57 High Street, Silkstone

Bat Survey Report

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1. Summary

1.1.1 A bat survey of 57 High Street, Silkstone was commissioned by the client Alex Sewell of Fairbank Investments Ltd on 16th May 2024.

1.1.2 The survey was undertaken to inform proposals to re-develop the existing dwelling at 57 High Street.

1.1.3 Bat survey works detailed in this report include a desk-based study, an internal and external visual inspection and a nocturnal survey.

1.1.4 No historic bat records were obtained in relation to the site.

1.1.5 No evidence of bat roosting was recorded during the visual inspection of the two buildings, however, the bungalow was considered to display a low level of bat roost suitability. The garage was considered to display negligible bat roost suitability.

1.1.6 No bat roosting activity was recorded during the nocturnal survey, and it appeared that roosting bats were absent from the surveyed buildings.

1.1.7 No further survey effort is considered necessary for the buildings providing the recommendations provided in this report are enacted and works commence within 24 months of the survey date. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.

1.1.8 Works should proceed with caution and vigilance for unexpected bat presence, as single bats can roost almost anywhere. If bats are subsequently discovered, work should cease, and further advice sought without delay.

1.1.9 Recommendations have been provided in relation to bat and bird enhancement features, to be incorporated within the new building. Advice has also been provided in relation to roofing membranes and new external lighting.

2. Introduction

2.1.1 A bat survey of 57 High Street, Silkstone was commissioned by the client Alex Sewell of Fairbank Investments Ltd on 16th May 2024.

2.1.2 The survey was undertaken to inform proposals to re-develop the existing dwelling at 57 High Street.

2.1.3 Bat survey works detailed in this report include a desk-based study, an internal and external visual inspection and a nocturnal survey.

2.1.4 The site was located off High Street in the centre of the village of Silkstone, c. 5.5 km west of Barnsley town centre.

3. Habitat Assessment

3.1.1 The site was surrounded by residential dwellings and associated infrastructure, however, scattered trees were present in neighbouring gardens. The closest area of extensive higher quality bat foraging habitat comprised woodland c. 43 m east of the site, which was intersected by Silkstone Beck. This woodland connected to the large area of replanted ancient woodland within Silkstone Fall Wood.

3.1.2 It was considered that a low-moderate density of bats of a fairly varied range of species was likely to use the site. Table 1 summarises the habitats present, adjacent to and further afield of the surveyed buildings.

Table 1. Location and habitat table

Name and address: 57 High Street, Silkstone, Barnsley, S75 4JJ			
OS Grid Ref. SE 28992 05619	Altitude. 105 m		
Local Planning Authority: Barnsley Council			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
Buildings	✔	✔	Located adjacent to other dwellings
River bordered by trees			Silkstone Beck c. 90 m east of site
Standing water			Pond on the line of Silkstone Beck c. 60 m east of site
Bridges tunnels and culverts			Associated with Silkstone Beck
Trees		✔	Trees in adjacent gardens
Woodland			Woodland associated with Silkstone Beck, c.43 m east of site
Grassland	✔	✔	Lawn adjacent to dwelling

Figure 1. Site location

3.2 Aims

3.2.1 The survey was conducted to help determine the following:

- The presence/absence of roosting bats.
- Bat roosting areas and access/egress points into the buildings.
- The level of bat roost potential associated with the buildings.
- The number and species of bat roosting within the buildings, if present.
- Identify further survey work or mitigation requirements.

4. Methodology

4.1 Data Consultation

4.1.1 A desk study was undertaken, with bat records for locations within 1.5 km of the site requested from Barnsley Biological Records Centre (BBRC) and within 2 km of the site from South Yorkshire Bat Group (SYBG).

4.2 Field Survey

Internal and External Visual Inspection

4.2.1 The internal and external visual inspected was undertaken on 6th June 2024 by Robert Bell (MCIEEM; Class license WML-A34-Level 4, 2016-25236-CLS-CLS).

4.2.2 The following activities were carried out during the surveys in compliance with relevant Bat Survey Guidelines (Collins, 2023):

- A brief inspection and assessment of the site and habitats present to within 300 m.
- An extensive examination of all parts of the buildings both inside and out to record structural features and condition and to record features that may be suitable for roosting bats. Particular attention was paid to any crevices or gaps in walls, lintels, gaps between beams and joists and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below beams, among a number of other factors. All and signs indicative of a bat roost presence including live or dead bats, droppings, feeding remains, scratch marks and staining were recorded.
- An assessment of the buildings' bat roost potential (negligible, low, moderate, high or confirmed roost).

4.2.3 In addition, any signs of nesting bird usage of the buildings were recorded.

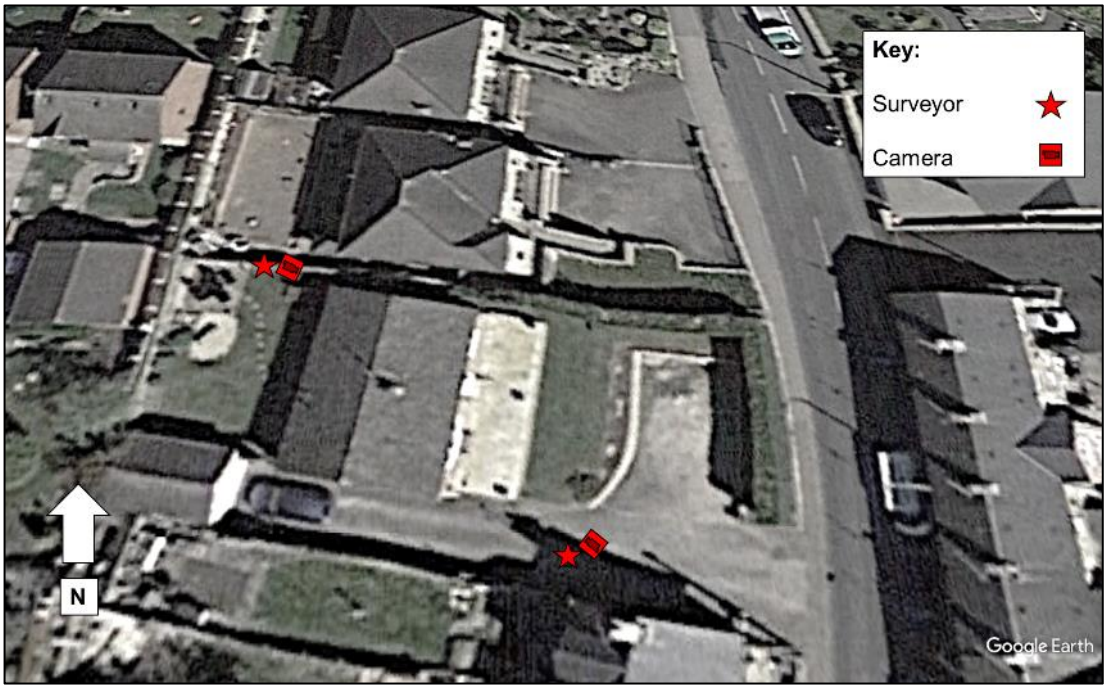
4.2.4 The following equipment was used or at hand during the survey:

- Clulight
- Binoculars
- Endoscope
- Ladders
- Camera

Nocturnal Survey

4.2.5 A single dusk emergence survey was undertaken by Amanda Murphy (Bat Survey Class license WML-A34-Level 2, 2020-47913-CLS-CLS) and Carl Dixon on 19th June 2024. This survey commenced 15 minutes prior to sunset and continued until 1.5 hours after this time. Two infra-red lit Canon XA10 cameras with external floodlights were used to aid surveyor observations. Wildlife Acoustics EM Touch bat detectors and accompanying iPod recorders were used to detect and record acoustic bat calls during the survey. The arrangement of surveyors and cameras is shown in Figure 2.

Figure 2. Building numbering and nocturnal survey plan



4.3 Survey Limitations

4.3.1 No significant survey limitations were encountered.

5. Results

5.1 Data Consultation

5.1.1 A total of 91 bat records were received from SYBG. None of the records received related to the site itself. Species positively identified in the records received included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula,* Leisler's bat *Nyctalus leisleri,* brown long-eared bat *Plecotus auritus,* Daubenton's bat *Myotis daubentonii* and Natterer's bat *Myotis nattereri*. The closest records to site related to Silkstone Parish Church, located 230 m northeast of the site, with roosting common pipistrelle and brown long-eared bat historically recorded from this building.

5.1.2 A total of 69 bat records were received from BBRC. None of the records received related to the site itself. Species positively identified in the records received included common pipistrelle, soprano pipistrelle, noctule, Leisler's bat, brown long-eared bat, Daubenton's bat and Natterer's bat. The closest bat records related to a series of roost records collected from Silkstone Parish Church, as detailed in Section 5.1.1.

5.1.3 A search of MAGIC highlighted one bat EPS mitigation licence as having historically been issued for a location within 2 km of the site. Information relating to these three licenses is presented in Table 2.

Table 2. Bat EPS mitigation licences issued for locations within 2 km

Species listed on the licence	Licence start date	Licence end date	What does the licence cover?	Approximate distance (km)	Direction
Common pipistrelle, brown long-eared bat and Natterer's bat	01/09/2016	01/09/2026	Destruction of a breeding site and destruction of resting places	0.30	South

5.2 Field Survey

Internal and External Visual Inspection

5.2.1 No signs of bat presence were recorded during the visual inspection, however, the dwelling (Figure 2) was considered to display a low level of bat roost suitability, with the outbuilding considered to display negligible bat roost suitability.

5.2.2 No bird nests were noted from the surveyed buildings.

Description – dwelling

5.2.3 The dwelling comprised a c.1980s brick-built bungalow with cavity walls and a dual-pitched concrete tiled roof (Plates 1-3). A single brick chimney was present centrally within the east pitch. The bungalow had wooden soffits, double-glazed uPVC framed windows and plastic gutters.

External bat roost potential – dwelling

5.2.4 A range of potential bat roosting features were recorded from the exterior of the dwelling. These features included the following:

- The verges were un-pointed, potentially allowing bats access to the space between tiles and felt (Plate 4).
- The soffit on the south gable was broken, potentially allowing access between the barge and soffit board (Plate 5).
- Occasional lifted roof tiles were present (Plate 6).

Internal inspection – dwelling

5.2.5 The roof was lined with hessian backed Type 1F bituminous felt and suspended on a ridge beam, purlins, rafters and battens. The roof void was approximately 2 m high with c. 400 mm of glass fibre insulation on the ceiling. No signs of bats were recorded from any location within the roof void or on the exterior of the dwelling. The bungalow's roof void was cobwebby, however, tears in the felt were noted.

5.2.6 The dwelling was considered to display a low level of bat roost suitability.

Plate 1. Southeast corner of bungalow with garage on left of image

Plate 2. West elevation of bungalow

Plate 3. Un-pointed verges on north gable

Plate 4. Faulty barge board on south gable

Plate 5. Lifted roof tiles on east pitch

Plate 6. Roof void in bungalow

Description – garage

5.2.7 A single-storey brick-built garage was located to the southwest of the bungalow (Plates 1 & 7). This structure had a dual-pitch concrete tile covered roof with mortar filled verges. The garage had wooden fascia boards and plastic gutters with an up-and-over door on the east gable and a wooden single door and wood-framed window on the north elevation.

External bat roost potential – garage

5.2.8 No potential roost features were recorded from the exterior of the garage, with the building found to be in a good state of repair (Plate 8).

Internal inspection – garage

5.2.9 No internal access to the garage was possible, however, this was not considered to be a significant limitation to survey due to the lack of potential bat access points into this structure.

5.2.10 No signs of bats were recorded from the exterior of the garage. The garage was considered to display a negligible level of bat roost suitability.

Plate 7. Northeast corner of garage

Plate 8. Well pointed verge on east gable of garage

Nocturnal Survey

19th June 2024 – dusk emergence survey

5.2.1 The temperature at the beginning of monitoring was 12 °C, with calm conditions (Beaufort Scale Force 0) and three oktas cloud cover (3/8). The temperature decreased to 11 °C, during the survey, with the wind conditions remaining the same and cloud cover decreasing to one okta. The weather was dry throughout. Sunset was at 21:39.

5.2.2 No bat roosting activity was recorded.

5.2.3 The first bat activity recorded comprised a common pipistrelle, heard by the surveyor to the northwest of the bungalow at 22:01. Intermittent common pipistrelle activity was heard from this point onwards, particularly to the west of the dwelling. The only other species recorded comprised a suspected whiskered/Brandt's bat/bats, first recorded to the southeast of the dwelling at 22:16, with a subsequent pass recorded by the surveyor to the northwest of the dwelling at 22:23.

6. Assessment

6.1 Summary and Evaluation of Findings

6.1.1 No historic bat records were obtained in relation to the site.

6.1.2 No evidence of bat roosting was recorded during the visual inspection of the two buildings, however, the bungalow was considered to display a low level of bat roost suitability. The garage was considered to display negligible bat roost suitability.

6.1.3 No bat roosting activity was recorded during the nocturnal survey, and it appeared that roosting bats were absent from the surveyed buildings.

6.1.4 No evidence of bird nesting was recorded during the inspection.

6.2 Legislation and Policy Guidance

Bats

6.2.1 Bats receive protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended).

6.2.2 It is an offence to:

- Deliberately capture (or take), injure or kill a bat.
- Intentionally or recklessly disturb bats whilst they are occupying a structure or place used for shelter or protection or obstruct access to any such place.
- Damage or destroy the breeding or resting place (roost) of a bat.
- Possess a bat (live or dead), or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.
- Sell (or offer for sale) or exchange bats (dead or alive), or parts of parts.

6.2.3 The Convention on Biological Diversity, signed in Rio de Janeiro, Brazil in 1992, requires member states to develop national strategies and to undertake a range of actions aimed at maintaining or restoring biodiversity. The UK Biodiversity Strategy was produced in response to the Convention.

6.2.4 In England & Wales, the Natural Environment and Rural Communities (NERC) Act, 2006 imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, “to have due regard, as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. It notes that “conserving biodiversity includes restoring or enhancing a population or habitat”. Barbastelle *Barbastella barbastellus*, Bechstein’s bat *Myotis bechsteinii*, brown long-eared bat, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros*, noctule and soprano pipistrelle *Pipistrellus pygmaeus* are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. At a more local level there are Local Biodiversity Action Plans for smaller geographical areas which may cover a greater or lesser range of bat species.

6.2.5 Where it is proposed to carry out works which will have an adverse impact on roosting bats, some form of bat mitigation licence must first be obtained. This requirement applies even if no bats are expected to be present when the work is carried out.

6.2.6 The National Planning Policy Framework for England was revised in 2023. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'.

Birds

6.2.7 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

6.3 Further Survey, Recommendations and Enhancements

Bats

6.3.1 No further bat survey is considered necessary providing that works commence within 24 months of the bat survey works. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.

6.3.2 Although bats do not appear to be roosting at 57 High Street, in accordance with the aims of the National Planning Policy Framework (2023) and Barnsley Council's Biodiversity and Geodiversity Supplementary Planning Document, it is recommended that one new bat roosting feature be incorporated within the redeveloped dwelling. It is advised that an enclosed and integrated bat box, of a design such as either the Build-in WoodStone Bat Box or Ibstock Enclosed Bat Box C (Plates 9-11) be installed, at wall top height on the south gable. The box should be sited away from areas of light spill. For further information on appropriate bat roosting features please contact Middleton Bell Ecology.

Plates 9-11. Build-in bat roost products

6.3.3 Over time bats will often get into new buildings, accessing roofing materials. Bats have been shown to regularly become entangled and die in the component filaments of standard modern woven roofing membranes (Appendix 1). There are however now a number of modern roofing membranes (i.e. Siga Majcoat 200 SOB) which have been shown to be relatively safe for bats. As a result, it is recommended that one of these 'bat safe' felts should be used.

6.3.4 Bats are sensitive to artificial lighting, with the site shown to be used by at least one light sensitive bat species (whiskered or Brandt's bat). As a result, it is recommended that new external lighting is kept to a minimum, with uplighters avoided. Use of PIR-sensor operated lighting is encouraged to minimise the time of operation. It is also recommended that new lights are downward facing, low output and have warm white outputs. Light spill across the new bat box should be avoided.

Birds

6.3.5 In accordance with the aims of the National Planning Policy Framework, and to provide an enhancement for nesting birds, it is recommended that one integrated swift *Apus apus* box (i.e. S Brick (Plate 12)) be installed within the new dwelling. This box should be fitted at wall top height and may be installed across any elevation, with the top of the north gable a suitable location. Studies have shown that swift boxes are used by other bird species that utilise buildings and consequently this measure will provide potential nesting space for house sparrows *Passer domesticus* and starlings *Sturnus vulgaris*, in addition to potentially providing future nest space for swift.

Plate 12. S Brick

6.4 Conclusions

6.4.1 No evidence of bat roosting was recorded during the visual inspection or nocturnal survey of the buildings at 57 High Street.

6.4.2 No further survey effort is considered necessary for the buildings providing the recommendations provided in this report are enacted and works commence within 24 months of the survey date. If works are to commence after this date, then Middleton Bell Ecology should be contacted to determine the requirement for update survey.

6.4.3 Works should proceed with caution and vigilance for unexpected bat presence, as single bats can roost almost anywhere. If bats are subsequently discovered, work should cease, and further advice sought without delay.

6.4.4 Recommendations have however been provided in relation to inclusion of new bat and swift nest/roost provision.

7. References

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

Appendix 1. Bats and Roofing Membranes

Standard roof membranes can cause the death of significant numbers of bats. Traditional bitumen coated roofing felt is recommended where roosting bats are expected to be present.

The problem

Non-bitumen coated membranes used below roof slates and tiles present a significant problem for bats. Over time, strands are pulled away from the surface of these materials as bats crawl over them. These fuzzy strands are very strong and can tangle and trap bats, sometimes causing the death of bats over multiple years[1].

One example we have encountered comprised a pipistrelle roost which formed in a building extension constructed in 2009. Over the course of just 13 years the roofing felt degraded to the extent that it trapped and killed more than 10 bats. Fortunately, the problem in this roost was identified and remedial work was undertaken to replace the roofing membrane in 2022.

Plate A1.1. Four dead pipistrelles tangled in breathable roofing felt

Although a new roof might be considered to lack potential bat access points, that is often not the case. Roofs covered with stone slates almost always have gaps large enough to be accessed by bats, this is often also the case where imitation stone slates are used. On older buildings the uneven roof timbers and/or building design also often results in gaps on wall tops and between slates. Even on new builds it is often possible for bats to access potential roosts via features such as dry verge capping. Some bats can access a space no wider than a biro pen, therefore it is not surprising that they can find their way into most buildings.

Safe roofing membranes (and membranes behind cladding)

The best roofing membrane option for areas where bat roosts are expected is traditional Type 1F bitumen coated hessian backed roofing felt. Bitumen coated roofing felts have been widely and safely used as a secondary weather barrier since approximately the 1950s/1960s. Wooden sarking has also been used for many decades and if appropriately treated, is safe for

[1] Wearing S. Essah E., Gunnel K. & Bonser R. (2013) Double jeopardy: the potential for problems when bats interact with breathable roofing membranes in the United Kingdom. Architecture and Environment

use in bat roosts, or where bats could be, present. Most commercially available products come pretreated but if required, a list of suitable timber treatment products are listed on the government website[2]. Wooden sarking also has the benefit of adding additional insulation and is usually breathable.

There are breathable membrane products which have passed a test known as the snagging propensity test. The test attempts to replicate the wear and tear which results from bats crawling over the membrane. At the time of writing (to our knowledge) two products have passed the test and are accepted for use in bat roosts by Natural England: SIGA Majcoat 200 SOB Diffusion and TLX BatSafe[3,4]. Although both have passed this test, it is unclear how they would fair over a long timeframe, and particularly within larger bat roosts. For this reason, we do not recommend that they are used for known bat roosts, and particularly for large (maternity roosts). However, they may provide a much needed option for roofs where future bat use cannot be ruled out, sarking boards are not an option, and a breathable solution is required.

Additional considerations

In recent years a fairly substantial proportion of the lofts we have surveyed which had existing breathable felt, were found to have been damaged by wasps (Plate A2.2). In these situations, the wasps appear to have chewed holes in the felt and formed nests in the holes. This doesn't appear to be a problem associated with the traditional bitumen coated roofing felt. Obviously, any holes within roofing felt would be likely to significantly reduce its functionality as a secondary weather barrier. Where bats or birds do come into contact with breathable roofing membranes, they can damage the membrane causing it to leak and they can also significantly reduce the breathability of the felt in that location.

Plate A1.2. Damage to a breathable roofing membrane adjacent to a wasp nest

Traditional bituminous Type 1F roofing felt is a non-breathable product and therefore ventilation is required. This can be achieved, even in buildings with vaulted ceilings, but requires some consideration during the design stage. Products to increase the ventilation within roofs where bituminous Type 1F felt has already been installed are also available but should not be considered as the primary ventilation option.

[2] Accessible at: https://www.gov.uk/government/publications/bat-roosts-insecticides-and-timber-treatments/timber-treatment-products-suitable-for-use-in-or-near-bat-roosts
[3] https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence#full-publication-update-history:~:text=Use%20of%20safe%20roofing%20membranes
[4] TLX BatSafe requires all joints and cut edges to be taped in order to prevent the fraying of bare edges.

Appendix 2. Bat Records For Submission To Recording Organisations

In accordance with best practice and the requirements of bat licensing, bat records collected during surveys are supplied to the relevant biological record centres and bat groups. The records to be supplied in accordance with this survey are shown below. House names/numbers are not given out by record holding organisations except under very particular circumstances. Please let us know if you object to the distribution of these records.

Date	Species	Site Address	OS Grid Reference	Notes
19/06/2024	Common pipistrelle	57 High Street, Silkstone, Barnsley, S75 4JJ	SE 28992 05619	Pass
19/06/2024	Whiskered/ Brandt's bat	57 High Street, Silkstone, Barnsley, S75 4JJ	SE 28992 05619	Pass