Bat Roost Characterisation and Mitigation Report

Of

2 Bridge Street, Needham Market, Suffolk, IP6 8AG.

Carried out for:

Steve Lawson – Smith

c/o

Nick Barber

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Executive Summary

Abrehart Ecology Ltd was commissioned by Nick Barber to carry out bat surveys as part of a Protected Species Assessment of 2 Bridge Street, Needham Market, Suffolk, IP6 8AG (central grid reference TM 0855 8114; Fig. 1; hereafter referred to as the Site).

Due to the potential roost features identified during the initial Preliminary Roost Assessment, bat surveys were required to inform assessment of the potential impact of the proposals on them, and the degree of mitigation required to offset any impacts to roosting bats. The barn was identified as having high roost potential and brown long eared bat droppings were collected and sent for analysis at SureScreen Scientifics. Surveys were conducted on the 21/06/2023, 20/07/2023 and 07/08/2023, no bats were seen emerging from the building.

During the survey period, common pipistrelle, soprano pipistrelle, noctule and natters bat were recorded commuting and foraging.

Bat droppings were found and identified as Brown long-eared bat during the PRA however as these were low numbers of droppings scattered through the barn it is unlikely the roost was a maternity roost. No bats were seen emerging or returning to roost during the three surveys, either on camera or by surveyors. All surveys were carried out in line with best practice guidance. Bats have used the barn in the past due to scattered droppings, and the surveys offered no additional data, therefore a precautionary approach should be followed. This will involve working to and following a Reasonable Avoidance Measures (RAMS) method statement for bats. This will be undertaken by a level 2 licensed bat ecologist and will include installation of boxes/tiles and a watching brief by a level 2 licensed ecologist for any alterations to features that are suitable for roosting bats such as cladding, tiles and beams.

1 Introduction and background

1.1 Purpose and brief

1.1.1 Three bat emergence surveys of the Barn were undertaken on behalf of Steve Lawson – Smith c/o Nick Barber on the 21st June, 20th July and a dawn on the 7th August 2023 of a proposed barn conversion at 2 Bridge Street, Needham Market, Suffolk, IP6 8AG (central grid reference TM 0855 8114; Fig. 1; hereafter referred to as the Site).

1.1.2 The surveys were required to form an assessment of the ecological impacts that works on the Site may have on bat populations in the area. to include a barn conversion to the existing two-storey barn which will include the barn to be stripped back to the timber frame.

1.2 Description of Site and Local Area

1.2.1 The Site is approximately 69m^2, comprising of a two-storey timber framed barn with a pitched pan tile roof and single skin timber cladded walls. The surrounding habitat is hardstanding and further buildings, with an occasional scattered tree. The building is likely to have been constructed in the 1700's and is now a listed building. Internally there appears to have been historic fire damage, with some replaced timber and some remaining timber with areas of fire damage. Most timber beams within the barn were rough with multiple cracks and ingress points at the joins.

1.2.2 The Site is located off Bridge Street within the town of Needham Market, Suffolk. The immediate adjacent landscape includes further areas of residential housing with small pockets of amenity ground and scattered trees. The wider landscape, beyond the housing, consists of the River Gripping to the east, Needham Lakes, and beyond this is largely agricultural land with associated ditches, hedgerows, and boundary tree habitats (see Figure 1).

1.3 The proposed development

1.3.1 The survey was required to inform a planning application at the Site; to include a barn conversion to the existing two-storey barn which will include the barn to be stripped back to the timber frame.

2 Legislative Context and Planning Policy

2.1.1 All bat species and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2010 (as amended). Under this legislation it is an offence to intentionally or recklessly:

- Capture, injure or kill a bat;
- Disturb a bat;
- Destroy or obstruct access to a bat roost.

2.1.2 The National Planning Policy Framework (NPPF) 2021 places responsibility on Local Planning Authorities (LPAs) to aim to conserve and enhance biodiversity in and around developments. Section 40 of the NERC Act requires every public body to "have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". Biodiversity, as covered by the Section 40 duty, is not confined to habitats and species of principal importance but refers to all species and habitats. However, the expectation is that public bodies would refer to the Section 41 list (of species and habitats) through compliance with the Section 40 duty.

3 Previous Survey Results and Background

3.1.1 The data search returned 20 records of bats in the area, some of which could potentially roost within the Site (these are detailed with Appendix III – Data Search). The species recorded were common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctule*), and bat sp. The majority of records were from Needham Market and four were from the next town of Creeting St Peter. One maternity roost was returned 1.9km south-west of the site. The closest return was 50m west of the Site, this was recorded as 2 common pipistrelles emerging from a building in 2017. The most recent record was in 2021 approximately 670m north-east of the Site.

3.2 Previous surveys

Preliminary Roost Assessment (PRA) – March 2022

3.2.1 A PRA, including a desk study and preliminary roost assessment, was undertaken by Abrehart Ecology Ltd on the 13th of January 2023 (Abrehart Ecology Ltd., 2023).

3.2.2 The barn was considered to provide high roost potential for bats. The internal inspection of the barn contained multiple features which were suitable to support roosting bats including exposed rough beams, splits in the beams, and gaps around the joins. There were multiple areas of ingress on all aspects of the barn. Multiple brown long-eared droppings were observed on both floors in multiple areas. Externally many potential roosting features were identified, including lifting lead flashing, damaged and slipped/lifting tiles. And there were multiple areas of missing concrete along the edge and ridge tiles allowing multiple areas of ingress.

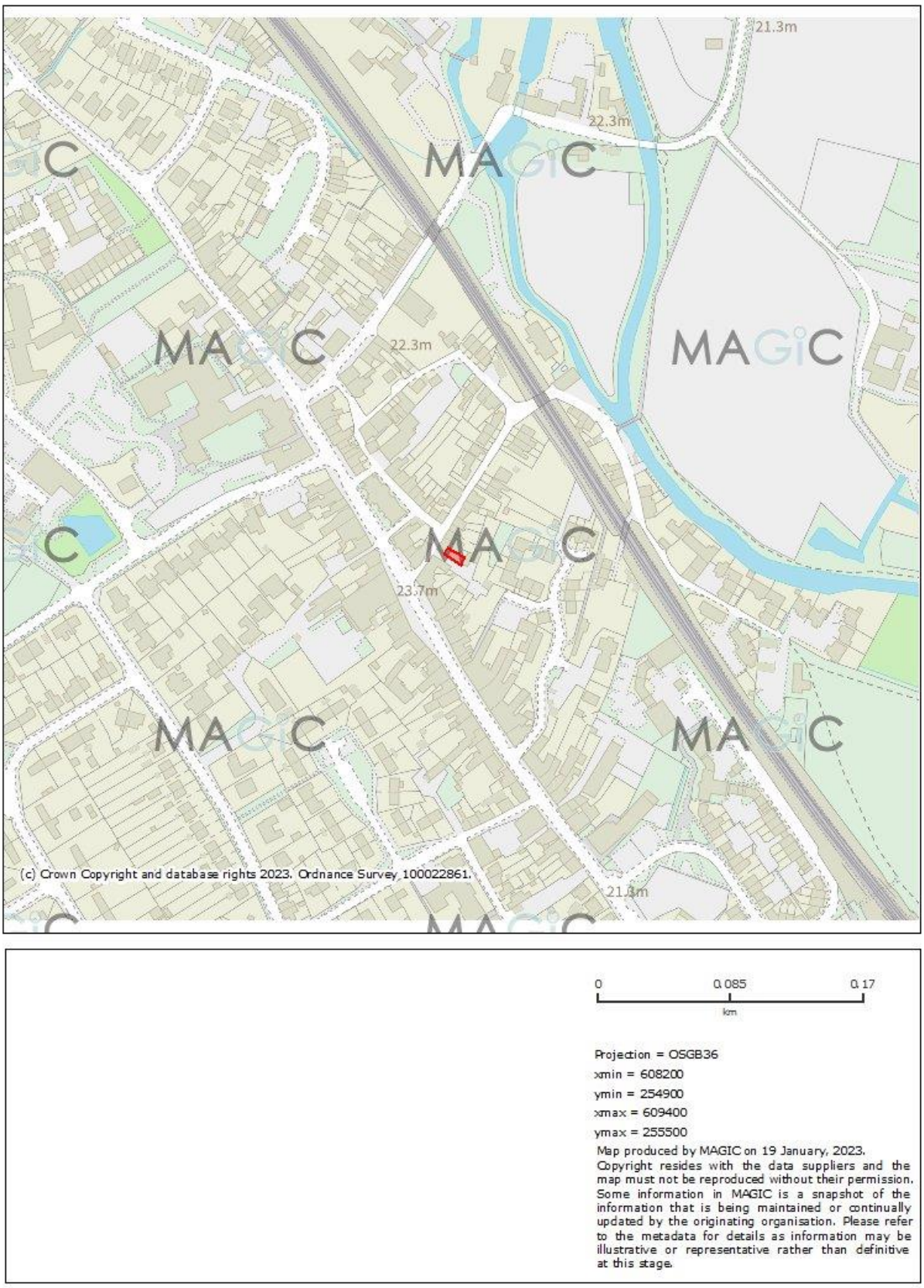

Figure 1. Site location.

4 Methods

4.1 Presence/Likely Absence and Roost Characterisation

Overview

4.1.1 The surveys were carried out according to good practice guidelines (Collins, 2016).

4.1.2 The survey was undertaken using infra-red (IR) cameras and static detectors based on the Interim Guidance Note on the use of night vision aids for bat emergence surveys (BCT, 2022).

Personnel

4.1.3 Surveyor details of each of the surveys is detailed in table 1 below.

Table 1. Personnel Details

Roost Characterisation Surveys	
Date	**Surveyors Present**
21st June	Thomas Jordan, Terry Stopher and Larissa Cooper
20th July	Toby Abrehart, Terry Stopher and Emily Abrehart
7th August	Thomas Jordan, Terry Stopher and James Roberts

Equipment

4.1.4 Two IR cameras (Canon XA60 with two high intensity infra-red LED lights were used). The site was also watched by three experienced ecologists to cover the entire survey area.

Equipment deployment and monitoring

4.1.5 The IR cameras were placed in a position which covered internal areas of the barn – as access was not possible to rear garden areas - to view potential roost features, in order to observe any emerging bats, in conjunction with visual monitoring by experienced ecologists.

4.1.6 The cameras were periodically checked throughout the survey to ensure the cameras were operational.

Analysis of footage and static detectors

4.1.7 The infra-red camera footage was reviewed after the survey to record emergence of any bats surveyed. Emergence was cross-checked using the Anabat bat detector recordings to confirm species identification.

Bat call analysis

4.1.8 The sound recordings from the Anabat bat detectors were analysed in Kaleidoscope to record bat species and calling at time of emergence. This is cross-checked with IR footage providing an accurate species ID and emergence time.

5 Limitations and Caveats

5.1.1 The northern face of the barn is within a private garden and could not be viewed externally; therefore, the cameras were placed internally to cover this aspect of the barn.

6 Survey Results

6.1 Emergence and Return to Roost Surveys

Emergence & Return to Roost Surveys

21.06.2023 dusk survey

6.1.1 Weather: 20°C, 10% cloud cover, Beaufort 1, dry.

6.1.2 No bats emerged from the building.

6.1.3 Species recorded were common pipistrelle and soprano pipistrelle.

6.1.4 None of these bats emerged from the building and activity was restricted occasional and distant passes by individual bats. Activity was low.

20.07.2023 dusk survey

6.1.5 Weather: 16°C, 95% cloud cover, Beaufort 2, dry.

6.1.6 No bats emerged from the building and no bats recorded.

07.08.2023 dawn survey

6.1.7 Weather: 10°C, 5% cloud cover, Beaufort 2, dry.

6.1.8 No bats were seen to return to roost.

6.1.9 Species recorded were common pipistrelle and noctule.

6.1.10 None of these bats emerged from the building and activity was restricted occasional and distant passes by individual bats. Activity was low.

IR Cameras

6.1.11 Footage was watched after the survey and no additional bats were seen.

7 Proposed Mitigation and Licensing Strategy

7.1.1 The collected bat droppings have identified that brown long-eared bats have used the loft space in the past, as these were low numbers of droppings scattered through the barn it is unlikely the roost was a maternity roost. However, roost characterisation surveys in 2023 did not detect any roosting bats emerging from or returning to roost. These surveys were supported by Night Vision Aids (NVAs), were carried out at appropriate times of year, carried out during suitable weather, and were timed to record late emerging/early returning species (should they be present).

7.1.2 Historical use of the barn by BLE was confirmed through collected and identified droppings, with the surveys offering no additional data; therefore, a precautionary approach should be followed. This will involve working to and following a Reasonable Avoidance Measures (RAMS) method statement for bats. This will be undertaken by a level 2 licensed bat ecologist and will include installation of boxes/tiles and a watching brief by a level 2 licensed ecologist for any alterations to features that are suitable for roosting bats such as cladding, tiles and beams.

7.1.3 It would be possible to recreate roosting opportunities within the barn, or to enhance the external features – some of which are detailed below; however, the RAMS will detail locations of boxes and tiles.

7.1.4 Sensitive lighting will be implemented to prevent disturbance to nocturnal animals, particularly bats which were recorded using the surrounding area.

7.1.5 The addition of bat roost features, such as access tiles, ridge access, or bat boxes (both external and integral) would increase roosting opportunities for bats in the local area.

7.1.6 Should bat access be encouraged within roof or beneath tiles then it is recommended that bituminous roofing felt is used. Breathable Roofing Membranes (BRMs) can create an entanglement threat to bats.

7.1.7 Below are example images of enhancement features. Boxes should be sited at least 3m from ground level and be clear of obstructions – allowing for a clear flight path to the box entrance i.e., not obscured by tree limbs or foliage. All features shown below do not require maintenance as the design encourages droppings to fall out of the bricks or access features. Bat roosts are protected from disturbance and so should be left undisturbed once installed – unless maintenance/remedial works are carried out by a suitably licenced ecologist at correct times of year – this should be discussed with an ecologist prior to being undertaken.

7.1.8 New planting – in the form of bushes, shrubs, and trees – will provide opportunity to increase

foraging and sheltering potential for a range of wildlife, including birds, invertebrates, and mammals. Any planting should be of local provenance and of native species.

7.1.9 Trees and shrubs can provide year-round habitat for wildlife; the dense canopy formed by shrub beds offer protection from predators and foraging opportunities for butterflies, birds, and mammals; and trees provide additional nesting and foraging for birds – including resident and migratory bird species.

7.1.10 Trees – these should be planted 2-3m apart and avoid planting within 4m of buildings. Further details on planting can be found online (such as the RSPB website (https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-trees/) or from the supplier of the trees. Trimming should be avoided throughout the bird nesting season (March to end of August) to prevent disturbing nesting birds or harming eggs/young birds.

7.1.11 Shrubs – should be planted 0.5-1.2m apart and to specifications/details provided by the supplier or found on the RSPB website (https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/shrubs-for-gardens/). Management of shrub growth should take place in winter months – both avoiding the nesting bird season and ensuring greatest benefit to local wildlife, as species detailed below will provide berries and seeds for animals to forage on.

7.1.12 Suitable species for shrub beds and tree planting include:

- Birch (Betula sp.)
- Holly
- Rowan
- Crab apple
- Berberis
- Spindle
- Dogwood
- Guelder rose
- Hawthorn
- Cornelian cherry

8 Conclusion

8.1.1 Droppings were found throughout the barn (eDNA confirmed them to be from brown long-eared bats).

8.1.2 Surveys were carried out as part of 'roost characterisation'; however, no bats were seen to emerge from, or return to roost within, the building.

8.1.3 Activity was low on all three surveys, with the target species not recorded – only common pipistrelle, soprano pipistrelle, and noctule were recorded. This activity was limited to individual passes of commuting and foraging animals.

8.1.4 A precautionary approach should be followed. This will involve working to and following a Reasonable Avoidance Measures (RAMS) method statement for bats. This will be undertaken by a level 2 licensed bat ecologist and will include installation of boxes/tiles and a watching brief by a level 2 licensed ecologist for any alterations to features that are suitable for roosting bats such as cladding, tiles and beams.

9 References

Literature

Abrehart Ecology Ltd (2023). Preliminary Roost Assessment of 2 Bridge Street Needham Market for Steve Lawson Smith

Dietz, C. & Kiefer, A. (2016) Bats of Britain and Europe, Bloomsbury Publishing, ISBN 978-1-4729-2202-1

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Michell-Jones, A.J. (2004) Bat Mitigation Guidelines, English Nature, ISBN 1 85716 781 3

Appendix I – Indicative surveyors and IR camera locations.

●	Indicative surveyor locations.
●	Indicative camera locations.

Appendix II – Survey Results

Surveyor results 21/06/2023 (Sunset 21:20)

Surveyor: TJ			
Time	**Species**	**# Bats**	**Activity**
21:00	-	-	SURVEY START
22:08	*Pipistrellus pipistrellus*	1	Foraging seen behind surveyor's position
22:10	*Pipistrellus pygmaeuse*	1	Foraging along road to west
22:12	*Pipistrellus pipistrellus*	1	Foraging over garden to north of barn
22:32	*Pipistrellus pipistrellus*	1	Foraging around gardens behind surveyors
23:20			SURVEY END

Surveyor: TS			
Time	**Species**	**# Bats**	**Activity**
21:00	-	-	SURVEY START
22:08	*Pipistrellus pipistrellus*	1	Behind location seen
22:12	*Pipistrellus pipistrellus*	1	Foraging seen in garden
22:22	*Pipistrellus pipistrellus*	1	HNS
22:33	*Pipistrellus pipistrellus*	1	HNS
22:39	*Pipistrellus pipistrellus*	1	HNS Foraging seen round garden
23:20			SURVEY END

Surveyor: LC			
Time	**Species**	**# Bats**	**Activity**
21:00	-	-	SURVEY START
22:10	*Pipistrellus pygmaeus*	1	Flew over roof
23:20			SURVEY END

Surveyor results – 20th July (Sunset 21:04)

Surveyor: TS			
Time	**Species**	**# Bats**	**Activity**
20:44	-	-	SURVEY START
22:34			SURVEY END

Surveyor: TA			
Time	**Species**	**# Bats**	**Activity**
20:44	-	-	SURVEY START
22:34			SURVEY END

Surveyor: EA			
Time	**Species**	**# Bats**	**Activity**
20:44	-	-	SURVEY START
22:34			SURVEY END

Surveyor results – 07.08.2023 (Sunrise 05:26am)

Surveyor: JR			
Time	**Species**	**# Bats**	**Activity**
03:26	-	-	SURVEY START
05:41			SURVEY END

Surveyor: TJ			
Time	**Species**	**# Bats**	**Activity**
03:26	-	-	SURVEY START
03:44	*Nyctalus noctula*		HNS
05:41			SURVEY END

Surveyor: TS			
Time	**Species**	**# Bats**	**Activity**
03:26	-	-	SURVEY START
03:43	*Pipistrellus pipistrellus*		HNS
05:41			SURVEY END