

Bat emergence surveys
School Close, Bampton, Devon
July and August 2023 surveys

A report by

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(Natural England licence no: 2016-24281-CLS-CLS)

Report details

Site address:	School Close, Bampton, Devon, EX16 9NN
Grid reference:	SS954221
Report date:	27 th November 2023
Report Author:	Michael Sanders BSc (Hons)
Report checked by:	Colin Hicks BSc (Hons), MCIEEM
Report no:	WOR-3720

Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development.

Code of Professional Conduct

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of survey data and report

The findings of this report are valid for 12 months from the date of survey. If a European Protected Species Licence application has not been made within this period, updated surveys by a suitably qualified ecologist are likely to be required to support a licence application.

Non-technical summary

Arbtech Consulting Ltd was commissioned to complete a preliminary ecological appraisal and preliminary roost assessment of School Close, Bampton, Devon, EX16 9NN (site Z27) in December 2022. The preliminary roost assessment recommended further emergence surveys to be carried out on four buildings B1, B2, B3 and B4 (plan 2). Proposed works will involve the demolition of existing accommodation, and construction of replacement, two-storey apartment blocks.

Further surveys were recommended. Western Ecology was commissioned to complete the emergence surveys.

Building B2

Three emergence surveys were carried out in July and August 2023 during which time it was found that:

- 3 common pipistrelle and 1 soprano pipistrelle are day roosting in association with building B2.

DNA analysis of droppings found in the east roof void space, indicate brown long-eared bats have used this building in the past. No brown long-eared bats were recorded emerging from this building during three emergence surveys, supported by infrared cameras. This together with the number of bat droppings in the roof void suggests infrequent use of the building by this species. Numbers and distribution of droppings found suggest use by a single individual of this species (possibly used as a transitional roost). Proportionate and suitable mitigation for this species in these numbers is recommended in section 5.3.

Without mitigation, the proposed works on the building have the potential to disturb, injure or kill day roosting common pipistrelle, soprano pipistrelle, and a brown long-eared bats.

In the long term, works will lead to the loss of the following roosts:

- 2 common pipistrelle day roost used by 3 bats.
- 1 soprano pipistrelle day roost used by 1 bat.
- 1 brown long-eared roosting location.

To proceed legally, these activities would require a Mitigation licence for European Protected Species with a supporting method statement to protect bats during the process.

This licence will be supported by a mitigation strategy to ensure that bats are not killed or injured during the works, and to make sure alternative roosting opportunities are provided during the works and created within the completed structure. Mitigation methods are described below. This will include the provision of new roost facilities that will be based on the species requirements.

Full site-specific details will be required for the EPS licence application and method statement. These will include:

- Timings of works
- Alternative temporary roosting provision;
- New roosting provision within the finished development;
- Lighting;
- Ecological Watching Brief (EcoW);

Buildings B1, B3 and B4

No bats emerged from these buildings during dusk emergence surveys. It is reasonable to conclude that bats are unlikely to be roosting in association with these structures.

No mitigation is required for bats. However, it should be noted that in any building individual bats could occasionally roost or move in at any time, and recommendations are made within Section 5 of this report.

Table of contents

1. Introduction	6
1.1. Background.....	6
1.2. Site description	6
1.3. Proposed works	7
1.4. Survey aims	7
2. Methods.....	8
2.1. DNA analysis	8
2.2. Dusk emergence surveys.....	8
2.3. Desktop search	12
3. Results.....	14
3.1 DNA analysis	14
3.2. Bat emergence surveys	14
3.3. Summary of bat survey results, interpretation and evaluation	14
4. Assessment	17
4.1. Survey constraints.....	17
4.2. Assessment of potential impact on bats	17
4.3. Legislation.....	18
5. Recommendations and mitigation	20
5.1. Timings of works	20
5.2. Alternative temporary roosting provision	20
5.3. New roosting provision within the finished development.....	21
5.4. Lighting	22
5.5. Ecological Watching Brief (EcoW).....	23
5.6. Post development monitoring.....	23
References	24

1. Introduction

1.1. Background

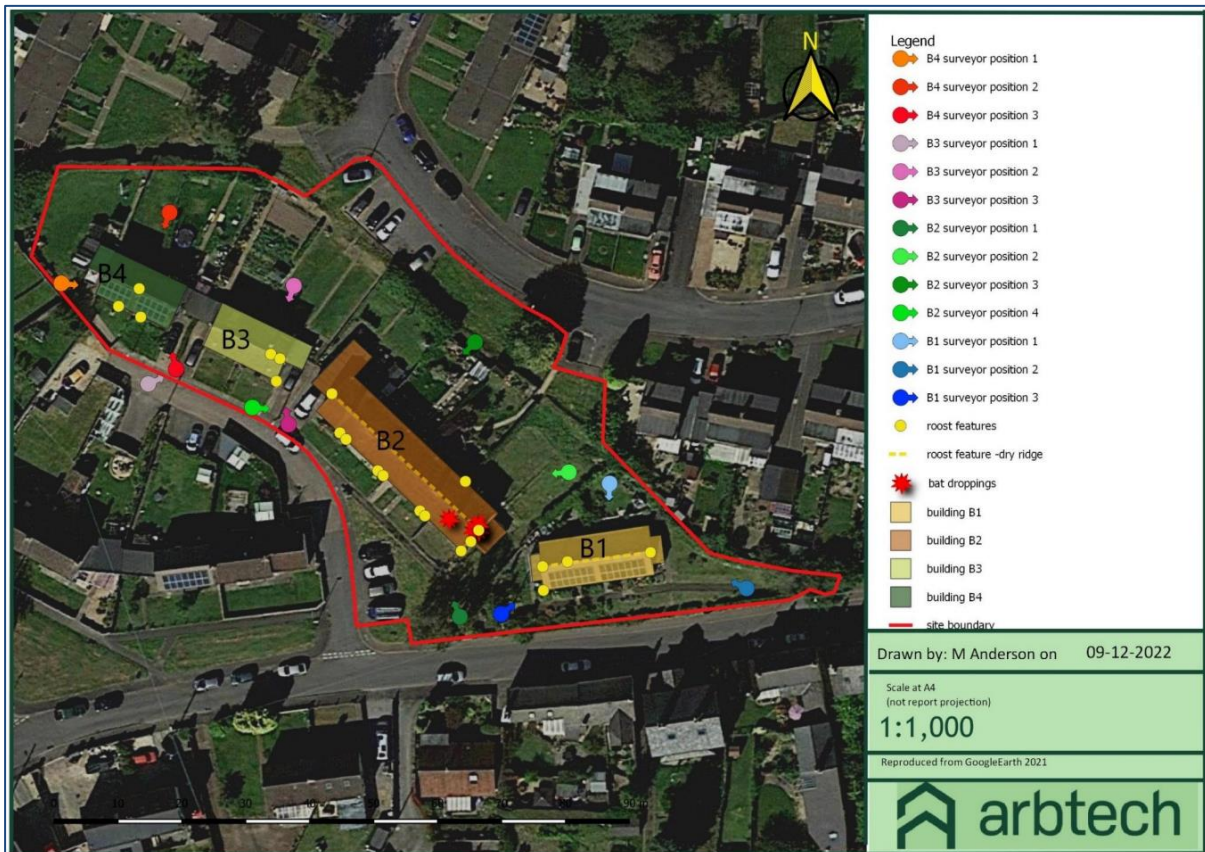
Arbtech Consulting Ltd was commissioned to complete a preliminary ecological appraisal and preliminary roost assessment of School Close, Bampton, Devon, EX16 9NN (site Z27) in December 2022. The preliminary roost assessment recommended further emergence surveys to be carried out on four buildings B1, B2, B3 and B4 (plan 2). This report documents this further survey work carried out by Western Ecology and provides a full assessment of roosting bats. This survey was prepared in accordance with the Bat Conservation Trust's "Bat Surveys Good Practice Guidelines" (Collins, 2016). This survey methodology also complies with updated guidelines released in September 2023 after surveys were completed (Collins, 2023). A letter of reliance was provided by Arbtech on the 13th April 23.

1.2. Site description

The site is located in the west of Bampton, north-east Devon, approximately 9km north of Tiverton (Plan 1). Moderately spaced residential properties with garden plantings surround the site, predominantly to the north-east and south-west. To the south beyond the residential area, is an area woodland approximately 325m from the site, which the River Bathern runs through. Beyond this, the landscape is largely characterised by intensively managed agricultural fields and close-managed hedgerows. The surrounding countryside will be largely unlit at night and provides good quality foraging and commuting habitats for bats beyond the immediate residential area.



Plan 1. The site location plan.



Plan 2. Buildings B1, B2, B3 and B4 surveyed at this site
(Excerpt from Arbtech preliminary report - appendix 3b).

1.3. Proposed works

Proposed works will involve the demolition of existing accommodation, and construction of replacement, two-storey apartment blocks.

1.4. Survey aims

The purpose of this survey is to determine, with confidence, if bats are present at the property, and if so, to provide evidence on which to base mitigation.

The survey will also determine if a European Protected Species licence will be required to allow the proposed development to proceed lawfully.

2. Methods

2.1. DNA analysis

A sample of bat droppings were taken from within the building (south-east void) in July 2023. DNA analysis of the sample was undertaken by Surescreen Scientifics Ltd.

2.2. Dusk emergence surveys

These surveys consist of a sufficient number of experienced bat surveyors monitoring a built structure for bat activity.

The surveyors, including at least one licenced bat ecologist, are stationed around the building in such a way that any bat leaving or entering the structure is likely to be observed (Plan 3a to 3h). The survey normally begins 15 minutes before sunset and continues until at least 90 minutes after sunset.

In addition to surveyors, night vision aids (infrared capable camcorders - Sony FDR AX100 / 700) are used in conjunction with 850nm infrared lighting rigs (Raytec variable beam IR illuminators). Full spectrum, recording bat detectors (Echo Meter Touch 2 Pro or Wildlife Acoustic Song Meter Mini Bat) are time synchronised with camera footage. Heterodyne bat detectors are also used to support full spectrum recordings. Post survey, camera footage is analysed by a suitably experienced bat surveyor.

This survey methodology complies with guidelines produced by the Bat Conservation Trust (at the time of surveys - Collins, 2016) and Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. (BCT, 2022). This survey methodology also complies with updated guidelines released in September 2023 after surveys were completed (Collins, 2023).

Table 1. Emergence survey details

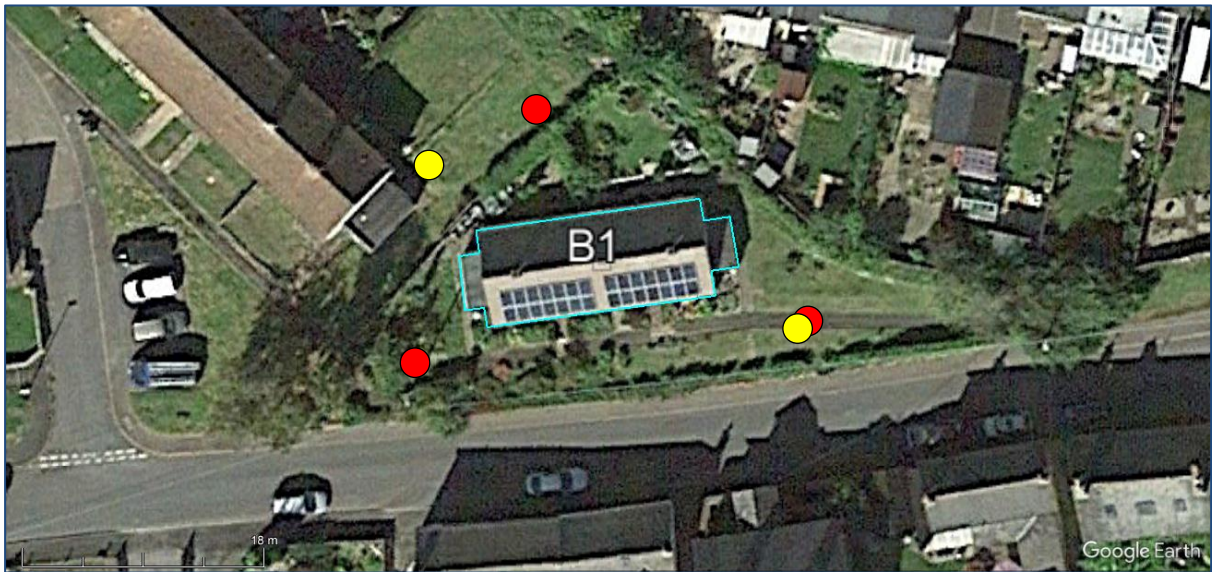
Date of each survey visit	Start and end times and time of sunset	Structure reference / location	Equipment used (include make of bat detectors and logging equipment)	Weather – (Include start and end temps, precipitation, Beaufort wind scale etc)	Comments (to include # of surveyors used for each visit):
04/07/2023	Sunset 21:30. Survey 21:15 to 23:00	B1	EMT2 Pro, Bat Box	Dry, Calm, 50% cloud, start 14°C finish 10°C	3 Surveyors: Michael Sanders, Yolande Knight Alex Stuart
23/08/2023	Sunset 20:23. Survey 20:08 to 21:43	B1	EMT2 Pro, Bat Box	Dry, Calm, 50% cloud, start 17°C finish 14°C	3 Surveyors: Michael Sanders, Yolande Knight Amy Palmer
13/07/2023	Sunset 21:25. Survey 21:10 to 22:55	B2	EMT2 Pro, Bat Box	Dry, Calm, 70% cloud, start 16°C finish 14°C	4 Surveyors: Michael Sanders, Yolande Knight Colin Hicks, James Robins

27/07/2023	Sunset 21:08. Survey 20:53 to 22:38	B2	EMT2 Pro, Bat Box	Dry, Calm, 100% cloud, start 16°C finish 14°C	4 Surveyors: Michael Sanders, Yolande Knight Colin Hicks, Chris Ayre
19/08/2023	Sunset 20:28. Survey 20:12 to 21:58	B2	EMT2 Pro, Bat Box	Dry, Calm, no cloud, start 17°C finish 14°C	4 Surveyors: Michael Sanders, Yolande Knight John Blackburn James Robins
3/07/2023	Sunset 21:30. Survey 21:15 to 23:00	B3	EMT2 Pro, Bat Box	Dry, F2 W, 50% cloud, start 14°C finish 12°C	3 Surveyors: Yolande Knight Alastair Campbell Khristine Villalba,
25/07/2023	Sunset 21:11. Survey 20:56 to 22:41	B3	EMT2 Pro, Bat Box	Dry, Calm, 0% cloud, start 14°C finish 10°C	3 Surveyors: Michael Sanders, Yolande Knight Chris Ayre
03/07/2023	Sunset 21:30. Survey 21:15 to 23:00	B4	EMT2 Pro, Bat Box	Dry, F2 W, 50% cloud, start 14°C finish 12°C	3 Surveyors: Michael Sanders, Roger Gravestock Chris Ayre
24/07/2023	Sunset 21:12. Survey 20:57 to 22:42	B4	EMT2 Pro, Bat Box	Dry, Calm, 100% cloud, start 16°C finish 12°C	3 Surveyors: Yolande Knight John Blackburn Chris Ayre

Table 2. Surveyor details

Colin Hicks MCIEEM, Natural England licence no: 2015-15857-CLS-CLS with 13 years of bat survey experience
Michael Sanders, Natural England licence no: 2016-24281-CLS-CLS with 8 years of bat survey experience
Chris Ayre BSc (Hons), has over 4 years experience as an assistant ecologist
Yolande Knight PhD Natural England licence no: 2020-47431-CLS-CLS with 7 years of bat survey experience
Kristine Villalba, with 5 years of bat survey experience
Alastair Campbell Natural England licence no: 2015-15133-CLS-CLS with 20 years of bat survey experience
Roger Gravestock has 11 years of bat survey experience
John Blackburn MCIEEM, Natural England licence no: 2019-39576-CLS-CLS with 11 years of bat survey experience
Alex Stuart has 3 years of bat survey experience
James Robbins, Natural England licence no: 2022-10623-CL18-BAT with over 10 years of bat survey experience
Amy Palmer, Natural England licence no: 2022-10537-CL17-BAT with 5 years of bat survey experience.

Surveyor and Infrared camera locations during emergence surveys are detailed in plans 3a to 3h.



Plan 3a. B1 – Location of surveyors (red dots) and infrared cameras (yellow dots)

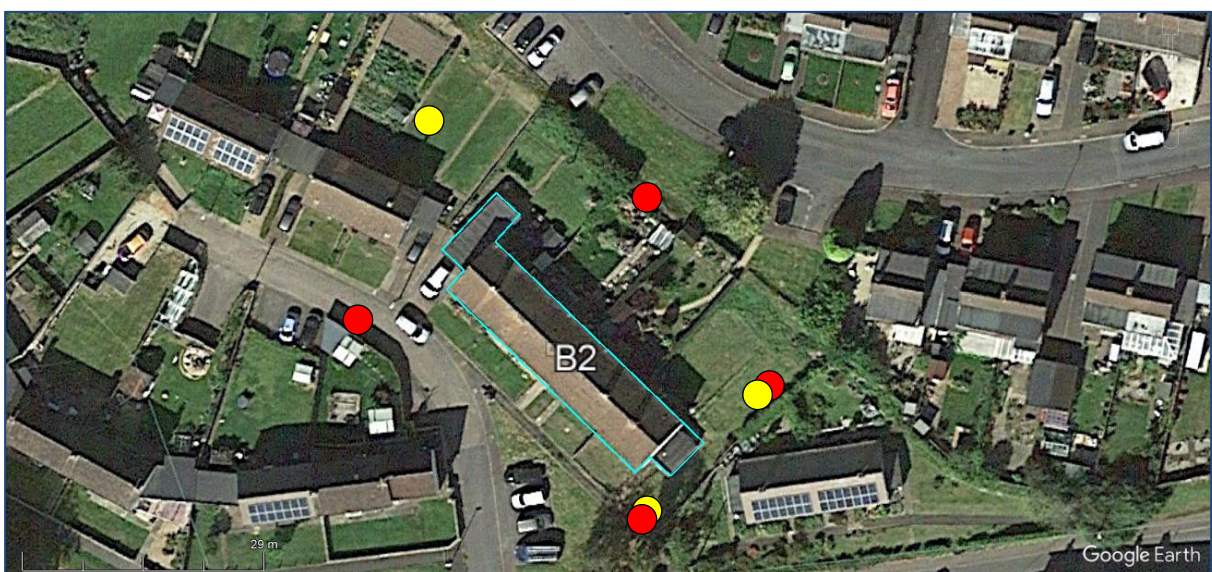


B1 - NW position



B1 - SW position

Plan 3b. B1 - Infrared camera coverage



Plan 3c. B2 – Location of surveyors (red dots) and infrared cameras (yellow dots)



B2 – S position

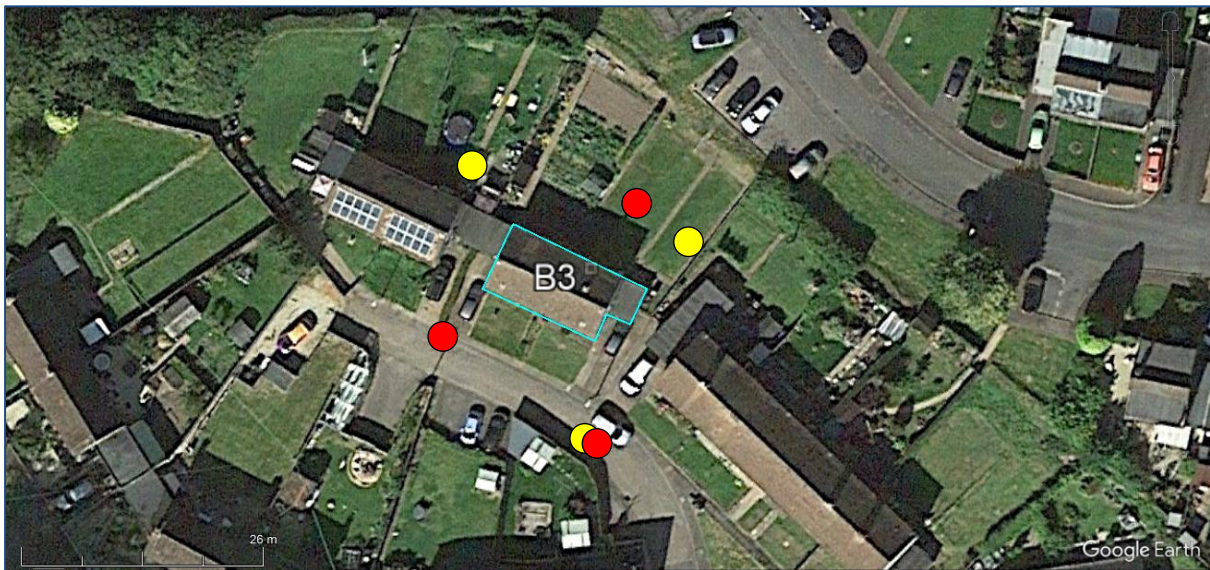


B2 - E position



B2 – NW position

Plan 3d. B2 - Infrared camera coverage



Plan 3e. B3 – Location of surveyors (red dots) and infrared cameras (yellow dots)



B3 - NW position

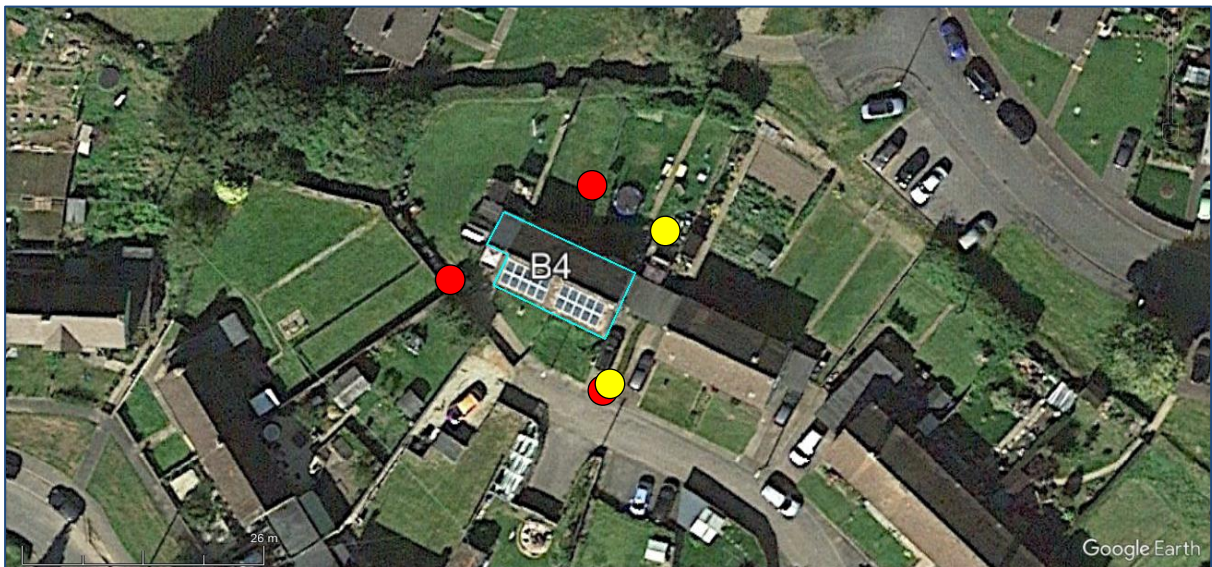


B3 - NE position



B3 - SE position

Plan 3f. B3 - Infrared camera coverage



Plan 3g. B4 – Location of surveyors (red dots) and infrared cameras (yellow dots)



B4 - SE position



B4 - NE position

Plan 3h. B4 - Infrared camera coverage

2.3. Desktop search

A biological records search was not considered appropriate due to the highly mobile nature of bats. It is assumed that all species of bat that are present in Devon could be active within the vicinity which includes Barbastelle, Serotine, Noctule, Lesser Horseshoe, Greater Horseshoe, Common Pipistrelle, Soprano Pipistrelle, Nathusius Pipistrelle (very rare), Whiskered, Brandt's, Natterer's, Daubenton's, Brown Long-eared and possibly Grey Long-eared.

It is very unlikely when considering the location and structure being assessed that a data search would provide further meaningful information.

If a full European Protected Species licence is required for this site, a biological records search for bats will be completed with the local records centre to support the licence application.

3. Results

3.1 DNA analysis

Bat droppings were taken from the south-east roof void of B2. The DNA analysis was undertaken by Surescreen Scientifics Ltd. Analysis confirmed that these bat droppings were from brown long-eared species (grey long-eared bat is considered to be absent from this site).

3.2. Bat emergence surveys

Weather conditions were good for bat activity and bats were present in the vicinity of the site during all surveys.

Building B2

During the first survey 3 common pipistrelle emerged from the structure. Two from the south-east gable apex (21:46 & 21:54), and one from the wall-top on the north-east elevation (21:55).

During the second survey 2 common pipistrelle emerged from the south-east gable apex and 1 soprano pipistrelle emerged from the north-west gable tile verge.

During the third survey 2 common pipistrelle emerged from the south-east gable apex.

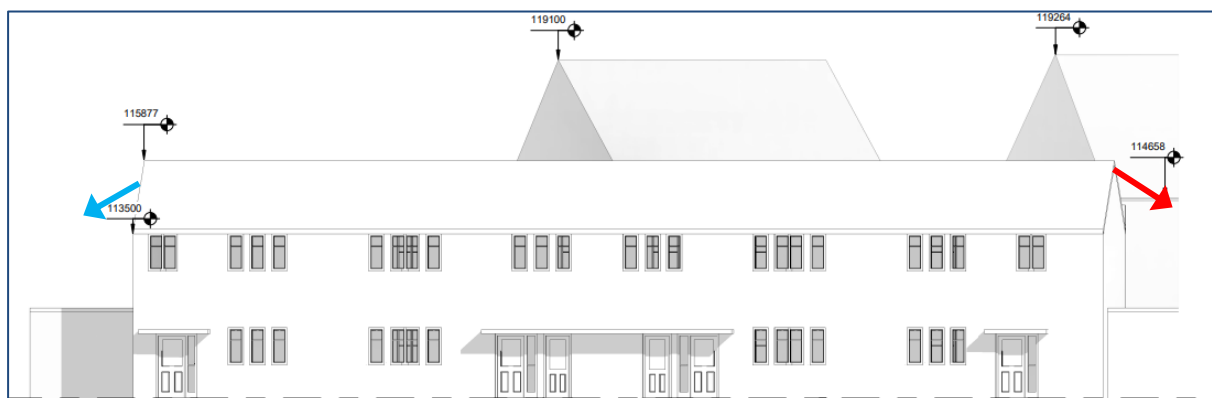
Buildings B1, B3 and B4

During the two emergence surveys on each of B1, B3 and B4, no bats emerged from these buildings.

3.3. Summary of bat survey results, interpretation and evaluation

Species, numbers of bats, roost locations, roost descriptions and interpretation, conservation significance and roost value are summarised in Table 3a to 3c and Plan 4a & 4b.

Building B2



Plan 4a. Existing SW elevation. Location of emerging common pipistrelle (red arrow) and soprano pipistrelle (blue arrow) during the emergence surveys



Plan 4b. Existing NE elevation. Location of emerging common pipistrelle (red arrow) during the emergence surveys

Table 3a. Summary of results from 1st emergence survey

Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions of existing roosts or explanation of where the roost is	Roost Conservation significance	Roost Value
2 x common pipistrelle	Day roost	B2	SE elevation	1 gap – gable apex	Crevice roost at tile verge	Low	Site importance
1 x common pipistrelle	Day roost	B2	NE elevation	1 gap – wall top	Crevice roost to right of down pipe	Low	Site importance

Table 3b. Summary of results from 2nd emergence survey

Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions of existing roosts or explanation of where the roost is	Roost Conservation significance	Roost Value
2 x common pipistrelle	Day roost	B2	SE elevation	1 gap – gable apex	Crevice roost at tile verge	Low	Site importance
1 x soprano pipistrelle	Day roost	B2	NW elevation	1 gap – tile verge (north-east roof pitch)	Crevice roost at tile verge	Low	Site importance

Table 3c. Summary of results from 3rd emergence survey

Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions of existing roosts or explanation of where the roost is	Roost Conservation significance	Roost Value
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2 x common pipistrelle	Day roost	B2	SE elevation	1 gap – gable apex	Crevice roost at tile verge	Low	Site importance
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Buildings B1, B3 and B4

No bats emerged from these buildings during the dusk emergence surveys. It is reasonable to conclude that bats are unlikely to be roosting in association with these structures.

4. Assessment

4.1. Survey constraints

The initial assessment and emergence survey were completed at an optimal time for such surveys (Collins, 2023).

All areas of the building could be readily observed during this emergence survey and all equipment functioned correctly for the period of the survey.

Interim guidance (BCT, 2022) prior to the release of the Bat Survey Guidelines 4th edition states:

The 4th edition of the survey guidelines will therefore transition away from the standard use of dawn surveys, particularly as a method for presence/absence surveys, in favour of dusk surveys supported by NVAs.

and:

This guidance supersedes BCT Bat Survey Guidelines 3rd Edition (Collins et al, 2016)

In line with this, infrared cameras (Night Vision Aids - NVAs) were employed during emergence surveys as the preferred method for presence/absence surveys. This aligns this report with the most recent guidelines.

It is the professional opinion of the surveying ecologist that the initial bat assessment in combination with the bat emergence survey provides sufficient information in relation to bats to allow the decision-maker to determine the planning permission. Further survey work would not make any material difference to the information provided.

4.2. Assessment of potential impact on bats

Building B2

Three emergence surveys were carried out in July and August 2023 during which time it was found that:

- 3 common pipistrelle and 1 soprano pipistrelle are day roosting in association with building B2.

DNA analysis of droppings found in the east roof void space, indicate brown long-eared bats have used this building in the past. No brown long-eared bats were recorded emerging from this building during three emergence surveys, supported by infrared cameras. This together with the number of bat droppings in the roof void suggests infrequent use of the building by this species. Numbers and distribution of droppings found suggest use by a single individual of this species (possibly used as a transitional roost). Proportionate and suitable mitigation for this species in these numbers is recommended in section 5.3.

Without mitigation, the proposed works on the building have the potential to disturb, injure or kill day roosting common pipistrelle, soprano pipistrelle, and a brown long-eared bats.

In the long term, works will lead to the loss of the following roosts:

- 2 common pipistrelle day roost used by 3 bats.
- 1 soprano pipistrelle day roost used by 1 bat.
- 1 brown long-eared roosting location.

To proceed legally, these activities would require a Mitigation licence for European Protected Species with a supporting method statement to protect bats during the process.

Buildings B1, B3 and B4

It is extremely unlikely that bats are roosting in association with these structures. Works can proceed with negligible risk to bats and does not require a method statement for bats or a European Protected Species licence.

4.3. Legislation

Bats

Bat species and their breeding or resting places (roosts) are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended). They are identified as European Protected Species. Under these laws it is an offence to:

- capture, kill, disturb or injure bats (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (even accidentally);
- obstruct access to their resting or sheltering places (on purpose or by not taking enough care); or
- possess, sell, control or transport live or dead bats, or parts of them.

Seven species of bat are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these species to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

These seven bat species are barbastelle, Bechstein's, noctule, Soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe and are the subject of National and Local Biodiversity Action Plans.

Activities that can affect bats (from GOV.UK)

Activities that can affect bats include:

- renovating, converting or demolishing a building
- cutting down or removing branches from a mature tree
- repairing or replacing a roof
- repointing brickwork

- insulating or converting a loft
- installing lighting in a roost, or outside if it lights up the entrance to the roost
- removing commuting habitats such as hedgerows, watercourses or woodland
- changing or removing their foraging areas
- using insecticide
- treating timber

5. Recommendations and mitigation

Buildings B1, B3 and B4

No mitigation is required for bats. Works can proceed with negligible risk to bats and does not require a method statement for bats or a European Protected Species licence.

It should be noted that in any building, individual bats could occasionally roost or move in at any time, and we recommend the following approach:

- Prior to the start of works, all site staff will be briefed that bats can move into a building at any time and may be encountered during works.
- If bats are found unexpectedly during works, work should stop immediately and Natural England (0300 060 3900) or Western Ecology (0800 622 6828) informed.
- Any bats found that are exposed and vulnerable should be protected from the elements and predators (particularly cats). You may need to contain the bat in a shoe box or similar sized container (with holes punched in the lid). You should not handle bats with bare hands.

Building B2

To proceed lawfully, works will require a Natural England European Protected Species (EPS) mitigation licence for bats at this site.

This licence will need to be supported by a mitigation strategy to ensure that bats are not killed or injured during the works, and to make sure alternative roosting opportunities are provided during the works and created within the completed structure. Mitigation methods will be described within the method statement which will accompany the licence application. This will include the provision of new roost facilities that will be based on the species requirements.

5.1. Timings of works

Works will be carried out during the months of April to October inclusive to avoid key months for brown long-eared hibernation season. There is no maternity roost present in this structure.

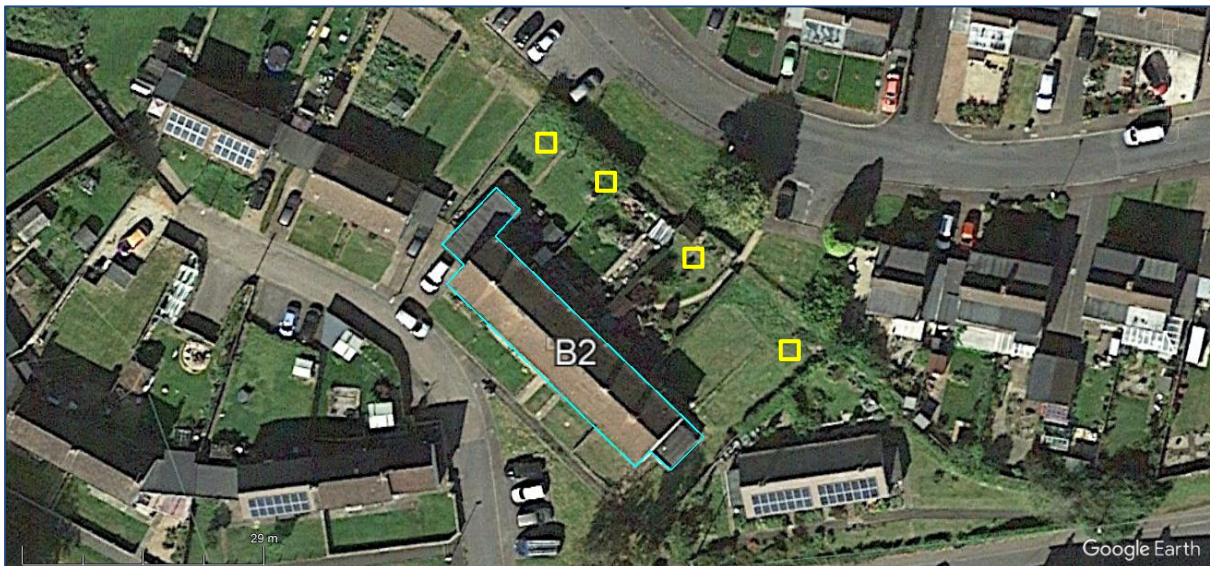
5.2. Alternative temporary roosting provision

Prior to any works commencing on site, alternative temporary roosting boxes must be provided for the common pipistrelle, soprano pipistrelle, and long-eared bats (plan 5). This will be in the form of four Vincent Pro Bat boxes (Figure 1).

Bat Boxes should be secured to trees or untreated wooden posts (the base of the posts may be treated) at least 3 metres above the ground, adjacent to the building (Plan 5). Alternative roosting provision must be installed under the licensed bat ecologist's supervision prior to any works commencing.



Figure 1. Vincent Pro Bat Box



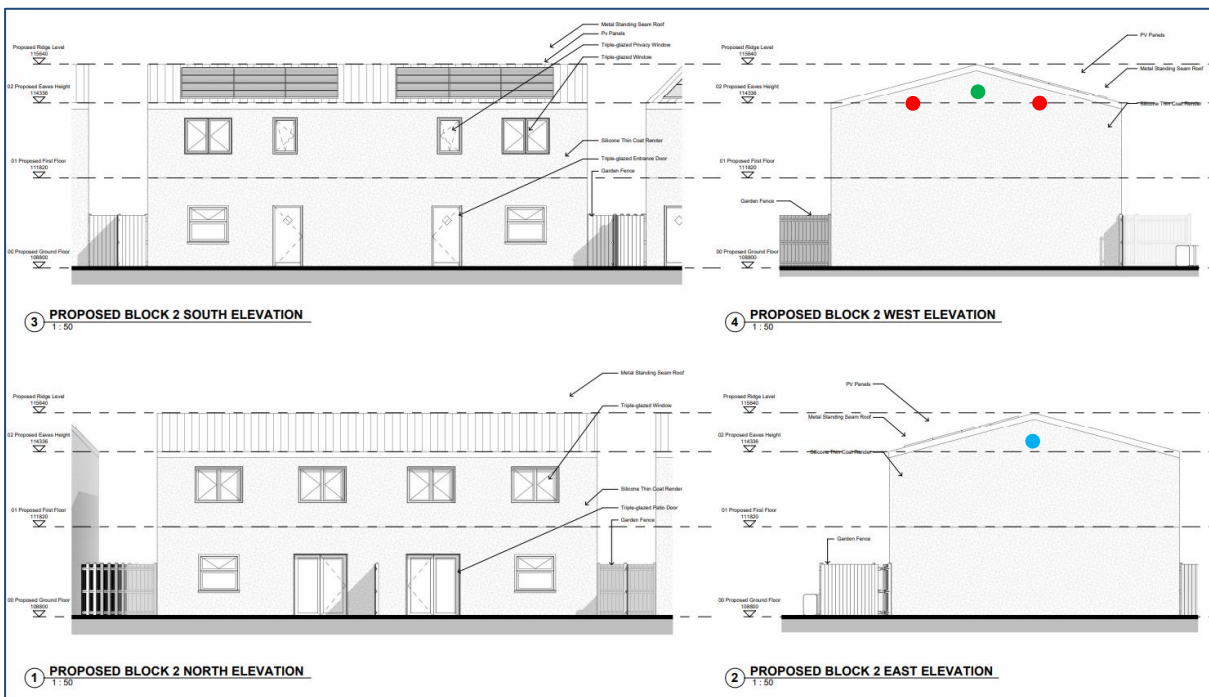
Plan 5. Outline of existing building in blue. Location of temporary bat boxes (yellow squares).

5.3. New roosting provision within the finished development

For the common pipistrelle, soprano pipistrelle, and brown long eared, the new roosting provision should be 4 Green & Blue Bat Block bat bricks or similar (Figure 2). These boxes can be installed (recessed) on the external walls of buildings. The boxes should be fitted on the north west and south east elevation away from windows and light spill (Plan 6). This must be approved and supervised by the licensed bat ecologist.



Figure 2. Green & Blue Bat Block bat brick



Plan 6. Location of replacement common pipistrelle roosting areas (red dots), soprano pipistrelle roosting area (blue dot), and brown long-eared roosting area (green dot). Not to scale.

5.4. Lighting

The presence of lighting can have a significant effect on bat species roosting, foraging and navigating. Many species of bats are known to sample the light levels before emerging from their roost; only emerging for their night's hunting when the light intensity outside reaches a critical level after sunset.

During construction, all site lighting must be situated and angled away from any roosting provision and linear vegetation, i.e. hedgerows and nearby tree-lines etc. that may be used as flight paths.

All new external and internal lighting would be installed in accordance with the Institute of Lighting Professionals Guidance Note 08/18 (BCT & Institute of Lighting Professionals, 2018).

5.5. Ecological Watching Brief (EcoW)

Works likely to affect roosting bats cannot begin until the European Protected Species licence has been issued.

Once the licence has been issued and prior to the start of work, site staff will be briefed on the protected status of bats and the licenced working methods to be adopted.

The alternative roosting provisions will need to be in place before the start of works. In addition, a visual survey will be required before any works commence and a licenced ecologist will undertake ecological watching briefs during works in areas where bats may be found.

The licenced ecologist will be on hand and will undertake further site visits during the works to ensure adherence to mitigation methods and provide advice should unforeseen circumstances be met.

If a vespers bat is found during the initial visual survey, they will, if possible, be relocated to the alternative roosting opportunities on site. This will only be done by the licensed ecologist and will follow recommended practises.

Measures will be adopted to reduce noise and vibration during works in the vicinity of bat roosting areas.

Prior to the start of works, site staff will be briefed on the protected status of bats and what to do if a bat is unexpectedly encountered.

5.6. Post development monitoring

In line with guidelines, post development monitoring is not required.

References

Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Survey Trust, London. ISBN-978-1-7395126-0-6

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BCT & Institute of Lighting Professionals (2018). Bats and artificial lighting in the UK - Guidance Note 08/18. <https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349>

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