

Bat Emergence and Re-Entry Surveys (BERS)

Survey site:

The Morgue, Birchtree Drive, Cheddleton, Staffordshire, ST13 7FE

Client:

Miss J Raggett

Report date:

9th August 2024

Project:

This report is prepared to inform a planning application with the Staffordshire Moorlands Council.

The proposal is described as: the conversion of the pre-existing morgue into a holiday let.

This report is supplementary to the Preliminary Ecological Appraisal and Preliminary Roost Assessment report completed by Arbtech Consulting Ltd (2024).

BERS survey methodology and legislation can be found in the Arbtech Supplement: [BERS Methodology and Legislation - 2024](#).

This report is an addendum to and must be read in conjunction with the Preliminary Roost Assessment completed by Arbtech Consulting Limited (2024) for the same site address.

This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent.

All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

Executive Summary

Background

Preliminary Roost Assessment - Arbtech 22nd February 2024

Number of buildings on site – one disused morgue (B1). External and internal inspection of the B1 was undertaken. B1 was deemed high value for crevice dwelling and void dwelling roosting bats.

B1 required further surveys.

B1

B1 is deemed high value for roosting bats in line with the Good Practice Guidelines, (Collins, J. (ed) 2023). The access into the loft void via the permanently open loft hatch and the broken window on the exterior could allow void dwelling bats into the building. Evidence of bats such as urine staining and feeding remains (yellow underwing moth wings) were identified which is indicative of a brown long-eared bat feeding roost. The gaps under the roof tiles would allow bats to reach the wooden cladding observed lining the roof, which would support larger numbers of roosting bats.

BERS results

Building B1 was subject to three BERS surveys.

The surveys confirmed the following roost in B1:

1. Brown long-eared bat feeding roost x 1 individual bat, internally within B1- no precise roost location determined. The bat entered through the broken window on the north elevation and emerged seven minutes later.

The development will need to be permitted by a bat mitigation license.	
The site surveys were designed and managed by Sally Hall BSc (Hons), Consultant Ecologist, (Accredited agent on Natural England Class 2 Bat Licence 2022-10404-CL18-BAT).	
See surveyor locations in the BERS plan in Appendix 1	
<i>Limitations</i>	Significant vegetation overgrowth limited the IR cameras view in all three positions. This was addressed by cutting the vegetation to provide optimal viewing of the building where possible. Additional IR cameras were introduced to provide comprehensive coverage of the elevations of B1 where required. Due to the dense vegetation surrounding the building, the IR torch was not used as it absorbed too much light and limited the viewing of the footage. The vegetation was moved where possible.

Field Survey							
Dusk Emergence Survey 1							
Building B1							
<i>Surveyor and position</i>		Lead Surveyor 1 – Beth Robinson – four years of survey experience – observing the southeast elevations Surveyor 2 – Anna Andrzejczyk three years of survey experience – observing the southwest elevations Surveyor 3 – Julie Robinson – one year of survey experience – observing the northwest elevations					
<i>Weather (start/end)</i>		Temperature (°C): 15 Relative humidity (%): 69 Cloud cover (%): 100 Wind (m/s): 0 Rain: None			Temperature (°C): 18 Relative humidity (%): 70 Cloud cover (%): 100 Wind (m/s): 0 Rain: None		
<i>Equipment used</i>		Echometer Touch 2 (per surveyor), Magenta heterodyne detector (per surveyor), 4 Nightfox Red IR cameras, handheld radios.					
Results							
Date of survey	Sunset Start - End	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions and explanation of roost location
11/06/2024	Sunset 21:35 21:20 – 23:00	None	N/A	B1	N/A	N/A	N/A
Surveyor observations							

<i>Surveyor 1</i>	No emergences were observed. The first activity was a common pipistrelle at 21:42 that was heard not seen. A common pipistrelle passed from south to north of B1 at 21:45. Between 21:46 and 22:08, two common pipistrelles were foraging to the east of B1. Two common pipistrelles passed from south to east at 22:05 and west to east at 22:08. The last activity recorded was a common pipistrelle at 22:48 that was heard but not seen.	
<i>IR position 1</i>	No emergences were recorded. No bat activity was recorded.	

Surveyor 2	No emergencies were observed. The first activity recorded was a common pipistrelle at 21:38 that was heard not seen. Two common pipistrelles were heard not seen at 21:41 and 22:07. No other activity was recorded.	
IR position 2	No emergencies were recorded. No bat activity was recorded.	

<i>Surveyor 3</i>	No emergences were observed. The first bat was common pipistrelle that was heard but not seen at 21:42. Three common pipistrelles were heard not see at, 21:54, 22:38 and 22:48. No other activity was recorded.	
<i>IR Position 3</i>	No emergences were recorded. No bat activity was recorded.	
<i>IR Position 4 Unmanned</i>	No emergences were recorded. No bat activity was recorded.	Not available.

Field Survey							
Dusk Emergence Survey 2							
Building B1							
<i>Building inspection prior to survey</i>		The internal inspection was carried out by Sally Hall BSc (Hons), Accredited agent on Natural England Class 2 Bat Licence 2022-10404-CL18-BAT. The internal features of B1 were inspected to identify signs of bat activity, such as droppings, urine stains, and feeding remains. The floors and walls were searched. No new evidence was found inside the building compared to the PRA carried out in February 2024.					
<i>Surveyor and position</i>		Lead Surveyor 1 – Sally Hall – Accredited agent on Natural England Class 2 Bat Licence 2022-10404-CL18-BAT – observing the southeast elevations Surveyor 2 – Anna Andrzejczyk three years of survey experience – observing the southwest elevations Surveyor 3 – Billy-Jo Payne – two years of survey experience – observing the northwest elevations					
<i>Weather (start/end)</i>		Temperature (°C): 13 Relative humidity (%): 70 Cloud cover (%): 100 Wind (m/s): 2.7 Rain: None			Temperature (°C): 12 Relative humidity (%):78 Cloud cover (%): 100 Wind (m/s): 1.6 Rain: None		
<i>Equipment used</i>		Echometer Touch 2 (per surveyor), Magenta heterodyne detector (per surveyor), 4 Nightfox Red IR cameras, handheld radios.					
Results							
Date of survey	Sunset Start - End	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions and explanation of roost location
02/07/2024	Sunset 21:37 21:22 – 23:02	None	N/A	B1	N/A	N/A	N/A
Surveyor observations B1							
<i>Surveyor 1</i>		No emergences were observed.				N/A	

	The first activity recorded was a common pipistrelle passing from south to north along the eastern elevation at 21:47. At 22:09, two common pipistrelles passed from south to north, and foraged in the northeastern corner of the site, before flying north. At 22:46, a common pipistrelle was heard not seen. At 22:50, a brown long-eared bat was heard not seen.	
<i>IR position 1</i>	No emergencies were recorded. No bat activity was recorded.	

<i>Surveyor 2</i>	No emergences were observed. The first activity was a common pipistrelle at 21:41 that was heard not seen. At 21:42, a common pipistrelle passed from northeast to south over B1. Between 21:45 and 21:56, occasional common pipistrelle and brown long-eared bats were heard not seen. No further activity was recorded.	
<i>IR position 2</i>	No emergences were recorded. No bat activity was recorded.	
<i>Surveyor 3</i>	No emergences were observed. The first bat was a common pipistrelle that was heard not seen at 21:48. Common pipistrelles were heard not seen 22:01, 22:16,	N/A

	and 22:26. A brown long-eared bat was heard but not seen at 22:30. The last bat activity was a brown long-eared bat that was heard not seen at 22:53.	
<i>IR position 3</i>	No emergencies were recorded. No bat activity was recorded.	

Field Survey							
Dusk Emergence Survey 3							
Building B1							
Surveyor and position	Lead Surveyor 1 – Anna Andrzejczyk three years of survey experience – observing the southeast elevations Surveyor 2 – Oliver Dodd three years of survey experience – observing the southwest elevations Surveyor 3 – Botond Hajdo – six years of survey experience – observing the northwest elevations						
Weather (start/end)	Temperature (°C): 19 Relative humidity (%): 64 Cloud cover (%): 100 Wind (m/s): 0,4 Rain: None			Temperature (°C): 18 Relative humidity (%): 72 Cloud cover (%): 70 Wind (m/s): 0 Rain: None			
Equipment used	Echometer Touch 2 (per surveyor), Magenta heterodyne detector (per surveyor), 4 Nightfox Red IR cameras, handheld radios.						
Results							
Date of survey	Sunset Start - End	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions and explanation of roost location
26/07/2024	Sunset 21:16 21:01 – 22:45	BLE x1	Feeding Roost	B1	Internal void of the central area of B1	Through the broken window on the north elevation.	Internal void of B1 [21m (L) x 10m (W) x 5m (H)], no precise location has been established.
Surveyor observations							

<i>Surveyor 1</i>	No emergences were observed. The first activity recorded was two common pipistrelles passing from southwest to the southeast along the tree line at 21:35. Two common pipistrelles were seen foraging in front of the eastern elevation of B1 between 21:35 and 21:45. Brown long-eared bats were heard not seen between 22:05 and 22:45.	
<i>IR position 1</i>	No emergences were recorded. No bat activity was recorded.	

<i>Surveyor 2</i>	No emergencies were observed. First activity recorded was a common pipistrelle that was heard not seen at 21:31. At 21:39, an unidentified bat passed from south to west over B1. Between 21:43 and 22:15, occasional common pipistrelles were heard not seen. A soprano pipistrelle was heard not seen at 22:10. Last activity recorded was a common pipistrelle that was heard not seen at 22:15.	
<i>IR position 2</i>	No emergencies were recorded. No bat activity was recorded.	

<i>Surveyor Position 3</i>	No emergencies were observed. The first bat activity was common pipistrelle that was heard not seen at 21:31. Constant common pipistrelle foraging was heard not seen between 21:33 and 21:47. No further activity was recorded.	 A photograph showing a red brick wall of a building. A tree with green leaves is in the foreground, partially obscuring the wall. A window is visible on the left side of the wall. The scene is outdoors with some greenery at the base of the wall.
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<i>IR Position 3</i>	One brown long-eared bat was recorded entering at 22:11 and emerging at 22:18. The bat was recorded entering through the broken window on the northern elevation at 22:11, and emerged at 22:18. The same bat was recorded foraging briefly in front of the elevation at 22:18 and then flew northwest.	 The image consists of two infrared photographs stacked vertically. Both show a building's exterior with a broken window. In the top photo, a bat is circled in red with an arrow pointing to it, and a timestamp '07/23/2024 22:11:58' is visible in the bottom right. In the bottom photo, the same bat is circled in red with an arrow, and a timestamp '07/23/2024 22:18:32' is visible in the bottom right. The bat is a brown long-eared bat.
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<i>IR</i>	<i>Position</i>	<i>4</i>	No emergencies were recorded.	
<i>Unmanned</i>			No bat activity was recorded.	

Conclusions, Impacts, and Recommendations	
<i>Survey Results Summary</i>	As a result of the BERS, the following roosts were identified: Roost 1: Brown long-eared bat feeding roost x1 individual located within the central internal void in B1. During the PRA, four yellow underwing moth wings were found inside of B1 close to the broken window. No new evidence was present during the updated internal inspection. Summary of bat activity on the site: Low numbers of common pipistrelle bats were observed foraging and commuting around the site, mainly foraging and commuting along the eastern elevation of B1, and commuting around the trees to the north and south of B1. Droppings/DNA evidence: No droppings were found during the PRA or BERS visits.
<i>Impact Assessment</i>	The proposed development is a conversion of the building into a habitable space, likely to be as a holiday let. This would involve the repair of the window where the brown long-eared bat accessed the interior of B1 and conversion of the internal space. This will destroy the bat roost present. The proposed development will result in the increase of external lighting due to the building being converted into a liveable space. This could spill on to bat foraging or commuting habitat surrounding the site, and deter bats from using these areas.
<i>Recommendations</i>	A Bat Mitigation Class License (BMCL) application will be required to legally permit the proposed works. The BMCL application requires that surveys have been undertaken within the most recent active bat season (optimal May to August, suboptimal September). Planning permission must have been granted, and all relevant wildlife-related conditions

	have been discharged prior to submission, where possible, to do so. The survey effort should include at least one survey between May and June when the detection rate of bat roosts is highest. A Material Changes Check will be required within three months of the BMCL submission if no survey work has been undertaken within that period. The BMCL will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level so as to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. The BMCL will include the following measures: • The installation of one cavity bat box that must be suitable for brown long-eared bats at the site prior to the work commences to form a receptor site for any bats found during the work. This box may be installed on the trees or can be pole mounted but must be in an undisturbed location and will need to be maintained in this location post-development. Bat box should be positioned 3-5m above ground level, facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. • The provision of a toolbox talk to contractors, by the Named Ecologist or an Accredited Agent, to inform them of the presence of bat roosts prior to works starting on site. • A pre-commencement inspection of any roost features by the Named Ecologist or an Accredited Agent using a torch and an endoscope (this may be via ladders, scaffolding or a mobile elevated platform (MEWP)). • The removal of bat roost features by hand under the supervision of the Named Ecologist or an Accredited Agent (where it is not possible conclude absence of bats during the pre-commencement inspection).
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- Avoiding the use of unnecessary lighting, particularly at night, or implementing a low impact lighting strategy to avoid illumination of retained or newly created roosts or roost features.
- Avoiding excessive noise or vibration disturbance e.g., from power tools or radios, within close proximity of retained or newly created roosts or roost features.

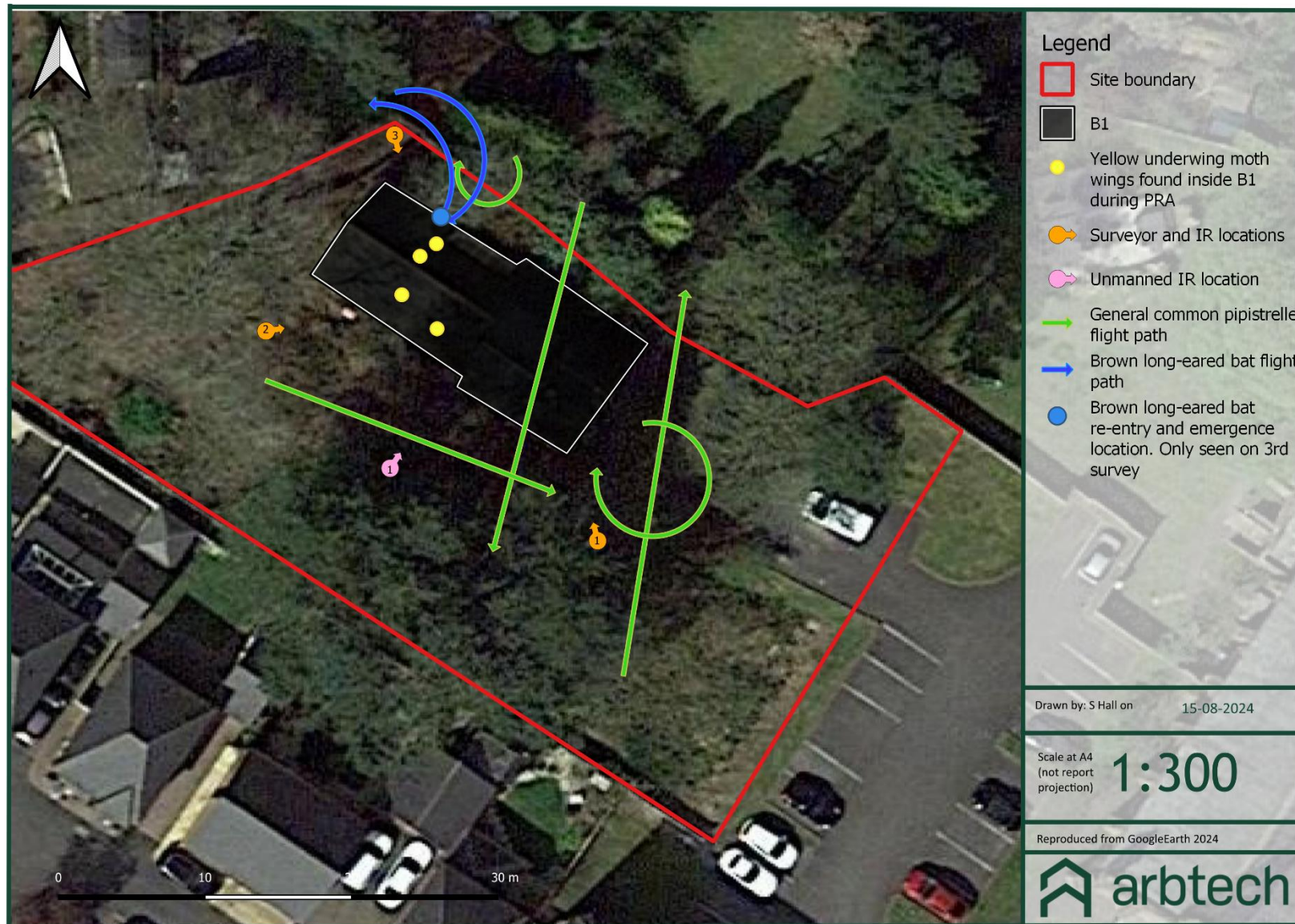
If any changes to roof lining will be included in the proposed development, you must include a certificate that proves the roofing membrane has passed a 'snagging propensity test' if you are using a non-bitumen-coated roofing membrane. A snagging propensity test checks that the membrane can stand the repeated snagging actions of roosting bats. To pass, a membrane must show no change in the average number of loops per cm² as rotations are increased from 0 to 1000. You do not need a certificate for bitumen 1F felt that has a non-woven, short fibre construction.

The BMCL will only include the bat species, numbers, and roost types listed in this report. If bats are found during periods of adverse weather conditions, these must be left undisturbed until weather conditions become more favourable to move bats to the receptor bat box.

BMCL does not allow for the disturbance of hibernating bats. The BMCL does only allows the disturbance of up to three "common or widespread" species, and damage or destruction to up to three "low conservation roosts." Therefore, if any bats are found during the hibernation period or if any unexpected bat species or roost types are identified works must cease and advice must be sought from the Named Ecologist regarding the possible requirement for timing restrictions for works, the completion of further bat surveys or a modification to the license.

	A low-impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Light spills onto the south and west areas of the site, especially the rear vegetated garden and the bath between the building and the fence near the west wall of B1 or the southern, western, and eastern boundary lines at the rear, should be avoided. • Use narrow-spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultraviolet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction, and where white light sources are required in order to manage the blue shortwave length content, they should be of a warm/neutral color temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting in conjunction with hoods, cowls, louvers, and shields. Lights will also be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up-to-date technology available.
<i>Enhancements</i>	The installation of two further bat boxes at the site (in addition to that required under the BMCL) will provide additional roosting habitat for bats. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.

	The bat boxes will be a specification suitable for both crevice dwelling and void dwelling bats such as: • Beaumaris Bat Box • Vivara Pro WoodStone Bat Box • or a similar alternative brand. The planting of native shrubs, trees and hedgerows where possible will increase foraging and commuting habitat for bats.
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Appendix 1: BERS plan

Version control			
Status	Issue	Name	Date
Draft	1	Anna Andrzejczyk, Assistant Ecologist	09/08/2024
Proof	1.1	Sally Hall BSc (Hons), Consultant Ecologist	15/08/2024
Draft	1.2	Natalie Evans BA (Hons), MA, MRSB, Principal Consultant	20/08/2024
Final	2	Sally Hall BSc (Hons), Consultant Ecologist	20/08/2024
Updated	2.1	Jessica Sibley BSc (Hons) MSc, Consultant Ecologist	09/10/2025

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