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Cae Haidd, Old Road Bwlchgwyn, Bwlchgwyn, Wrexham, LL11 5UF
OS Grid Reference: SJ 26640 52505

Inspection & Assessment in Relation to Bats Including Dusk Survey Results

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Cae Haidd, Old Road Bwlchgwyn, Bwlchgwyn, Wrexham, LL11 5UF

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Summary

A Planning Application in relation to three of the outbuildings at Cae Haidd, Wrexham proposes the redevelopment of the site and existing outbuildings to provide a single residential property proposed to be utilised as a holiday home. The Tyrer Partnership undertook a daytime assessment of the building in relation to bats during June 2017.

Outbuilding 1: - a multi-compartmental single-storey structure of part brick, part stone construct with slate pitched roof, and mono-pitch extension of block construction, render finish and corrugated roof. Frontal compartments are observed to offer more favourable conditions that would meet the requirements of loft-dwelling species such as the Brown Long-Eared Bat (*P. auritus*), however, no recent or historic evidence of use by this species is observed, and internally the building is noted to be partially draughty, thus, the potential for breeding purposes is significantly reduced; notwithstanding this it could offer opportunities for other roost preferences such as by singular/small number of bats during transitional periods or over the hibernation season. The immediate and continuous landscape offers high suitability to meet the specific foraging requirements of this species.

A section of bitumen underfelt beneath the roof slates to the south-west is observed during the investigation; the presence of which increases probability of occupancy by crevice-dwelling species of bat, namely the Pipistrelle (*Pipistrellus pipistrellus*).

External inspection revealed multiple ingress opportunities to all aspects of the structure in the form of lifted ridge tiles, missing/loose/lifted slates, gaps at wall plate level, cavities within the stonework which extend into the wall and a single ventilation brick to the western elevation.

The building has been assessed as offering moderate potential for bats, thus, in accordance to current BCT guidelines two dusk/dawn surveys in relation to bats should be undertaken in the active season for bats (May-August).

Outbuilding 2 & 3: From the survey results it can be concluded that both structures are devoid of potential for loft or crevice dwelling bat species, and the redevelopment of said structures will have not impact on either taxon group.

The buildings have thus been assessed as carrying negligible potential for bats which instigates no further surveys.

A single birds nest (Robin) was located within O1, thus, it is recommended that the building should be demolished outside of the breeding bird season (March - August) so as to avoid potential damage to an occupied nest and subsequently committing an offence. All wild birds nests and eggs are protected in the Wildlife & Countryside Act (1981) (as amended) and so it is recommended that demolition of this building takes place outside of the breeding bird season (March-August).

As per the recommendations contained within the report two dusk emergence surveys were subsequently undertaken on the 03rd and 17th August 2017. The surveys identified no emergent bats from the building though did identify foraging and commuting by Common Pipistrelle bats on both occasions.

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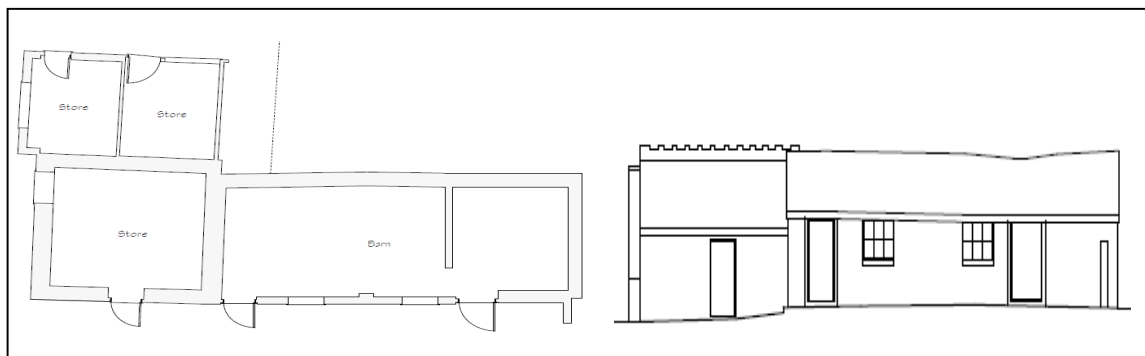
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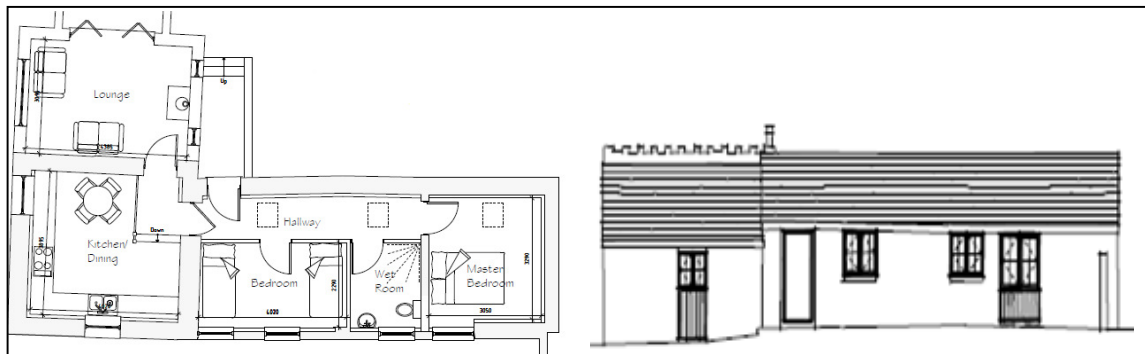
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1.0 Introduction & Reason for Survey

- 1.1 As part of a proposed planning application in relation to three outbuildings at Cae Haidd, Old Road Bwlchgwyn, Wrexham an inspection and assessment was undertaken in relation to bats; Blueprint Architectural Services Ltd, on behalf of the site owner, commissioned the inspection and report. It is understood that proposals involve the re development of the site to provide a residential holiday home. As part of the Local Authority's Planning Policies ecological surveys are generally required, particularly where a specially protected species is or may be present and could be affected by the proposals for which the Application seeks consent.



Existing floor plan and front elevation



Proposed floor plan and front elevation

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Location of Cae Haidd within the surrounding area

1.2 The aim of the inspection was to initially ascertain if the buildings are of value to bats; if they were found to be suitable for bats, signs of use were located or the survey was inconclusive 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. If bat/s or their roost/place of rest/shelter is subsequently affected by the work then a European Protected Species Mitigation Licence would be required to proceed with the development.

1.3 The optimum time to investigate buildings for evidence of a bat roost is May – August, (active season for bats) where evidence of their presence is most apparent.

2.0 Protected Species & Their Requirements

2.1 All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). 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 the Regulation 7 of the 2010 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.

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- 2.2 *Planning Policy Wales* (PPW) (2002) sets out the land use planning policies of the Welsh Government (WG). It is supplemented by a series of Technical Advice Notes (TANs). Procedural advice is given in National Assembly for Wales / Welsh Office circulars. PPW, Ministerial Interim Planning Policy Statements (MIPPS), the TANs and circulars together comprise national planning policy to which local planning authorities in Wales must have regard in the preparation of development plans.
- 2.3 Detailed advice on the preparation of unitary development plans (UDPs) is contained in *Unitary Development Plans Wales*, 2001. Detailed advice on the preparation of Local Development Plans (LDPs) under the Planning and Compulsory Purchase Act 2004 is given in *Local Development Plans Wales*, 2005.
- 2.4 Technical Advice Note (TAN 5 2009) provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.

This guidance note should be read in conjunction with *Planning Policy Wales* (2002), in particular with Chapter 5 *Conserving and Improving the Natural Heritage and Coast* which sets out the Assembly Government's objectives for the natural heritage and the land use planning policies which support these.

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:-

If significant harm 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

2.5 Use of Buildings by Bats

- a) Summer breeding roost.
- b) Hibernation.
- c) Transitional or temporary roost.

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 & Species Regulations 2010 (Regulation 41) the term roost is not used but refers to "a breeding site or resting place of such an animal" which essentially is the same 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.

3.0 Bat Species in North Wales

- 3.1 Up to eleven bat species have been recorded in North Wales, most of which use built structures, notably occupied residential properties, for roosting. The most frequently encountered species is the Pipistrelle bat (*Pipistrellus pipistrellus*) and its abundant status in North Wales is reflected throughout the UK.

4.0 Survey Methodology

- 4.1 BCT Survey Good Practice Survey Guidelines state:

The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive.

- 4.2 In context with the above the survey was conducted by Mr J Styles, an accredited bat surveyor of Mrs K Wilding, a highly experienced ecologist with over 9 years bat survey experience whom holds a Natural England Class 2 bat licence (CLS-2105: 14227)

Trees located within the development area were inspected at a time when tree foliage is largely present, which at times can be a sub optimum time to identify bat roost potential as foliage, when present can impede the surveyors view. They were assessed from ground level using binoculars for features that are frequently utilised by bats as roosts or the presence of ingress points such as natural/woodpecker holes splits of fissures that may provide access into further cavities within the tree/s.

Criteria for roost assessment are based upon the following determinant which is based upon the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2016):

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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).

4.3 The daytime survey was conducted on 06th June 2017 when the buildings that are to be re developed were inspected for potential places that may be of value to bats and if evidence of use was present. Upper floors or loft compartments were absent, thus the ground floors and internal elevations were investigated with the aid of high power torchlight for evidence of bat use which primarily consists of droppings or prey remains; all external elevations were investigated from ground floor level for places that are frequently used by bats as roosts or as access into roost chambers.

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

Practical experience of surveyor
 Knowledge of bat species relevant to the site location and geographical range
 Nature of the immediate and surrounding habitat in relation to foraging opportunities
 Condition of the building
 Presence/absence of a loft space
 Presence/absence of roost potential
 Value of roost potential – if present

4.5 During the survey the surrounding habitat was evaluated in relation to bats as very often roost selection is closely correlated with the surrounding habitat.

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5.0 Constraints

- 5.1 It is deemed that there were no significant survey constraints that would prevent the gathering of information on which to base conclusions and recommendations.

6.0 Daytime Results

- 6.1 The buildings stand within their own grounds to the south of Bwlchgwyn, a village in the borough of Wrexham. Cae Haidd is located approximately 7.5 kilometres north-west of Wrexham city centre; the immediate habitat is represented by open countryside, pasture fields with areas of woodland, moorland and wetland. Favourable connectivity is observed between the aforementioned features via hedgerows and linear tree lines. Additionally, the property is situated approximately 700 metres north of the notable Ruabon/Llantysilio Mountains and Minera (SSSI).
- 6.2 The extending habitat, i.e. beyond the site, continues to that of the immediate with the addition of quarries, occasional large freshwater bodies and unnamed brooks within the continuous landscape. As a result the immediate and extending landscape contains a high level of suitable habitat for the species for which the survey was undertake, notably for foraging/commuting purposes. Where such 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.
- 6.3 Broadly, the study site takes the form of three outbuildings of various construction / dimensions; all of which are currently unoccupied and used for storage (locations below):



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Outbuilding 1 (O1) - a multi-compartmental single-storey structure of part brick, part stone construct with slate pitched roof, and mono-pitch extension of block construction, render finish and corrugated roof. The building is to approximate dimensions 11 metres x 5 metres and varies in height from 2 metres - 3.5 metres. Internal inspection of the building revealed that the extension is of a light filled nature; however, both front compartments are observed to offer more favourable conditions that would meet the requirements of loft-dwelling species such as the Brown Long-Eared Bat (*P. auritus*), as this is a species that preferences undisturbed areas of low luminance that offer free flight. During the investigation no recent or historic evidence of use by this species is observed, and internally the building is noted to be partially draughty, thus, the potential for breeding purposes is significantly reduced; notwithstanding this it could offer potential for other roost preferences such as by singular/small number of bats during transitional periods or over the hibernation season. The immediate and continuous landscape offers high suitability to meet the specific foraging requirements of this species.

A section of bitumen underfelt beneath the roof slates to the south-west is observed during the investigation; the presence of which increases probability of occupancy by crevice-dwelling species of bat, namely the Pipistrelle (*Pipistrellus pipistrellus*), whereby bats roost between underfelt and roofing slates. No evidence of this species was located during the daytime assessment; however, this can often be the case due to their preference for crevice dwelling situations.

External inspection revealed multiple ingress opportunities to all aspects of the structure in the form of lifted ridge tiles, missing/loose/lifted slates, gaps at wall plate level, cavities within the stonework which extend into the wall and a single ventilation brick to the western elevation.

The building has been assessed as offering moderate potential for bats in accordance to current BCT guidelines.

Outbuilding 2 (O2) - an open single storey multi-compartmental structure of block; construct with a mono-pitch asbestos roof currently utilised for storages purposes; it is to estimated dimensions of 6 metres long x 4.5 metres wide x 2 metres high and is currently utilised for storage purposes. Internally, all sections are predominantly light filled and draughty and thus not suitable for loft-dwelling bat species such as the aforementioned Brown Long-Eared bat. Internal assessment found that all areas were tight fitting internally and externally, areas typically utilised by crevice-dwelling bat species such as gaps in fascia/soffits/barge or roof/ridge/hanging tiles area absent. No recent or historic evidence of bat use was located during the survey.

The building has thus been classified as offering negligible potential for bats.

Outbuilding 3 (O3) - open structure of block construct with mono-pitched roof, and similar in nature to that of O2. Roofing materials include a combination of asbestos and corrugated metal and the building is currently used for storage purposes; internally it is found to be to approximate dimensions 8 metres long x 5.5 metres wide x 4 metres high.

Internally, the building is found to be extremely light-filled, cold and draughty, thus considered as being unsuitable for loft-dwelling bat species due to the aforementioned reasons. Externally, no ingress opportunities typically used by crevice-dwelling species are observed and evidence of bat was on the day of the survey absent.

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The building has thus been classified as offering negligible potential for bats.

7.0 Incidental Observations

- 7.1 Within O1 a single bird's nest which appeared to resemble a Robin was observed on the day of the survey. 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).

8.0 Conclusions

- 8.1 From the survey results it can be concluded that O2 and O3 do not offer potential for loft or crevice dwelling bat species, and the redevelopment of said structures will have not impact on either taxon group.

Notwithstanding this, one structure, namely O1 at Cae Haidd will meet the roosting requirements of loft dwelling species, however, not in a breeding capacity. Furthermore, the immediate / surrounding habitat is considered as highly favourable for this species specific foraging requirements.

- 8.2 The inspection identified a number of typical ingress opportunities which could be used by crevice dwelling species such as the Pipistrelle at anytime of the year to all aspects of O1 in the form of loose/lifted/missing slates, lifted ridge tiles, cavities in stonework at wall plate level and gaps in a single ventilation brick to the west of the building. This combined with the quality of the immediate habitat will instigate recommendations for dusk/dawn surveys to be undertaken at the property prior to its demolition.

The building (O1) is classified as offering moderate bat roost potential.

9.0 Daytime Survey Recommendations

- 9.1 As the building (O1) at Cae Haidd is concluded to possess moderate potential for bats, it is recommended that in order to establish if and if so how they are using the building/s, dusk emergence or/and dawn surveys should be undertaken. The surveys will need to be conducted during the active season of bats i.e. between May – early September as bats, particularly Pipistrelle bats often alternate between roosts and do not necessarily use one roost over their active season. Two dusk/dawn surveys are generally accepted as being a reasonable level of survey effort but will need to be spaced as a minimum of two weeks apart between those months.

(See Figure1: Extract from Bat Conservation Bat Surveys: Good Practice Guidelines 2016 3rd edition).

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Table 7.3 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	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Figure 1

9.3 It should be noted that where bat/s or their roost/place of rest/shelter will be affected by the proposed works, then to allow work at the site to legally commence, an application for European Protected Species Mitigation Licence (EPSML) will be required from Natural Resources Wales. Notwithstanding the granting of a licence works that would affect a roost cannot take place if a maternity colony is in occupation. It should also be noted that before an EPSML can be applied for all Planning issues including Consent and any pre-commencement Planning Conditions relative to bats should be resolved.

9.4 Due to the presence of a single birds nest (Robin) located within O1, it is recommended that the building should be demolished outside of the breeding bird season (March - August) so as to avoid potential damage to an occupied nest and subsequently committing an offence.

10.0 Dusk Survey Results

The timing of the dusk surveys is within the main active period and breeding season of bats when maternity colonies are formed and bats are in a highly active and social stage.

The two dusk emergence surveys were undertaken on the 03rd and 17th August 2017 by a combination of surveyors comprising of Mr S Irwin – highly experienced (over 30 years) and holder of Natural Resources Wales Bat License ((51880:OTH:CSAB:2014), Natural England Class 2 license (CLS-14226), Mr H Green experienced surveyor and long term holder of a Class 2 Natural England Bat Licence (CLS-03290). Observations were assisted by Mr J Styles - Junior ecologist and Mr M Smith, an experienced bat surveyor in training with The Tyrer Partnership.

The number of surveys and surveyors were adequate relative to the roost potential that was identified i.e. "Moderate".

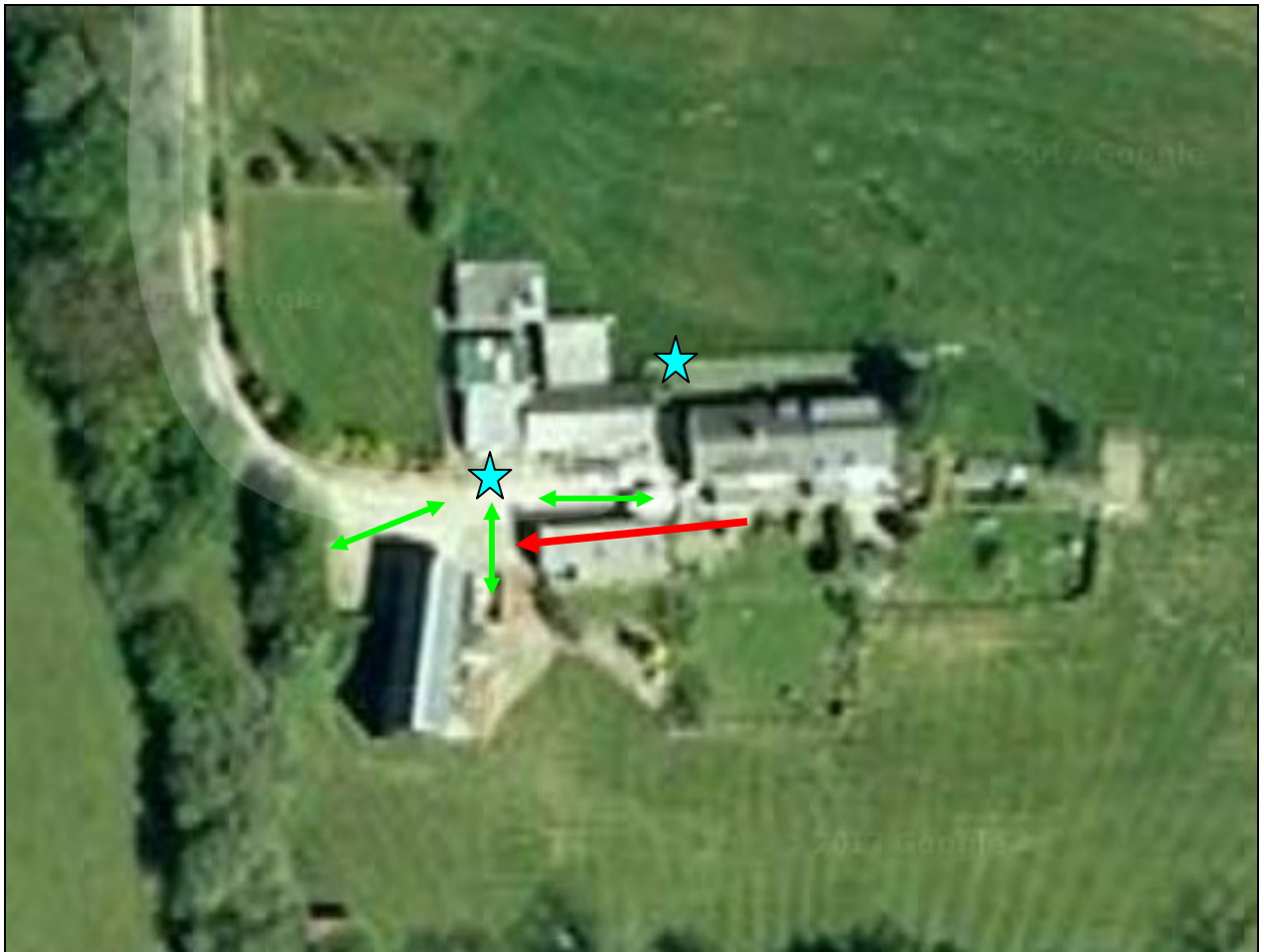
Surveyors were located in positions that allowed unrestricted views of the roost potential that was identified during the diurnal survey. The surveys were aided with Anabat electronic bat detectors that enable the continuous location and recording of the high frequency calls that are emitted by bats; echolocation calls were then analysed with computer software to verify field observations. The tables below contain the conditions during and results of the two surveys.

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Survey Type	Date	Weather Conditions
Dusk survey	3 rd August 2017	Sunset: 2105: damp, no rain, moderate breeze, 100% cloud cover Start temp: 15 ° C End temp: 14 ° C
Dusk survey	17 th August 2017	Sunset: 2030: Dry, light air, 100% cloud cover Start temp: 18 ° C End temp: 18 ° C

Dusk Survey	Time	Activity
3 rd August 2017	2125 - 2210	Summary: Bat emergence absent from the building during the observation period. 2142 hrs: One Common Pipistrelle foraging to the south. 2155 hrs: Common Pipistrelle commuted through the site, no visual. General activity comprised of a maximum of one Common Pipistrelle bat foraging around the site sporadically throughout the duration of the survey.
17 th August 2017	2010 - 2220	Summary: Bat emergence absent from the building during the observation period. 2050 hrs: One Common Pipistrelle bat commuted onto site from an easterly direction commuting to the west. 2059 hrs: One Common Pipistrelle foraging on site to the south of the building O1. General activity comprised of a maximum of two Common Pipistrelle bat foraging sporadically to the south of the site.

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Surveyor positions and recorded bat activity during dusk observations

- | | |
|---|---|
| ★ | Location of surveyors during dusk observations |
| → | Common Pipistrelle bats - commuting direction boundary |
| ↔ | Foraging activity by Common Pipistrelle bats during surveys |

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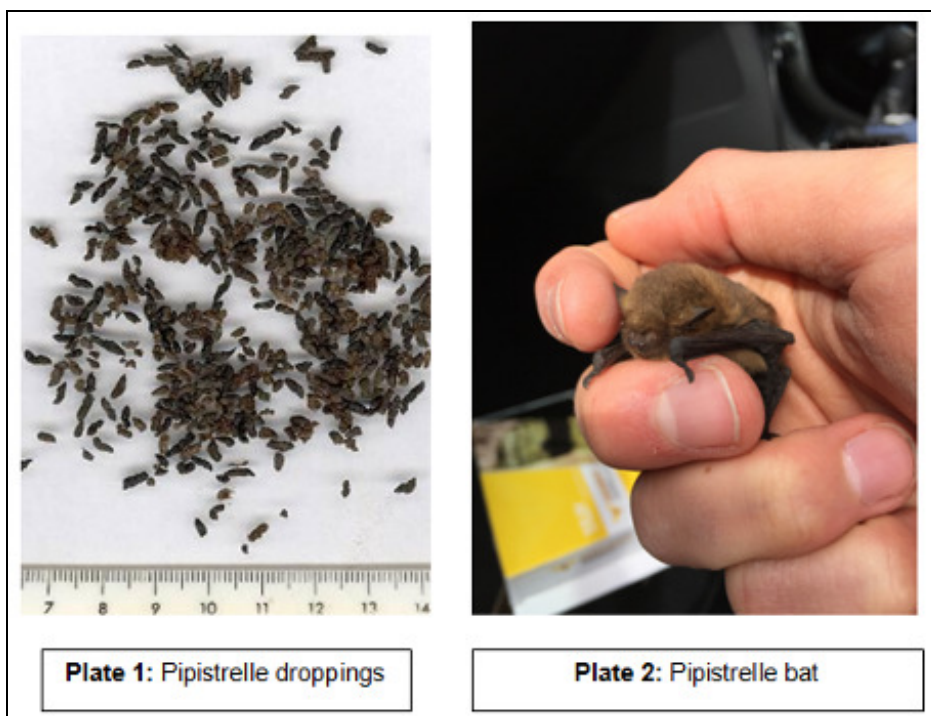
11.0 Dusk Survey Conclusions / Recommendations

- 11.1 From the 2017 dusk survey results it can be concluded that whilst using best practice survey methodology no bat emergence at the building O1 at Cae Haidd was identified; foraging/commuting activity was recorded within the vicinity of the building featured Common Pipistrelle bats.
- 11.2 Two dusk emergence surveys were completed in accordance with the recommendations of the daytime survey. Whilst no bat emergence was recorded during the dusk surveys it is possible that subsequent to the survey bats could use those features identified during the daytime survey as providing roosting potential.

All contractors should be aware of the possible presence of bats at any time during the removal of roof slates, ridge tiles, or lead flashing. The following information should be included in all site inductions:-

As a precaution, roof slates, ridge tiles, soffit, fascia and barge boards should be removed in a controlled and careful method i.e. vertically lifted and not laterally removed. The underside of the ridge tiles and the top of the ridge beam should be checked for actual bat/s or evidence of bat use. (See Plates 1 & 2) Once roof slates have been removed the exposed wall cavity, if present, should be investigated for actual bat/s or evidence of bat use.

In the event that bat/s or evidence of bat use is/ are found it/ they should be left in-situ and afforded shelter whilst ensuring that bat/s can exit the location. As a legal requirement contractors should not touch or handle bats or cause them to move in any way. All work should then immediately cease and the bat ecologist contacted for further advice. Where bat/s or their roost/ place of rest/ shelter would be affected a European Protected Species Mitigation Licence (EPSML) would be required before the works can legally re-commence.



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Notwithstanding bat/s absence it is recommended that provision for bats is incorporated into the converted barn/s at Cae Haidd, suggestions for this purpose are shown below and will help to meet the LPA criteria in respect to Local Biodiversity Policies.



The integrated bat box can be installed to a gable elevation, it is a large, solid construction of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any existing brick, and it is suitable for crevice dwelling species. The box is made to match the existing brickwork of the building



Access in ridge tiles; the top of the ridge beam should not be covered with a breathable membrane to avoid the sharp claws of bats becoming entangled in the fine fibres; a traditional section of bitumastic underfelt could however be used over the ridge beam



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1FQ Bat Roost - designed specifically to be fitted on the external wall of a house, barn or other building. The shape and design make it equally attractive to bats as a roost. It requires no maintenance or cleaning and its tough construction will ensure that it helps bats for decades

Appendix I – Site Photographs



Front elevation of Outbuilding 1 (O1) showing potential in lifted/loose/missing tiles and lifted ridge tiles

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Gaps in stone work of O1



Ventilation to western elevation of O1

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Mono-pitch extension to the rear of O1



Southern roof elevation of O1

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Interior of O1 used for storage



Front elevation of Outbuilding 2 (O2)

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Compartment within O2 used for storage – no potential



Rear elevation of O2

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Front elevation of Outbuilding 3 currently used for storage



Interior of O3 with part asbestos part metal corrugated roof – no potential