are not considered further in this report.

4.7 Water Vole

4.7.1 No records of water vole were returned within the data search.

4.7.2 No suitable habitat was present on the site and therefore this species is considered absent from the site and is not considered further in this report.

4.8 Bats

4.8.1 The desk study identified 3 bat records within 1km of the site, two pipistrelle/common pipistrelle records and a single brown long-eared bat record. These are a pipistrelle record from 2006 and the location withheld, the common pipistrelle record is from 2008, the location of this is also withheld but it was a roost site with a count of more than 20 adults. The brown long-eared record is from 2008 (Location withheld) and this is also a roost record with more than 100 droppings counted.

4.8.2 There were no EPS licences recorded within 1km of the site relating to bats.

Habitats

4.8.3 The habitats on site were dominated by neutral grassland lawn bordered by hedgerows. There was one structure on the site which had evidence of bat dropping, possibly from a brown long-eared bat night-time roost.

4.8.4 Overall, it was considered that the site contained moderate potential for bats due to good connectivity to the wider area via a network of hedgerows.

Structures Inspection

4.8.5 There is one building located on site, this is a single storey outbuilding which is split into three different rooms. The western room is open with no door whereas the other two have split stable doors. There is a single window to the rear and one to the front. The walls include a row of concrete blocks and then an outer skin of red brick and concrete block at the base. The roof is pitched with double Roman tiles and tight ridge tiles and is in a good condition with no slipped or cracked tiles. There is fascia present at the gable ends which is tight with no gaps. The roof overhangs the walls to the north and south and this provides a gap into the building and as such is freely accessible for bats.

4.8.6 The interior of the building was open from floor to roof void. It has a timber structure within the roof which is open with potential flight room for bats and the three rooms are separated by walls. There are a low number of swallow nests within all sections of the structure. Bitumen sarking is in place below roof tiles and some sarking is missing in the easternmost room. Wire mesh is in place between the western and central rooms. There are windows present within two rooms and one is open with no door.

4.8.7 A cluster of bat droppings were found within the centre of the eastern-most room together with a butterfly wing. Approximately 100 droppings were present clustered on the floor of the building confirming the building is used as a bat roost site.

4.8.8 The bat dropping were analysed by EcoWarwicker Ecological Forensics and identified to be from brown long-eared bats confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.



Photo 4 Outbuilding



Photo 5 Brown long-eared bat droppings on the ground in eastern room



Photo 6 Interior of the outbuilding



Photo 7 Brown long-eared bat droppings clustered on the ground in eastern room

4.9 Birds

4.9.1 The desk study identified 44 bird records within 1km of the site and the majority of species are on the BoCC Red and Amber lists, as detailed below. The exact locations of the recordings are unknown as the records were accurate to 4-figure grid reference only.

4.9.2 Six bird species are listed under Schedule 1 of the Wildlife and Countryside Act. These are red kite (*Milvus milvus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), brambling (*Fringilla montifringilla*), fieldfare (*Turdus pilaris*) and barn owl (*Tyto alba*). Records were dated from 2005 to 2019, with most records from Cherhill White Horse and Upper Farm, Cherhill north of the site.

4.9.3 The additional species on the BoCC red list included swift (*Apus apus*), nightjar (*Caprimulgus europaeus*), golden plover (*Pluvialis apricaria*), herring gull (*Larus argentatus*), woodcock (*Scolopax rusticola*), grey partridge (*Perdix perdix*), skylark (*Alauda arvensis*), corn bunting (*Emberiza calandra*), linnet (*Linaria cannabina*), house martin (*Delichon urbicum*), yellow wagtail (*Motacilla flava*), whinchat (*Saxicola rubetra*), house sparrow (*Passer domesticus*), starling (*Sturnus vulgaris*), mistle thrush (*Turdus viscivorus*) and short-eared owl (*Asio flammeus*).

4.9.4 The habitats on site are dominated by neutral grassland which provides limited opportunities for ground nesting birds. The hedgerows could provide potential breeding habitats for house sparrow, mistle thrush and other common garden species. The outbuilding has old swallow nests within the internal structure, but other bird species could also use the structure for nesting.

4.10 Reptiles

4.10.1 The background data search provides three records of reptile two slow-worm records from Cherhill Churchyard in the 1970's, 200m northwest of the site and a common lizard from Oldbury Fields in 2019 less than 100m west of the site.

4.10.2 The site is dominated by neutral grassland as part of an irregularly mown lawn bordered by hedgerows and woodland margin, and therefore did not provide suitable cover habitat for reptiles.

4.10.3 The site has low potential to support reptiles and the grassland at the time of survey was too exposed to support reptiles. Considering the lack of suitable habitat on site, reptiles are considered absent. However, should the management regime change the site could become more suitable for common reptile species. Therefore, mitigation measures are included to ensure the grassland is subject to regular cutting.

4.11 Amphibians

4.11.1 The data search returned four records of amphibians two great crested newt (*Triturus cristatus*) (GCN) which are found in 2012 and 2019 less than 100m to the west of the site, and two common frog (*Rana temporaria*) found in 1977 on Cherhill Hill 500m south of the site. The GCN records were of individual newts found to the west of the site, recorded in a fire pit near to where a pond was previously located and the second on a gravel track. The site also sits partly within Swindon and Wiltshire's GCN amber risk zone.

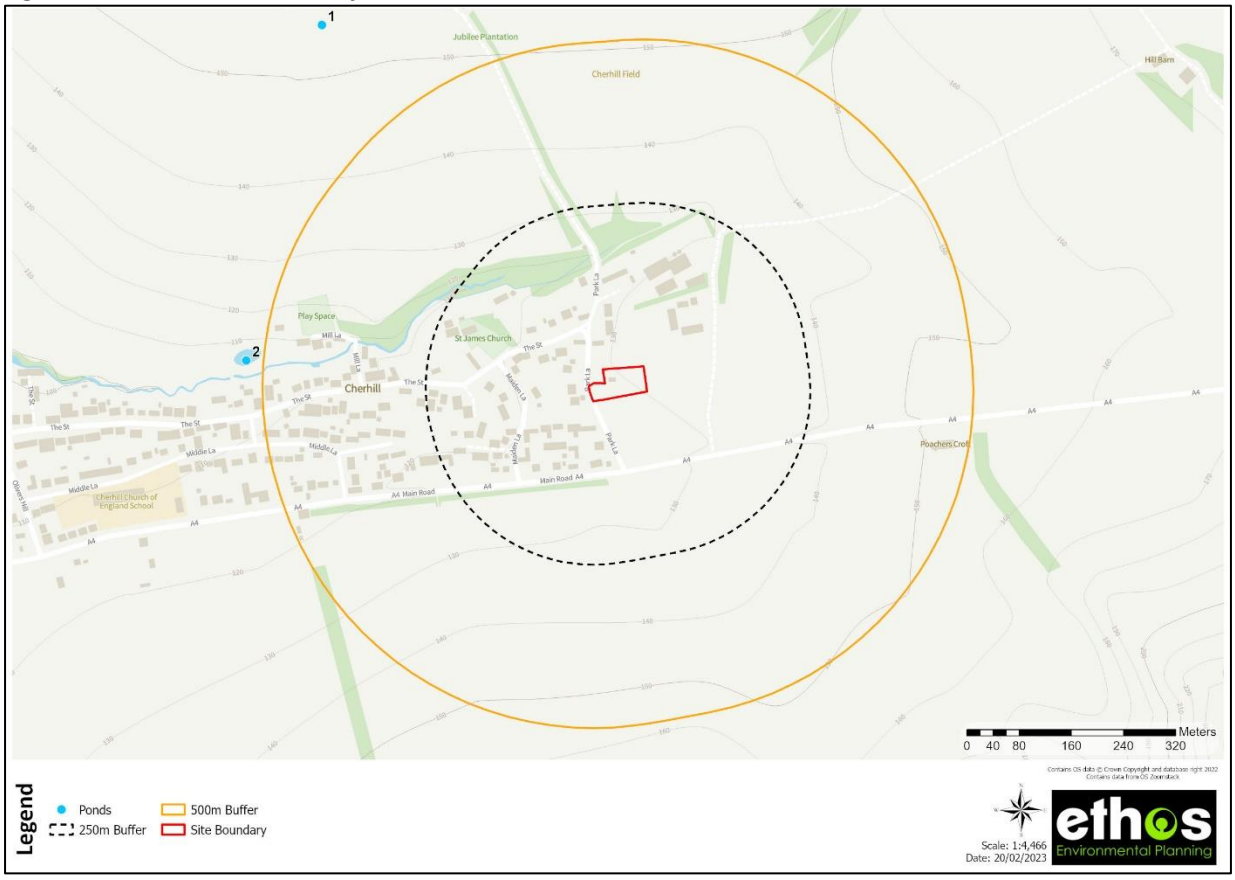
4.11.2 There are no waterbodies present on site that were considered suitable for great crested newt (*Triturus cristatus*) (GCN) and other amphibians. The terrestrial habitat is assessed as being of low value for GCN as the grassland is maintained as a mown lawn with few opportunities for cover. The hedgerows and woodland would provide some potential habitat to support amphibians dispersing through the wider landscape.

4.11.3 A search for ponds within 500m (Figure 4) of the site identified no ponds.

4.11.4 Overall, due to the lack of ponds within 500metres of the site, the only record of GCN being from a pond that is no longer present, the majority of the habitat being of low value to terrestrial GCN, and the site being only half present within the amber zone for GCN district licencing, it is assessed that no further surveys are required in relation to GCN. Furthermore, it is considered that district licencing would not be proportional to

the scale of development. However, recommendations for a working method statement are included in section 6 as a precautionary measure.

Figure 4 Ponds within 500m of the site



4.12 Invertebrates

4.12.1 There are 67 records returned of invertebrates identified by the data search, these include 8 species of butterfly dingy skipper (*Erynnis tages*), marsh fritillary (*Euphydryas aurinia*), small heath (*Coenonympha pamphilus*), wall (*Lasiommata megera*), Duke of Burgundy (*Hamearis lucina*), small blue (*Hamearis lucina*), adonis blue (*Polyommatus bellargus*) and chalk hill blue (*Polyommatus coridon*) the cinnabar moth (*Tyria jacobaeae*), and alder leaf beetle (*Agelastica alni*).

4.12.2 The locations of marsh fritillary (listed under schedule 5 of WaCA) are withheld but 4 of these are from 2019. The remaining 7 butterfly species are red listed species. Of these locations of Duke of Burgundy and adonis blue records are withheld but there were records from 2018 and 2019. Dingy skippers are recorded in 2010 on Cherhill Down, small heath, small blue, chalk hill blue and wall have been recorded 150m south of the site in 2020. The closest cinnabar moth record (listed under schedule 41 of the NERC Act) is approximately 250m south of the site in 2019. The alder leaf beetle, a red data base species, was found 400m northeast of the site in 2019.

4.12.3 Most of the invertebrate species listed are generally found on chalk downland requiring species including horseshoe vetch and fine grasses which were not found on the site and therefore it is unlikely that these species will be using the site. The alder leaf beetle mostly use alder, but will feed on hazel, birch and hornbeam. Only hazel was recorded on site so this species is not considered likely to be present. Cinnabar moths could use the site if common ragwort is present, but no ragwort was recorded during the survey.

4.12.4 The site's assemblage of invertebrates is not considered likely to be of particular nature conservation importance and therefore will not be considered further in this appraisal.

5 DEVELOPMENT PROPOSALS

5.1 The preliminary development proposals comprise the construction of 3 residential dwellings with associated access and green space, as shown in Figure 5.

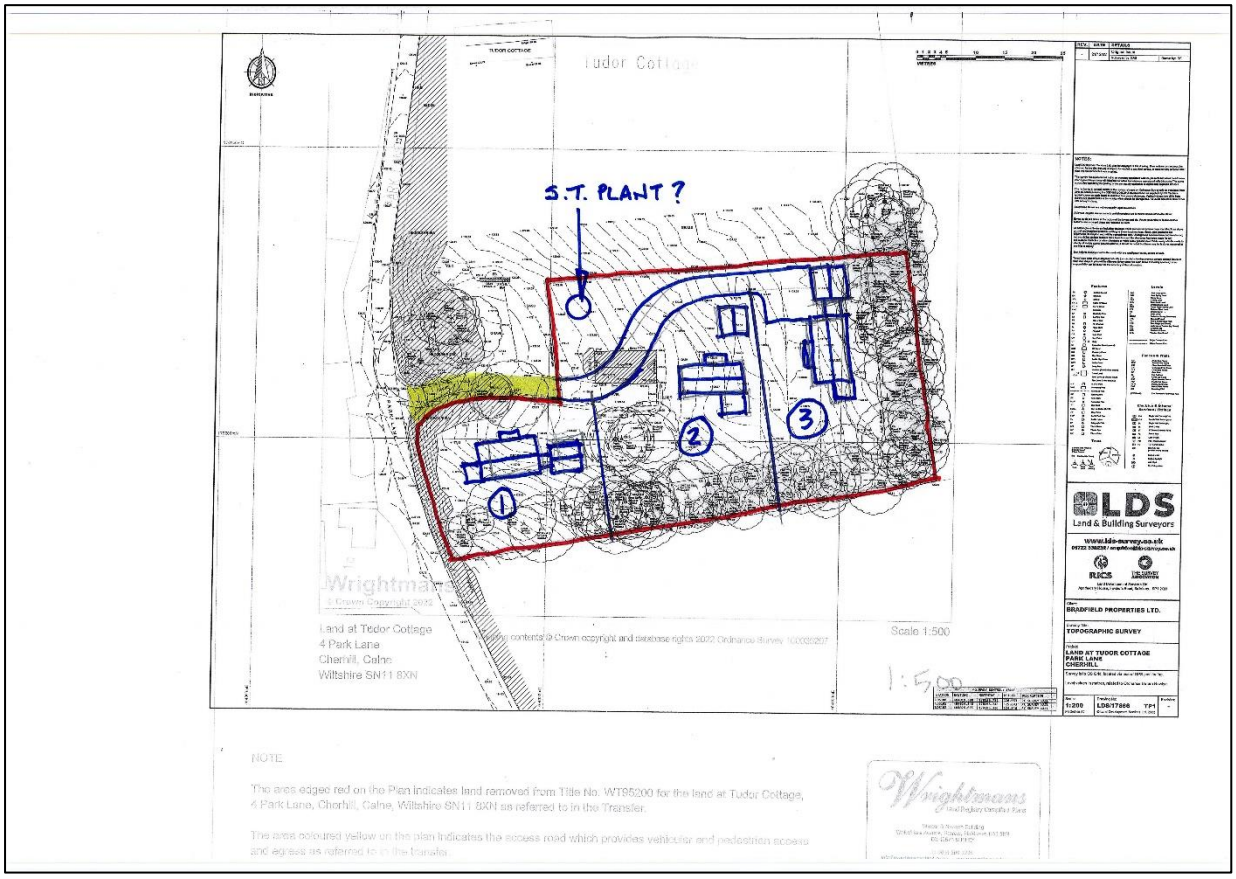


Figure 5 Draft development proposals

6 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

6.1 Constraints

6.1.1 These are preliminary recommendations based on the draft proposals and in the absence of the additional surveys required. Recommendations are likely to be updated and will be provided in a full EcIA.

6.1.2 The key ecological constraint to the development is the potential presence of bats. Evidence of bats was identified within a building on site in the form of droppings, with potential feeding remains. Overall, the building was assessed to hold high potential to support roosting bats. The building is going to be demolished as part of the development proposals and therefore, further bat surveys will be required to identify the mitigation and compensation measures required to avoid impacts on bats present.

6.1.3 Additionally, the hedgerows were assessed to hold moderate value for commuting and foraging bats.

6.1.4 The building was also assessed to have potential to support breeding birds including swallows. Precautionary mitigation will be required during site clearance to safeguard nesting birds. In addition, compensatory nesting features for swallows should be provided.

6.1.5 Very low potential for GCN has been identified. Half the site is located within the amber zone for GCN district licencing, however, due to the very low value of the grassland on site and the lack of ponds within 500metres, it is assessed that district licencing would not be proportional. Instead, a precautionary working method statement is recommended.

6.1.6 The site could also support hedgehogs and badger and mitigation measures are included.

6.1.7 The hedgerows have some potential for hazel dormice, however, the proposals indicate the retention of all hedgerows. Therefore, further assessment will only be required if the development seeks any vegetation removal within the hedgerows.

6.2 Mitigation Requirements

6.2.1 Mitigation required during the construction period should be detailed within a Construction Environmental Management Plan (CEMP), which can be secured via planning condition.

6.2.2 In the absence of final proposals it is expected that mitigation measures could include, but not be limited to, the following:

- Protection of trees and hedgerows with tree protection fencing;
- Mitigation for dormice if the development will result in impacts to hedgerows;
- If bats are recorded roosting in the structure, a licence will be required from Natural England to legally destroy the roost and mitigation measures would include precautionary working method statement. Additionally, compensation measures could be required;
- Bat commuting routes and foraging areas should be protected through production of a lighting plan and hedgerow buffers;
- Mitigation will likely be required to protect foraging and commuting badgers during construction works;
- Any demolition of structures and vegetation clearance will require precautionary working method statements to protect breeding birds;
- The grassland will be cut according to a working method statement to safeguard GCN in their terrestrial phase. This will include a pre-works check by a suitably qualified ecologist.
- The grassland should be managed regularly (cut at least 2-3 times a year) prior to construction to prevent it becoming suitable for reptiles and amphibians;

6.2 Ecological compensation

6.2.1 In the absence of final development proposals, it is expected that compensation measures will include, but not be limited to, compensatory nest sites for swallow.

6.3 Opportunities for Ecological Enhancement

6.3.1 It is recommended to create nesting provision for species such as house sparrow, swifts; on site or within the background data search. Different nesting options should be provided for a range of species, which would be detailed in a Landscape and Ecology Management Plan (LEMP), which can be secured by condition.

6.3.2 Additional roosting opportunities for bats should also be incorporated into the dwellings within the development. The bat surveys would identify suitable locations and provisions for species.

6.3.3 Management of habitats created and enhanced as part of the development should be described within a LEMP.

6.4 Further Ecological Surveys

6.4.1 A UKHab update on the grassland should be undertaken between March and October.

6.4.2 Further surveys will need to be undertaken to determine the status of bat roosts within the outbuilding on site, and this should be undertaken in line with BCT guidelines.

- Within the active season (April to October):

- Three static surveys using statics within the building for 5 consecutive days.
- Use of a thermal camera to gain an understanding of any bats using the building.

6.4.3 Bat activity surveys will need to be undertaken to assess the level of bat activity across the site.

- Within the active season (April to October):
  - Three static surveys using statics for 5 consecutive days.
  - Three activity surveys, ideally spread across the season to gain a full understanding of bat's use of the site

6.4.4 A lux lighting survey will need to be undertaken to determine the baseline conditions of light on the site.

6.4.5 A Biodiversity Net Gain assessment should be undertaken to identify the development proposal's potential to deliver net gain.

7 CONCLUSION

7.1 The site comprises 1.5 hectares and included neutral grassland managed as an amenity lawn with an outbuilding access track and boundary.

7.2 The key ecological features were identified as the hedgerows bordering the site, the outbuilding and trees.

7.3 The site was assessed as having potential to support roosting bats, nesting birds, foraging badgers and hedgehog.

7.4 Further surveys for bats will be required to determine the requirements for mitigation and compensation.

REFERENCES

Bright, P., Morris, P., and Mitchell-Jones, T. (2006) *The Dormouse Conservation Handbook* (*second edition*). English Nature, Peterborough. ISBN 1-85716-219-6.

CIEEM (2016) *UK Guidelines for Accessing and Using Biodiversity Data*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

CIEEM (2017[a]) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

CIEEM (2017[b]) *Guidelines for Preliminary Ecological Appraisal, 2nd edition.* Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Countryside and Rights of Way Act 2000. Available at: http://www.legislation.gov.uk/ukpga/2000/37/contents [11th January 2022]

Froglife (1999) Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

Harris, S., Cresswell, P. and Jefferies, D. J. (1989) Surveying Badgers. Issue 9 of *Occasional Publication of the Mammal Society*. ISBN- 978-0906282069.

Langton, T. E. S., Beckett, C. I., and Foster, J. P. (2001) Great Crested Newt Conservation Handbook, Froglife, Halesworth.

Mitchell-Jones, A. J. (ed.) (2004) Bat Mitigation Guidelines. English Nature, Peterborough. ISBN-1 85716-781-3.

Mitchell-Jones, A.J, & McLeish, A.P. Ed., (2004) 3rd Edition Bat Workers' Manual, 178 pages b/w photos, softback, ISBN-1 86107 558 8.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111176573/contents [11th January 2022]

Wildlife and Countryside Act 1981. Available at: http://www.legislation.gov.uk/ukpga/1981/69 [11th January 2022]