



Preliminary Roost Assessment

19 Grovelands Road
Spencers Wood, Reading, RG7 1DP

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing. Whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date. This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated, only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 INTRODUCTION

Background

- 1.1 The Ecology Partnership was commissioned by Lewis Tennent to undertake a Preliminary Roost Assessment (PRA) at 19 Grovelands Road, Spencers Wood, Reading, RG7 1DP, hereafter referred to as the 'site' (Figure 1).

Site Context

- 1.2 The site (SU 71982 66848) is located in Spencers Wood, and is surrounded by residential dwellings. The site includes a single house with a parking depot located behind the residential dwelling. The habitats are dominated by buildings and hardstanding.



Figure 1: Site red line boundary.

Proposed Development

- 1.3 The proposed development includes the demolition and replacement of the existing house with the construction of a community church hall.

Legislation

1.4 All UK bat species and their roosts are protected by law within The Wildlife and Countryside Act 1981 and the Habitats Directive Annex IV. This means it is a criminal offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

2.0 METHODOLOGY

Desktop Study

2.1 A desktop study was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites, current and past European Protected Species (EPS) mitigation licences for bats within 1km and priority habitats within the surrounding area.

Preliminary Roost Assessment

2.2 The building was internally and externally assessed for its suitability for roosting bats. The survey was undertaken on 21st September 2023 by Alice Bailey BSc (Hons) QCIEEM and Alistair McNaughton BSc (Hons) QCIEEM. The surveyors checked for evidence of roosting bat species and Potential Roosting Features (PRFs).

2.3 The surveyors assessed the building visually and searched for evidence such as:

- Staining beneath or around a hole caused by natural oils in bat fur.
- Bat droppings beneath a hole, roost or resting area.
- Bat droppings and/or insect remains beneath a feeding area.
- Audible squeaking from within a hole.
- Insects (especially flies) around a hole.
- Dead bats.

2.4 Buildings which are considered to have a higher potential to support roosting bats would include the following:

- Agricultural buildings (e.g. farmhouses, barns and out buildings) of traditional brick or stone construction and/or with exposed beams;
- Buildings with weatherboarding and/or hanging tiles that are within 200m of woodland and/or water;
- Pre-1960s detached buildings and structures within 200m of woodland and/or water;
- Pre-1914 buildings within 400m of woodland and/or water;
- Pre-1914 buildings with gable ends or slate roofs regardless of location;
- Buildings which are located within or immediately adjacent to woodland and/or immediately adjacent to water;
- Dutch barns or livestock buildings with a single skin roof and board and gap or Yorkshire boarding if, following a preliminary roost assessment the site appears to be particularly suited to bats.

Table 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. Table 4.1 within the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed), 2016'.

Suitability	Description of 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 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). A tree of sufficient size and age to contain PRF*s but with none seen from ground level or features seen with only very limited roosting potential.	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 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	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.

	status, which is established after presence is confirmed).	
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 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, stream, 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.

*Potential roost features

Limitations

- 2.5 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment.

3.0 RESULTS

Desktop Study

- 3.1 The closest international designated site is Thames Basin Heaths Special Protection Area (SPA) located 4.5km south-east. The closest statutory designated site is Stanford End Mill & River Loddon Site of Special Scientific Interest (SSSI) located approximately 1.5km south of the site.
- 3.2 There are no priority habitats located within the site. Several units of priority habitat are located within 1km of the site and the closest is good quality semi-improved grassland located approximately 200m north.
- 3.3 OS maps and aerial images indicate no ponds are located within 250m of the site.
- 3.4 The search revealed one past EPS licences for bat species within 1km of the site:
- 2015 to 2020 licence for Brown Long-eared Bats approximately 7290m south-east for the damage and destruction of a resting place.

Internal and External Building Assessment

- 3.5 The buildings located behind the bungalow on site were considered to have a negligible suitability for roosting bats due to the absence of loft voids and clay tiles. All of these structures were open fronted and did not support traditional roosting features or external features which can be utilised by crevice dwelling species. As such all of these buildings were considered to have '**negligible**' potential to support roosting bats.
- 3.6 The bungalow on site was internally and externally assessed on the day of the survey.
- 3.7 The house is a converted bungalow, the loft void in the building was restricted by a room constructed on the first floor. The roof of the house is constructed with clay tiles with the walls constructed with bricks.
- 3.8 Externally, the east facing side of the roof had multiple slipped tiles that would present opportunities for crevice roosting bats, and there were gaps in the soffits seen from within the loft void. These features can be utilised by crevice dwelling species.



Figure 2: Map showing the extent of the loft void (yellow line) with the location of the bat droppings (green star)

- 3.9 Internally the house supported one main loft void. The main loft was accessed via the door located within the upstairs room. The loft void was well insulated and is supported with wooden beams with a Tyvek lining.
- 3.10 There was a scattering of approximately ten droppings present within the loft void at the northern aspect of the building. The dropping samples were collected from the north side of the loft void (Figure 2) and sent to SureScreen Scientifics for DNA analysis. This confirmed these originated from Soprano Pipistrelles (*Pipistrellus pygmaeus*) (Appendix 2). As such, with the droppings considered to be relatively fresh, the building is considered to support a **soprano pipistrelle roost**.

4.0 Discussion

- 4.1 Droppings were found in the building were identified as belonging to soprano pipistrelle bats. As there was confirmation of the building supporting bats it is now considered to be a '**confirmed**' bat roost.
- 4.2 It is therefore required that three dusk emergence surveys are undertaken on the building, with the aim of these surveys to determine if bats are using the external features of this building in addition to the type and number of bats present, and well as confirmation of the number and roost type of soprano pipistrelles utilising the structure.
- 4.3 The results of these surveys will inform an application for a Natural England licence to legalise the loss to bat roosts and to ensure that mitigation and compensation measures are implemented.
- 4.4 Under the Bat Mitigation Guidelines, the level of mitigation required will depend upon the nature of the roost identified during the emergence/re-entry surveys. In the event of a larger roost, such as a maternity roost, being identified then a like for like replacement will be required if any roost space is to be lost.
- 4.5 Dusk emergence surveys are to be undertaken when bats are most active, which is between April and the end of September, although May to August is the optimum time for surveys. Dusk emergence surveys commence at least 15 minutes before sunset until 2 hours after sunset, during which time, bats are identified and recorded using a bat detector, such as the Batlogger M or EchoMeter Touch 2. The use of IR cameras is

also recommended. In addition to the above, bat surveys are required to be undertaken during suitable weather conditions, when conditions are relatively dry and mild with little/no wind.

- 4.6 Once the data has been analysed, a comprehensive mitigation strategy will be developed to ensure that the favourable conservation status of bats in the local area will not be impacted by the proposed development.
- 4.7 Note, no works to the building can be undertaken without a Natural England Bat Licence, or if the surveys identify that a licence is not required.

Mitigation Strategies

- 4.8 The key recommendation for the site and the level of compensation measures will be entirely dependent on further surveys. However, it is considered that new roosting provision within the new building will be acceptable and achievable, even if a maternity roost is identified.
- 4.9 Any proposed lighting scheme as part of the development will have to take into account bats in the surrounding area as well as on site. All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Bats are known to be affected by light levels which can affect both their roosting behaviour as well as their foraging behaviour. This needs to be taken into account, with a sympathetic lighting scheme for the development.
- 4.10 Recommendations include:
- Lighting should only be installed if there is a significant need;
 - Lighting should be avoided near woodland and tree-lines, with light angled away from these areas, bats use linear features such as hedgerows to commute across the landscape to forage;
 - Lights should have focussed luminance on their target area, preventing light spill and pollution into other areas of the site and local area.
 - Dark buffer zones can be used as a good way to separate habitats or features from lighting by forming a dark perimeter around them. Buffer zones rely on ensuring light levels within a certain distance of a feature do not exceed certain defined limits; and

- Light levels should be kept low. All luminaires should lack UV elements when manufactured and metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.

4.11 To enhance the local bat population and providing roosting opportunities within the new development, it is recommended that bat boxes be hung on mature trees around the site where possible, or on retained buildings. It is recommended that two bat boxes are established on the mature trees around the site. Recommended boxes are shown below.



Figure 3: CJ Wildlife Multi Chamber left, Vivara Pro Low Profile right

4.12 It is also recommended that integral bat boxes are installed within the scheme. Recommended bat tubes include Schwegler 2FR Bat Tubes and Habibat 001 bat boxes unfaced (Figure 4), but final integrated box is dependent on availability. These boxes require no maintenance as droppings fall out of the entrance ramp. These will be placed in a variety of locations within the new build. They are to be placed as close to the eaves or gable apex as possible and not above windows to reduce the risk of cat predation.

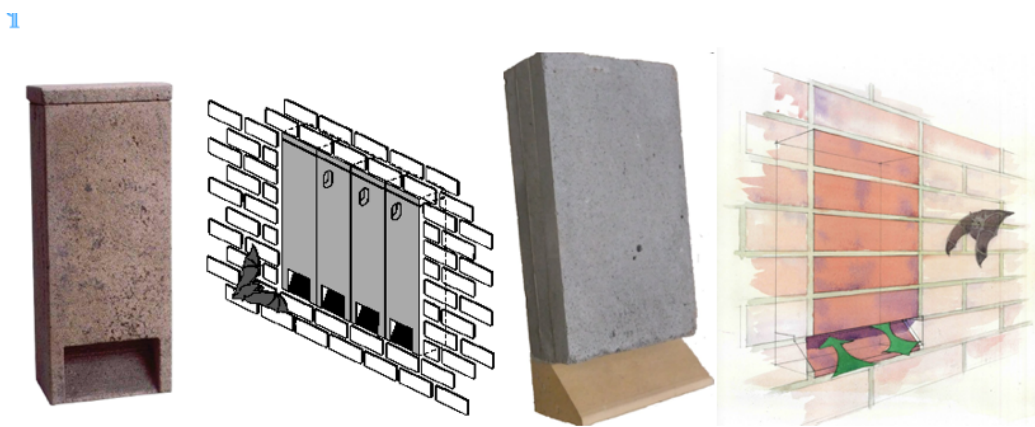


Figure 4: Schwegler 2FR tube (left) and Habibat 001 bat box (right)

4.13 Sweet nectar and protein-rich pollen, especially night-scented flowers, are bait to encourage insects, a food source for bats. These species should be incorporated into the development where possible:

- Evenings primrose (*Oenothera biennis*)
- Field poppies (*Papaver rhoeas*)
- Knapweed (*Centaurea sp.*)
- Night-scented stock (*Matthiola longipetala*)
- Red campion (*Silene dioica*)
- Honeysuckle (*Lonicera periclymenum*)
- Sweet williams (*Dianthus barbatus*)
- Angelica species
- Wisteria (*Wisteria floribunda*)
- Lavenders (*Lavandula sp.*)

5.0 CONCLUSIONS

5.1 An internal and external assessment of the building at 19 Grovelands Road was undertaken on the 21st September 2023.

5.2 The current proposals for the site involve the demolition of the buildings on site.

5.3 Evidence of a soprano pipistrelle bat roost was found within the loft void inspected during the survey. This was confirmed by DNA analysis of the droppings. As such, the bungalow is a confirmed bat roost and no works can take place until a Natural England licence is granted.

- 5.4 As such, three additional surveys will need to be conducted on the house to determine the number of bats, and the access points into the roosts. This would involve conducting three dusk emergence surveys accompanied with night vision aids, such as infra-red cameras, in accordance with the Bat Conservation Trust guidelines (2023). Two surveys should occur within the optimum time period, between May and August and the final survey can be carried out between May and September.
- 5.5 Following further survey work, a suitable mitigation strategy can be developed. It is likely that a suitable Natural England licence will be required to legalise impacts on roosting bats. Further compensation measures and working practises will be made following the establishment of mitigation requirements.

6.0 REFERENCES

Interim Guidance Note: *Use of night vision aids for bat emergence surveys and further comment on dawn surveys*. Bat Conservation Trust, May 2022

Collins, J. (ed.) (2023)., *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust, London.

Institution of Lighting Professionals., (ILP - 2018)., *Guidance Note 08/18 – Bats and artificial lighting in the UK*. ILP, Rugby.

Lintott, P., & Mathews, F. (2018). *Reviewing the evidence on mitigation strategies for bats in buildings informing best-practice for policy makers and practitioners*.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

Wightman, I., (2021). *Design, access and heritage statement for The Malt House*. Ian Wightman Historic Building Consultants, Petersfield.

Internet resources:

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

Appendix 1: Site Photographs**Photograph 1:** Front / east side of the bungalow.**Photograph 2:** Parking depot located behind the bungalow.**Photograph 3:** Back / west facing side of the bungalow.

Photograph 4: Loft void within the bungalow showing the wooden supports and the Tyvec lining.



Photograph 5: Within the loft void showing gaps within the soffit as daylight shines through.



Photograph 6: Bat droppings found within the loft void.



Appendix 2: Bat Dropping DNA Analysis



Folio No: E19256
Report No: 1
Purchase Order: BERKS 3456
Client: THE ECOLOGY
PARTNERSHIP
Contact: Alistair McNaughton

TECHNICAL REPORT

ANALYSIS OF BAT DROPPINGS FOR SPECIES OF ORIGIN IDENTIFICATION

SUMMARY

The droppings of bats contain small amounts of DNA belonging to the organism from which they originated. By analysing droppings collected from a bat roost or colony for the presence of DNA, a robust identification of the species present can be made. Recent advancements in molecular methods including PCR (polymerase chain reaction) and DNA sequencing mean that 92% of bat species worldwide can be identified including all 17 UK resident bat species.

RESULTS

Date sample received at Laboratory: 26/09/2023
Date Reported: 06/10/2023
Matters Affecting Results: None

Lab Sample ID.	Site Name	O/S Reference	Genetic Sequence	Common Name	Result	Sequence Similarity
B2624	19 Grovelands Road	SU7198266848	TTTGGAAGTGAAGTGGTTCCTATGATCGGAGCCCCGACATGGCCTTCTCGTATGATAAATATGAGTTTCTGACTCTGCCCCCTCTTTCTACTACTACTAGCCTCATCTATAGTGGAGCGGGAGCGGGTACGGCTGAACAGTCTATCCCCCTCTAGCAGGAATAGCTCATGCTAGGAGAG	Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	97.74%

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

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