

Bank End Youth Club, Worsbrough

Bat Survey Report

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Prepared by:

Middleton Bell Ecology, School House, Green Moor, Sheffield, S35 7DQ

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For Planning	G Slack MCIEEM <i>Greg Slack</i>	R Bell MCIEEM <i>R Bell</i>	G Slack MCIEEM <i>Greg Slack</i>	29/11/22

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1. Summary

- 1.1.1 A bat survey of Bank End Youth Club, Worsbrough was commissioned by South Yorkshire Police to inform a planning application for the demolition of the existing property.
- 1.1.2 The site has been secured by palisade fencing and the building secured with wooden boards covered with metal shuttering but the vandalism has still been occurring – including fires within the interior of the building. The vandalism risks the safety of those involved and any wildlife including bats that could be present within the building.
- 1.1.3 The preliminary roost assessment survey was conducted on 9th November 2022.
- 1.1.4 The building comprised a two-storey detached building with single storey sections and covered porches. It was constructed from concrete block, brick, render, and wooden cladding. The two storey section of the building had a dual-pitched roof. The ground floor had additional flat roof sections. Soffit boxes were present at the eaves and barge boards were present below the tiles on the verges.
- 1.1.5 The inspection determined that the building had low suitability to support roosting bats. No roosting bats or signs of roosting bats were identified during the inspection.
- 1.1.6 Given the ongoing risk of vandalism, it is considered appropriate to deviate from the standard survey guidelines given in the Bat Conservation Trust guidance (Collins 2016) which require a single nocturnal survey between May and August for a building with low suitability. It is proposed that the building is demolished/made unsuitable for bats following a direct inspection for roosting bats within potential roost features under a non-licensed method statement.
- 1.1.7 Bats are wide ranging, and a single bat can occasionally roost almost anywhere. If a bat is found during, or prior to the demolition, the work should stop until a licence can be obtained.
- 1.1.8 Taking account of the building's location and the status of bats within South Yorkshire, it is considered that the only bat species with potential to roost in the building are: common pipistrelle, soprano pipistrelle, brown long-eared bat, and whiskered bat. Their presence is considered extremely unlikely due to the low suitability of the building and the recent internal fire.
- 1.1.9 It is considered that the provision of three Greenwoods Ecohabitats bat boxes would be suitable to replace the loss of the potential roost features identified and if required be suitable mitigation for a low conservation status roost of any of the species which could be present.
- 1.1.10 If the demolition is otherwise delayed until May 2023 or thereafter, then a pre-works nocturnal survey should be completed to inform the demolition process and the need for a licence.

2. Introduction

- 2.1.1 A bat survey of Bank End Youth Club, Worsbrough was commissioned by South Yorkshire Police on 27th October 2022. The survey was undertaken to inform the demolition of the existing property.
- 2.1.2 The site was located at the eastern end of Overdale Avenue in Worsbrough on the southern edge of Barnsley, South Yorkshire.
- 2.1.3 The preliminary roost assessment was conducted on 9th November 2022. The assessment aimed to determine of the likely presence or absence of roosting bats and, if present, the roost locations. Potential access points, species present, and the level of use were also determined if possible.
- 2.1.4 The legislative context to the survey and assessment reported here is included in Appendix 1.

3. Habitat Assessment

- 3.1.1 The surrounding area comprised houses and gardens to the south and west and two schools, a park, playing fields and a nursery to the north and west. Table 1 summarises the habitats present within, and adjacent to Bank End Youth Club.

Table 1. Location and habitat table

Name and address: Bank End Youth Club, Worsbrough, S70 4BD.			
OS Grid Ref. SE 36181 04444		Altitude. 115 m	
Local Planning Authority: Barnsley Metropolitan Borough Council			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
Buildings	✓	✓	Houses and school buildings.
River bordered by trees			A stream (Dob Sike) was located approximately 620 m east.
Standing water	✓		A small pool was present on site ¹ (Appendix 2). The nearest pond shown on OS mapping was over 1 km from site.
Bridges tunnels and culverts			None identified.
Trees	✓	✓	Mature silver birch trees were present within the site and other mature trees were present in nearby gardens.
Woodland			The nearest woodland was a small woodland block located approximately 250 m southwest.
Grassland	✓	✓	Areas of amenity grassland around the building and in the adjacent park and school grounds.

¹ The pool was approximately 0.5 m wide by 1 m long and 0.25 m deep. It comprised a preformed pond liner which had silted up over the years with a substantial number of leaves present within the water.

Figure 1. Site location, outlined red



3.2 Aims

3.2.1 The survey was conducted to help determine the:

- Presence/absence of roosting bats.
- Potential roosting areas and access/egress points into structure.
- Level of bat roost suitability associated with structure (if possible).
- Further survey work or mitigation requirements.

4. Methodology

4.1 Data Consultation

4.1.1 Bat records were requested from South Yorkshire Bat Group (SYBG) for locations within a 2 km radius of the site. A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to identify historic European Protected Species (EPS) licences obtained for locations within 2 km of the site.

4.2 Field Survey

Internal and External Visual Inspection

4.2.1 The survey was conducted on 9th November 2022 by Greg Slack (MCIEEM; Class licence WML-A34-Level 4, 2017-28068-CLS-CLS).

4.2.2 The following activities were carried out during the surveys in compliance with relevant Bat Survey Guidelines (Collins 2016):

- A brief inspection and assessment of the site and habitats within and surrounding the site.

- An extensive examination of all parts of the building, to record structural features and condition, and features that may be suitable for use by roosting bats. Particular attention was paid to any holes, crevices or gaps in walls, lintels, gaps/holes in cladding and soffits and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below features. Any 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 building's bat roost suitability (negligible, low, moderate, high or confirmed roost).

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

- Clulight
- Binoculars
- Endoscope
- Ladders
- Camera

Figure 2. Site layout and building location



4.3 Survey Limitations

4.3.1 No limitations were present that prevented a thorough inspection and assessment of the building's suitability to support roosting bats.

5. Results

5.1 Data Consultation

5.1.1 Two Sites of Special Scientific Interest (SSSI) were present within 2 km of the Bank End Youth Club site. The first was Dearne Valley Wetlands SSSI located approximately 930 m south of the site and designated for its bird assemblages. The second was Stairfoot Brickworks SSSI which was located approximately 1975 m east of the site and designated for its geological and fossil interest.

5.1.2 No other statutory designated sites were present within 2 km of Bank End Youth Club.

- 5.1.3 A total of 538 bat records were supplied by South Yorkshire Bat Group. Ten bat species were positively identified in these records, namely: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, brown long-eared bat *Plecotus auritus*, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, whiskered bat *Myotis mystacinus* Brandt's bat *Myotis brandtii*, noctule *Nyctalus noctula* and Leisler's bat *Nyctalus leisleri*. Other records were also returned which were attributed to unidentified species of bat.
- 5.1.4 None of the records received related to the site itself. The closest bat record comprised an unidentified bat species roost, located approximately 280 m south-southwest of the proposed development.
- 5.1.5 One bat EPS mitigation licence had been issued within 2 km of the site. The details of the licence are given in Table 2 below.

Table 2. Bat EPS mitigation licences within 2 km

Species listed on the licence	Licence start date	Licence end date	What does the licence cover?	Approximate distance (m)	Direction
Soprano pipistrelle	01/04/2018	30/04/2018	Damage and destruction of a breeding site and resting place.	1,000	South-southwest

5.2 Field Survey

Internal and External Visual Inspection

- 5.2.1 No evidence of bat roosting was recorded on site. The building had been heavily vandalised and as a result was more open, light and draughty than would be ideal for building roosting bats. There was also the evidence of a lot of smoke damage. The client reported that the most recent fire had occurred just one week previously on 2nd November 2022. Overall the building was assessed as having **low** suitability to support roosting bats.

Description

- 5.2.2 The building comprised a two-storey youth club with single storey sections and covered porches (Plate 1). The ground floor of the building was constructed from concrete block, brick, and render. The first floor also incorporated substantial sections of wooden cladding. The two storey section of the building had a two-pitched roof covered with interlocking concrete tiles. The ground floor had additional flat roof sections covered with bitumen felt. Soffit boxes were present at the eaves and barge boards were present below the tiles on the verges. The windows were relatively small, framed in wood, and boarded over.

Plate 1. The southern and eastern aspects of the building



Plate 2. The northern and western aspects of the building



External inspection

- 5.2.3 Gaps with potential to be used by roosting bats were present around the building. They are shown in Table 3 and Figure 3 below.

Table 3. Potential Roost Features (PRF) Recorded.

PRF	Photo	Description
1		Gap under fascia on single storey section.

PRF	Photo	Description
2		Hole in underside of soffit box - indicative of squirrel damage.
3		Hole in cladding.
4		Lifted boarding over window.
5		broken air vents.
6		gap in cladding.
7		Missing boards on cladding.
8		Open window².
9	No photo available	hole in brickwork.

² The window was closed and re-boarded by maintenance at the time the survey was undertaken.

PRF	Photo	Description
10	No photo available	hole in cladding in underside of porch roof.
11		Large hole in roof lots of missing tiles. Hole previously covered with Oriented Strand Board.
12		Missing mortar beneath ridge tiles.
13		Missing mortar under verge tiles.
14		Missing mortar in brickwork

Figure 3. Location of PRFs recorded



5.2.4 All external features below the eaves were inspected using an endoscope and or torch (Plate 3) with no bats or signs of bats recorded.

Plate 3. Inspection of a potential roost feature on the southern end of the building using an endoscope



Internal inspection

- 5.2.5 The pitched roof in the two storey section of the building was constructed using large purlins, tie beams and struts creating an inverted triangular roof truss design within the loft space (Plate 4). The first floor ceiling was intact in the northern half of the building but in the southern half the ceiling had been removed exposing the loft void above (Plate 5).

Plate 4. The loft space at the northern end of the building

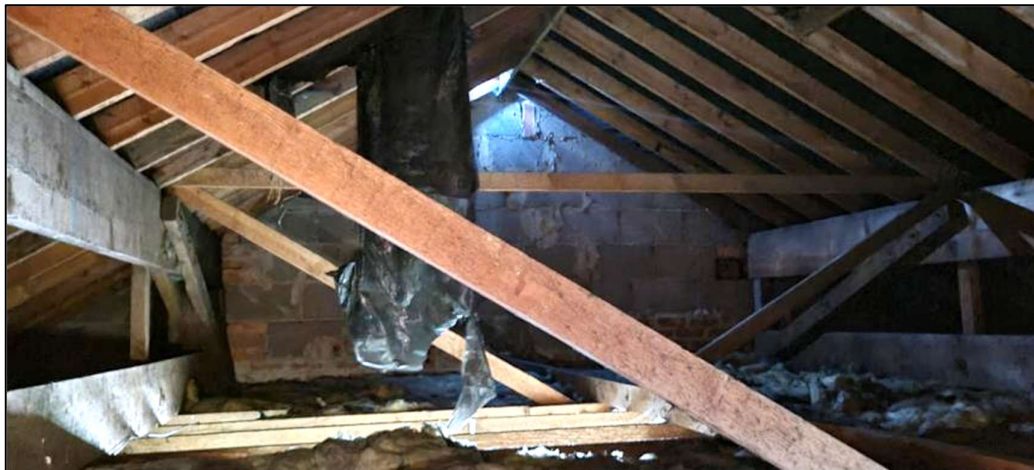


Plate 5. The loft space at the southern end of the building (looking up from the first floor)



- 5.2.6 The roof void was approximately 2.5 m high. The interlocking concrete tiles were backed by Type 1F bitumen roofing felt.
- 5.2.7 The remainder of the building had been subject to heavy vandalism. Evidence of a fire was present on the ground floor (Plate 6). A burnt odour was present throughout the building and smoke damage was evident throughout – even identifiable on the cobwebs present.

Plate 6. Fire damage on the ground floor



- 5.2.8 All internal spaces were thoroughly searched with no bats or signs of roosting bats present.
- 5.2.9 The only potential roost features that could not be directly inspected by torch or endoscope during the survey were the soffits and between the tiles and the roofing felt.

6. Assessment

6.1 Summary and Evaluation of Findings

- 6.1.1 The two SSSIs in the vicinity of the site were not considered likely to be impacted by any site works and they are not discussed further in this report.
- 6.1.2 No bat use of the internal areas of the building or the external PRFs below the eaves level was identified during the inspection. There were a substantial number of PRFs present within the building but all of them were relatively exposed and draughty.
- 6.1.3 It is considered likely that the smoke and smell of the fire damaged building reduced it's likelihood of use by roosting bats³. The client explained that the building had been subject to repeated vandalism and that the fire recorded on 2nd November 2022 wasn't the first within the building. Taking this into account it is considered that the building had **low suitability** to support roosting bats.

6.2 Recommendations

Bats

- 6.2.1 While the building still appears to be relatively structurally sound at present, it is recognised that the regular vandalism is likely to result in the further deterioration of the building, potentially relatively quickly. The vandalism may also result in injury or fatality of those present. The normal recommended approach for a building of low suitability would be to undertake a single nocturnal survey in line with good practice guidelines (Collins 2016). Given the health and safety risk, and risk to any bats that could be present within the structure, in this instance it is considered proportionate, appropriate, and in the best interest of bats and bat conservation to proceed with demolition under a non-licensed method statement (included as Appendix 3) while providing compensation for the loss of the PRFs.
- 6.2.2 If a non-licensed approach is taken and a bat is found the roost must be restored and work must cease until a licence has been obtained.

6.3 Mitigation/Compensation/Enhancements

- 6.3.1 To compensate for the loss of potential roost features it is recommended that three tree-mounted bat boxes are installed on the silver birch *Betula pendula* tree adjacent to the northern end of the site (Plate 7). The boxes should comprise three Greenwoods Ecohabitats boxes (or similar) to provide replacement crevice roosting opportunities similar to those that have been lost (Plate 8). The three boxes should all be installed on the same tree and should be located facing north, southeast and southwest to provide a natural varied range of internal temperatures. One of the boxes will be installed prior to the demolition, with consideration given to the installation of the other two afterwards to reduce the potential for damage during demolition or due to vandalism.

³ Smoke is known to disturb bats in torpor (Doty *et. al.* 2018)

Plate 7. Silver birch tree suitable for bat box installation



Plate 8 Greenwood's Ecohabitats two crevice bat box (circled red) installed on a silver birch tree at a different site.



- 6.3.2 Greenwood's Ecohabitats boxes are relatively discrete but should be installed as high as possible (ideally at a height of more than 4.5 m) and secured to the tree at the top and bottom of the box. In order to install the bat boxes at a suitable height it's anticipated that the silver birch tree will require some pruning.

6.4 Conclusion

- 6.4.1 The inspection determined that the building had low suitability to support roosting bats. No roosting bats or signs of roosting bats were identified during the inspection.
- 6.4.2 The site has been secured by palisade fencing and the building was secured with wooden boards covered with metal shuttering but the vandalism has still been occurring – including fires within the interior of the building. The vandalism risks the safety of those involved and any wildlife including bats that could be present within the building.

- 6.4.3 Given the ongoing risk of vandalism, it is considered appropriate to deviate from the standard survey guidelines given in the Bat Conservation Trust guidance (Collins 2016) which require a single nocturnal survey between May and August for a building with low suitability. It is proposed that the building is demolished or made unsuitable for roosting bats following a check for bats under a non-licensed method statement.
- 6.4.4 Bats are wide ranging, and a single bat can occasionally roost almost anywhere. If a bat is found during, or prior to the demolition, the work should stop until a licence can be obtained. Taking account of the buildings location (adjacent to housing and schools near the edge of a village in South Yorkshire) and the status of bats in the county (Slack, 2019), it is considered that the only bat species which may potentially roost in the building would be: common pipistrelle, soprano pipistrelle, brown long-eared bat, and whiskered bat. It is considered that the provision of bat box type recommended in this report would be suitable for a small roost of any of these species.
- 6.4.5 If the demolition is otherwise delayed until May 2023 or thereafter then a pre-works nocturnal survey should be completed to inform the demolition process and the need for a licence.

7. References

- Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust.
- Doty, A., Currie, S., Stawski, C., & Geiser, F. (2018) Can bats sense smoke during deep torpor? Physiology and Behaviour. Volume 185, pp 31-38.
- Slack, G. (2019) South Yorkshire Bat Status. Northern Bats. Volume 4, pp 1-6.

Appendix 1. Legislation and Policy Guidance

Bats

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

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.

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.

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 *Nyctalus noctula* 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.

Where it is proposed to carry out works which will have an adverse impact on roosting bats, the site must either be registered on the Bat Mitigation Class Licence (BMCL) or a European Protected Species (EPS) license must first be obtained from Natural England. This requirement applies even if no bats are expected to be present when the work is carried out.

The National Planning Policy Framework for England was revised in 2021. 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

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.

Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.

National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2021. 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'.

Appendix 2. On Site Standing Water

A small pool was present on site to the west of the building. The pool is shown in Plate A below.

Plate A2.1 Small pool of water (circled red) in a preformed pond liner.



The potential for the pool to support great crested newts *Triturus cristatus* was assessed using the great crested newt habitat suitability index. The overall suitability for great crested newts was identified as "Poor". Coupled with the lack of nearby ponds no further precautions are anticipated to be necessary to ensure the safety of amphibian populations which may be present.

Table A2.1 Habitat Suitability Calculation and Score for the small pool of water

Habitat Suitability Index			SI value
SI1. Map location	A/B/C	A	1.00
SI2. Surface area	rectangle/ellipse/irregular	ellipse	
	length (m)	1.2	
	width (m)	0.50	
	OR estimate (m ²) if irregular		
	area (m ²) =	1.884955592	0.00
SI3. Dessication rate	never/rarely/sometimes/frequently	sometimes	0.50
SI4. Water quality	good/moderate/poor/bad	moderate	0.67
SI5. Shade	% of margin shaded 1m from bank	0	1.00
SI6. Waterfowl	absent/major/minor	absent	1.00
SI7. Fish population	absent/possible/minor/major	absent	1.00
SI8. Pond density	number of ponds within 1km	0	0.10
SI9. Terrestrial habitat	good/moderate/poor/isolated	moderate	0.67
SI10. Macrophyte cover	%	0	0.31
HSI =			0.35
Category			poor
Date undertaken			27/10/2022

Appendix 3. Non Licenced Method Statement

What's covered

This method statement covers the inspection and subsequent removal of low suitability potential roost features (PRFs), including those that could not be checked during the original bat survey (PRFs 2, 4, 5, 7, 11, 12, and 13). The PRF inspection should be completed by an experienced bat survey licenced ecologist. This method statement also covers the demolition of the remainder of the building.

If bats, or signs of bats (such as droppings) are found at any stage the roost feature will be retained (with the bat in situ if applicable and at all possible) pending the acquisition of a licence from Natural England.

Justification for the approach

This work will be undertaken outside of a licence as no bat roosts have been recorded within the building and the check of the PRFs is considered to be the equivalent of a further nocturnal survey, as any bats present would be expected to be observed during the close visual inspection. Moreover any signs of historical use (such as the presence of bat droppings) could also be observed during the inspection. PRF locations are shown on Figure A3.1

Figure A3.1 – PRF locations



Access

The PRFs will need to be directly inspected with elevated PRFs accessed from a cherry picker / Mobile Elevated Working Platform (MEWP). This will allow the direct inspection of all PRFs with the feature taken apart if there is any remaining doubt.

Timing

The inspection and PRF removal will be completed in November before the core bat hibernation period. The demolition of the rest of the building will follow as soon as possible afterwards, providing no bats or evidence of bat roosts is found during the direct inspection.

Pre-work requirements

Prior to the start of the inspection a bat box will be installed on an site tree to ensure there is a safe location to move any bats found, in an emergency situation where they cannot be

retained within their existing roost. Following completion of the demolition works a further two bat boxes will be installed to compensate for the loss of potential roost features.

The team undertaking the PRF inspection and removal will be briefed by the bat survey licenced ecologist prior to the start of the works. The briefing will cover:

- The potential roost features due to be inspected and removed;
- What to look out for (bats and signs of bats);
- The principals covering the safe check and removal of features; and
- What to do if a bat is found.

The demolition contractors will be made aware of the potential for bats to be present on site and notified of the potential roost locations that have been previously identified.

Inspection and removal of PRFs

Each PRF at eaves level and above will be inspected using an endoscope and/or small torch and flexible mirror. Once each PRF has been inspected as thoroughly as feasibly possible, it will be removed. All material potentially concealing a roost should be lifted vertically, without downward or sideways pressure (as far as is practical), taking care not to crush bats that could be present, but not visible.

When removing roof slates/tiles (particularly ridge tiles), the feature being removed should be lifted carefully away from the building and the area behind and underneath checked for bats or bat droppings. Most bat droppings are similar in size and shape to mouse droppings, but unlike mouse droppings they easily crumble into a fine, dry powder which may 'sparkle' in bright light due to the presence of insect wing cases.

Other PRFs on the building should also be inspected by the ecologist while on site. If no bats are recorded across all features within the building, it can then be demolished in the standard manner.

Demolition

Following the inspection, demolition should proceed as soon as feasibly possible to reduce the likelihood that bats will start to use features within the building. If the project is delayed and demolition cannot take place until March 2023 (or thereafter) a further pre-demolition check must be undertaken by a bat survey licenced ecologist. If a delay results in the demolition occurring after May 2023 a further emergence or re-entry survey should be undertaken.

What to do if bats are found

If bats, or signs of bats (such as droppings) are found at any stage during the demolition works, work will stop, the ecologist should be contact immediately if not present on site, and the feature should be retained pending the acquisition of a licence from Natural England.

Bats are delicate and easily injured. They have also been found to carry a lyssavirus (similar to rabies). Bats should therefore not be handled under any circumstances except by a suitably experienced and vaccinated ecologist. If bats are found they should be left in-situ, work should stop in that area and advice sought from a suitably qualified ecologist.

Plate A3.1 – Size of a common pipistrelle (the commonest UK bat species)

