



**PRELIMINARY ROOST ASSESSMENT
& DUSK EMERGENCE BAT SURVEY**

**SMITHY POOL,
CONSALL, STAFFORDSHIRE**

AUGUST 2017

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1. NON-TECHNICAL SUMMARY

Eyebright Ecology Ltd. was commissioned by Sammons Architectural Ltd. on behalf of John Pointon & Sons to undertake bat surveys of a building at Smithy Pool, Consall, Stoke-on-Trent, ST9 0AF.

The survey was required to inform a planning application for the partial demolition and conversion of the existing building to two-storey guest accommodation.

A preliminary roost assessment of the building was undertaken on 31 March 2017, which involved an internal and external building inspection. The surveys were led by an experienced ecologist who is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM) and holds a current Natural England bat licence.

The survey found no evidence of bats either inside the building or externally. The building had several features which could be used by roosting bats, notably missing roof tiles and gaps under the ridge tiles. Given the lack of evidence that would be expected from bats roosting in a building, and limited features available to roosting bats, the building was assessed to be of low potential for roosting bats.

As per standard Good Practice Survey Guidelines for buildings with low potential to support a bat roost, a single dusk emergence survey was undertaken on 18 July 2017. The survey found no bats emerged from the building and bat activity was limited to occasional common pipistrelles, *Myotis* species and brown long-eared bats commuting and foraging through the site.

Although it appears unlikely that a bat roost is present, a standard precautionary approach is recommended during removal of tiles, which should be carefully lifted by hand. If any evidence of bats was found during the works, all work would need to stop immediately and further advice sought from a licensed bat ecologist.

2. INTRODUCTION

2.1 Background & Objectives

Eyebright Ecology Ltd. was commissioned by Sammons Architectural Ltd. on behalf of John Pointon & Sons, to undertake bat surveys of a single-storey building at Smithy Pool, Consall, Stoke-on-Trent, ST9 0AF (SJ 986493). The surveys were required to inform a planning application for conversion into two-storey guest accommodation.

A preliminary roost assessment of the building was undertaken on 31 March 2017. Following this, a dusk emergence survey bat survey was undertaken on 18 July 2017.

The surveys were led by an experienced and licensed ecologist who is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM) and holds a current Level 2 Natural England bat licence.

Unless the client indicates to the contrary, the information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

2.2 Site Description

The site comprised a detached single-storey building. The building was on an area of hardstanding adjacent to a separate two-storey building and was close to trees, landscaped garden and shrubs. There was a block of woodland immediately to the west of the building which was connected to a larger block known as Consall Wood; there were large fishing pools in the valley below, with a small wooded brook which ran into the River Churnet to the north-east. Beyond the woodland was mixed agricultural farmland.

2.3 Relevant Legislation

All 18 British bat species and their roost sites are protected under the Wildlife and Countryside Act (WCA) 1981 as amended and are included in Schedule 2 of the Conservation of Habitats and Species (Amendment) Regulations 2012. Combined, this legislation means that it is illegal to:

- Intentionally or deliberately kill, injure or take a bat.
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (this is taken to mean all bat roosts whether bats are present or not).
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- Possess, advertise for sale, sell or exchange a bat or any part of a bat (dead or alive).

3. METHODOLOGY

3.1 Preliminary Roost Assessment

An internal and external building inspection of the building was undertaken by Eleanor Weir (Natural England Level 2 bat licence number: 2015-12689-CLS-CLS) accompanied by Carl Capewell (ecologist) on 31 March 2017.

Powerful torches (Clulite, one million candlelight), binoculars and a ladder were used to search for evidence of bats which includes droppings, urine stains, feeding remains, staining and individual bats. Potential roost sites and access points were also recorded.

The building was assessed for potential to support an unseen bat roost, based on the criteria in the table below, which is taken from current Good Practice Survey Guidelines (Collins, 2016).

Potential Suitability for Roosting Bats	Roosting Habitat
Negligible	No habitat features (such as crevices, suitable roosting surfaces, access points) present within the structure or tree; where minimal features exist they may be assessed to be very unlikely to be used by bats due to other factors such as lighting, isolation, poor surrounding habitat etc.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, the 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 used for maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by roosting bats but is unlikely to support a roost with high conservation status (e.g. maternity / hibernation roost).
High	A structure or tree that with one or more potential roost sites that are obviously suitable for 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.

3.2 Dusk Emergence Bat Survey

A dusk emergence bat survey of the building was undertaken on 18 July 2017 with two surveyors.

The dusk survey commenced 15 minutes before sunset and continued for 2 hours.

The surveyors used an Elekon Batlogger M and Anabat Walkabout, with recording devices, to record and identify any bats heard. Bat calls were analysed using BatSound 4.2 and BatExplorer. General bat activity on site (foraging, commuting) was also recorded.

The weather conditions for the survey are shown in Table 1 below.

Date	Survey Timing	Sunset/Sunrise	Start / End of Survey	Temperature	Wind (Beaufort Scale)	Cloud cover	Rain
18.7.17	Dusk	21:25	Start	19°C	3-4	100%	Dry
			End	17°C	3-4	100%	Dry

3.3 Personnel

The building inspection and dusk emergence survey was led by Eleanor Weir, an experienced ecologist who has held a Natural England bat licence for 13 years (Natural England Level 2 bat licence number: 2015-12689-CLS-CLS) and is a full member of CIEEM. The second surveyor was Carl Capewell, an ecologist who has conducted bat surveys since 2015 and is shortly applying for his Level 1 bat licence. Carl is a graduate member of CIEEM.

3.4 Constraints

Bats may use many different roost sites through the seasons, and dusk and dawn surveys undertaken at any time during the main activity season of May to September are likely to be a 'snapshot' of the overall picture. Surveys between May and mid-August should determine whether a maternity roost is present, as well as regularly used non-breeding summer roosts.

Long-eared bats echolocate very quietly, and are often not heard on detectors. This species is likely to be under-recorded during activity surveys. It is assumed that long-eared bats recorded during the surveys are brown long-eared *Plecotus auritus*, since the site is outside of the known distribution for the rarer grey long-eared bat *Plecotus austriacus*.

Myotis bats are difficult to be sure of species from echolocation call alone, as their call parameters can overlap, depending on the habitat they are flying in. With respect to this site, *Myotis* species are likely to be one of the following: Whiskered *Myotis mystacinus*, Brandt's *Myotis brandtii*, Daubenton's *Myotis daubentonii* or Natterer's *Myotis nattereri* bat.

4. RESULTS

4.1 Preliminary Roost Assessment

The building was a modern single-storey building which was constructed from block and brickwork with sandstone lintels above the doors and windows (Plate 1). The pitched roof comprised clay tiles with a felted flat top design (i.e. no ridge or apex).

The building was divided into three store rooms (one of which had a walk-in refrigerator), toilet facilities and a reception room (Appendix 1). The reception room had plastered walls and ceiling which followed the roof line. The store rooms were open to the roof which was lined with breathable membrane (Plate 2). The only roof space present was a small accessible open roof void above the toilet room.

The building was regularly used inside and was well maintained. The roof membrane appeared in good condition with no obvious access gaps or tears which would allow bats to access the inside of the building.

Externally, the roof was covered with clay tiles which were in generally good condition. The central part of the roof was flat and covered in felt. The building had partial 'ridge' tiles along the top of the eastern side of the roof (Plate 3). Where the flat roof joined the western pitch of the roof (Plate 4 & 5), there was lead flashing which had several large gaps along the length of the building (Plate 6). There were numerous gaps under the 'ridge' tiles along the top of the eastern pitch of the roof, in addition to gaps under lifted and missing tiles on both the eastern and western sides. There were no soffits, eaves or bargeboards present on the building.

The external walls were in good condition with no gaps in mortar or brickwork noted.

No evidence of bats was found internally or externally in any section of the building. However, the presence of gaps both under the 'ridge' tiles and roofing tiles provide potential opportunities for roosting bats.

Overall, with the lack of evidence found, and the structure of the building lacking a roof space or 'apex', the building was assessed to have 'Low' potential to support a bat roost.

4.2 Dusk Emergence Survey

As the building was assessed to have 'Low' potential to support a bat roost, it was recommended that a single dusk emergence survey was undertaken (as per Good Practice Survey Guidelines) to check for any emerging bats and to assess general levels of bat activity on site.

A dusk emergence survey of the building was undertaken on 18 July 2017 and no bats were observed to emerge from the building.

Bat activity around the building was infrequent, despite good quality habitat nearby (woodland, ponds, pasture). The first bat was heard at 55 minutes after sunset, which further supports the likelihood that no roosts were present on site or in the immediate vicinity. Later in the survey there

were commuting common pipistrelles, *Myotis* species and brown long-eared bats occasionally passing through the site, with Surveyor 2 recording more bats than Surveyor 1.

A summary of the dusk bat survey is shown in Figure 2 (Appendix 1) and raw data tables are included in Appendix 2.

4.3 Photographs

Plate 1: Eastern (front) side of the outbuilding at Smithy Pool, Consall, Staffordshire.



Plate 2: Internal structure of the roof with metal and wooden beams, lined with boards / breathable membrane.



Plate 3: The roof of the outbuilding with 'ridge' tiles and clay roofing tiles (eastern aspect).



Plate 4: The western side of the roof with lead flashing and clay roofing tiles.



Plate 5: Northern side of the building showing the design of roof, with the central flat felt roof and the absence of soffits, eaves or bargeboards.



Plate 6: Example of missing tile and gaps under the lead flashing which could be used bats to access a roost between the tiles and membrane (western side).



5. DISCUSSION & RECOMMENDATIONS

5.1 Summary of Findings

The surveys found that the building did not appear to support a bat roost.

Common pipistrelles, *Myotis* species and brown long-eared bats were recorded infrequently commuting and foraging through the site.

5.2 Potential Impacts of Works

The proposals involve the removal of the roof of the building, and the conversion and extension of the building into two-storey guest accommodation.

In the unlikely event that bats were present, conversion of the building could cause loss of bat roosts and bats could be potentially harmed or killed during works.

5.3 Recommendations

Although it is considered unlikely for roosting bats to be present, it is recommended that a standard precautionary approach is undertaken during removal of tiled sections of roof. Roof tiles, ridge tiles and flashing should be lifted carefully by hand, and checked underneath for any evidence of roosting bats.

If any evidence of bats (including bat droppings which are of similar size to mouse droppings, but crumble when pressed) is found or suspected during the work, work must stop immediately and further advice sought from a licenced bat ecologist. In this case, a licence may be required before work can legally proceed.

There is a small risk that bats could take up residence on site subsequent to the survey. If no development takes place within 18 months of this survey report, the findings should be reviewed and may need updating, and a full survey should be repeated within 2 years.

6. REFERENCES

- Collins, J. (ed.) 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London.
- Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
- Mitchell-Jones, A.J. & McLeish, A.P. [Eds.] (2004). *The Bat Workers Manual* (3rd edition). Joint Nature Conservancy Council, Peterborough.
- Russ, J. (2012). *British Bat Calls –A Guide To Species Identification*. Pelagic Publishing, Exeter.

APPENDIX 1

Figure 1: Existing building structure

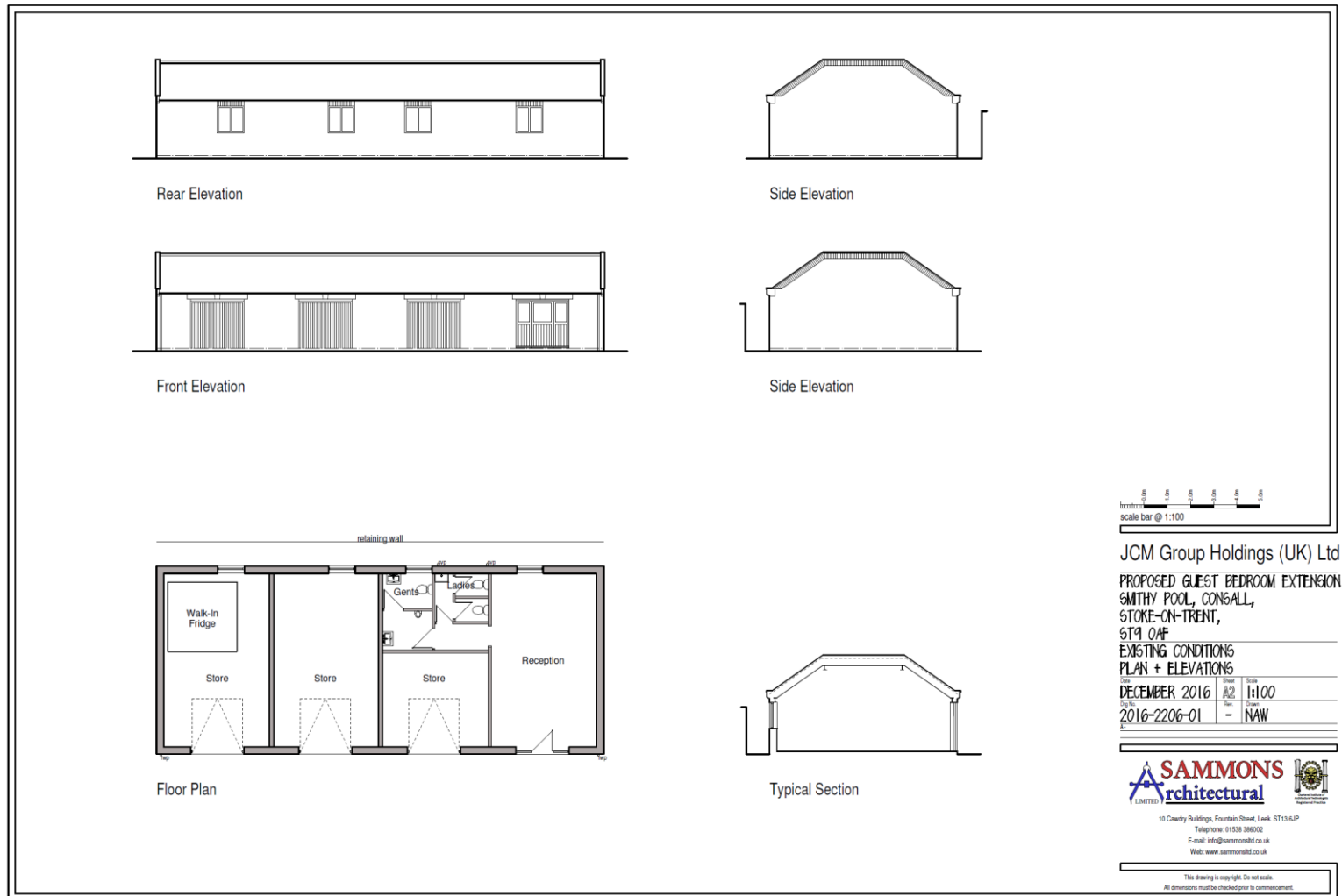
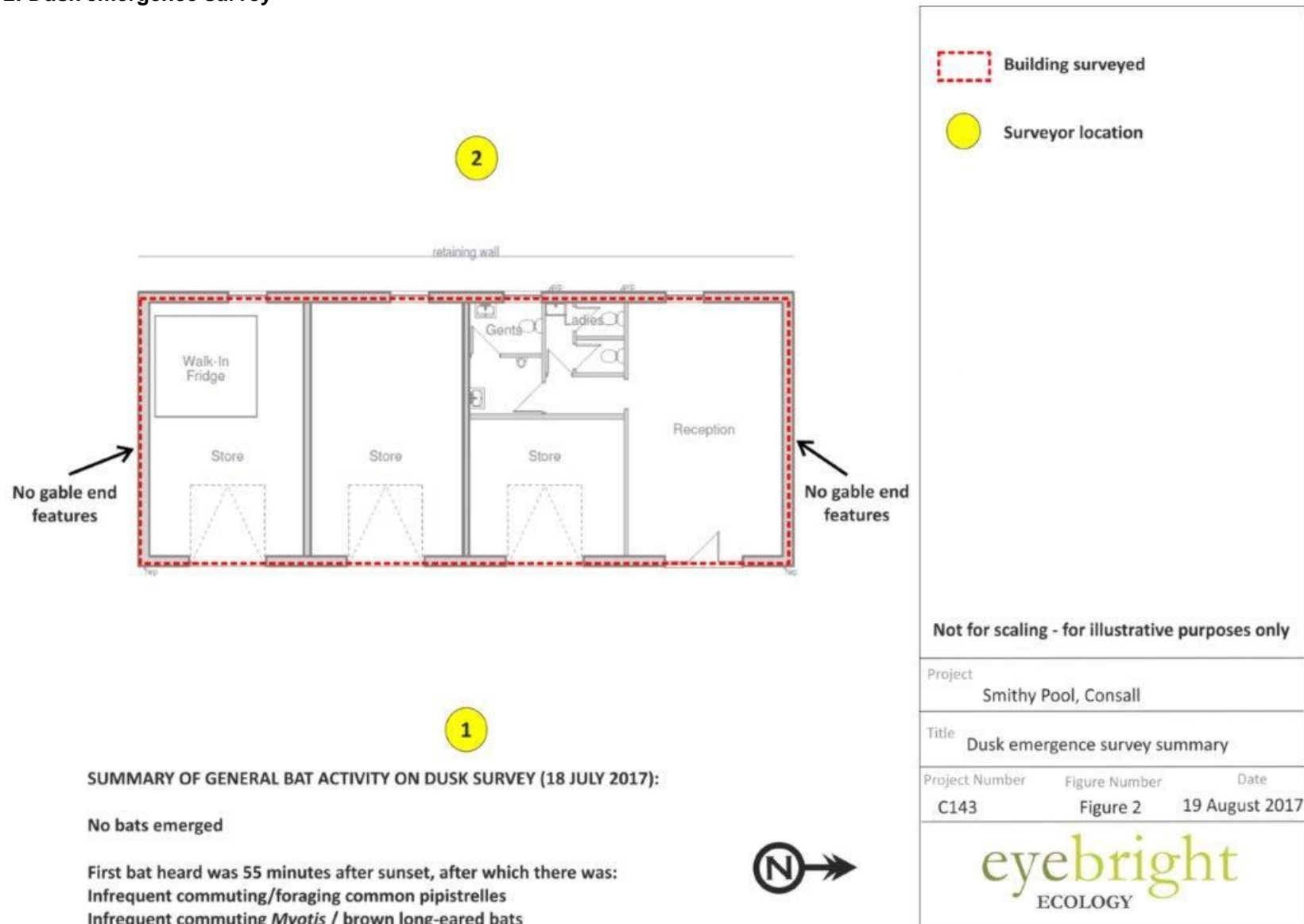


Figure 2: Dusk emergence survey



APPENDIX 2: Bat Survey Raw Data

Table 2: Dusk emergence activity survey data – 18th July 2017 (See Figure 2 for summary and surveyor locations)

Sunset Time: 21:25

Surveyor 1: Watching eastern aspects of the building (EW)

Time	Species / Numbers	Behaviour	Notes
22:20	Common pipistrelle	Commuting	Brief, faint, not seen
22:22	Common pipistrelle	Commuting	Brief, faint, not seen
22:28	Pipistrelle species	Commuting	Brief, not seen
22:31	<i>Myotis</i> species	Commuting	Brief, not seen
22:36	Pipistrelle species	Foraging	Brief pass, not seen
22:38	Brown long-eared	Commuting	Quiet, brief, not seen

Surveyor 2: Watching western aspects of the building (CC)

Time	Species / Numbers	Behaviour	Notes
22:36	Common pipistrelle	Commuting	Brief pass