

## **BAT SURVEY REPORT**

**SOUTH ORCHARD HOUSE, BANKS FEE  
LANE, LONGBOROUGH, GL56 0QG**

**for**

**MS HAYLEY RUDLAND**

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## CONTROL SHEET

**Ms Hayley Rudland**

**South Orchard House, Banks Fee Lane, Longborough, GL56 0QG**

**Bat Survey Report**

|            | Name              | Position         |
|------------|-------------------|------------------|
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| Contract No. | Project Contact | Revision No. | Date of Issue     |
|--------------|-----------------|--------------|-------------------|
| 2577         | Robert Pelc     | 01           | 05 September 2022 |

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## 1. RECOMMENDATIONS

1. No further bat surveys are required to support the planning application for alterations and extensions to the South Orchard House as the potential for bats to occur and adverse impacts to arise during works is considered to be very low.
2. **Reasonable Avoidance Measures (RAMs):** Due to the presence of occasional roosting bats within the apex of the western gable, construction activities at South Orchard House must be restricted to the normal working day (e.g. 7am – 7pm) to avoid unnecessary disturbance to nocturnal wildlife such as bats. If artificial night-lighting of the site is required during the construction phase (*i.e.* in exceptional circumstances), lighting must be temporary, minimal, low-level and directed away from the western gable.
3. As a precautionary approach, it is recommended that a licensed bat worker remains 'on-call' during the removal of roof materials to join the roof of the proposed extension. Roof materials (e.g. slope tiles) must be removed by hand by the roofing contractors. **In the event that roosting bats are discovered work must cease immediately and the on-call ecologist contacted, they will liaise with Natural England (as required) to advise on any licensing requirements to allow lawful completion of the work.**
4. In line with Government policy on biodiversity, the following opportunities to compensate for development impacts and enhance the site for bats have been agreed with the client.
  - Two bat boxes should be installed within the landownership of South Orchard House. The boxes should be installed within an existing built structures at South Orchard House (e.g. Schwegler Wall-mounted Bat Shelter 2FE or Beaumaris WoodStone Bat Box). The boxes should be installed at least 4m above ground-level, and not placed above windows.

- **Please note:** The new roof tiles at the site must be overlain on traditional bitumastic felt, due to the known dangerous modern, breathable membranes pose to bats (Waring *et al.*, 2013).
5. This report is considered valid for 12 months for planning purposes (CIEEM, 2019). Update surveys may be required to reassess the condition of the site (and its suitability for bats) should this 12-month period be exceeded. In this scenario, a reduced level of survey effort would normally be considered appropriate in line with published best practice guidelines on proportionality of survey effort (see e.g. Collins, 2016; Mitchell-Jones, 2004).

## **2. SUMMARY OF RESULTS**

1. Development proposals are for a two-storey extension. This will involve the demolition of the existing single-storey side extension. The detached garage will be also extended. Focus Environmental Consultants have been appointed by Architects Dyer on behalf of Ms Hayley Rudland to provide advice on the potential impact of the proposals upon bats and make recommendations as appropriate to ensure compliance with wildlife legislation and recognised best practice.
2. A Preliminary Roost Assessment of South Orchard House (centred on Ordnance Survey grid reference SP 17853 29130 was undertaken on 13 June 2022 (Focus Environmental Consultants, 2022). The survey site comprises a two-storey stone building with pitched roof covered with reproduction stone slates. A single-storey extension project east. A single-storey brick-built garage is attached to the retaining wall to the south-west of the site comprising a flat roof with parapet and coping stones. The property is bordered by neighbouring properties to the north and west and facing open countryside to the east and south comprising agricultural land with network of hedgerows and mature trees.
3. South Orchard House was identified as having 'moderate' suitability for bats with reference to published guidelines (Collins, 2016). Therefore, further specialist bat surveys were recommended.
4. Two dusk emergence surveys were undertaken of the building on 11 July and 03 August 2022 respectively by two experienced and appropriately licensed surveyors.
5. To allow confirmation whether any bats are roosting within the affected western loft at the South Orchard House and direct appropriate mitigation measures, a static bat recording device (ANABAT Express) was positioned within the loft void on 22 August 2022 for a period of five nights.

6. The activity surveys have confirmed the presence of an occasional day roost used by a pipistrelle spp., within the western gable wall apex at South Orchard House. However, the static bat detector (Anabat Express) placed within the western loft of the building did not record any bat species.
  
7. Bat foraging and commuting activity was observed on site during all of the surveys. The following bat species were recorded on / passing through the site; brown long-eared bat, common pipistrelle, myotis sp., noctule, lesser horseshoe bat and soprano pipistrelle.

### **3. DISCUSSION & CONCLUSIONS**

#### **3.1 Interpretation of Results**

South Orchard House supports a day roost used by an individual bat on an opportunistic and occasional basis. During the nocturnal surveys, a single non-echolocating bat was seen emerging from the western gable wall of the cottage on one of the dusk emergence surveys (no bats emerged on the other dusk emergence survey). In the absence of echolocations or bat droppings, the bat has been identified as a pipistrelle spp. (most likely common pipistrelle) based on surveyor observation and experience.

The crevice at the top of the gable is connected with the western loft of the property. However, there is no evidence (e.g. bat droppings) to suggest that the loft of the cottage supports a bat roost. The static bat detector (Anabat Express) placed within the western loft of the building for five nights did not record any bat activity.

Given that the crevice at the apex will not be impacted by the proposals, the sporadic and opportunistic use of the crevice by bats and lack of evidence of roosting bats within the loft of the cottage, no short or long-term impacts on bat species as a result of the proposed alterations and extensions to the South Orchard House are predicted.

#### **3.2 Predicted Impact in Absence of Mitigation**

No bat roosts or bat activity has been recorded within the lofts at South Orchard House. As such, the proposed works are considered highly unlikely to impact upon roosting bats. However, it is recommended that Reasonable Avoidance Measures (see recommendations above) are undertaken during the construction phase at South Orchard House to avoid any potential indirect impacts on the bat recorded within the apex of the western gable wall.

No fragmentation or isolation is predicted. It is anticipated that night-lighting at the site is to remain minimal and low-level, post-development.



On this basis, provided precautionary measures are implemented during the works, the likelihood of the development proposals having any significant impact on bats is considered to be **negligible**.

## **4. ANNEXES**

4.1 Photographs

4.2 Survey Data

4.3 Plans

4.4 Survey Objectives

4.5 Limitations

4.6 Methods & Parameters

4.7 Background Data

4.8 References & Bibliography

4.9 Bat Ecology & Legislation

### 4.1 Photographs



**Plate 1:** view of the cottage. Photograph showing southern elevation.



**Plate 2:** a typical view of the cottage. Photograph showing north-eastern elevation.



**Plate 3:** a typical view of the cottage. Photograph showing north-western elevation.



**Plate 4:** view of the western gable wall. Red circle indicates the roosting location of the pipistrelle spp.

## **4.2 Survey Data**

### *4.2.1 Nocturnal Surveys*

A brief summary of the results of each nocturnal survey is provided below, along with sonograms. Field survey recording sheets are held by Focus Environmental Consultants and are available on request.

#### Dusk Emergence Survey (11 July 2022):

Surveyor 1 was positioned to the north-east.

Surveyor 2 was located to the south-west.

The survey started at 21:09 (sunset 21:24). The first bat (noctule) was detected at 21:45 and observed commuting high above the building. Subsequently, a common pipistrelle bat was detected at 22:00. Several common pipistrelle bat passes were recorded between 22:05 and 22:20 mainly foraging along the lane to the east and north of the building.

A multiple passes and foraging activity by common pipistrelle bats were recorded by Surveyor 2 to the west of the building, commuting from north to south and within the garden to the south of the property.

Several noctule and common pipistrelle passes were recorded by all the surveyors throughout the survey, mainly foraging along the lanes and commuting high above the site. Occasional records of *myotis* sp., and brown long-eared bats were also recorded to the north and south-west of the site, (bats were heard and but not seen). The survey ended at 22:54.

No bats were observed emerging from the building.

#### Dusk Emergence Survey (3 August 2022):

Surveyor 1 was positioned to the north-west.

Surveyor 2 was located to the south-east.

The survey started at 20:38 (sunset 20:53). The first bat (noctule) was detected at 21:14 and 21:18, respectively. At 21:22 a non-echolocating bat emerged from the

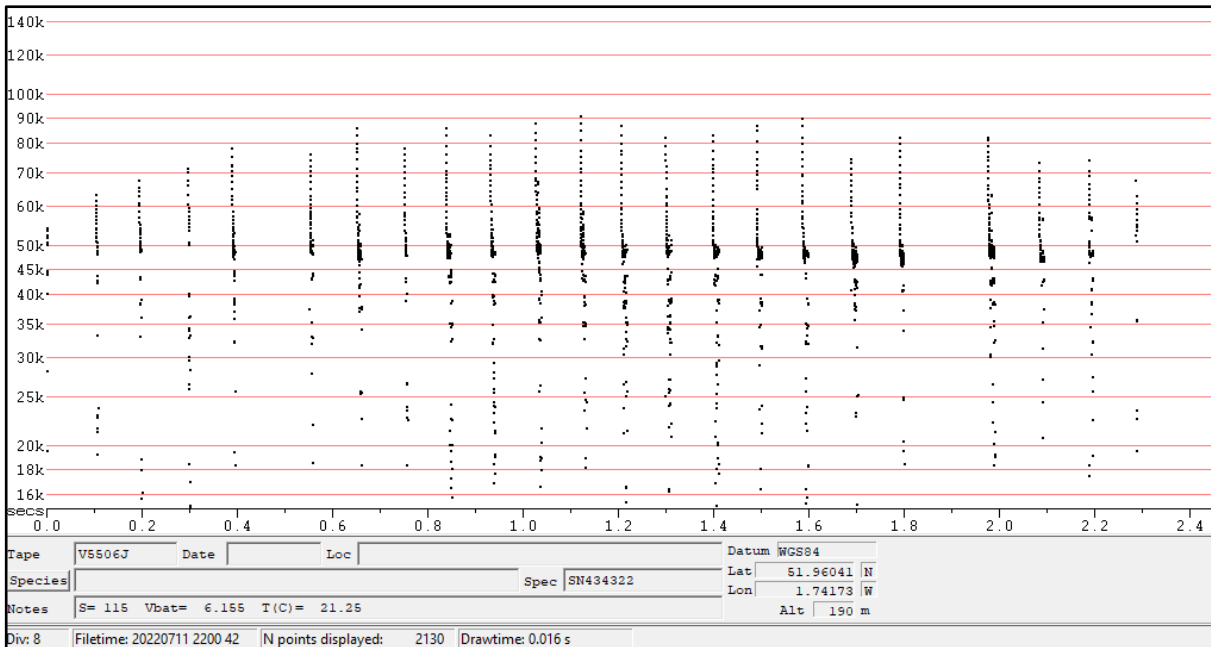
apex of the western gable. The emerging behaviour and size of bat was typical of pipistrelle spp.

Afterwards, a common pipistrelle bat was detected at 21:26 by Surveyor 1 foraging along the lane to the east of the property. Several common pipistrelle bat passes were recorded by Surveyor 1 and 2, foraging along the lane to the east and north of the building.

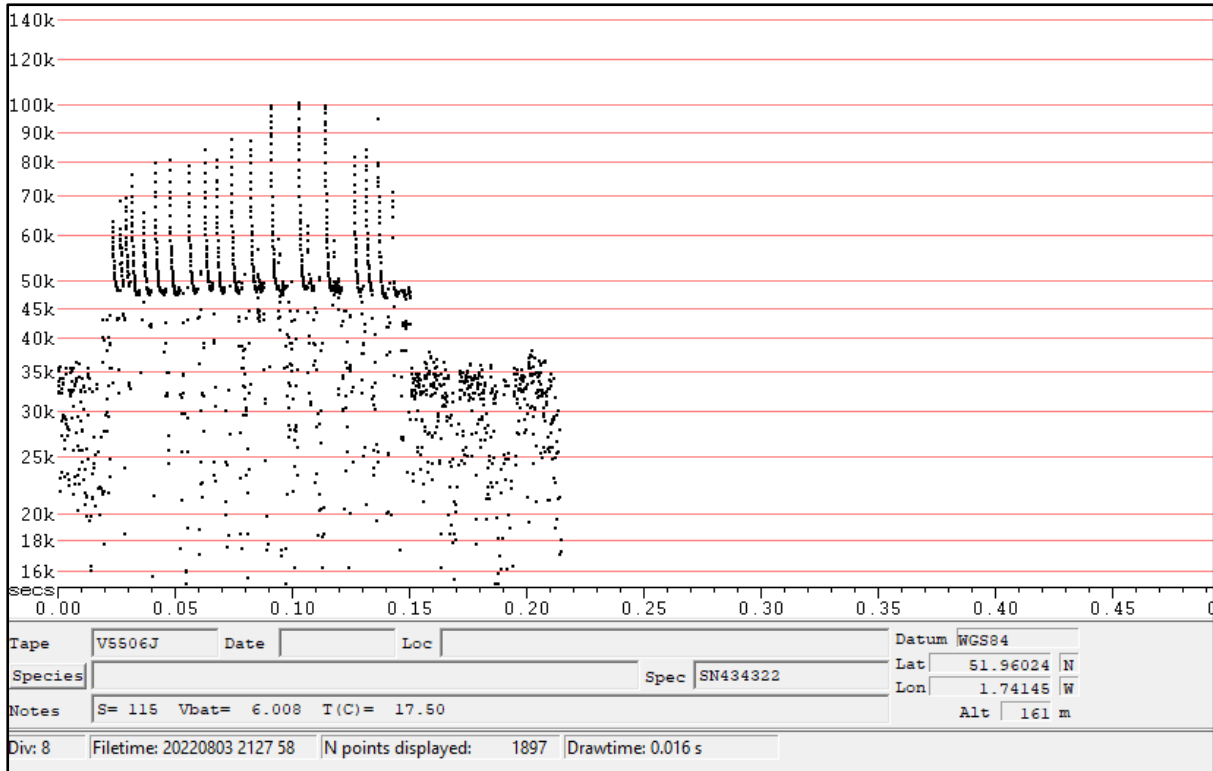
Foraging activity by *Myotis* sp., was recorded by Surveyor 1 to the east of the building and flying over the roof of the cottage. A commuting lesser horseshoe bat was recorded by Surveyor 2 commuting to the south-west of the property. Infrequent records of brown long-eared bats were also recorded to the south east of the site. The survey ended at 22:23.

**Dusk Survey Count:**

Non-echolocating bat (most likely common pipistrelle): 1



**Figure 1:** Showing a common pipistrelle bat echolocating at 22:00 recorded on 11 July 2022 commuting along the north-western boundary at South Orchard House.



**Figure 2:** Showing a common pipistrelle bat echolocating at 21:27 recorded on 03 August 2022 commuting along the eastern boundary at South Orchard House.

### **4.3 Plans**

#### Plans:

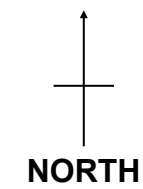
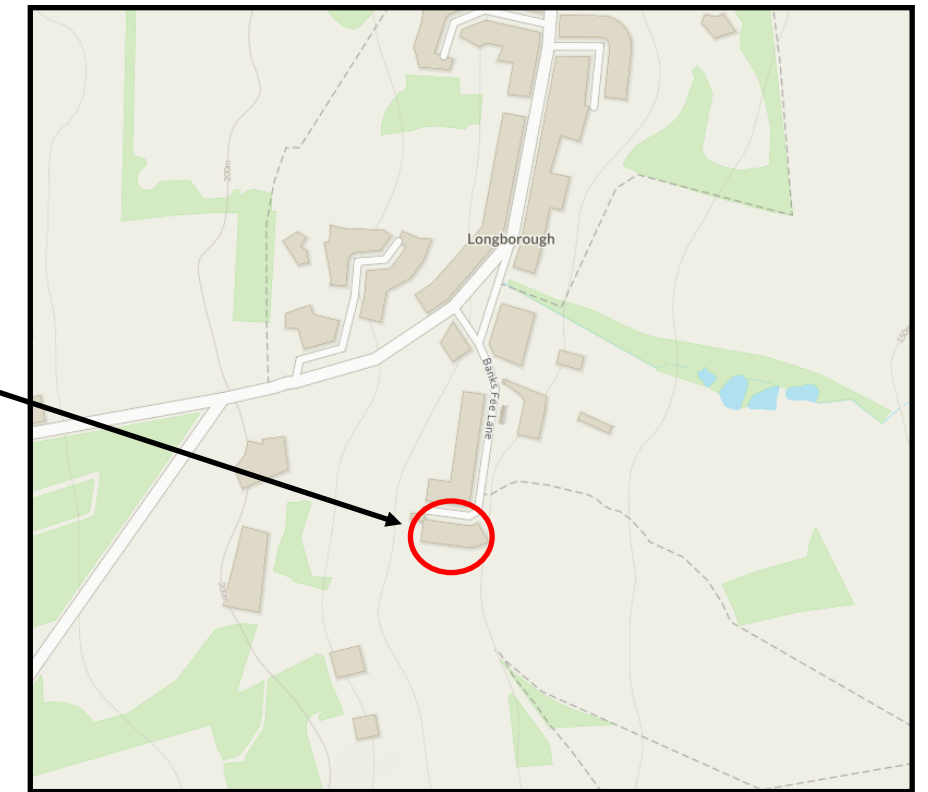
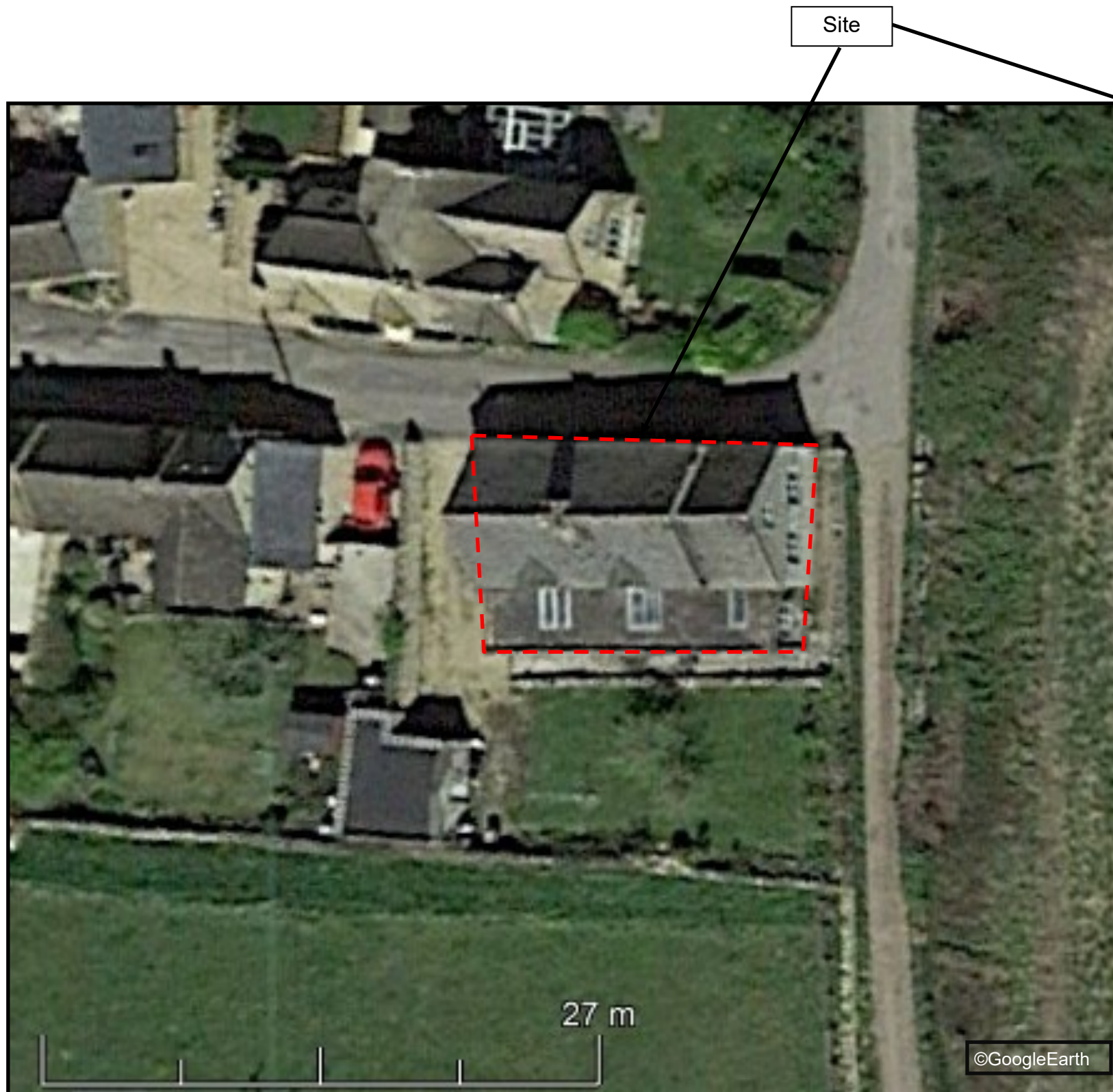
4.3.1 Location Plan

4.3.2 Dusk Emergence Survey Plan (11 July 2022)

4.3.3 Dusk Emergence Survey Plan (3 August 2022)



4.3.1. Location Plan

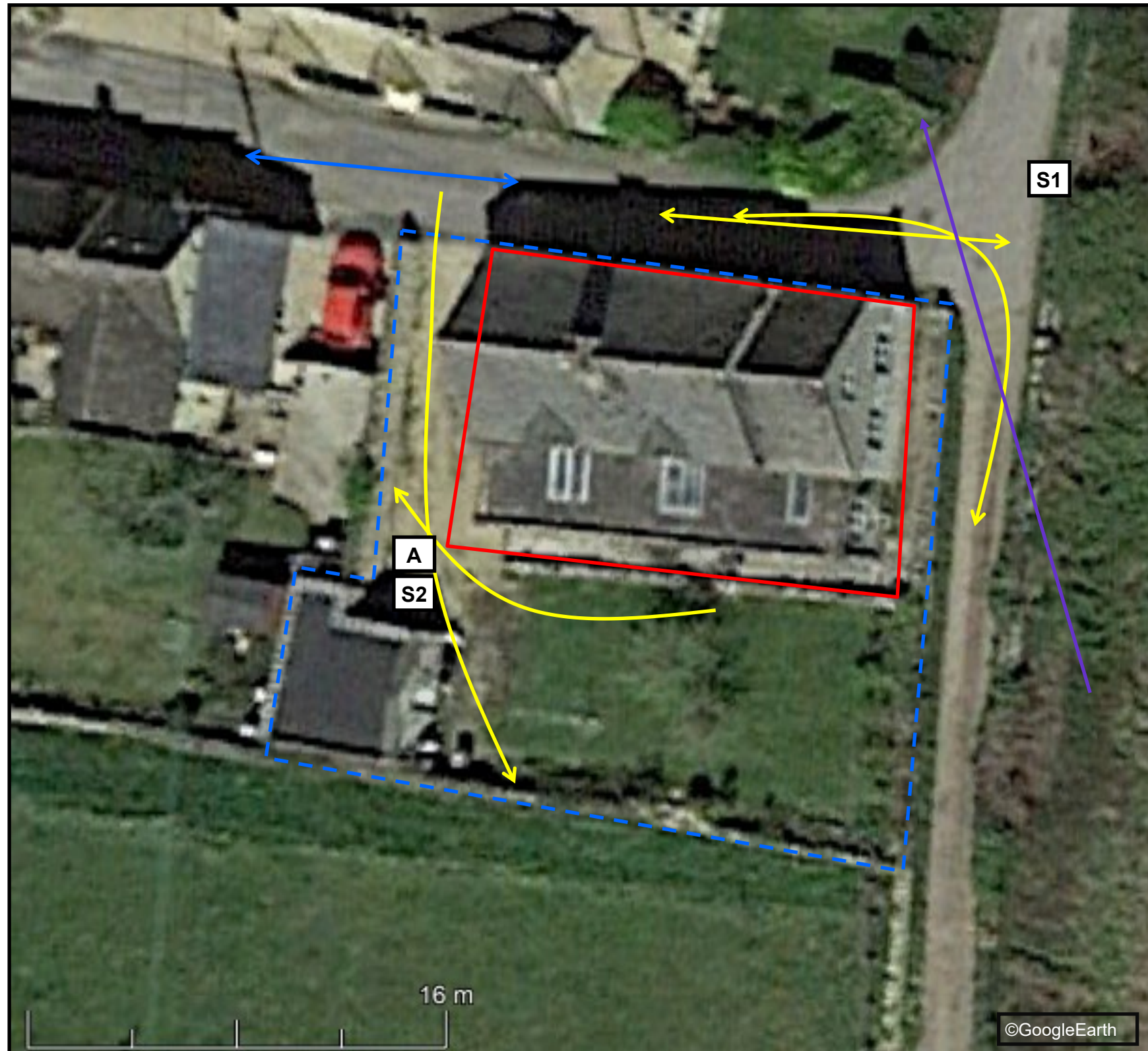


**Client:** Ms Hayley Rudland  
**Site:** South Orchard House, Banks Fee Lane,  
Longborough, GL56 0QG  
**Title:** Location Plan  
**Contract:** 2577  
**Date:** September 2022

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Please note: this plan is intended only to indicate the approximate location of features and should therefore, not be treated as an accurate scale plan.

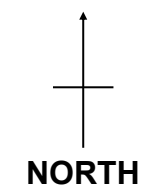


4.3.2 Dusk Emergence Survey Plan



**KEY:**

- S# Surveyor number & location
- A ANABAT
- Common pipistrelle activity
- Noctule activity
- Myotis sp. activity



**Client:** Ms Hayley Rudland  
**Site:** South Orchard House, Banks Fee Lane, Longborough, GL56 0QG  
**Title:** Dusk Emergence Survey Plan  
**Contract:** 2577  
**Date:** 11 July 2022

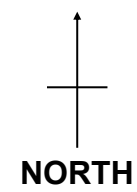


4.3.3 Dusk Emergence Survey Plan



**KEY:**

- S# Surveyor number & location
- A ANABAT
- Common pipistrelle activity
- Noctule activity
- Myotis sp. activity
- Non-echolocating bat activity
- Lesser horseshoe bat activity
- ★ Roosting location
- AD Location of a static bat recording device (ANABAT Express) positioned within the loft void on 22 August 2022 for a period of five nights.



**Client:** Ms Hayley Rudland  
**Site:** South Orchard House, Banks Fee Lane, Longborough, GL56 0QG  
**Title:** Dusk Emergence Survey Plan  
**Contract:** 2577  
**Date:** 03 August 2022

#### **4.4 Survey Objectives**

The objectives of the survey were:

- to carry out nocturnal bat roost surveys based on the suitability of the building for bats and previous daytime survey work completed;
- to provide specialist advice on the possible presence of bats in relation to the planning process;
- to report survey results, likely development impacts and make appropriate recommendations for further surveys and/or works as necessary to ensure compliance with wildlife legislation and standard best practice; and
- to identify appropriate avoidance, mitigation, compensation and enhancement measures as required to demonstrate compliance with the 'mitigation hierarchy' and requirements of local and National biodiversity policies (e.g. the 'biodiversity duty' enshrined within S.40 of the NERC Act 2006, NPPF *etc*).

#### **4.5 Limitations**

A third-party data search was not commissioned by the client as part of this project. However, this is not considered to be a significant limitation taking into account the results of the further survey work (*i.e.* dusk surveys) that has been carried out and the small-scale of the proposed development.

#### **4.6 Methods & Parameters**

##### Emergence, Activity and Pre-dawn Surveys:

The nocturnal surveys were conducted by experienced and/or appropriately licensed surveyors using a variety of equipment with the aim of providing maximum confidence in the presence or absence of roosting bats. Surveyors were situated at strategic points around the site, to ensure full visual coverage of potential bat emerge/return points and roosting locations. The property was observed for the duration of the surveys, in order to record the emergence of any bats.

Survey Parameters:

**Table 1:** Details of survey parameters for South Orchard House.

| Date                | Survey Type        | Sunset / Sunrise | Survey Start & End Times   | Weather Conditions   | Surveyors & Licence No.                           | Equipment   |
|---------------------|--------------------|------------------|----------------------------|--|---|---|
| 13 June 2022        | Daytime            | n/a              | n/a                        | Warm, dry and still.   | R. Pelc: 2015-13354-CLS-CLS                       | Ladders, high-powered torch with red filter, endoscope.   |
| 11 July 2022        | Dusk Emergence     | 21:24            | Start: 21:09<br>End: 22:54 | Start: 25°C End: 23°C<br>Relative humidity: 57%<br>Beaufort scale: 0<br>Cloud cover: <5% | K. Coope: 2022-10235-CL17-BAT<br>J. Jamieson: n/a | 1 x Anabat Walkabout<br>1x Batlogger M<br>1 x Sony FDR-AX53 IR camcorder<br>Anabat express      |
| 03 August 2022      | Dusk Emergence     | 20:53            | Start: 20:38<br>End: 22:23 | Start: 18°C End: 16°C<br>Relative humidity: 60%<br>Beaufort scale: 0<br>Cloud cover: 10% | K. Warren: 2021-52120-CLS-CLS<br>J. Jamieson: n/a | 1 x Anabat Walkabout<br>1x Echo Meter 2 Pro<br>1 x Sony FDR-AX53 IR camcorder<br>Anabat express |
| 22 – 27 August 2022 | Automated Detector | n/a              | n/a                        | n/a  | R. Pelc: 2015-13354-CLS-CLS                       | 1 x Anabat Express  |

#### ***4.7 Background Data***

##### Pre-existing Information on the Bat Species at the Survey Site:

A Preliminary Roost Assessment was completed at the site on 13 June 2022 by an experienced and appropriately licensed surveyor from Focus Environmental Consultants (see Focus Environmental Consultants, 2022). Please refer to this report for full descriptions of the site and scope of works.

##### Status of Bat Species:

Survey results have confirmed that the South Orchard House supports roosts of pipistrelle spp. Bat (most likely common pipistrelle).

Common and soprano pipistrelles are both relatively common species locally and nationally and population estimates for the UK are between 1 – 3 million individuals. Soprano pipistrelles are nevertheless listed as a species 'of importance for the purpose of conserving biodiversity' under S.41 of the Natural Environment and Rural Communities Act 2006.



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#### **4.9 Bat Ecology & Legislation**

Only two different families of bats occur in the UK, of which the most numerous are the “vesper bats” or *Vespertilionidae*. Only two members of the *Rhinolophidae* or “horseshoe bats” occur in the UK, namely the greater and lesser horseshoe bat. The UK currently supports 17 different resident species of bat from these two family assemblages. One of these, Alcathe’s bat (*Myotis alcathe*) has only been discovered as resident in 2010. The greater mouse-eared bat (*Myotis myotis*) was previously thought to be extinct as a UK mammal species until a single individual was discovered in 2002 at a known hibernation site in Sussex, this may yet turn out to be resident species but is currently regarded by the Bat Conservation Trust as a vagrant/occasional winter visitor. Another species, the pond bat (*Myotis dasycneme*) is increasingly being identified in the UK and may currently be in the process of colonising the country from continental Europe.

British bats are entirely insectivorous, and consume a variety of invertebrate species of various shapes and sizes from the smallest gnats and midges to cockchafers, ground beetles and spiders. Bats are increasingly regarded as being species of conservation concern owing to a decline in both numbers and range. The reasons for these declines are thought to relate primarily to changing agricultural practices (in particular intensification of agriculture and increased use of pesticides) and direct loss of foraging habitats and roosts from human development such as infrastructure projects and conversion of agricultural buildings (see e.g. JNCC, 2004; [www.bats.org.uk](http://www.bats.org.uk)). All UK bats utilise echolocation to navigate within their environment and hunt for food. It is increasingly being discovered that echolocation calls can also have an important ‘social communication’ function between bats.

Bats are strictly nocturnal unless disturbed, diseased or starved of food due to adverse weather conditions. Consequently bats require a place of shelter and protection (commonly termed a roost) from predators during the daytime. Bat roosts can be found in a variety of both natural and anthropogenic situations including buildings (residential, agricultural, industrial, modern and ancient), mature trees, bridges, tunnels, caves and mines. Purpose built bat boxes are now commercially available and bats will use these, as well as taking advantage of unoccupied bird boxes if available.

Bats are mobile throughout the year and may use different types of roost according to the particular needs of their lifecycle. Different roost types include maternity roosts, hibernation roosts, satellite roosts, day roosts, night roosts, transitional roosts, feeding perches and mating roosts. The most significant roosts in terms of bat numbers and conservation significance are ‘maternity roosts’ and ‘hibernation roosts’. Pregnant female bats will aggregate in maternity roosts to give birth and rear their single offspring (twins occur rarely). These types of roost are normally associated with warm, protected sites. During colder months of the year, bats go into hibernation and require sites with stable temperatures high humidity levels. Bats do not always use roosts in a predictable fashion and tree-dwelling species are notoriously nomadic and will move between a variety of different tree roost sites. By contrast maternity roosts tend to be the most loyally occupied from year to year, although again this differs between the different bat species.

Council Directive 92/43/EEC (“The Habitats Directive”) is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. Bats are a European Protected Species (EPS), and are listed in Annex IV of the Habitats Directive. This affords both the bats and their roosts with strict protection. Some bat species have a higher conservation concern in Europe. The habitats supporting these species can be designated as Special Areas of Conservation (SACs) and the bat species concerned are listed under Annex II of the Habitats Directive. Bats listed on Annex II include the greater and lesser horseshoe bats, the Bechstein’s bat and barbastelle. Actions and activities that are prohibited by this legislation are:

- deliberate capture, injury or killing of a bat;
- deliberate disturbance of a bat and in particular disturbance which is likely to; impair their ability:
  - to survive, to breed or reproduce, or to rear or nurture their young, or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate;
  - or to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange, any bat or any part of a bat or anything derived from one.

Substantial penalties including fines and custodial sentences are now in place for offenders under the Conservation of Habitats and Species Regulations 2017.

The primary legislative Act covering wildlife in the UK is the Wildlife and Countryside Act 1981 (WCA), which affords protection to all bat species. The WCA has seen numerous amendments since it was brought into force, of which the most recent and arguably significant have been the Countryside and Rights of Way (CRoW) Act 2000, the Natural Environment and Rural Communities (NERC) Act 2006 and the Conservation of Habitats and Species Regulations 2017 (described above). The intentional or reckless damage of roosts or disturbance of bats is specifically prohibited under the WCA as amended. The offence of ‘reckless’ disturbance and damage is not contained within the Conservation Regulations and has thus been retained within WCA.

Because bats are known to use many roost sites on a regular basis year on year, legal precedent indicates that these roosts should be regarded protected regardless of whether bats are present at the time they are inspected. Legislative changes and amendments have now completely removed the defence of harmful actions being “the incidental result of an otherwise lawful operation” for EPS, which was previously afforded under the Wildlife and Countryside Act 1981 (as amended).

A number of British bat are described as being of 'of principal importance for the purpose of conserving biological diversity' under Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC). The NERC Act places a specific 'biodiversity duty' upon all national and local government departments to ensure the conservation of Biodiversity.

The National Planning Policy Framework (NPPF) sets out the government's planning policies for England and how they should be applied to achieve the over-arching goal of 'sustainable development'.

## 5. QUALIFICATIONS & EXPERIENCE

Focus Environmental Consultants® has the expertise to provide sure-fire environmental solutions to a wide range of projects. The company ethos forges the highest standards of professional scientific practice with a best value approach for our clients. Our core area of expertise is in the production of specialist environmental reports and advice to support planning applications. Our comprehensive services include Preliminary Ecological Appraisals (PEA), Ecological Impact Assessment (EclA), Habitat Regulations Assessment (HRA) and fulfilling protected species surveys, licensing and mitigation requirements. Focus Environmental Consultants is a CIEEM Registered Practice, with all ecological staff being members of this professional body. Our flexible approach, range of skills and broad project experience from major infrastructure contracts to small private developments allows us to adapt to your individual requirements. As well as offering a full suite of ecological services, Focus Environmental Consultants can provide expert arboricultural advice and reports and is building an enviable reputation for innovative habitat creation and management solutions. Focus Environmental Consultants is situated in Worcestershire, providing a convenient and central UK location.

### **Robert Pelc MSc ACIEEM**

Robert is a Senior Ecologist with over five years' professional experience in the field of ecology. His ecological experience includes Preliminary Ecological Appraisals and surveying for European Protected Species including bats, great crested newts and hazel dormice. Robert is highly experienced in a range of bat survey techniques, from detailed building and tree inspections to more advanced trapping techniques and radio tracking. Robert is also a competent surveyor of reptiles, badgers and barn owls. He holds a Natural England survey licence (Class 2) and Natural Resources Wales licence for bats. He also holds a Natural England survey licence (Class 1) for great crested newts. Robert is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

**This report has been checked for quality and content by:**

### **Fern Fellowes-Day BSc (Hons) MSc MCIEEM MRSB**

Fern has over eighteen years of professional experience in the ecological consultancy field. She holds BSc (Hons) in Zoology from the University of Wales, Aberystwyth and MSc in Habitat Creation and Management from Staffordshire University. Fern has considerable experience in conducting Preliminary Ecological Appraisals, Ecological Impact Assessments (EclA) and Habitat Regulations Assessments (HRA). Fern's particular expertise is with protected species surveys. As a Registered User of the CL35 Badger Class Licence she has extensive knowledge in dealing with the badgers, with practical experience in artificial sett design and creation and has held numerous Natural England licences to close or disturb badger setts. In addition, Fern holds survey licences for great crested newts, bats and white-clawed crayfish. Fern has held Natural England Mitigation (development) licences for great crested newts (including being a Registered Consultant for the new great crested newt Low Impact Class Licence (LICL)) and Conservation licences for white-clawed crayfish. She is particularly experienced in dealing with newt issues affecting the quarrying, mineral extraction and landfill industry.