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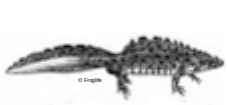
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Preliminary Ecological Appraisal

September 2022

Sunnybank
Arthur Lane
Bury
Greater Manchester
BL2 5PR

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Sunnybank, Arthur Bank, Bury, Greater Manchester, BL2 5PR
Preliminary Ecological Appraisal

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Executive Summary

As part of a proposed planning application regarding Sunnybank, Arthur Lane, Bury, Greater Manchester a Preliminary Ecological Appraisal (PEA) was undertaken by Tyrer Ecological Consultants Ltd during August 2022, in accordance with the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and other best practice guidance. The details of the proposed development are not yet understood at this time.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following Key recommendations.

Habitats: One UKBAP priority habitat 'Hedgerows' was identified at the site. It is not currently understood if this to be retained. *Impacts to this habitat should be avoided and enhancement should be employed where possible.*

Bats: Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by Appendix I, the building at Sunnybank is determined to offer '**Negligible**' bat roost potential in accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016). *No further surveys are required in relation to bats, with general enhancement measures recommended in Appendix II.*

Breeding Birds: The hedgerow on site offers suitable habitat for breeding/nesting birds. *Recommendations to mitigate risk to ground nesting birds have been provided in section 8.0 of this report.*

Terrestrial Mammals: The site and immediate adjacent land provides suitable habitat for European Hedgehog. *Recommendations to mitigate risk to hedgehog have been provided in section 8.0 of this report.*

Amphibians: Due to the presence of ponds within 250m with feasible connectivity to the site, the presence of GCN and other more common amphibians within the site boundary is considered possible. *With the above in mind, whilst no further surveys are recommended, it is recommended that Reasonable Avoidance Measures (RAM's) be implemented to act as a safeguard for impacts against GCN as well as other herpetofauna that may be present locally. See section 8.0 of this report.*

Biodiversity Enhancement: A series of recommendations have been given within section 8.0 and Appendix III which provide opportunities for biological enhancement at the development site and within the wider area. Enhancement opportunities include recommendations relative to the provision of favourable planting and landscaping, with wildlife boxes.

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1.0 Introduction & Objectives

- 1.1 As part of a proposed planning application regarding a Sunnybank, Arthur Lane, (see Figure 1.1), a Preliminary Ecological Appraisal (PEA) was undertaken by Tyrer Ecological Consultants Ltd during June 2022, in accordance with the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and other best practice guidance. The details of the proposed development are not yet understood at this time.
- 1.2 Ecological surveys, particularly where a specially protected / noteworthy species is or may be present, are generally required as part of the Local Authority's Planning Policies. This survey and report has been commissioned by MacMarshalls Rural Chartered Surveyors and Planning Consultants.

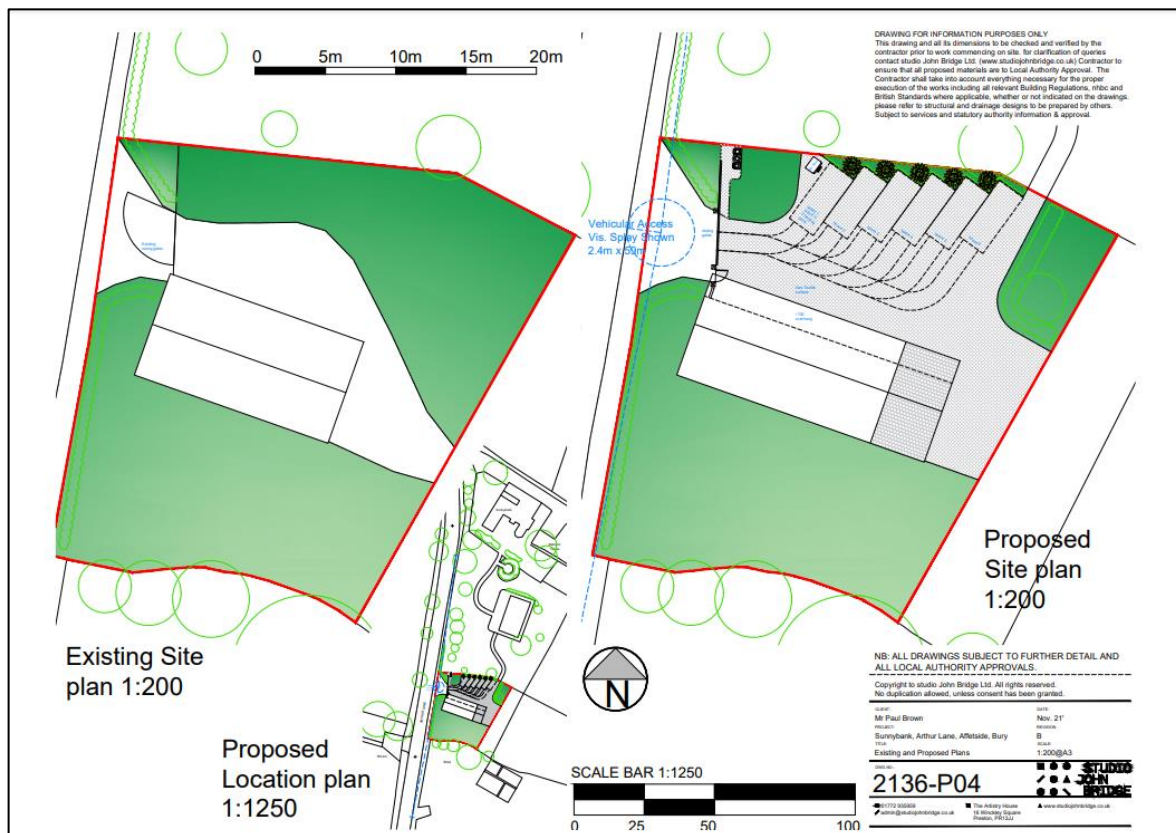


Figure 1.1: Red line boundary showing plot of Land at Charlesbye Drive to be developed upon (Source: John Bridge Studio Ltd. 2022).

Aims & Objectives

- 1.3 The aim of the survey was to ascertain the nature of the land, and where possible obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals. The survey therefore includes the following objectives:

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- Gather baseline ecological information on site/off site (as necessary),
- Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected/priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),
- Identify mitigation / compensation measures likely to be required in line with the mitigation hierarchy (i.e. avoidance > impact minimisation > mitigation > compensation),
- Identify additional survey requirements following on from this preliminary appraisal,
- Identify a series of enhancement opportunities for biodiversity in line with national and local planning policy following '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019).

1.4 As part of this ecological appraisal:

- Habitats on site were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 1.1 (2020);
- One building was assessed for their potential to host roosting bats in line with current Bat Conservation Trust (BCT) guidance.

1.5 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected/priority species are, or may be present, that could be affected by the proposals for which the application seeks consent.

1.6 This report will therefore provide baseline information as derived from the diurnal appraisal process outlined above and recommend any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.7 The Applicant should be aware that if during the appraisal:

- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats/species, or,
- Signs of use by particular protected species were found, or suspected, or,
- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on which the planning application can proceed,

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

1.8 If any protected species was subsequently found during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species Mitigation Licence (EPSML) may be required to proceed with the development.

1.9 Where more detailed surveys are recommended by the ecologist, following ecological appraisal, then Local Planning Authorities (LPA's) on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.

- 1.10 Protected/priority species omitted from this report have been discounted due to factors including obvious absence/isolation of suitable habitats, and/or distributional aspects negating the necessity to survey for them, and/or the proposed works were not considered to negatively impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

- 2.1 The legislature considered for the purposes of this report includes the following:

- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit)
- Wildlife and Countryside Act (1981) (as amended)
- Countryside Rights of Way (CROW) Act (2000)
- Natural Environment and Rural Communities (NERC) Act 2006
- Protection of Badgers Act (1992)
- The Hedgerow Regulations (1997)
- Town and Country Planning Act (1990)
- Wild Mammals Protection Act (1996)

- 2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species/group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting/with eggs/young); some species may receive full protection within the EU (e.g. otter), whereas others may be protected solely on a national basis (e.g. grass snake).

- 2.3 Table 2.1 contains appropriate legislature to each species/group specifically respective to the site and provides the relevance of said legislation.

Table 2.1 - Relevant Legislation

Species Group/Species	Relevant Legislation	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	Illegal to wilfully kill, injure or take a badger (or attempt to do so). Cruelly ill-treat a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it. Cause a dog to enter a badger sett. Disturb a badger when it is occupying a sett.
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.

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Birds (Breeding)	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.
Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 Wildlife and Countryside Act (1981) (as amended) as invasive, including Japanese Knotweed (<i>Reynoutria japonica</i>) and Himalayan Balsam (<i>Impatiens glandulifera</i>), The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2019) (EU Exit) - SL/SS Wildlife and Countryside Act (1981) (as amended) - SL/SS CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).

Policy

- 2.4 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

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;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,

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.

- 2.5 This is supported by Policies EN3 The Open Countryside & EN7 Environmentally important Areas which states:

‘The Council has designated areas of open countryside that define the rural context of the district. Any development proposals located within the open countryside should have due regard to all relevant policies contained within the Local Plan, in particular policies within the Development Management DPD relating to development in the rural areas’

‘There are a number of sites within the district that have been designated at International, National and Regional level for their environmental importance. These have been identified on the Local Plan Policies Map and will be protected from development proposals that have a detrimental impact on their designation.’

3.0 Priority Habitats & Species

National context

- 3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected due to factors such as their ecological functionality, their rarity, their vulnerability, environmental importance or declining population/status. They are referred to as priority habitats and priority species.
- 3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).
- 3.3 The following species are considered relevant to the survey area:

Species:

- Bats: Brown long-eared (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Common Noctule (*Nyctalus noctula*),.
- s.41 Bird species that include but not limited to: Grey Partridge (*Perdix perdix*), Dunnock (*Prunella modularis*), Bullfinch (*Pyrrhula pyrrhula*), Song thrush (*Turdus philomelos*), Tree Sparrow (*Passer montanus*), House Sparrow (*Passer domesticus*), Starling (*Sturnus vulgaris*), Willow Tit (*Poecile montanus*), Curlew (*Numenius arquata*), Pink Footed Goose (*Anser brachyrhynchus*),.
- Land mammals that include: Hedgehog (*Erinaceus europaeus*), Brown hare (*Lepus europaeus*), for e.g.,
- Herpetofauna that include: Great Crested Newt (GCN) (*Triturus cristatus*), Common toad (*Bufo bufo*), Slow worm (*Anguis fragilis*) for e.g.,
- Botanical species that includes Purple ramping-fumitory (*Fumaria purpurea*), Bluebell (*Hyacinthoides non-scripta*), Cornflower (*Centaurea cyanus*) for e.g.

District context

- 3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together and deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.

LBAP's set out practical steps that aim to:

- Help protect biodiversity,
- Enhance and improve biodiversity where possible, and,
- Promote biodiversity at a local level

- 3.5 The Lancashire Biodiversity Action Plan (LBAP) lists key local habitats/species considered to be rare or declining in the area; some may be of national concern while others are significant at local level. The following plans are considered of potential relevance to the survey.

- Hedgerows
- Brown Hare
- Bats
- Wintering Birds
- Song Thrush
- Great Crested Newt

4.0 Survey Methods

- 4.1 As part of the Preliminary Ecological Appraisal report, desk-top and field-based studies were conducted. Methods for both components of the appraisal are given below.

Desktop Study

- 4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0km of the site boundary. To do so, the 'Multi Agency Geographic Information for the Countryside (MAGIC – provided by Defra)' along with data from the 'Natural England Open Data Geoportal' was accessed to gather such information; this interactive mapping service was also used to locate any European Protected Species Mitigation Licenses (EPSML) and species records to further inform conclusions concerning protected species in the context of the study site and its proposed development.
- 4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2021/22) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.
- 4.4 In addition the Council Planning Portal 'Search for planning applications' function was utilised to help inform the desktop study by analysis of existing publicly accessible ecological survey results that have been carried out locally within the previous five years.
- 4.5 A commercial data request to the Local Environment Records Centre serving the area has not been sourced during this preliminary appraisal assessment and is justified through application of the following recent guidance:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states: "It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. **Freely available web-based sources of data and contextual information should always be used**; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

ii) *Situations where the data search would be extremely unlikely to provide information needed to inform the assessment; due to the **scale** and **location** of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.*

iii) *In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.*

2) The Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) states: “Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to **low impact or small-scale projects** (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis.”

As exemptions as made **bold** above can be applied for the proposed development in good practice, it is considered unnecessary to conduct a commercial data request at this time, however, if a data search is considered to be necessary by the Local Authority or advisory body to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued/updated report.

Field Survey

- 4.6 A daytime preliminary ecological appraisal was conducted on 09th August 2022 in dry conditions (18°C), wind 1/12 (Beaufort scale), 20% cloud by Miss. K. Judson Qualifying CIEEM, a Junior Ecologist with 2 years professional experience.

Floristic assessment

- 4.7 The survey followed the UK Habitat Classification Version 1.1 (Butcher, et.al., 2020) being introduced as part of the roll out of Biodiversity Net-gain with reference to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) and reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “*Guidelines for Preliminary Ecological Appraisal, 2nd Edition*” (CIEEM, 2017).
- 4.8 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh *et al*, 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species (amendment) (EU exit) Regulations (2019). Species nomenclature follows Stace, C. (2019) – definitive English names.

- 4.9 Additional to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological notoriety on a geographical scale which is adopted on a site-to-site basis (see Figure 4.1 overleaf).

For a site-relevant species list, see Appendix II.

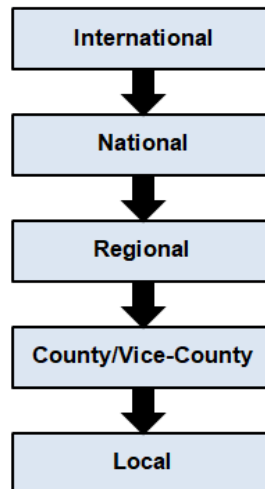


Figure 4.1 - Geographic Frame of Reference entailing degrees of conservation importance

- 4.10 In combination with assessing the area in relation to flora and habitats of conservation importance, the land was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended).

Faunal assessment

- 4.11 The identification and/or evidence of fauna encountered would be documented whilst in tandem the area was assessed for the potential to support the priority species covered in the previous tables. The 'walkover' also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

- 4.12 The site would be assessed for bats, buildings (where present) would be inspected for potential places that may be of value to bats and to determine evidence of use. This typically involves a search for potential roost features (PRF) both internally (investigation of loft spaces/upper floors/internal elevations) as well as externally, comprising an investigation of features (roof material, building components) using a high-powered torch. Field signs of bats typically comprise bat droppings, incidental animal presence, dead specimens and/or prey items. No buildings are present on site.
- 4.13 Trees (where present) would be inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a search for potential roost features along with an investigation of those features using a high-powered torch or close focus binoculars. Potential roost features can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have

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developed, other hollows or cavities, including butt-rot, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy with stem diameters in excess of 50mm or bat/bird boxes.

- 4.14 Criteria for preliminary bat roost assessment are based upon the determinants given in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016): (see Figure 4.2).

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

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

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 4.2 - Bat Conservation Trust (BCT) guidelines extract

- 4.15 Factors considered during the preliminary roost assessment include:

- Knowledge of bat species relevant to the site location and geographical range,
- Nature of the immediate / surrounding habitat in relation to foraging opportunities,
- Presence and conditions of loft spaces, upper floors, roof linings where present,
- Presence / absence of roost potential,
- Value of roost potential, if present.

Breeding Birds

- 4.16 Habitats would be checked for evidence of nesting birds and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas suitable for nesting. Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for the site's capacity to support species especially protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended), for example Barn Owl (*Tyto alba*) and other priority species.

Other terrestrial mammals

- 4.17 The walkover included a search for field signs of Badger (*Meles meles*) which includes signs of activity such as digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground. Any signs indicative of use of the site by European Hedgehogs (*Erinaceus europaeus*) and Brown Hare (*Lepus europaeus*) or habitats of value to them, were also recorded.

GCN

- 4.18 During desktop assessment a 250m search was undertaken from a site-central grid reference in relation to the presence of ponds, ditches or other water bodies that may support Great Crested Newts (GCN). The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

- 4.19 Following current best practice considering the national roll out of District Level Licencing (DLL) across England and based on likely effects, a proportionate assessment of the water bodies range within 250m from site has been applied despite the small scale and low impact nature of the proposed development owing to the favourable surrounding habitat; ponds outside of this range and their associated flora/fauna are highly unlikely to be impacted. Where a development is anticipated to affect GCN the search can be extended up to 500m or more.
- 4.20 No standing water bodies exist on the application site; three ponds are located within 250m of the application site approximately with the closest pond being located approximately 117m west of the application site.

Reptiles

- 4.21 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of hardcore) and opportunities for foraging (e.g. rough grassland and scrub). Beebee & Griffiths (2000) state specific habitat preferences of common UK reptiles:
- Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites,
 - Slow-worms (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land under refugia,
 - Grass Snakes (*Natrix natrix*) have broadly similar requirements to Common Lizards but with a greater reliance on ponds and wetlands, where they prey on amphibians.

In assessment of a site for reptiles important habitat characteristics are considered, outlined in Table 4.2, as derived from the Reptile Habitat Management Handbook (Edgar, 2010).

Table 4.2 - Important habitat characteristics for reptiles

1. Location (in respect of species range)	7. Connectivity to good quality habitat
2. Vegetation structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Invertebrates

- 4.22 The application site was assessed for the presence of features that should be considered of high value to invertebrates. Several important features were considered, based on the assemblage descriptions provided within the Research Report "Surveying terrestrial and freshwater invertebrates for conservation evaluation" (NERR005, 2007), including but not limited to:
- Wood decay,
 - Early successional mosaic habitat,
 - Shaded ground layer,
 - Still and flowing water.
- 4.23 The results, conclusions and recommendations of this report are based on a number of factors i.e.
- Skills and experience of the surveyor,
 - Knowledge of flora and fauna relevant to the site location and geographical range,
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.
- 4.24 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of Miss. K. Judson.

5.0 Limitations

- 5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within Appendix II are recorded from a combination of the seasonal timing the survey took place and botanical identification skills of the surveyor. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.
- 5.2 The optimal time of the year to carry out a preliminary ecological appraisal is April to October; therefore, the survey was carried out in the optimal period. Habitats were able to be identified and any further need for surveys would be recommended.
- 5.3 No access limitations were experienced on site with permission granted to the surveyor to access all important areas however, no ponds located within 250m of the application site were subject to HSI assessment owing to their location on private land. Taking everything into consideration no significant limitations affected the survey effort that would affect the results, conclusions, and recommendations in this report.

6.0 Desk Study Results

- 6.1 Sunnybank (hereafter referred to in-part as “the application site” or “the site”) circa 0.088ha is situated in west Bury, located approximately 4.5km west of the centre of Bury. The application site comprises grassland, bare ground bordered by hedgerows and fencing, one building is present.



Figure 6.1 - Location of application site within the surrounding landscape (Source: Google Earth 2022).

- 6.2 Immediate environs can be broadly described as open agricultural land and residential gardens with associated lines of trees and hedgerows; the B6196 runs latitudinally to the immediate west of the application site.
- 6.3 The extending habitat comprises a combination of open agricultural land and residential estates with occasional commercial premises in all directions; features of note include Brightmet Golf Course located to the west of the site, Ainsworth located to the east of the site and Lowercroft Reservoir located approximately 1.3km northeast of the application site. Ecological features present in the extending environment include the occasional presence of priority deciduous woodland throughout – also present are areas of priority lowland dry acid grassland located at the west and the northeast of the site and one area of good quality semi-improved grassland northeast of the site.
- 6.4 In respect to connectivity, the site has favourable linkages to the abovementioned habitats though the habitats are sparse, they may be considered stepping-stone habitats and thus provide some connectivity to the application site; barriers to dispersal for habitats located at the north and east are limited to minor roads. Therefore, access to the site is possible for both avian and terrestrial species.

- 6.5 The described ecological frameworks are considered to offer a moderate array of habitats with inter-connectivity in the landscape and to the application site, which are of benefit to a number of species/groups for which the survey was undertaken; the site likely occasionally hosts a number of bird species along with some terrestrial fauna.
- 6.6 The protected species most typically associated with the habitats described is the Common Pipistrelle (*Pipistrellus pipistrellus*) bat, frequently associated with buildings in both urban and rural settings, and this species presence in surrounding landscape is likely.
- 6.7 No statutory designated sites for nature conservation are present within 2.0km of the application site (see Table 6.1).
- 6.8 In relation to ponds none exist on site; three ponds are present within 250m of the application site boundary, see Figure 6.2.

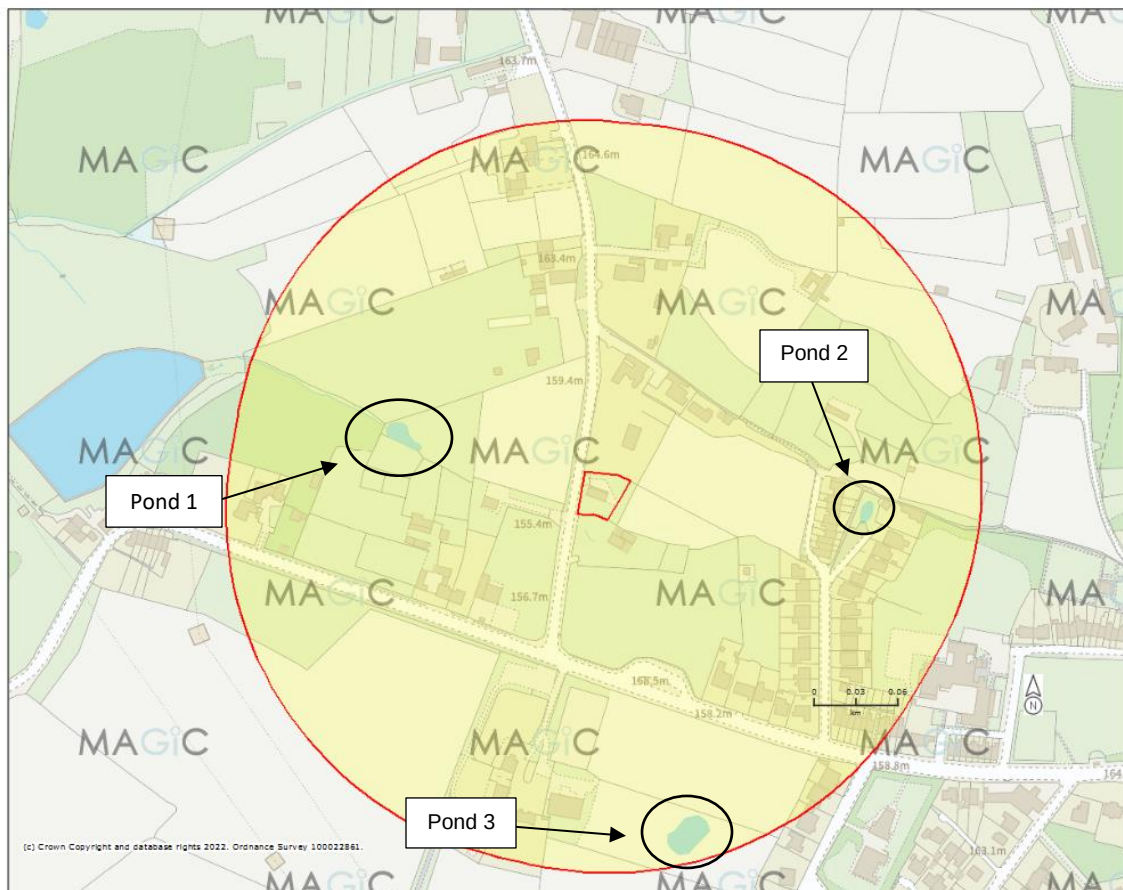


Figure 6.2 – Waterbodies located within 250m (Source: Magic, 2022).

- 6.9 **Bats:** One European Protected Species Mitigation Licences (EPSMLs) has been granted in relation to bats within 2.0km of the site boundary (Figure 6.3); the licence pertains to the destruction of a Common Pipistrelle resting place and is located approximately 1.5km west of the application site boundary.

A further search of bat records held by Tyrer Ecological Consultants Ltd revealed the presence of commuting and foraging activity by Common Pipistrelle and the presence of a Common Pipistrelle day roost.

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The abovementioned records and EPSML attest to the presence of population(s) of bats in the locality.

- 6.10 **Great Crested Newt:** No EPSMLs in relation to GCN have been granted within the 2.0km buffer however one 'present' class license survey result is present located approximately 1.7km south of the application site. The record is separated from the application site by Bury New Road and numerous minor roads.

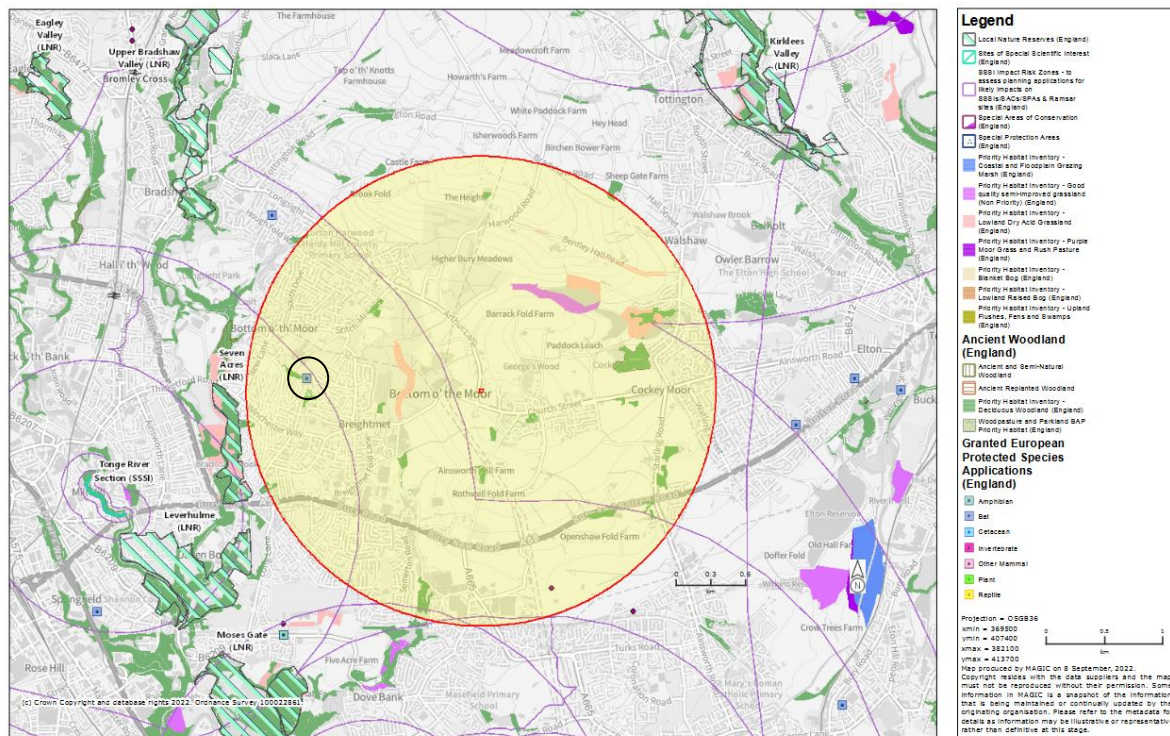


Figure 6.3 – Location of granted EPSMLs (if present), priority habitats and designated sites relative to the application site (Source: adapted from MAGIC Maps, 2022).

7.0 Field Survey Results

7.1 Habitat Survey

- 7.1.1 See Table 7.1 (below) for habitat descriptions. Refer to Appendix IV - UKHabs Habitat Map for the location of all described habitats & Target Notes (TN). Species nomenclature follows Stace, C. (2019) – definitive English names.

Table 7.1 - UKHabs habitat types within the survey area with target notes

Habitat	Description
Modified Grassland – g4	Much of the site comprises modified grassland with the dominant species present in these areas comprising Perennial Rye-Grass (<i>Lolium perenne</i>), White Clover (<i>Trifolium repens</i>), Yorkshire Fog (<i>Holcus lanatus</i>) and Ribwort Plantain (<i>Plantago lanceolata</i>). Further species present include Cock's-foot (<i>Dactylis glomerata</i>), Self-heal (<i>Prunella vulgaris</i>), Common Ragwort (<i>Jacobaea vulgaris</i>), Common Cat's-ear (<i>Hypochaeris radicata</i>) and Dandelion (<i>Taraxacum</i> agg.). At grassland edges False Oat Grass (<i>Arrhenatherum elatus</i>), Rough Meadow Grass (<i>Poa trivialis</i>), Prickly Sow Thistle (<i>Sonchus asper</i>), Broad-leaved Willowherb (<i>Epilobium montanum</i>), Broad-leaved Dock (<i>Rumex obtusifolius</i>) and Common Nettle (<i>Urtica dioica</i>) are present. A single young English Oak tree (<i>Quercus robur</i>) is present at the north of the application site. Secondary Habitat Code(s): 16 tall herb, 64 mown, 73 bare-ground
Priority Hedgerow – h2a	The western boundary of the application site is boarded by a semi-managed priority hedgerow. The hedgerow is predominantly comprised of Hawthorn (<i>Crataegus monogyna</i>) and Sycamore (<i>Acer pseudoplatanus</i>) with occasionally occurrences of Elder (<i>Sambucus nigra</i>) and Bramble (<i>Rubus fruticosus</i> agg.); Hedge Bindweed (<i>Calystegia sepium</i>) is occasionally present throughout. The hedgerow understory is predominantly bare ground with occasional occurrences of Field Horsetail (<i>Equisetum arvense</i>), Cleavers (<i>Gallium aparine</i>) and Common Nettle (<i>Urtica dioica</i>). Secondary Habitat Code(s): 76 recent management
Other Hedgerows – h2b	The southern boundary features a non-priority hedgerow comprised of Leyland Cypress (<i>Cupressus x Leylandii</i>). To the rear of this hedgerow, partially overhanging onto the application site are several mature trees including Hawthorn, Elder and a Prunus species. Secondary Habitat Code(s): 76 recent management
Artificial unvegetated, unsealed surface – u1c	Leading into the application site and encompassing the building to the north and east is an access track comprised of bare ground with occasional protruding common ephemeral species including Pineapple Weed (<i>Matricaria discoidea</i>), Broad-leaved Willowherb, Annual Meadow Grass (<i>Poa annua</i>), Procumbent Pearlwort (<i>Sagina procumbens</i>) and Common Liverwort (<i>Marchantia polymorpha</i>). Secondary Habitat Code(s): 17 ruderal / ephemeral, 73 bare ground
Built Linear Feature – u1e	The south of the application site is bordered by wooden fencing whilst the rest of the site is bordered by stake and wire fencing.

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	Secondary Habitat Code(s): 69 fence
Target Notes	1 – Piled wood

7.2 Vegetation

- 7.2.1 No species of conservation importance or species listed as invasive under Schedule 9 of the WCA were identified anywhere within the site boundary.

7.3 Bats

- 7.3.1 The surveyed building sits at the centre of the application site; structurally, it is a detached breezeblock-built building with a pitch tiled roof featuring wooden window frames, wooden bargeboards at gable elevations and wooden fascia boards at side elevations. The building is to the approximate maximum dimensions of 15m x 8m x 3m (length x width x height). Whilst the surveyor is not qualified to assess the structural integrity of the building, the building is assessed to be in aesthetically moderate condition given some minor signs of wear and damage.
- 7.3.2 Internally the building is absent of a loft space and the building is open to the ridge beam; the roof is of trussed beam construction. The internal climatic conditions are draughty, lightly cobwebbed, well illuminated and mild – the building is not well insulated hence internal thematic conditions likely somewhat fluctuate in line with those of the exterior. Given the internal conditions of the building as described, the building is considered unsuitable for the breeding requirements of loft dwelling species such as the Brown Long-eared bat (*Plecotus auritus*); this is a species that prefers dark, unrestrictive loft spaces with room to fly and consistent thermal qualities. During the internal inspection, no evidence of this species was found despite the somewhat favourable nature of the surrounding environment.
- 7.3.3 A breathable membrane (BRM) underfelt is present under the roofing material; BRM is not endorsed by the Bat Conservation Trust (BCT) owing to cases of bats becoming entangled in the fibres of the material resulting in death and/or injury. Whilst unsuitable for bats, the presence of such an underfelt does not deter bats from using the building and in fact improves a buildings value to bats, notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between linings and the roof cover given external access opportunities exist. No evidence of such bats was found; however, this is often the case due to the crevice dwelling nature of the building.

NB: *The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony, but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.*

- 7.3.4 Externally, numerous ingress opportunities into the interior of the building exist in the form of gaps in windows, surrounding doors, under the eaves. Despite abundant ingress opportunities into the building as described, no suitable internal crevice dwelling opportunities were observed nor were any access points behind the roofing material located; given this and the unsuitable internal climatic conditions as described, the building is duly categorised as pertaining to '**Negligible**' bat roost suitability in line with current BCT guidelines.

- 7.3.5 All of the trees and hedgerows adjacent to the application site offer value to bats in that it they will aid commuting between local ecological networks, whilst supporting insects that form the staple component of a bats diet - thus, offer foraging value.

7.4 Breeding Birds

- 7.4.1 In relation to WCA Schedule 1 specially protected bird species such as Barn owl, no pellets, faecal splashing, feathers, or other evidence of use was found, and the site is unlikely to host this species for breeding or roost use.
- 7.4.2 In relation to wider breeding birds, no current or historic evidence of nesting birds was identified anywhere within the site boundary however the hedgerow at the west of the application site provides a suitable platform for use by breeding bird species; accepting this feature there is an absence of dense vegetation with the potential to support nesting birds within the application site boundary.

7.6 Other Terrestrial Mammals

Badger

- 7.6.1 No field signs were located to suggest the presence of Badgers, including any setts, latrines, pathways, hairs, footprints or feeding signs such as snuffle holes and scratched trees/logs; however, semi-urban and character of the surrounding landscape the presence of commuting and foraging badger on the application site is considered unlikely.

European Hedgehog

- 7.6.2 Areas that constitute suitable habitat for hedgehog (*Erinaceus europaeus*) refuge, foraging, and commuting are present across the site in the form of scrub, dense vegetation, hedgerow/trees adjacent to the site. Their presence at the site is therefore considered to be possible.

Brown Hare

- 7.5.3 Much of the habitat on and around the site and wider ownership boundary is considered optimal for Brown Hare, with ditches, hedgerows and treelines, scrub, and arable fields providing a variety of opportunities typically utilised by this species. During the survey a single adult Brown Hare was observed in the wider ownership boundary to the north of the application site and their presence within the area is therefore confirmed.

7.7 Herptiles

Great Crested Newt (GCN)

- 7.7.1 In respect to GCN, no standing water bodies exist on site; three ponds exist within a 250 metres buffer zone that were identified from OS mapping. The ponds were not subject to a HSI assessment owing to their presence on private land.
- 7.7.2 Of the three ponds, all are separated from the application site by minor roads and agricultural land which is considered unfavourable habitat for GCN.
- 7.7.3 As derived from the desktop assessment evidence of GCN in the locale included:

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- No granted EPSMLs for GCN within the considered range;
- no 'Present' Class Survey Licence Returns within range;
- one 'Present' ponds survey within the considered range;
- Identification of three ponds within 250m of the site with poor-moderate connectivity to the site.

7.7.4 Given the absence of GCN records and poor-moderate connectivity between potential a breeding pond and the application site and taking into account the grassland present in the land of wider ownership which provides poor-moderate commuting habitat for this species, a further assessment of the risk of impacts upon GCN under the proposed works was undertaken. The main hypothetical impacts to consider include potential for terrestrial habitat loss (up to 0.088ha) within 100-250m of a breeding pond, terrestrial habitat loss (up to 0.088ha) within 250-500m of a breeding pond, and risks of disturbance, injury and/or death to GCN subject to their presence on the site. See results of the Rapid Risk Assessment below, as extracted from the Natural England 'Template for Method Statement' (Table 7.6.1 & Table 7.6.2).

Table 7.6.1 – Rapid Risk Assessment in relation to loss of habitat

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.0005
Individual great crested newts	No effect	0
Maximum:		0.01
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Table 7.6.2 – Rapid Risk Assessment in relation to individual newts

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Killing or injuring newts	0.8
Maximum:		0.8
Rapid risk assessment result:	RED: OFFENCE HIGHLY LIKELY	

- 7.6.4 Based on the above risk assessments, the potential to cause injury or mortality to individual GCN is the key consideration regarding this species, with loss of any terrestrial habitat unlikely to cause any significant impact. Recommendations have been provided within section 8.0.

N.B. The risk assessment tool is a general guide only, and as such is simplistic and is not intended to replace a site-specific risk assessment informed by a field survey. A number of factors are not included for simplicities sake: population size, terrestrial habitat quality, presence of dispersal barriers, timing and duration of works, detailed layout of development in relation to new resting and dispersal, and a number of factors could also increase or decreased the risk of offence.

Other Herptiles

- 7.7.6 Given the surrounding habitats which include pond, as described, the application site could be used by generalist, more robust common amphibians including Common Frog (*Rana temporaria*) and Common Toad (*Bufo bufo*) for foraging and commuting, subject to their presence in the landscape, but not for shelter/hibernation.

Reptiles

- 7.7.7 With regards to reptiles, the application site is a predominantly homogenous habitat with low levels of structural diversity and an absence of any ecotones or refuge opportunities suitable for the foraging, basking and hibernating requirements of common reptile species present in the UK such as Grass Snake and Slow Worm. Whilst the absence of commonly associated suitable features for reptiles does not necessarily indicate the absence of reptiles, it does suggest that they are unlikely to be present and that no favourable habitat will be lost as a result of the proposed development; no further recommendations are given with regard to reptiles.

7.8 Invertebrates

- 7.8.1 An assessment of habitats and features on site found no ecotones to be present and an absence of deadwood or any other such feature likely to be of local significance to invertebrate assemblages or specially protected invertebrates; no impacts are foreseen for this taxon.

8.0 Conclusions & Recommendations

Habitats and Vegetation

- 8.1 No botanical species of conservation interest or any invasive species listed on Schedule 9 of the Wildlife and Countryside Act were identified within or adjacent to the site boundary.
- 8.2 One habitat of conservation importance was identified at the northern site boundary in the form of the UKBAP habitat 'Hedgerows', with the hedgerow qualifying due to its composition of 80% or greater native woody species. It is understood that this hedgerow will be retained during the proposed works; nonetheless, it is recommended that appropriate management of hedgerow is undertaken and the hedgerow is enhanced via the planting of further native species, namely Hawthorn.
- 8.3 To improve the value of the site for native wildlife, a list of appropriate native species that might be incorporated into the proposed development has been supplied (see Appendix III).

Bats

- 8.4 Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by Appendix I, the building at Sunnybank is determined to offer '**Negligible**' bat roost potential in accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016); no further surveys are required in relation to bats, with general enhancement measures recommended in Appendix II.

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

Figure 8.1 – Bat Conservation Trust extract on Negligible roost potential requirements

- 8.5 No recommendations are necessary in relation to bats and trees as no vegetation on site was observed as having bat roost potential.
- 8.6 Bats are a transient species and buildings can deteriorate over time. In the highly unlikely event that bat(s), or evidence of bat(s), are found during proposed works then as a legal requirement the work at the site should immediately cease and an Ecologist be contacted for further advice. If bat(s) or their roost(s) will be affected, then an EPSML may be required to legally commence with the works. See Figure 8.2 for indicative evidence of bats.



Figure 8.2 – Evidence of bats – droppings on the left / a Common Pipistrelle bat on the right - indicative

- 8.7 Installation of harsh artificial lighting as part of any development that exceeds current levels could have a negative impact upon foraging/commuting bats in the landscape, particularly if increased light spillage occurs in areas of that are currently free from illumination such as boundary features. A bat-sensitive lighting plan is recommended as part of the scheme, in order to avoid potential impacts to bats that may use the site. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Appropriate luminaire specifications

Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires.

All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (*Gunnell et. al.*, 2012, Bat Conservation Trust)
Guidance Note 8 'Bats and Artificial Lighting' 2018, Bat Conservation Trust for further information.

Breeding Birds

- 8.8 It is recommended that no removal the hedgerow that may be used by breeding birds shall not take place during the main bird breeding season (1st March to 31st August inclusive), unless a competent Ecologist has undertaken a careful, detailed check of vegetation for active birds' nests immediately before the vegetation is cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site.
- 8.9 Where/if active nests are located by the ecologist then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5-10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist and species pending.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: *"a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management."*

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

- 8.10 It is recommended enhancement for nesting birds be incorporated into the proposed development, as per Appendix III.

Terrestrial Mammals

- 8.11 Whilst no evidence of Badger or Hedgehog was identified anywhere within the survey boundary, the occasional presence of such species for foraging and commuting purposes is considered possible; it is therefore recommended that a working Method Statement detailing Reasonable Avoidance Measures (RAMs) is created by a suitably experienced ecologist to reduce the risk of harming small mammals or other terrestrial fauna during the construction phase of the proposed development.
- 8.12 In addition to foraging and commuting value, the site also provides refuge opportunities for Hedgehog; it is recommended that one new Hedgehog home (see Appendix III) is erected within an area of Bramble scrub unaffected by the proposed works, to mitigate for the habitat lost.

- 8.13 Whilst the wider ownership boundary is confirmed as hosting Brown Hare, taking into account the small-scale nature of the proposals it is considered unlikely that they will impact upon this species; however, as a precaution this species should be included within the Method Statement document recommended above.

Herptiles

- 8.14 Taking into account the limited habitat suitable for GCN within the application site, and the distance of the nearest pond (approximately 150m), the presence of GCN within the site boundary is considered unlikely. Additionally, research by Natural England has shown that where favourable habitats exists around GCN ponds (in this case hedgerows, tussocky grassland and pondside vegetation), the vast majority of the population is likely to be contained within 100m of the breeding pond, in a 'terrestrial sponge' effect.
- 8.15 No further surveys for GCN will be recommended as part of this report as no impacts are considered likely however taking into account the risk of causing an offence in the unlikely event of GCN being present a detailed working Method Statement should be applied outlining key reasonable avoidance measures (RAMS) and working protocols to be in effect during all proposed works, to effectively safeguard herptiles and prevent risk to individual GCN. The RAMS should be drafted by a suitably licenced, suitably qualified ecologist/ecological clerk of works (ECoW) and provide an audit trail that includes a toolbox talk. Upon gaining understanding of the details contained within the RAMS and signing the audit form the applicant would be expected to comply with the measures recommended by the ecologist/ECoW.

It is recommended the RAMS should be stipulated as a pre-commencement planning condition. The RAMS would be subject to the approval of the local planning authority – following approval, strict adherence to the terms of the RAMS would be a requirement of the named authority and the applicant would be the liable party, with the ecologist/ECoW acting for and on behalf of the applicant. This Method Statement would include measures to mitigate risk to other, common amphibian species.

The applicant and all contractors would be aware that if at any stage GCN are encountered during works, or at any other stage of the work programme, works would be required to immediately cease and the Ecologist/ECoW made aware as to provide further guidance in this situation, if an ecologist/ECoW is not already present on site.

In the event that GCN or their habitat would be directly impacted upon, including disturbance, an EPSML to legally proceed with the development may be required following detailed further presence/absence surveys.

- 8.16 Similarly, whilst the tussocky grasslands present on the site do provide some suitable areas of habitat for reptiles such as Grass Snake, these areas are limited and form a relatively small proportion of suitable habitat in the immediate area. Consideration has been given to the recommendation for reptile surveys; however, taking into account the low-impact nature of the proposed development it is instead recommended that reptiles be included within the above RAMS Method Statement.
- 8.17 No impacts to local populations of invertebrates are foreseen; no further surveys are recommended, however enhancement measures for invertebrates have been provided within Appendix III which could be incorporated into the development.

Biodiversity Enhancement

- 8.18 General recommended ideas to enhance the site in accordance with the principles of '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019), are presented in Appendix III.

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Appendix I: Site Photographs



Plate 1 – Overview of the application site as viewed from the northwest corner.



Plate 2 – Character of the exterior of the building on the application site.



Plate 3 – Character of the interior of the building.



Plate 4 – Further character of the interior of the building.



Plate 5 – Piled wood – Target Note 1.



Plate 6 – Hedgerow at the west of the application site.



Plate 7 – Access track.



Plate 8 – Non-priority habitat at the south of the application site.

Appendix II: Site-Specific Botanical Species List

Each species recorded was given an abundance value according to the standard DAFOR scale, where:

- D = Dominant
- A = Abundant
- F = Frequent*
- Occasional*
- R = Rare*

*These values can be prefixed by the letter L (locally) to provide more subtle biogeographical data.

Taxon	Common Name	Scientific Name	DAFOR
Bryophyta (Mosses)	Springy Turf Moss	Rhytidiadelphus squarrosus	A
Anthophyta (Flowering plants)	Annual Meadow Grass	<i>Poa annua</i>	O
	Broad-leaved Dock	<i>Rumex obtusifolius</i>	O
	Broad-leaved Willowherb	<i>Epilobium montanum</i>	O
	Cleavers	<i>Gallium aparine</i>	O
	Cock's-foot	<i>Dactylis glomerata</i>	R
	Common Bent	<i>Agrostis capillaris</i>	O
	Common Cat's-ear	<i>Hypochaeris radicata</i>	O
	Common Nettle	<i>Urtica dioica</i>	O
	Common Ragwort	<i>Jacobaea vulgaris</i>	F
	Creeping Buttercup	<i>Ranunculus repens</i>	F
	Dandelion	<i>Taraxacum agg.</i>	O
	Elder	<i>Sambucus nigra</i>	R
	English Oak	<i>Quercus robur</i>	R
	False Oat Grass	<i>Arrhenatherum elatus</i>	O
	Field Horsetail	<i>Equisetum arvense</i>	O
	Hawthorn	<i>Crataegus monogyna</i>	F
	Hedge Bindweed	<i>Calystegia sepium</i>	F
	Leyland Cypress	<i>Cupressus x Leylandii</i>	F
	Meadow Foxtail	<i>Alopecurus pratensis</i>	R
	Perennial Rye Grass	<i>Lolium perenne</i>	D
	Pineapple Weed	<i>Matricaria discoidea</i>	O
	Prickly Sow Thistle	<i>Sonchus asper</i>	R
	Procumbent Pearlwort	<i>Sagina procumbens</i>	R

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	Prunus species	<i>Prunus sp.</i>	R
	Ribwort Plantain	<i>Plantago lanceolata</i>	F
	Rough Meadow Grass	<i>Poa trivialis</i>	R
	Self-heal	<i>Prunella vulgaris</i>	F
	Sycamore	<i>Acer pseudoplatanus</i>	O
	White Clover	<i>Trifolium repens</i>	D
	Yorkshire Fog	<i>Holcus lanatus</i>	A

Appendix III: Biodiversity Enhancement

Proposed - Native Landscaping

A series of trees, woody shrubs, climbers, herbaceous plants and ferns have been given within the table below which are suitable for incorporation into the proposed development; the list of plants given below are readily commercially available.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shied-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils - suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils - suitable for rockeries
	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
Climbers	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
Woody Shrubs	Blackthorn	<i>Prunus spinosa</i>	-
	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
	Holly	<i>Ilex aquifolium</i>	-
Trees	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-
	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
Aquatic/marginal plants	Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Ponds
	Marsh Marigold	<i>Caltha palustris</i>	Marginal vegetation
	Ragged Robin	<i>Silene flos-cucculi</i>	Marginal vegetation
	Water Mint	<i>Mentha aquatica</i>	Marginal vegetation
	Water-violet	<i>Hottonia palustris</i>	Ponds
	White Water-lily	<i>Nymphaea alba</i>	Ponds

Enhancing a development site for Bats

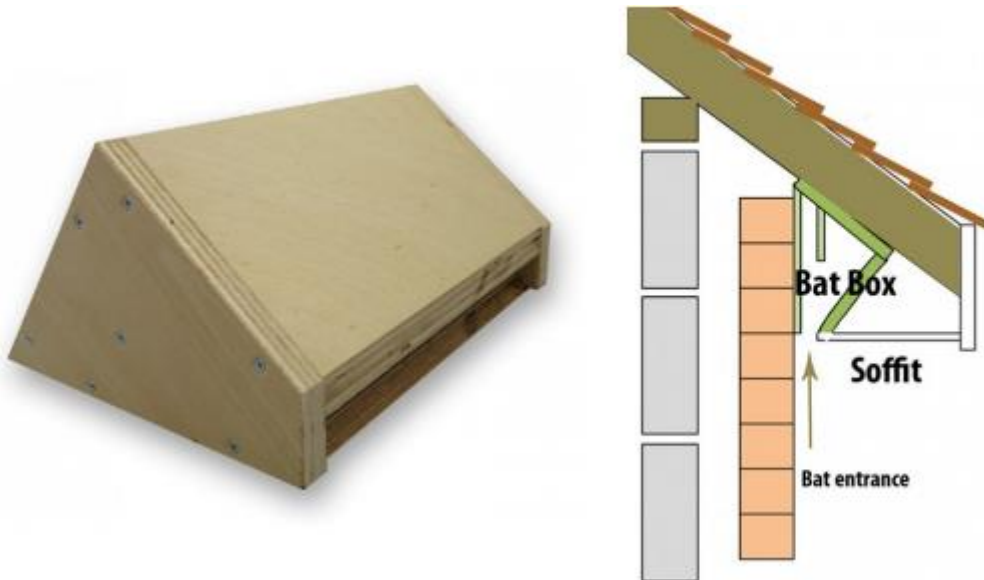
Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Greenwoods Ecostyrocure Bat Box.

See - <https://www.greenwoodsecohabitats.co.uk/shop>

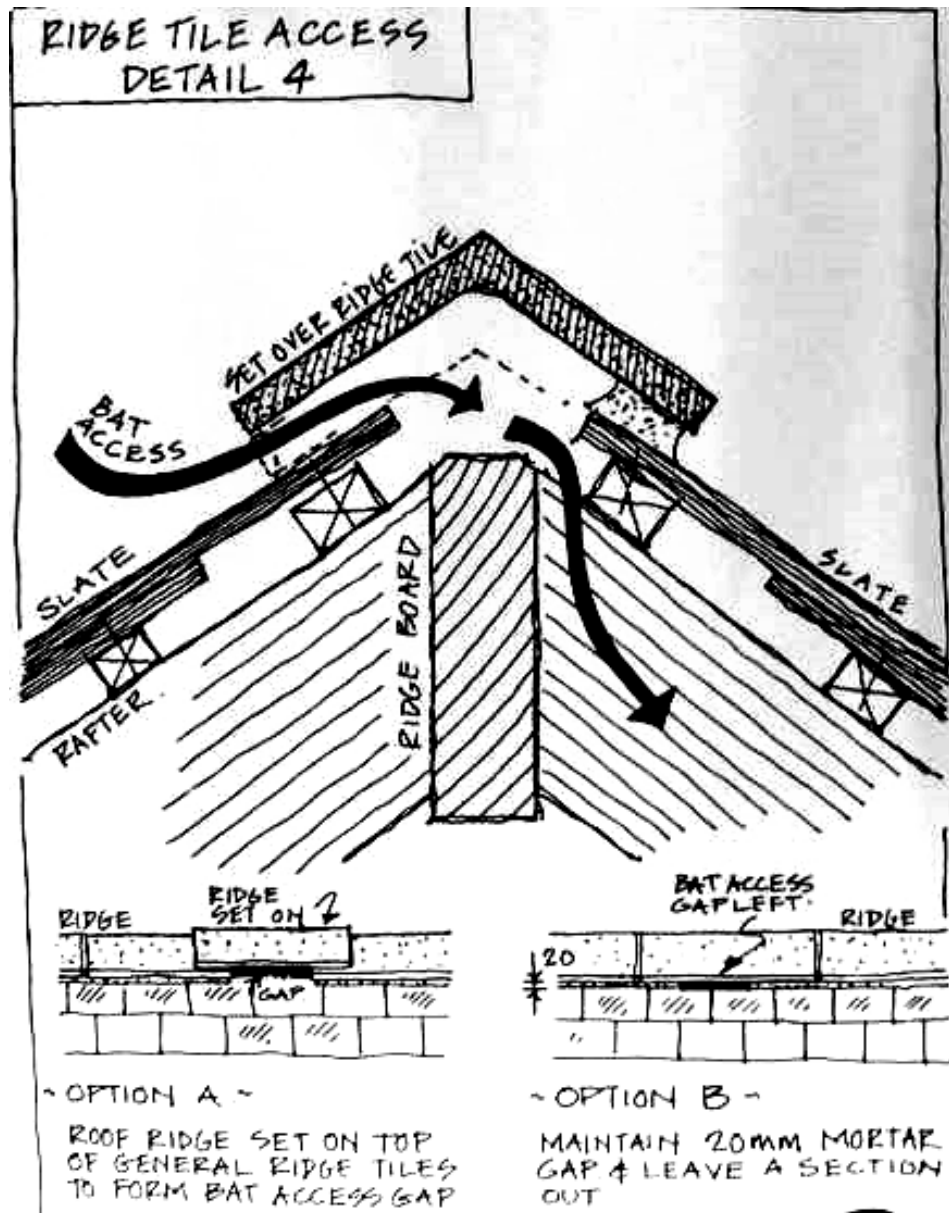


Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.

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Enhancing a development site for Breeding Birds

Nesting Birds - Common/Woodland/Garden

This traditional design has proved to be highly effective in attracting robins, as well as other small species such as black redstart, spotted flycatcher and wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in ivy, honeysuckle or other climbing plants.

See: nhbs.com



Enhancing a development site for Invertebrates

Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.

Specification

- * Material: Concrete
- * Origin: Cornwall, UK
- * Dimensions: W 215mm x D 105mm x H 65mm
- * Weight: 2.9kg
- * Colours: White grey, yellow, dark grey and red



Proposed – Enhancement for Hedgehog

Hedgehog Home

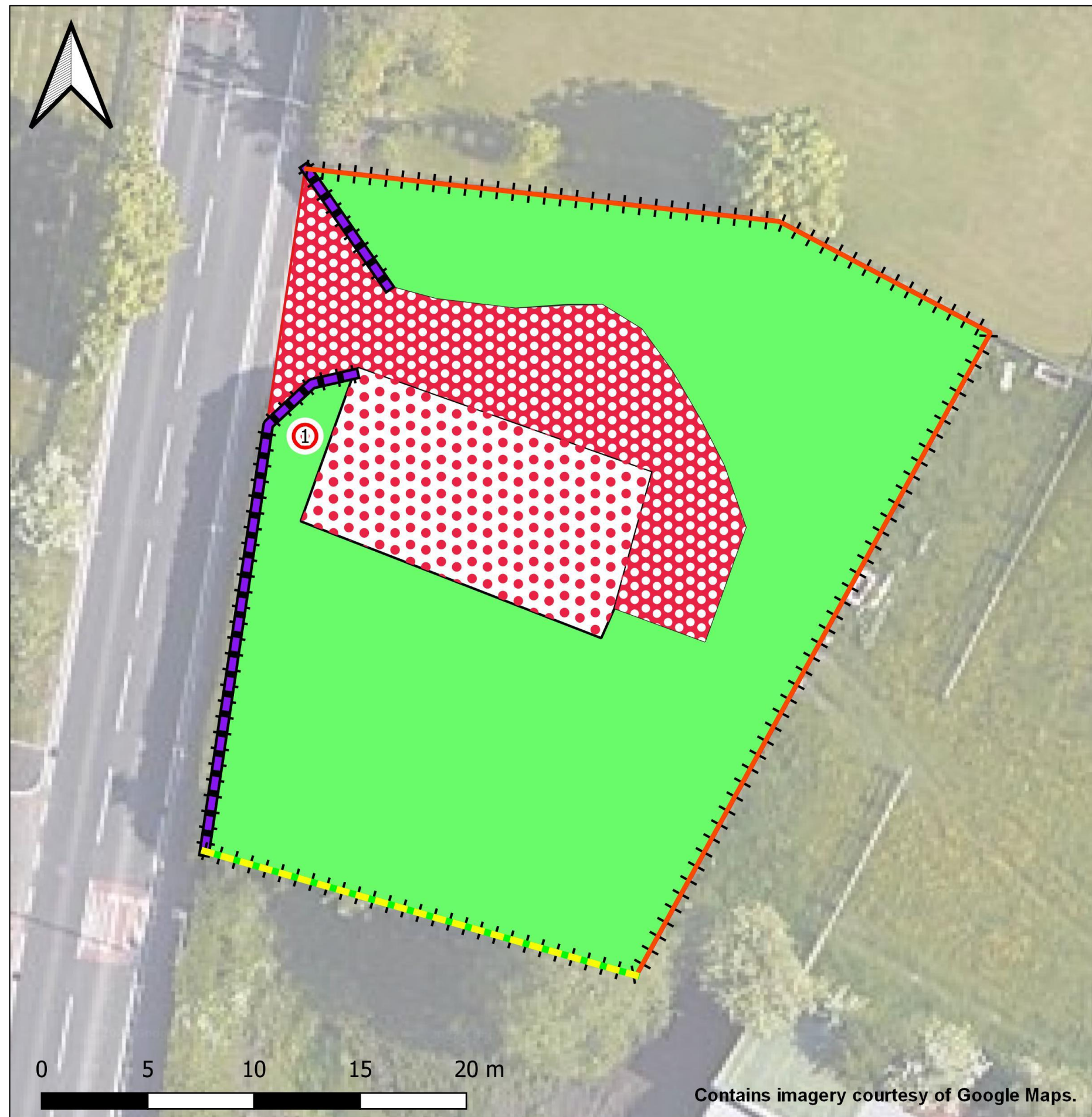
Specification:

Exterior quality 12mm resin bonded ply. The box remains untreated on the inside. Best situated in a quiet corner of the garden, and covered with leaves and other garden debris. Removable lid for cleaning purposes and reinforced corners, manufactured with surface sunk nails to resist rusting.



Nest box size: Height 22cm x Width 38cms x Length 47cm

Environmentally positive: Direct action to help hedgehog survival rates, encouraging biodiversity; FSC timber; Zero carbon footprint in use.



UKHabs Map Legend

-  h2a 76 - HEDGEROW (priority habitat)
76 recent management
-  h2b 76 - OTHER HEDGEROW
76 recent management
-  u1e 69 - BUILT LINEAR FEATURE
69 fence
-  g4 16 64 73 - MODIFIED GRASSLAND
16 tall herb, 64 mown, 73 bare ground
-  u1b5 - buildings
-  u1c 17 73 - ARTIFICIAL UNVEGETATED
UNSEALED SURFACE
17 ruderal ephemeral, 73 bare ground
-  TARGET NOTE
1 - Piled wood
-  Boundary

Sunnybank

Survey Date: 11/08/2022
 Drawn: Miss. K. Judson
 Date Drawn: 01/09/2022
 Checked & Approved: Mrs. K. Wilding
 Size: A3
 Scale: 1:250

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