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Inspection & Assessment in relation to Bats, Breeding Birds & GCN

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Executive Summary

As part of proposed planning applications with Wrexham County Borough Council, Tyrer Ecological Consultants Ltd carried out a daytime preliminary roost assessment in relation to bats with an inclusive inspection for breeding birds and assessment for great crested newt (*Triturus cristatus*) (GCN) in December 2024. The proposals are understood to involve an extension on the south facing elevation of the existing main building.

Detailed methods, findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following Key points:

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 referred to as B1 is determined to offer '**Moderate**' and B2 and B3 offers '**None**' bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

Table 7.2. Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M
One survey visit. One dusk emergence survey[a] (structures). No further surveys required (trees).	Two separate dusk emergence survey visits[b].	Three separate dusk emergence survey visits[b].

*It is recommended that **two dusk emergence surveys** are undertaken at B1 during the active season of bats (May – August), in order to establish if / how the building is being used by bats, and if so, identify the species present, abundance, roost locations and flight lines around the site following emergence / re-entry. **Four surveyors** would be required at the site to cover all elevations host to roost potential.*

Breeding Birds:

No evidence of Sch. 1. (WCA) specially protected bird species was identified on site. In relation to more common birds, direct evidence of breeding birds was located within B1 & B2. Specifically, evidence of kestrel droppings was identified at B2, a structure that will be impacted by proposed works to B1.

In the interests of potential impact avoidance, it is recommended that any proposed works which may impact the areas of nesting potential, such as to the building or to any vegetation under blue line ownership, should be undertaken outside of the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March – August). For works within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. If birds are found nesting, any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.

Great Crested Newt:

Based upon the desktop assessment and field assessment, the pond (P1), located within close proximity to the site, scored 'Good' in HSI assessment, indicating it has potential to support GCN if present in the surrounding area. On-site habitat was classified as providing average quality habitat for GCN.

Despite this, GCN are unlikely to utilise the site, given the absence of functioning pond network and lack of good quality habitat and connectivity between the surrounding landscape. In addition, proposed works are considered low risk and will not be impacting identified habitats.

Considering the above, as a precautionary measure, it is recommended that a programme of Reasonable Avoidance Measures (RAMs) should be followed during the works, encompassing working practices including the responsible storing of building materials and heavy machinery, as well as the identification of newts by contractors. See ***Section 7.0*** *for further details.*

Biodiversity Benefit:

As a means of enhancement and aiding the design of the scheme to achieve a net biodiversity benefit in keeping with local and national planning policy, the proposals may consider incorporating wildlife friendly provisions in addition to those described.

Further recommendations, regarding birds, amphibians, native species and invertebrates are provided within ***Appendix II****.*

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1.0 Introduction & Reasons for Survey

1.1 As part of a proposed planning application with Wrexham County Borough Council, Tyrer Ecological Consultants Ltd carried out a daytime preliminary roost assessment in relation to bats with an inclusive inspection for breeding birds and assessment for great crested newt (*Triturus cristatus*) (GCN) in December 2024, proposals include an extension to the rear of the existing residential structure. See **Figure 1.1** for a site and location plan.



Figure 1.1 – *The site and location plan (© Blueprint Architectural Services)*

1.2 The aim of the surveys was to ascertain:

- Whether or not the outbuilding or surrounding vegetation is of value for bats / bat roosts,
- If the structure or impacted vegetation is of value to breeding birds,
- If the site surrounding habitats and impacted areas could support GCN.

1.3 If any potential roost features (PRFs) were found to be suitable for bats, or signs of use were observed, then more detailed surveys would be recommended i.e. dusk / dawn emergence / re-entry surveys during the main active season of bats which is May – August (extending into September). If additional surveys are required following the initial site visit for bats, breeding birds or GCN, this report will also outline the details of those further requirements.

1.4 If it was determined that bat(s) or their roost / place of rest / shelter will be subsequently impacted by the works then a European Protected Species Development Licence (EPSDL) from Natural Resources Wales (NRW) would be legally required to proceed with the development.

1.5 If evidence indicated breeding birds may be impacted by proposals, tailored recommendations would be made accordingly, species pending.

1.6 If GCN are adjudged to be at risk of impact from the proposals, then further recommendations will be made in order to negate the chance that this protected species would be at risk.

1.7 As part of the local authority's planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted where protected / priority habitats and species are, or may be present, that could be affected by the proposals for which the application seeks consent. Where more detailed surveys are recommended by the ecologist, following an initial daytime investigation, then Local Planning Authorities (LPA), on the advice of their ecological advisors, will not grant permission until such time that all relevant information is gathered.

1.8 In accordance with Welsh planning policy the site visit also aims to identify opportunities for net biodiversity benefit.

2.0 Protected Species & Their Requirements

Bats

2.1 All British bats and their **roosts are afforded full protection under the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats and Species Regulations (2019) (EU Exit). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of Regulation 7 of the Regulations, and therefore has a statutory duty, as the local authority, to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Uses of Buildings by Bats

a) Summer breeding roost (May – August)
b) Hibernation roost (October – March)
c) Transitional or temporary roost (other months)

2.3 Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance; climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

*** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to "a breeding site or resting place of such an animal" and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.*

Breeding birds

2.4 All wild birds, no matter how common, their eggs, young and nests, whilst being built or occupied, are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981, for example barn owl (*Tyto alba*), are afforded a greater level of protection and are protected also from disturbance.

2.5 Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided; any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March – August). On occasions nests can become unoccupied during the breeding season but the status of the nest(s) should be determined by a suitably experienced ecologist before any damage takes place.

Great crested newt

2.6 GCN are fully protected in all life stages by Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) and the Wildlife and Countryside Act (1981) (as amended). They are listed a priority species under section 7 of the Environment (Wales) Act 2016. The legislation makes it a punishable offence to:

- Deliberately, intentionally or recklessly kill, injure or take a GCN,
- Deliberately, intentionally or recklessly take or destroy GCN eggs,
- Possess or control any live or dead specimen, or anything derived from a GCN,
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a GCN,

- Deliberately, intentionally or recklessly disturb a GCN while it is occupying a structure or place which it uses for that purpose.

2.7 In summary, GCN are protected from disturbance, killing, injuring or possession at any life stage, whilst confirmed breeding ponds and resting places are afforded the same protection once identified. Habitat for this species is protected when within certain range of a breeding pond. This places an obligation on local authorities to fully assess the impacts of development on this species prior to determining a planning application.

2.8 GCN populations have declined within the UK over recent years due to destruction and fragmentation of breeding ponds and terrestrial habitat. They spend a high percentage of their adult life in terrestrial habitat such as woodland, and shelter in environments with piles of rubble, log piles, tree roots, miscellaneous other for safety, refuge and hibernation.

2.9 The north-east of Wales, including Wrexham Borough and neighbouring counties, is known to be a stronghold for great crested newt, with the topography and underlying soil type providing a high density of suitable ponds for this species when in their aquatic phase. The Johnstown Newt Sites Special Area of Conservation (SAC) is of international significance for this species, and, as such, for any sites in proximity to this area, GCN are a material consideration.

Policy

2.10 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

2.11 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.12 PPW (2021) states:

"The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre."

2.13 Planning authorities must therefore follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

2.14 The first priority for planning authorities is therefore to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning

authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or pro-gain have been fully considered.

2.15 The Environment (Wales) Act 2016 ("the Act") – requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species.

Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."

2.16 This is further supported by PPW (2021) which requires developments to achieve a Net Benefit for Biodiversity (NBB):

"*Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a* ***net benefit for biodiversity****. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the follow aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems.*"

2.17 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

2.18 Wrexham Borough Council prepared a plan, namely the 'Wrexham Unitary Development Plan (1996 – 2011)', which was formally adopted in February 2005 and supersedes any previous development plans for the area. A new plan, the 'Wrexham Local Development Plan 2 (2013 – 2028)', which will replace the current adopted plan, is currently under review. Until this new plan is adopted, the Wrexham Unitary Development Plan remains in effect, and Policy EC6 of this plan states:

"Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported."

3.0 Protected Species in Wrexham

3.1 Up to eleven bat species have been recorded in Wrexham, many of which use built structures for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the soprano pipistrelle bat (*Pipistrellus pygmaeus*); its abundant status in Wrexham is mirrored throughout the UK.

3.2 All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected under the Wildlife & Countryside Act 1981 (as amended). Some species are, however, subject to a greater level of protection, for example the barn owl which is listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), with nests of birds from these species being protected from disturbance as well as destruction. The number of breeding barn owls within rural parts of Wrexham is moderately high across areas of countryside where suitable environs exist; however, they are constantly under threat from loss of habitat and nesting opportunities.

3.3 As mentioned previously, the number of GCN across Wrexham is significant, with certain regions showcasing internationally important populations and suitable habitats. The rural and semi-rural nature of the land as well as the topography and soil type mean that networks of ponds and water bodies suitable for GCN are present in abundance, with suitable terrestrial commuting and refuge sites allowing for movement between the ponds, forming metapopulations of newts where there is an absence of barriers to dispersal. The number of confirmed GCN ponds is increasing with the adaptation of new surveying methods, with the eDNA technique allowing surveyors to determine where GCN are present.

4.0 Survey Methodology

4.1 As part of the Inspection & Assessment in relation to Bats, Breeding Birds & GCN report, a desk-top and field-based study is 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 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA) was accessed, alongside DataMapWales, which holds protected species and habitat information for Wales. These sites were utilised to further inform conclusions concerning such species in the context of the study site and its proposed development.

4.3 Additionally, the Natural Resources Wales (NRW) and Joint Nature Conservation Committee (JNCC) websites were accessed to provide citation details for statutory designated sites as well as habitat information in proximity to the site.

4.4 Historic satellite imagery was reviewed using sources such as Google Earth (© 2022/23) 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.

4.5 In addition, the Wrexham County Borough Council 'Search Planning Applications' online 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.

4.6 A commercial data request to the Local Environment Records Centre serving the area – Cofnod – has not been sourced 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) also 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."

4.7 As exemptions as made **bold** above can be applied for this site, whilst following best practice, it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time, which offers a proportionate level of survey effort. **If, however, a data search is considered necessary by the Local Authority advisory body to inform the ecological impact assessment following any further surveys recommended in this report, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued / updated report.**

Field survey

4.8 In context with the above, a diurnal inspection and assessment of the site and the immediate environment in relation to bats, breeding birds, and GCN was conducted on 2nd December 2024 in calm, cool conditions (8ºC), wind 3/12 (Beaufort scale), 50% cloud by Mr. J. Hark and Miss. H. McGlynn (see **Table 4.1**):

Table 4.1 – Site surveyor credentials

Name	Description of most relevant credentials
Mr. J. Hark Qualifying CIEEM	• Consultant Ecologist with a range of training and experiences, including within habitat management and invasive species control. BSc (Hons) Wildlife Conservation & Ecology, MSc Wildlife Conservation. • Accredited agent on the Class 2 Natural England bat licence of Mrs. K. Wilding (CLS-14227). • Accredited agent on the Natural England Great Crested Newt: CL08 Class 1 licence (2022-106040-CL08-GCN) of Mr. D. Burrows.
Miss. H. McGlynn	• A Junior Ecologist with a range of experience and currently undergoing extensive training; holds a BSc (Hons) in Ecology and Conservation and MSc in Conservation Management (a CIEEM accredited course). • Holder of a FISC Level 3 (Botanical competency).

4.9 Bat Conservation Trust (BCT) – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) states:

"*The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. The question should not be whether the guidelines where followed, but whether the objectives of the survey met? Where examples are used in the guidelines, they are descriptive rather than prescriptive."*

Bats

4.10 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, 4th ed. (2023) (see **Figures 4.1 – 4.3**).

4.11 The site was assessed for bats; a daytime bat walkover (DBW) was undertaken to observe, assess and record any habitats or features suitable for usage by bats, either as commuting, foraging or roosting provision. Wider connectivity to other habitats was also considered during the DBW.

4.12 Buildings and other permanent / semi-permanent structures were subject to a preliminary roost assessment (PRA), to identify potential areas which may be of value to bats and to determine evidence of use. This typically involves a systematic search of the external aspects of any structure(s), comprising an investigation of features known to be used by bats (for example roofing material, soffits, fascia, lead flashing hanging tiles) using a high-powered torch and close-focus binoculars, where necessary. Where possible, an internal assessment of the structure was also carried out, with the aid of a high-powered torch and endoscope, where necessary, to identify any evidence of bat use of a structure. Field signs of bats typically comprise bat droppings, urine splashing, fur-oil staining, incidental animal presence, dead specimens and / or the presence of prey items, such as moth wings.

4.13 Trees (where present) would be subject to a ground level tree assessment (GLTA) using equipment such as close-focus binoculars and a high powered-torch. Potential roost features (PRFs) 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 developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached climbing species with stem diameters in excess of 50mm or pre-existing bat / bird boxes. These PRFs can then be determined as PRF-I or PRF-M, dependent on their suitability for individual / low numbers of bats or their capability to host multiple bats.

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.

Potential suitability	Description	
	Roosting habitats in structures	**Potential flight-paths and foraging habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[a]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[b] 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[c]).	Habitat that could be used by small numbers of bats as flight-paths 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 with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is 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 flight-paths 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 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[b] and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths 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 Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

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

c 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.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). 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 prominent buildings in the landscape, urban or otherwise.

Figure 4.1 – *BCT guidelines extract*

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.	
Suitability	**Description**
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Figure 4.2 – *BCT extract on tree roost suitability criteria*

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	**Description**
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Figure 4.3 – *Extract on tree roost categorisation criteria*

Birds

4.14 The site was inspected for evidence of nesting 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 – this can take the form of searching structures, woody vegetation, semi-aquatic vegetation such as reeds and / or ground flora. Elevations of any buildings or structures on site were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example (list non-extensive):

- House martin (*Delichon urbica*): Birds of Conservation Concern (BoCC) red status,
- House sparrow (*Passer domesticus*): BoCC red status,
- Starling (*Sturnus vulgaris*): BoCC red status,
- Swift (*Apus apus*): BoCC red status.

4.15 Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended) and other priority species.

GCN

4.16 During the desktop assessment, a 250-metre radial search was undertaken from a site-central grid reference in relation to the presence of ponds, ditches or other water bodies that may have potential to support GCN. The information gathered would then be used to aid in establishing if more detailed surveys may be required in relation to this species, either in the form of presence / absence surveys or population class assessments.

4.17 Information on any identified waterbodies was gathered during the desktop study by the author, with data obtained from internet sources and information from the client pertaining to the usage of the ponds. See **Section 6.0** for further information.

4.18 The results, conclusions and recommendations are based on a number of factors i.e.

- Practical experience of surveyor,
- Knowledge of bat / bird species relevant to the site location and geographical range,
- Nature of immediate / surrounding habitat in relation to foraging / commuting,
- Condition of the building,
- Presence / absence of a loft space or cellar and reasonable practicality of use,
- Presence / absence of roost potential,
- Value of roost potential – if present,
- Presence of suitable habitat features for GCN,
- Nature of the pond(s) / pond networks in the immediate landscape.

Applying the GCN HSI

4.19 The GCN Habitat Suitability Index (HSI) is a quantitative measure of habitat quality evaluating the suitability of habitat for the Great Crested Newt. A HSI is a number between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond density. The tool is particularly useful in survey and mitigation; one benefit is that it can be undertaken in a single field visit (with supporting desk work) and at any time of the year (though some variables are more easily measured in spring and summer).

Its main uses are:

- *In surveys, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.*

- *In impact assessments, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options.*

- *In risk assessments, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of GCN presence. Hence, with due care and in limited circumstances the HSI might be used in the absence of newt surveys to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g. development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer should be aware that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt presence/absence survey would be required to confirm this.*

- *In habitat enhancement, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.*

- *In post-development monitoring, to allow an assessment of habitat condition.*

4.20 GCN HSI Limitations:

The GCN HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence of GCN. A licence application that infers GCN presence solely from HSI data (i.e. no newt survey data presented) will be rejected. Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations. This is on a risk assessment basis and developers should be aware of the potential hazards of this approach. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts.

4.21 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, the Director of Tyrer Ecological Consultants Ltd, and her assessment is consistent with that of the surveyors Mr. J. Hark and Miss. H. McGlynn.

5.0 Limitations

5.1 The survey took place outside of the bat active season (broadly acknowledged May-September), therefore, there was a lower probability of encountering direct evidence of bats, such as through droppings. However, potential roost features and suitability of potential roost features can still be judged as effectively and conclusively as within the active season of bats. Therefore, whilst suboptimal, survey timing is not considered a limitation in this instance.

5.2 The survey was conducted outside the breeding bird season typically considered to be March-September, therefore breeding bird behaviour has a negligible probability of being encountered. Nonetheless, suitability for breeding birds is readily identifiable all year round and nesting material from the recent summer can often attest to the presence of breeding birds, as such, timing is not considered a constraint in this instance.

5.3 When surveying the internal elements of building 1, a loft hatch was discovered on the second storey bathroom which did not open completely and had limited viewing access; therefore, a thorough inspection of the loft space was not available. With the second storey featuring a flat roof, it can be presumed that this loft space will be small and confined. Although a full check for direct evidence of bats was not possible, external access and partial internal access of the building was available, thus, a satisfactory evaluation of its potential suitability to support roosting bats was able to be completed. Therefore, this is not considered a significant constraint.

5.4 No access was available for identified off-site ditch networks, given their presence within privately owned land. Given the location and nature of environment of both ditches, it is assumed they serve a drainage function, suggesting water may be present and flowing, which reduces its suitability for GCN. A precautionary approach has been adopted regarding amphibians, with both ditches situated outside the proposed development area.

5.5 No other access constraints were encountered by the surveyors during the diurnal appraisal, and having considered possible survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

6.0 Desk Study Results

6.1 The site of the proposed works (referred to in part as the "application site" and "the site") is situated to the east of Trevalyn in a semi-rural setting, approximately 8.54 kilometres north-east of Wrexham city centre (see **Figure 6.1** below for satellite imagery).



Figure 6.1 – *Location of the application site (red boundary) within the landscape (© Google Earth Pro 2023)*

6.2 Based on historic imagery, the property appears to have been present since at least ~2005, with earlier OS maps unclear regarding its presence or absence. The site at present day features three buildings and a gravel entrance to the property, differing to earlier maps (circa. 2005) which shows the existence of five structures (the three from present day with a garage and an external building towards the rear), paved entrance and a brick wall to border the property. By 2011, the two additional buildings have been demolished. No evidence of any relevant planning application was identified for the two buildings.

6.3 The surrounding environment is largely rural, predominantly composed of agricultural land and small parcels of rural development, with both arable and pastoral fields present and bounded by features such as hedgerows and lines of trees. The site is one of few minor rural residences, with several houses and commercial properties along this section of Almere Ferry Road. Ditch networks are present within the immediacy, located, in entirety to the east of the site, with agricultural fields acting as buffers.

6.4 The hedgerows and the lines of trees present within the surrounding area, provide ecological connectivity, offering suitable features for commuting animals, notably airborne organisms such as bats. The species most typically associated with the habitats described being the common pipistrelle (*Pipistrellus pipistrellus*), frequently associated with buildings in sub-urban

and rural areas, and brown long-eared bats (*Plecotus auritus*), which are commonly associated with woodland and semi-natural habitats.

NB: *Where quality habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*

6.5 The aforementioned commuting routes are also considered to be appropriate for usage by bird species likely to be in proximity to the site, as well as potentially by terrestrial phase amphibians.

Statutory designated sites

6.6 There are three statutory designated sites for nature conservation within 2.0 kilometres of the application site (see **Table 6.1** for further information on the designations and **Figure 6.2** overleaf for a visual representation).

Table 6.1 – Statutory designation types and reasons for designation within 2.0 kilometres buffer

Site name	Designation	Interest features
Afon Dyfrdwy (River Dee) 1.5 kilometres east to the site	Site of Special Scientific Interest (SSSI)	This site forms SSSIs in both Wales and England and is notified for its transition through a range of river types from mesotrophic to eutrophic along its' duration, and also for the species it supports, which include Atlantic salmon (*Salmo sala*), otter (*Lutra lutra*), and club-tailed dragonfly (*Gomphus vulgatissiumus*).
Old Pulford Brook Meadows 1.9 kilometres north-east to the site	Site of Special Scientific Interest (SSSI)	A 9.6 hectare site identified as supporting the largest remaining area of BAP Priority Habitat Lowland meadow. The site supports a range of uncommon or geographically restricted plant species, such as greater burnet (*Sanguisorba officinalis*), pepper saxifrage (*Silaum silaus*), and common meadow-rue (*Thalictrum flavum*). Old Pulford Brook Meadows has also been recorded to support breeding waders, for example, Curlew (*Numenius Arquata*) and Northern lapwing (*Vanellus vanellus*)
Rive Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid 1.5 kilometres east to the site	Special Areas of Conservation (SAC)	This site consists of broadleaved woodland, improved grassland, inland water bodies, salt marshes and mud flats. An Annex I habitat that is a primary reason for the designation of this site is: Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Annex II species present include: Atlantic salmon, floating water-plantain (*Luronium natans*), sea lamprey (*Petromyzom marinus*), brook lamprey (*Lampetra planeri*), river lamprey (*Lampetra fluviatilis*), bullhead (*Cottus gobio*) and otter (*Lutra lutra*).

6.7 Despite the proximity of the application site to the stated statutorily designated sites, of which all lie beyond 1.5km, potential impacts derived from the proposals must be assessed with respect to likely significant effects on the designated sites. Given the small scale nature of the proposals which does not see a substantial increase in occupation of an already existing property, perceived pressures such as increased recreational impacts are considered unlikely. Further risks associated with the development are considered negligible based proportionally upon the small scale of the proposals.

6.8 In this sense, it is considered highly unlikely that the proposals will impact upon the qualifying features of the various sites. In relation to Regulation 63 of the Conservation of Habitats and Species Regulations and with all current information and recommendations taken into account,

there is considered to be no pathway by which the proposals could have a significant impact on the designated sites or the qualifying species.

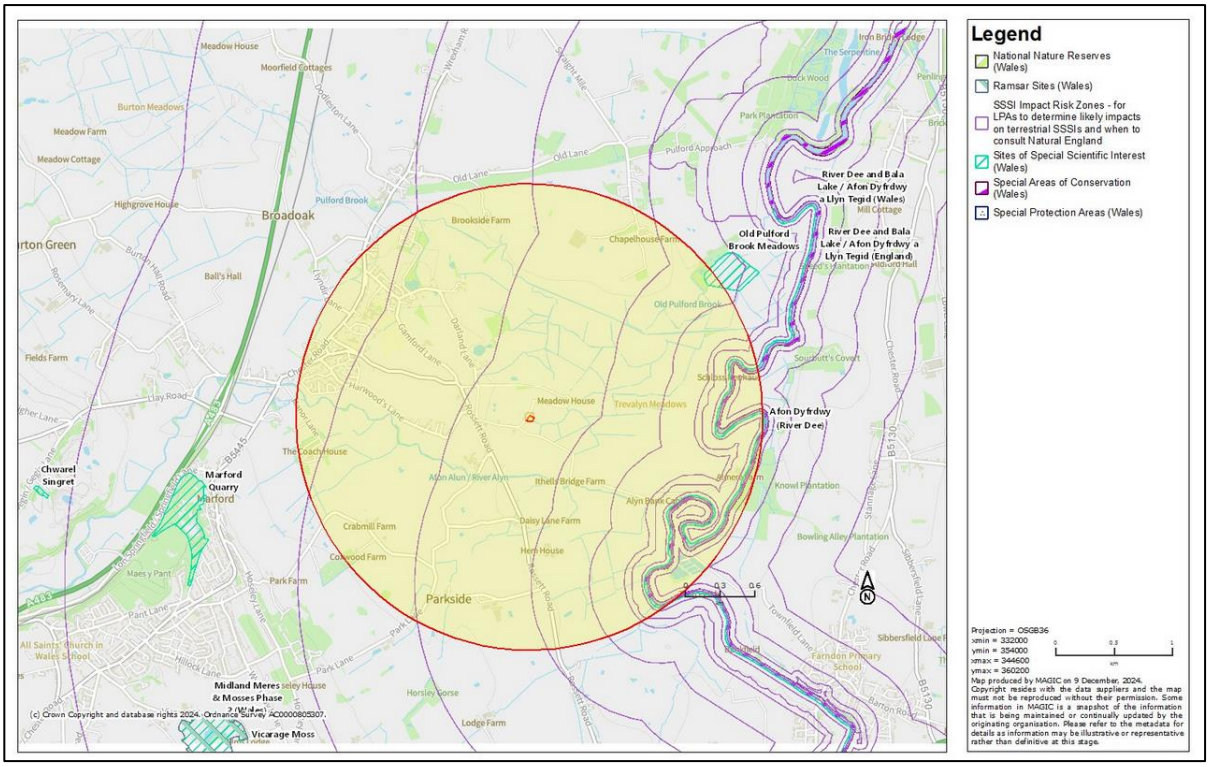


Figure 6.2 – *Designated site data for the area within 2.0 kilometres of the application site (MAGiC Maps 2023)*

Notable species records

Bats

6.9 A search of extensive company records held by Tyrer Ecological Consultants Ltd from 2014 – present, all of which have been submitted to the LERC serving the area, which in this case is COFNOD, revealed one record, 1.0km north-west of the site, within the 2.0 kilometre area. This record involved emergence of up to three common pipistrelle bats, with additional foraging and commuting activity from noctule and brown long-eared bats.

Birds

6.10 Given the presence of agricultural land within proximity to the site, a variety of bird species are considered likely to exist in proximity to the site, including raptors such as barn owl (*Tyto alba*) and possibly species such as curlew (*Numenius arquata*) and lapwing (*Vanellus vanellus*), alongside more common garden species. River Alyn, 500m south of the site, has the capacity to support waterfowl species and others dependent on wet habitats.

Great crested newt (GCN)

6.11 One record of GCN was identified during the desktop study approximately 1.0 kilometre north-west of the site, however, this record appears to be beyond barriers of dispersal, such as a main road and large expanses of agricultural land. Upon application of the DataMapWales layer 'Potential Habitat for Great Crested Newts', the site is not located within previously identified suitable habitats for this species; the closest identified habitat is 1.4 kilometres north-west of the site and lies beyond the River Alyn, a barrier to dispersal.

6.12 Based on the desk study and utilising both satellite imagery as well as mapping services such as Magic Maps and DataMapWales, one pond was located within a 250-metre radial buffer of the site, approximately 15m to the east of the site and spatially separated in part by fencing and scrub. In addition, two ditch networks were identified during the desk study and diurnal appraisal to the east of the area proposed for development. See **Figure 6.3** below for pond and water body locations.

6.13 Information on the identified waterbodies was gathered during the desktop study by the author, with data obtained from internet sources and information from the client pertaining to the usage of the ponds. See **Section 7.0** for further information.



Figure 6.3 – *Location of water bodies (blue regions) within a 250 metre radial buffer of the site (© Google Earth Pro 2022/23, Magic Maps 2022/23)*

7.0 Field Study Results

Bats

7.1 **Figure 7.1** provides a visual aid indicating the locations of buildings **B1 – B3** within the red line boundary. **Table 7.1** describes **B1 – B3** and assesses them for bat roost suitability in line with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

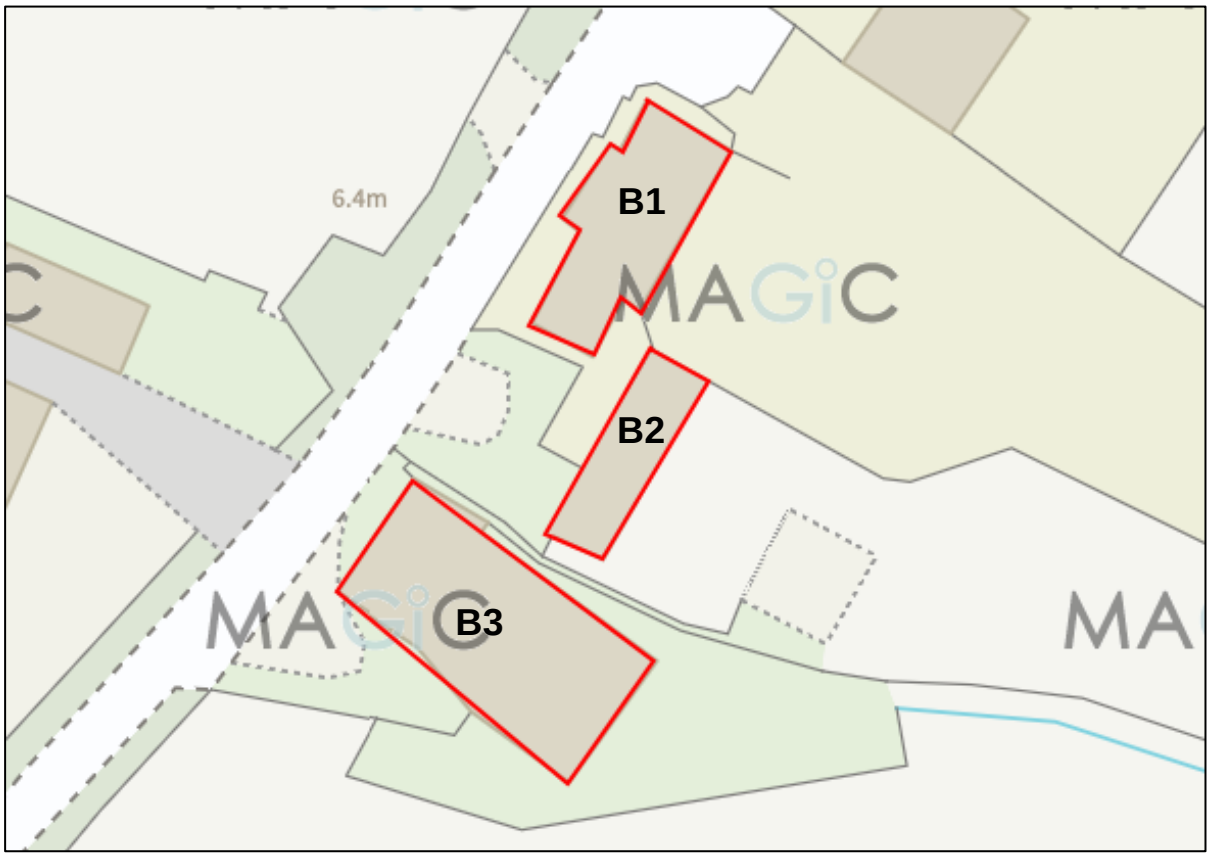


Figure 7.1 – *Locations of the surveyed buildings on site outlined in red (© MAGiC Maps)*

Table 7.1 – Building descriptions at the site

B1
B1 is a building previously used for residential purposes, being brick-built split into a two storey section with a flat roof, white plastered brick and porch, and a single storey extension with a vaulted tile roof and roof windows, to the approximate maximum dimensions of 16 metres x 5 metres x 6 metres (length x width x height). The building features components such as timber windows and doors, timber fascia in part, and open eaves. Several flood lights were present on each external wall of the building however the majority looked faulty and not in use. In respect of its condition, the surveyor is not qualified to assess the structural state, however, the aesthetic condition was adjudged to be poor, with areas of degradation noted to the timber elements and several areas of the brickwork.  Internally, all areas of the structure were investigated by the surveyor; the bottom floor of the building features an open kitchen with a small timber platform above, dining space with a brick fireplace with

sealed chimney, an empty room to the rear, and a small bathroom. A small staircase leads to the second storey which features an empty room and a larger bathroom. Within this bathroom, a loft hatch was present with limited access, opening a couple inches. All timber windows are well sealed with no access into the cavity of the building, internally, the building is draughty and illuminated.

Given the above, it is considered that the building is broadly unsuitable for the breeding purposes of the loft-dwelling species such as the brown long-eared bat; this species requires lofts with open space for free flight. This does not necessarily rule out usage of the loft space for other roosting purposes by these species, with highly suitable foraging and commuting habitats within the surrounding habitat. No evidence of loft-dwelling species was identified by the surveyor.

Bitumen 1F underfelt was present beneath roof tiles, visible through open eaves. Where present, bitumastic underfelt and other traditional roof linings can improve the value of a building for crevice-dwelling bats such as those of the Pipistrellus genus, whereby they roost between the roofing cover and the underlining. No evidence of this group was identified in the building, though this is often the case due to their crevice-dwelling nature.

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.*

Externally, a number of PRFs were located on the structure, notably on open eaves where access points are present on all elevations. Additionally, openings were found on gaps underneath lead flashing on the porch roof on the eastern aspect, and gaps between the apex joint of timber boards on northern aspect. Damage / missing bricks present can provide ingress opportunities to crevices within the wall and access to loft space. All other features were inspected for their capacity to support bats; windows frames and sills were found to be tight to the walls; and roof tiles were noted to be in good condition and well set upon roof lining.

Based on the above, B1 at Meadow Farm is determined to offer '**Moderate**' bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

B2

B2 is an open structure to the rear of B1 with a corrugated metal sheet roof with timber purlins, supported by timber beams with a brick base and joined wall borders, to the approximate maximum dimensions of 12 metres x 4 metres x 3 metres (length x width x height). Half of the space is split into a paved section, while the other half remains as bare ground. In respect of its condition, the surveyor is not qualified to assess structural state, however the aesthetic condition was adjudged to be poor, with areas of degradation noted to the timber beams, brick bases and roof.



As an open structure, no loft space was present, with the space primarily used for random material storage and open space. The climatic conditions are draughty, exposed, and subject to high light ingress. Due to the above, the structure is wholly unsuitable for the breeding purposes of loft-dwelling bats such as brown long-eared. There is no bitumen lining present and there was no evidence of crevice-dwelling bats.

PRFs are absent due to the corrugated surface not providing the thermal or physical properties conducive of roosting bats due to the surface being too slick for bats to land or crawl on.

Based on an absence of PRFs and internal/external conditions, B2 at Meadow Farm is determined to offer '**None**' bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

B3
B3 is a corrugated steel panel structure to the south of the property with approximate maximum dimensions of 19 metres x 8 metres x 3 metres (length x width x height). Internal access was not available during the survey, however, there is no loft space present and no PRFs were identified externally. On the northern elevation, a large clump of ivy was present, although unsuitable to be a PRF. In respect of its condition, the surveyor is not qualified to assess structural state, however the aesthetic condition was classed as poor, with areas of degradation noted to the metal sheets. 
Based on aforementioned features, B3 at Meadow Farm is determined to offer "**None**" bat roost suitability, in accordance with Bat conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

7.2 There are no trees with PRFs suitable for bats in close proximity to the surveyed outbuildings. Several trees and hedgerows are present beyond the boundary features, however, and these should be considered valuable in a local context in that they provide valuable foraging / commuting habitat for bats, offering shelter, cover and habitat connectivity when in foliage.

Breeding birds

7.3 In relation to WCA Schedule 1 specially protected bird species, such as barn owl, no evidence to indicate use of the site by such species was identified by the surveyor, with an absence of suitable nesting structure (open structure or agricultural building) however, suitable foraging habitat is present in the surrounding environment.

7.4 In relation to non-Sch. 1. bird species, evidence of usage of B1 and B2 was identified by the surveyors, in the form of droppings and nests. B1 had several nests towards the front aspect of the property and rear, under eaves on the porch. B2 had evidence of droppings and faecal splashing, presumed to be kestrel, with one being seen on a neighbouring field during site assessment. Evidence of nesting was also found under the second timber beam closest to B1.

Great crested newt (GCN)

7.5 Important elements to consider when assessing likely impacts against GCN includes:

1. The scale, nature and magnitude of proposals,
2. Site proximity to a potential breeding pond and to any additional ponds,
3. Habitat linkage / barriers between potential breeding ponds and the site,
4. Nature and extent of available terrestrial habitat around the pond,
5. Area of site habitat loss,
6. Nature of habitat to be lost and potential value to GCN,
7. Most up to date Government guidance considering EPS.

7.6 As discussed in the desktop study, a single pond was identified within a 250m radial buffer and two ditch networks which run to the rear of the site (see **Figure 6.3** for pond locations). Access to both ditches was not possible due to their location of privately owned land. However, based on their nature and location, both ditches are presumed to function as drainage channels, with the potential for flowing water. This reduces their suitability for GCN,

and it is unlikely that GCN would use these ditches other than for commuting purposes. Both ditches are outside the proposed development area; nonetheless, due to the lack of access, a precautionary approach has been taken in relation to GCN.

7.7 The GCN HSI was applied for P1. See **Table 7.1** for waterbody description and **Tables 7.2-7.3** for detailed HSI results in line with current guidance. **Figure 7.1** showcases relative pond occupancy proportions.

Table 7.1 – Waterbody description within 250m radial buffer, with included HSI score

P1	
Pond 1 (P1) is a pond 15m to the east of the red line boundary, information from the client was provided to ascertain the nature of the waterbody as a wild swimming pool however it is rarely used and left unmanaged. P1 has an estimated area of 200m^2, likely never dries, is approximately 0% shaded 1m from the shore, has minor waterfowl impacts, absent of fish, moderate water quality, and is surrounded by moderate quality habitat comprised of scrub areas and rough grassland with varied sward height to the north and east and modified grassland to the south, with around 1.20 ponds per km^2 Based on the above, the HSI value of the pond has been calculated as pertaining to **0.77 – Good**. See **Table 6.2** below for further information on the individual category scorings.	

Table 7.2 – HSI quantitative assessment of the ponds

Pond Reference	**P1**
SI1 – Location	1.0
SI2 – Pond area	0.4
SI3 – Pond drying	0.9
SI4 – Water quality	0.67
SI4 – Shade	1.0
SI6 – Fowl	0.67
SI7 – Fish	1.0
SI8 – Ponds	0.7
SI9 – Terr'l habitat	0.67
SI10 – Macrophytes	-
HSI	**0.77**

Table 7.3 – HSI scoring chart (a suitability scoring method for GCN developed by Mr. L. Brady)

Great Crested Newt (GCN) HSI Scoring					
HSI Score	<0.50	0.50 - 0.59	0.60 - 0.69	0.70 - 0.79	>0.80
Pond Suitability	Poor	Below Average	Average	Good	Excellent

NB: *The HSI for great crested newts is a measure of habitat suitability. It is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. There is a positive correlation between HSI scores and the numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular pond.*

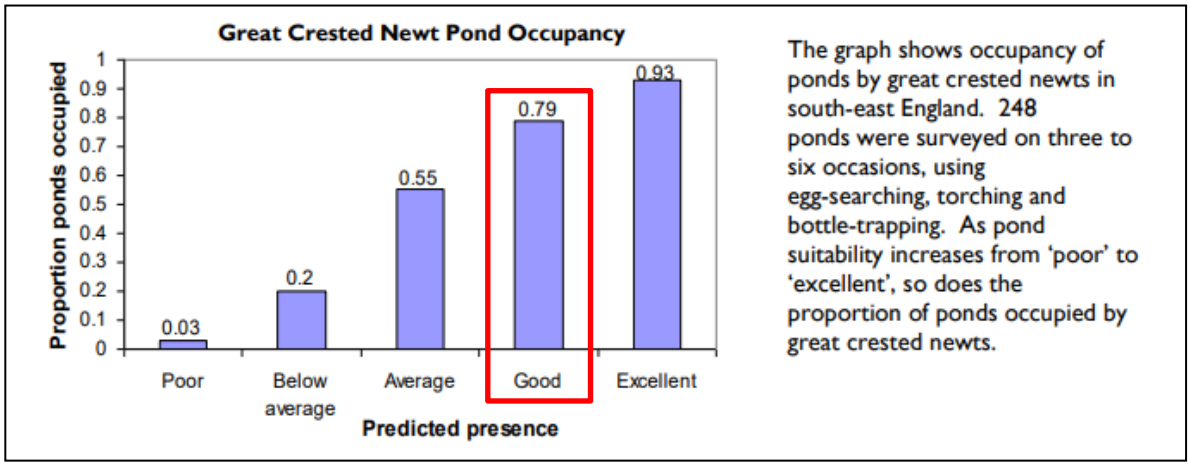


Figure 7.1 – *GCN pond occupancy © ARC UK*

7.8 Based on the HSI value above, P1 could feasibly support breeding populations of GCN, meaning they could possibly be present within 15m of the site. One record of GCN is present in the locality, however, this lies beyond agricultural land and main roads which act as a dispersal barrier. In a 250m radius, P1 is the only pond present, identifying an absence of functional pond network in proximity to the site which reduces the likelihood of a GCN metapopulation existing. GCN metapopulations are dependent on networks of ponds favourable for breeding, between which individual GCN can commute via favourable commuting pathways.

7.9 In a terrestrial contextual assessment, the site provides average value habitat for GCN, as defined in 'Great Crested Newt Survey and Mitigation Guidelines 2025'[1]. Suitable shelter and hibernation sites are found under gaps in slate, piles of building materials, spaces under pool lining, and vegetation piles. There are no significant barriers of dispersal between P1 and the application site, with hedgerows surrounding the site providing some habitat connectivity; however, the extensive surrounding arable land could serve as a dispersal barrier due to its homogenous nature, which offers limited protective cover for GCN, potentially isolating the site and P1 in an ecological sense. Additionally, the absence of woodland and scrubland habitats reduces available foraging opportunities.

[1] https://gcntraining.co.uk/gcn-mitigation-guidelines

7.10 In summary, the presence of GCN within the wider landscape is considered unlikely, based on the absence of functional pond network and limited habitat connectivity. Although a GCN record exists within the site vicinity, it is located beyond dispersal barriers. Despite the above, based on the potentially suitable habitat features on site and the presence of a suitable pond within 15m, the presence of GCN on site cannot be ruled out, as such, a programme of precautionary measures will be recommended at the site. See **Section 8.0** for further details.

8.0 Conclusions & Recommendations

Designated sites

8.1 As mentioned previously, it is considered that there are no pathways by which the proposals could impact the identified designated sites in the wider landscape. No recommendations are considered necessary at this time.

Bats

8.2 Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by **Appendix I**, the property B1 is pertained to offer '**Moderate**' and B2 and B3 are determined to offer '**None**' bat roost suitability in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

Table 7.2. Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M
One survey visit. One dusk emergence survey[a] (structures). No further surveys required (trees).	Two separate dusk emergence survey visits[b].	Three separate dusk emergence survey visits[b].

Figure 8.1 – *BCT extract on roost suitability criteria*

8.3 It is recommended that **two dusk emergence surveys** are undertaken at B1 during the active season of bats (May – August, extending into September), in order to establish if / how the building is being used by bats, and if so, identify the species present, abundance, roost locations and flight lines around the site following emergence surveys. A total of **four surveyors** will be required to adequately cover all elevations of the building identified as containing bat roost potential during daytime inspection and assessment.

8.4 No further surveys in the form of dusk/dawn emergence / re-entry surveys are therefore recommended for **B2 & B3**, owing to a total absence of PRFs or suitability noted at both buildings

8.5 In the event that the presence of roosting bats at the building is initially established within the active season, then an additional survey may be required and the granting of a European Protected Species Development Licence (EPSDL) from Natural Resources Wales will be required for the development to legally proceed where bat roosts will be destroyed, altered, obstructed or damaged or if bats will be disturbed or capture / exclusion is required prior to demolition. However, it should be noted that if a breeding roost is discovered then work that will result in any of the above actions cannot take place until after the breeding season, which is widely accepted as running from May – August inclusive.

8.6 Natural Resources Wales provide online information and guidance concerning the requirement for EPSDL's and the following extract is included in that guidance:

"*When would works require a licence?*

A licence is required for anything that would be an offence under the Regulations (covered in section 2.9 of this report). For example, this could include works which would disturb (as defined in the legislation) bats, damage a bat roost, or damage or destroy a breeding site.

NRW can only grant a licence if the following three tests are met:

1) The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest (IROPI) including those of a social or economic nature and beneficial consequences of primary importance for the environment,

2) There is no satisfactory alternative,

3) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range; this last test might require that the work is modified to avoid or minimise adverse effects (mitigation), or that an alternative breeding site/resting place or habitat is provided instead to safeguard the FCS (compensation). Either way, you will need the advice of an ecological consultant. Along with filling in the licence application form, the ecological consultant will need to write a method statement (within the EPSML) explaining how the work will be done to minimise any detrimental effects.

If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. However, in these circumstances Natural Resources Wales would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found during the course of the activity. If protected species are found, cease the work until you have assessed whether you can proceed without committing an offence.

<u>When might I work without a licence?</u>

There might be situations in which you could continue without a licence. If the work can be organised in such a way that there would be no offences committed (i.e. no damage or destruction of a breeding site/resting place, no capturing, killing or injuring of individuals) then there is no need for a licence. This is a difficult area legally and your ecological consultant will be able to advise you further.

Developers should be aware that if work is held up or modified and there is a possibility that animals will be disturbed, or a breeding site / resting place will be unavailable to them (even if only temporarily), they should apply for a licence in good time.

Example: If a building with a bat roost requires re-roofing or repair work, you would not need a licence if:

- the existing materials are replaced like-for-like (i.e. similar type of roofing slates, similar felt or membrane),
- the same access points are retained and there are no structural changes made to the roost,
- the work is done whilst bats are absent and is completed before they would normally return to the roost."

***NB:** Where more detailed bat surveys are recommended, following an initial investigation, then Local Authorities on the advice of their ecological advisors, may not determine the application until such time that all relevant information is gathered, i.e. by conducting dusk/dawn surveys. The advice that is provided by the ecological advisors is also in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2017. Therefore, it would be prudent to make enquiries to the relevant departmental Planning Officer before submitting a Planning Application that includes an ecological survey report that recommends more detailed surveys.*

8.7 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas of that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information (see **Table 8.1** below):

Table 8.1 – Extract from *Bats and Artificial Lighting at Night*, BCT (August 2023)

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact 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
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

8.8 No recommendations are made in relation to bats and trees, with no trees set to be impacted by the proposals. Nonetheless, all trees and taller vegetation are of value to commuting and foraging bats and should be retained where possible. If any trees are set to be planted as a part of any future landscaping proposals, they should be constituted of native species, with suitable individuals shown in **Appendix II**.

Breeding Birds

8.9 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as barn owl and no further surveys or recommendations are necessary in relation to specially protected birds at this time.

8.10 In relation to more common birds, evidence of general breeding birds was located within B1, the structure set for an extension, and B2, a structure that will be impacted by proposed works, with evidence of kestrel nesting and droppings.

8.11 In the interests of potential impact avoidance it is recommended that any proposed works which may impact the areas of nesting potential, such as to the buildings or to any vegetation under blue line ownership, should be undertaken outside of the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March – August).

8.12 **For works within the breeding bird season**, any areas of vegetation, or areas within the building that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

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.*"

8.13 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.

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.*

8.14 Given the evidence of nesting birds and these areas to be impacted during proposed works, it is considered that replacement nesting sites should be integrated into the converted structures or surrounding habitat. Suitable enhancement measures have been included in **Appendix II**.

Great Crested Newt

8.15 Regarding GCN, only one pond (P1) was identified within a 250m radius of the site, located 15m north-east of the site, and scored 'Good' on the HSI tool. There is an absence of a functional pond network in the vicinity of the site, with only P1 providing direct connectivity to the site. Therefore, it is highly unlikely that an extensive meta-population of GCN exists within the site-surrounding ecosystem. Additionally, one publicly accessible GCN record was found 1.0km north of the site; however, this is beyond a barrier to dispersal and intersected by arable land which further reduces connectivity based on homogenous structure.

8.16 During the on-site assessment, terrestrial habitat on site was classified as providing average quality habitat for GCN, as described in Section 7.0. While the presence of a 'Good' pond and average quality habitat could support GCN on site or in close proximity, the lack of substantial pond network within 250m, limited good quality habitat in the surrounding landscape, and weak connectivity between habitats suggest GCN are unlikely to utilise the site. Furthermore, the

proposed development is considered low risk given the small scale of potential impacts and will not be impacting the identified habitats including the pond.

8.17 Considering all of the above, there is a reduced chance of GCN being present on site and impacts to the species are considered to be low.

8.18 As such, as a precautionary measure, it is recommended that a programme of Reasonable Avoidance Measures (RAMs) should be followed during the works, encompassing working practices including the responsible storing of building materials and heavy machinery, as well as the identification of newts by contractors.

8.19 Should any frogs or toads be encountered within the works area, they should be handled with wet gloves to prevent impact / injury and moved to an area of like for like habitat outside of the works area away from potential harm.

8.20 The applicant and all contractors would be aware that if at any stage newts are encountered during works, or at any other stage of the programme of works, such works would be required to immediately cease and the Ecologist / ECoW would be made aware as to provide further guidance, if an Ecologist is not already present.

Biodiversity Enhancement

8.21 As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions in addition to those described. Further recommendations, regarding birds, amphibians, native species and invertebrates are provided within **Appendix II**.

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Appendix I: Site Photographs



Plate 1 – *The western elevation of B1*



Plate 2 – *The southern elevation of B1*



Plate 3 – *The northern elevation of B1*



Plate 4 – *Eastern elevation of B1, PRFs under ridge tiles.*



Plate 5 – *PRFs on eastern elevation of B1. Example of open eaves which are present on all elevations.*



Plate 6 – *PRF on eastern elevation of B1, presence of bitumen 1F underlining.*



Plate 7 – *Northern elevation of B1, with PRFs on apex of timber boards.*



Plate 8 – *Northern elevation of B1, evidence of nesting and PRFs in open eaves.*



Plate 9 – *Example of flood flight which are present on all elevations of B1, looks to be faulty or not in use.*



Plate 10 – *PRF on western elevation of B1, under fascia.*

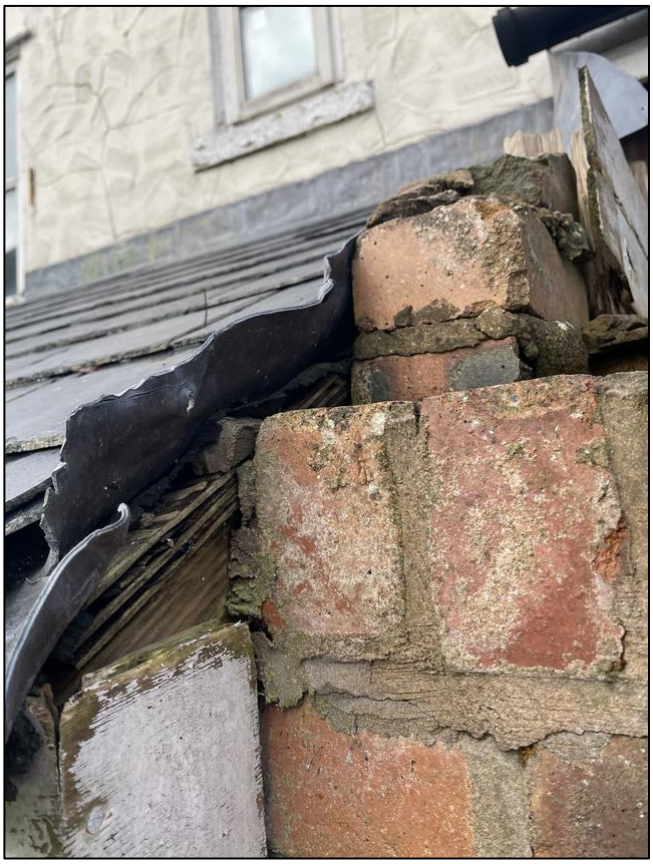


Plate 11 – *Gap under lead flashing (PRF) on porch roof of B1.*



Plate 12 – *Missing brickwork on north elevation of B1.*



Plate 13 – *Internal aspect of B1 – open kitchen space.*



Plate 14 – *Dining space opposite kitchen in B1. Closed brick chimney to rear.*



Plate 15 – *Empty room to ground floor rear of B1. Minor damp present on walls*



Plate 16 – *Loft hatch in upstairs bathroom of B1, access limited to few inches.*



Plate 17 – *B2 at rear of B1 – Used for open space and various storage.*



Plate 18 – *Droppings and splashing present under B2*



Plate 19 – *Evidence of historic nesting under B2. Beam that supports nest will be impacted by proposed works.*



Plate 20 – *Ivy growing on north elevation of B3*



Plate 21 – *Western elevation of B3.*



Plate 22– *Small waterbody at front of B3*



Plate 23 – *Road leading up to the site, hedgerows present on both sides.*



Plate 24 – *Habitat at rear of property*



Plate 25 – *Habitat at rear of Pond 1 (P1) on neighbouring property*



Plate 26 – *Potential refuge for GCN*

Appendix II: Biodiversity Enhancement: General Recommendations

Breeding Birds – House Sparrow



The Sparrow Terrace has been designed to help redress the balance of falling House Sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House Sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.

Breeding Birds – Swallow



Although Swallows are currently placed on the Green list for Birds of Conservation Concern (BoCC), meaning that they are under the least protection, numbers of this species can fluctuate heavily based on environmental and ecological factors, with high regional variation observed.

Swallows will readily adopt these nest cups which are based on the size and shape of natural swallow nests. The nest cup is ideal for placing in a garage, shed, stable, barn or even beneath an archway and should be placed beneath the roof with free access. It provides somewhere secure for swallows to nest and means that they will expend less energy in producing their own nest. It also means that they do not need to find suitable nest building mud which can be in short supply in a dry spring. This WoodStone® Swallow Bowl is made from durable WoodStone®, a mixture of concrete and wood fibres, that is guaranteed to last for years and is mounted on an exterior grade plywood board.

Specifications

* Height: 120mm
* Width: 200mm
* Depth: 110mm
* Weight: 600g

Breeding Birds – Other



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.

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

Native Planting and/or Landscaping

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn, Honeysuckle, Rowan, Guelder-rose and Hawthorn are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

Suitable Trees	Suitable Woody Shrubs
English Oak (*Quercus robur*)	Hawthorn (*Crataegus monogyna*)
Rowan (*Sorbus aucuparia*)	Honeysuckle (*Lonicera periclymenum*)
Wild Service Tree (*Sorbus torminialis)*	Guelder Rose (*Vibernum opulus*)
Silver Birch (*Betula pendula*)	Elder (*Sambucus nigra*)
Ash (*Fraxinus excelsior*)	Wild Privet (*Ligustrum vulgare*)
Goat Willow (*Salix capraea*)	Blackthorn (*Prunus spinosa*)
Beech (*Fagus sylvatica*)	
Wild Cherry (*Prunus avium*)	

Herpetofauna

Hibernacula are underground chambers that amphibians and reptiles use throughout the winter to protect themselves from the cold. Creating a hibernaculum will provide a safe space for amphibians and reptiles to hibernate over winter, as well as a spot for solitary bees to soak up the sun and for birds to relax. These habitats can be integrated into a wide variety newly created or enhanced habitats and attract herps to new areas.

You will need:

- A spade
- Logs and branches
- Rocks and bricks
- 2-3 drainpipe cut-offs or cement pipes (if using plastic drainpipes, roughen the insides with sandpaper, so that they are not too slippery for animals to climb
- Turf or meadow flower seeds (optional)

How to make your hibernaculum yourself:

- In a sunny spot, dig a hole about 50cm deep and 1.5 metres across.
- Fill with logs, branches, bricks and rocks, leaving plenty of gaps in between.
- Insert entrance tubes (drainpipes) at ground level into the hole.
- Cover the pile with soil (to about 50cm high).
- Plant meadow seeds or long grasses over the mound to create a feast for summer pollinators.

To construct a hibernaculum to Natural England standard:

- In desired areas, remove the turf from the footprint of the hibernaculum and set aside.
- On well-drained soil excavate to a depth of approximately 500 mm and set aside spoil (this is unnecessary on poorly drained soils).
- Fill the footprint or pit with core material. Materials likely to retain moisture are preferable, such as cut timber, brash and grubbed up tree roots. Other material such as inert hardcore, bricks, rocks, and building rubble may also be used. Materials that will decompose should not be placed beneath heavy components such as bricks or rocks, to reduce the risk of collapse.
- Pack the larger spaces within the core materials with wood chippings, loose topsoil or spoil.
- Cover the hibernaculum with the turves removed from the footprint.
- Take care not to create structures that might attract rodents, such as piles of rubble with many entrance holes. There has been no rigorous investigation of the optimum size of hibernacula, but larger hibernacula are probably more useful than small constructions because they contain a variety of different microhabitats and are more likely to maintain stable conditions.
- A suggested minimum size is 4.0 m long by 2.0 m wide by 1.0 m deep. 2.0 x 2.0 x 1.0 metres (length x width x height) as a minimum.

Illustrative aid for hibernaculum:

