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Bat Survey and Overview Mitigation Strategy

of

Lincolns, Strethall, Saffron Walden, Essex, CB11 4XJ.

Survey Commissioned by:	Tom Cross on behalf of Mr and Mrs Russell and Ann Pope
Project Number:	REP21015
Report issued:	10 th August 2022 (24 th July 2022 – First Draft)
Date of surveys:	Emergence survey: 24 th April and 17 th June 2022 Re-entry survey: 17 th May 2022 Static Monitoring: 5 th May to 14 th May 2022
Project Ecologist:	Odette Robson BSc (Hons) PhD MCIEEM

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Disclaimer

The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.

This report was instructed by Mr and Mrs Pope, and following the brief agreed. Robson Ecology Ltd has made every effort to meet the client's brief.

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A Protected Species Licence is required: Natural England (the licensing authority in England) require data from the most recent survey season. This report may not be relied upon beyond 12 months, and surveys may need to be updated before this time to inform a licence application.

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1 Summary

Site:	Lincolns, Strethall, Saffron Walden, Essex, CB11 4XJ.
Grid Reference (taken from centre of site):	TL 48592 39488
Report Commissioned by:	Tom Cross on behalf of Mr and Mrs Russell and Ann Pope
Date of Surveys:	Emergence survey: 24th April and 17th June 2022 Re-entry survey: 17th May 2022 Remote monitoring: 4th May to 14th May 2022

Considerations	Description	Timings, potential impacts and mitigation.
Background	<i>Preliminary Roost Assessment</i> carried out in April 2021	Roosting bats were recorded by the homeowner, for a short period in September 2020. Assessment of the roost size, location, and evidence from droppings, indicate a transitional/day roost (low numbers of bats). Droppings and the size of the crevice do not suggest the presence of higher conservation status roosts (such as a maternity roost).
Survey results	Two dusk and a dawn survey in May, and June 2022 10-nights of static recording adjacent to the roost	No bats were recorded roosting during the surveys. Bat droppings lodged beneath the oak boards on the extension (southern elevation) were sent for DNA analysis and were identified as common pipistrelle. Static detector results confirmed that common pipistrelle bats are likely to roost close to the property.
A small, occasionally used common pipistrelle transition/day-roost was recorded: A Bat Mitigation Class Licence (BMCL) will be required to proceed with demolition of the extension.		
Mitigation	Roost replacement and precautionary working methods.	Exclusion of bats prior to start of works, precautions during work in areas with potential for roosting bats, replacement of roost features and mitigation will be carried out, under licence. Timing restrictions will apply for implementing the BMCL, to avoid times when bats are in torpor. Spring and autumn are recommended for works, however, as there will be no impact to a maternity roost, the licence can be implemented between April and October inclusive. Replacement of the roost feature (under wall cladding on the new extension) will be carried out during the construction of the new extension, to replace the roosting opportunity that will be lost when the property is extended and re-built. Breathable roofing membranes must NOT be used in any areas accessible to bats: Standard F1-type bitumen felt is currently the only bat-safe membrane.
Precautionary measures	Sensitive lighting.	External lighting must not be directed towards roost entry points, bat boxes/features, the garden ponds, and mature trees/hedges. The garden boundaries should be retained as dark corridors to be used by bats on leaving/entering roost features.
Additional enhancement	Bat boxes.	Recommended in mature trees in the garden, to enhance the site on completion, in line with planning objectives for positive gains for biodiversity.

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Appendix D: Roost Entry Point; Surveyor and Static Detector Locations

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2 Introduction

2.1 Background

Robson Ecology Ltd was commissioned by Tom Cross on behalf of Mr and Mrs Pope, to undertake Bat Surveys of Lincolns, Strethall, Saffron Walden, Essex, CB11 4XJ. The report is required to inform Listed Building Consent and a planning application which was withdrawn pending results of the bat surveys and will be re-submitted to Uttlesford District Council in summer 2022. Works involve demolition of the existing extension (off the eastern gable end of the thatched part of the cottage), construction of new single and two-storey extensions, dormer windows, and internal remodelling.

2.1.1 Previous Surveys

2.1.1.1 Preliminary Roost Assessment – Robson Ecology Ltd. 2021

Roosting bats were heard by the homeowner, for a short period (1-2 days) in September 2020. A recording of the 'chittering' was verified as bats when a site survey was undertaken on 17th March 2021 by Odette Robson (licensed by Natural England (Licence ref: CL18:2015 10940-CLS-CLS) to survey for bats (Level 2).

Assessment of the roost size, location, and evidence from droppings, indicated a small number of crevice-roosting species (such as pipistrelle or Natterer's bat) using the roost on an occasional basis. This could be either a day-roost or transitional roost (low numbers of bats). Droppings, and the size of the crevice, do not suggest the presence of higher conservation status roosts (such as a maternity roost). Droppings were relatively fresh and could have been from the previous bat active season. Further surveys were recommended to establish if the roost was still in use, and if so, species, size, and type of roost.

2.2 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species; barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros* and Bechstein's bat *Myotis bechsteini* are all Species of Principal Importance in England (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP).

2.3 Aims and Objectives

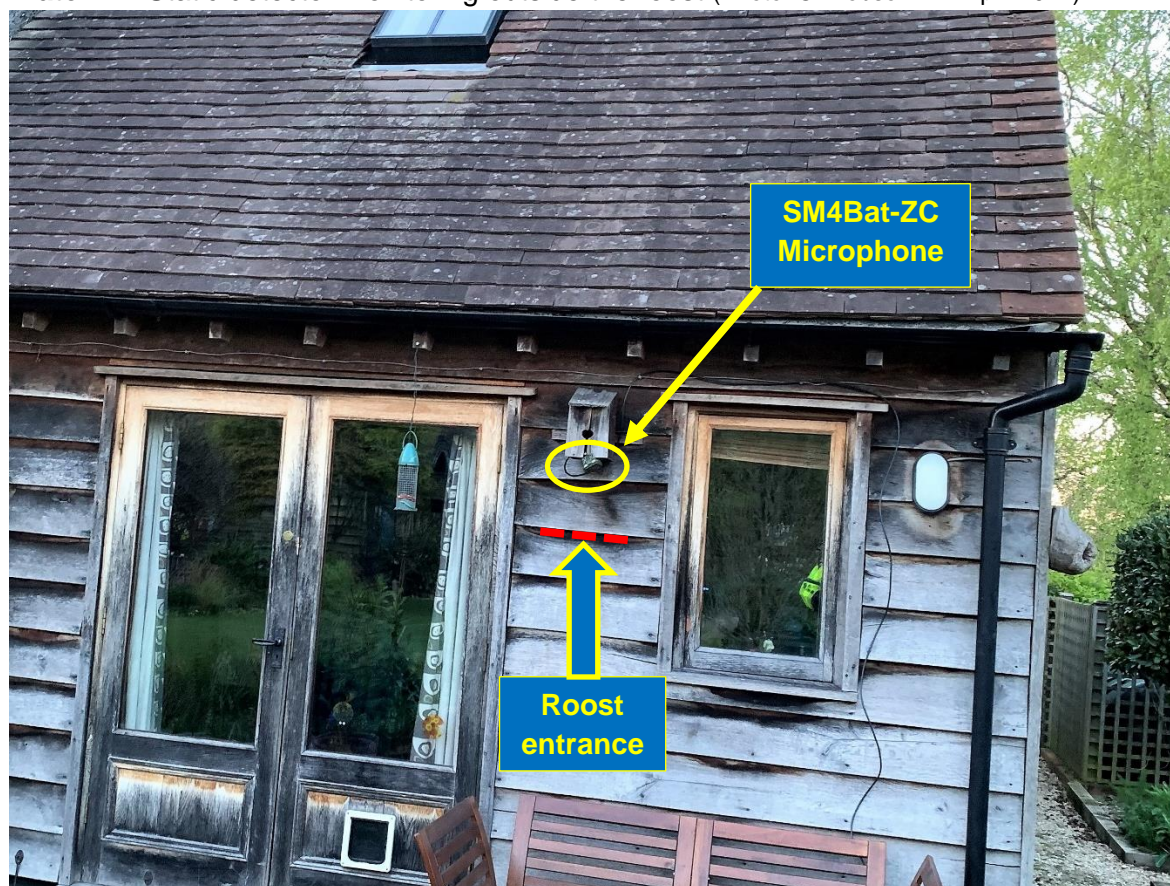
- To carry out full surveys to inform the planning application and (if needed) a licence application.
- Assess the potential impact of proposed works to any roosting bats;
- Provide an overview of the legal obligations and precautions required to ensure that individual bats are not harmed, or the local conservation status of the species affected, by loss of the roost through removal of features and renovation/repair works.
- Detail appropriate and proportional mitigation and/or compensation.

2.4 Site Survey Methods

Surveys comprised two dusk emergence surveys and a dawn re-entry survey, with two surveyors covering all elevations of the property, and a 10-night period of static recording underneath the external weather-board roost.

The survey methodology followed standard techniques and guidance, as recommended by Natural England and the Bat Conservation Trust: Bat Surveys for Professional Ecologists: Best Practice Guidelines (Collins, 2016).

Plate 2.1: Static detector monitoring outside the roost (Photo: O. Robson 24th April 2022).



2.5 Surveyor Details

Surveys were undertaken by:

- Odette Robson BSc (Hons) PhD MCIEEM; a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM) and licensed by Natural England (Licence ref: CL18:2015 10940-CLS-CLS) to survey for bats (Level 2).
- Ben Robson, an experienced ecologist assistant in his 4th season of bat surveys.
- Juliette Banwell - a professional ecologist with 19 years of bat survey experience and licensed by Natural England (Licence ref: CL17:2021-54643-CLS-CLS) to survey for bats (Level 1).

2.6 Proposed Development

A planning application will be submitted to Uttlesford District Council to extend the living accommodation to the east of the original thatched part of the property (demolition of existing extension and re-build largely within the existing footprint).

3 Results

3.1 Roost Inspection

The property was inspected on 24th April 2022: There were no notable changes or new droppings since the survey in March 2021 (Robson Ecology, 2021). A full description of buildings and roost-inspection results is provided in the Preliminary Roost and Pond Assessment (Robson Ecology, 2021). Roosting potential of the parts of the property and appropriate survey effort is detailed in Table 3.1.

Table 3.1: Summary of bat roosting potential (for location, see Appendix D).

Building	Roosting habitat suitability	Further survey requirements to ascertain roosting status
Weather-boarded extension	High roosting potential: Evidence of low status roost.	Three separate surveys: At least one dusk emergence and a separate dawn re-entry survey. The third can be either dusk or dawn. May to September, with at least two of the surveys between May and August. A static detector to be left in the loft for at least 2 weeks.
Thatched Cottage	Negligible roosting potential	No further survey requirement

3.2 Status of bats in Essex and the UK

The following data are taken from Mammals of Essex (Dobson and Tansley, 2014), Essex Biodiversity Action Plan (BAP), Essex Bat Group website (www.essexbatgroup.org) and Bat Conservation Trust (BCT) web-based information of population trends (www.bats.org.uk).

Of the 18 species of bat in Britain (17 of which are known to have bred), ten are regularly recorded in Essex.

Three bat species were recorded during the surveys: Common pipistrelle *Pipistrellus pipistrellus*, Soprano pipistrelle, and Natterers *Myotis nattereri*.

The most common and widespread bats in Essex are the common and soprano pipistrelle, which reflects national trends, however, in recent years a decline in numbers has been noted in many areas (DEFRA/Essex BAP). A specific objective of the Essex BAP is to maintain existing populations and range of pipistrelles.

Of the *Myotis* species, the most frequently encountered in old barns is the Natterer's bat, which is widespread but relatively scarce in Essex. Nationally, Natterers are found throughout most of the British Isles, though are relatively scarce (BCT).

3.3 Emergence/Re-entry Survey Results

All surveys were conducted in good weather conditions; The emergence surveys started approximately 15 minutes before sunset and continued for approximately 1.75 hours after sunset. The dawn survey started two hours before sunrise and finished at 15 minutes after sunrise.

Equipment used included full spectrum Echo Meter Touch bat detectors/recorders, Sionyx night-vision cameras, Canon XA11 Camcorder with IR torch (Firefox), a FlirE4 thermal imaging camera and SM4Bat-ZC static detectors. Direct observation was also used to record bat activity on the site.

Table 3.2: Weather conditions and timings of surveys

Date	Survey Type	Sunset or Sunrise Time	Temp.	Wind	Cloud cover
24 th April 2022	Dusk Survey 19:55 – 22:00	Sunset: 20:12	11 – 9°C	Beaufort 1-2	5-10%
17 th May 2022	Dawn Survey 03:15 – 05:10	Sunrise: 05:03	11 - 10°C	Beaufort 0-1	20-90%
17 th June 2022	Dusk Survey 21:00 – 23:00	Sunset: 21:22	23 – 22°C	Beaufort 3	<10%

Dusk Survey - 24th April 2022

3.3.1.1 OR – SE of House

Homeowners have not heard or seen evidence (droppings) of bats since September 2020. No fresh droppings. First bat (soprano pipistrelle) was recorded at 28 minutes after sunset commuting from west to east. Regular sporadic common pipistrelle passes and social calling/interaction during early part of survey. Occasional foraging passes (common pipistrelle) during later part of survey. Only common pipistrelle, soprano pipistrelle and Myotis spp. were recorded. The Myotis was recorded at 76 minutes after sunset - which is typical emergence time for this species and could indicate a local roost.

3.3.1.2 JB - NW of House

The first bat (common pipistrelle) was recorded at 34 minutes after sunset. Frequent foraging and single passes from common pipistrelle – prolonged foraging to the west of the house and up/down the road. No emergence/roosting recorded.

3.3.2 Dawn Survey – 17th May 2022

3.3.2.1 BR – SE of House

High levels of common pipistrelle activity – mainly foraging and some social calling. Last bat was recorded at 28 minutes before sunrise – a common pipistrelle to the east of the house.

3.3.2.2 JB - NW of House

Activity for the whole survey was high, with common pipistrelle foraging passes up and down the lane almost constantly (north-south, to the west of the Cottage). Occasional social calling,

but mostly foraging. No roosting was recorded, and the last bat was recorded at 33 minutes before sunrise.

3.3.3 Dusk Survey - 17th June 2022

3.3.3.1 *OR – SE of House*

First bat (common pipistrelle) was recorded at 36 minutes after sunset – foraging around garden to south and east of the cottage. Sporadic foraging in garden, mainly to south and east of house, throughout the survey. No roosting and no signs that the former roost has been used recently.

3.3.3.2 *BR - NW of House*

First bat (common pipistrelle) was recorded at 36 minutes after sunset. Mainly common pipistrelle foraging and commuting activity up/down the lane. One soprano pipistrelle was recorded towards the end of the survey.

3.3.4 **Static Detector Results**

SM4Bat-ZC (Wildlife Acoustics) static detector/recorder was left to record outside the roost, from 30 minutes before sunset to 30 minutes after sunrise for 10 nights between 5th May and 14th May 2022. Results are summarized in Table 3.3.

Table 3.3: Summary of bat calls recorded outside the roost using a zero-crossing static bat detector (SM4BAT-ZC). Green text indicates pipistrelle bats recorded within 20 minutes of sunset and 20 minutes before sunrise (typical roost emergence/re-entry times).

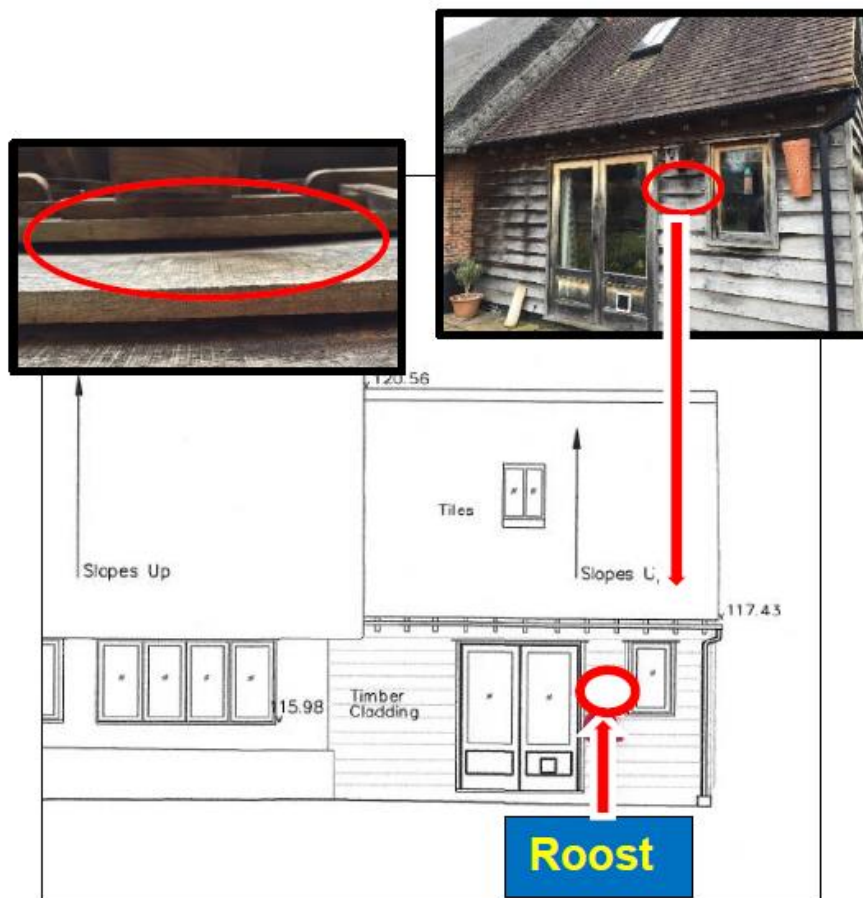
Date (2022)	First bat	Dusk	Last bat	Dawn
5 th May	20:46 – CP	20:30	04:53 – CP	05:20
6 th May	20:15 – CP	20:32	04:45 – CP	05:18
7 th May	21:00 – CP	20:34	01:31 – CP	05:16
8 th May	21:32 – CP	20:35	23:51 – CP	05:15
9 th May	20:59 – CP	20:37	04:51 – CP	05:13
10 th May	21:08 – CP	20:39	04:37 – CP	05:11
11 th May	21:02 – CP	20:40	04:39 – CP	05:10
12 th May	21:12 – CP	20:42	04:11 – CP	05:08
13 th May	21:32 – CP	20:43	04:12 – CP	05:07
14 th May	21:12 – CP	20:45	22:46 – CP	05:05

3.4 Current Roost Status (2022)

Roosting bats were not recorded on the dusk emergence or dawn re-entry surveys. However, evidence from the droppings and inspection of the roost with an endoscope, suggest that the roost has been used within the past two years, and it is likely to have been used as a day roost by small numbers of common pipistrelle bats, on an occasional basis. The remote monitoring confirmed that there is likely to be a common pipistrelle roost close to the property, and bats from this main roost could use the crevice-roost at Lincolns as a day-roost on an occasional basis, or at certain times of year (transitional use).

The roost was located under an oak board cladding the external wall of the southern elevation of the extension, which adjoins the eastern gable of the original thatched cottage - as shown in Plate 3.1 below. Beneath the oak boards is a breathable membrane wall-lining, which could be harmful to bats if left *in situ*.

Plate 3.1: Location of roost - under oak board on southern elevation.



3.5 Limitations and Assumptions

The weather conditions during all surveys were optimal and any bats present would have been active during these surveys. Surveys were carried out within the optimal bat survey season and covering the late 'transitional' phase (April) when bats were out of hibernation and active but had not yet moved to summer/breeding roosts. Surveys were carried out in April, May and June, so covered the maternity roosting period and transitional period.

Constraints encountered were within normal limits and have been taken into account when drawing conclusions and recommendations from the survey data.

4 Recommendations and Mitigation

4.1 Mitigation

Due to confirmed common pipistrelle roosting in one location on the southern elevation of the extension, mitigation will involve replacement of roosting opportunities on the new extension (to mitigate lower conservation status roost, used by low numbers of bats). Mitigation would be on a 'like-for-like' basis and proportional to the species and roost conservation status. **Only F1-Type Bitumen/hessian felt must be used in areas of the property (wall or roof-lining) which could be accessed by bats, as all modern breathable membranes have been shown to be harmful to bats.**

A Bat Mitigation Class Licence (BMCL) Licence will be required before works commence on the southern elevation of the Extension. This will include timing constraints and precautionary working methods to avoid impact to the local population status and to individual bats. Compensation for the loss of a roost, will be through like-for-like re-creation of the roost feature on the new extension, and provision of an additional integrated roost feature on the western gable end of the new extension (Appendix B and E).

A Schwegler 2F bat box (or similar and approved) in a retained tree in the garden will be installed to provide a place for relocation of any bats encountered during a supervised destructive search of the southern elevation of the extension, which was used by roosting bats (oak board external cladding). There was no evidence of bats using any other area of the property.

Pipistrelle bats are crevice-roosters and regularly use bat boxes, such as the Schwegler 2F, on trees, or integrated bat-tubes/bricks on buildings (Appendix B).

The 2F bat box will be retained as additional enhancement on completion (Section 4.4).

To compensate for the loss of a roost, the roost will be re-created on the southern elevation of the new extension (close to the location of the existing roost – same height and dimensions). An additional integrated bat box will be installed within the fabric of the building on the eastern elevation (location shown in Appendix E). These roost features are self-cleaning and require no maintenance.

This is deemed appropriate and proportional mitigation, providing roosting opportunities of equivalent type and value, appropriate to the species and roost types which would be impacted.

4.1.1 Timing Constraints

The implementation of the BMCL must avoid the sensitive hibernation period: Although the property has very low potential to support hibernating bats (lacking stable winter temperatures), there remains a low residual risk of bats using the building during the hibernation period. Disturbance of bats in torpor has high welfare implications and can be fatal. There was no evidence of a maternity roost therefore, the licence could be implemented at any time during the active bat season (April until October inclusive). Works should be scheduled to start no earlier the beginning of April, and no later than early October, to minimise the risk of disturbance to bats. Weather must be appropriate for bats to be active at the time

of works (temperatures of at least eight degrees Celsius over four consecutive day/nights, and minimal wind/rain).

Removal of external oak boards on the southern elevation will be directly supervised by the Registered Consultant (RC) on the BMCL (who is licensed by NE to handle bats), prior to the start of works in this area. Safe access must be provided to the southern elevation (externally).

Exclusion devices will be fitted over the roost access, if the roost crevice cannot be adequately inspected using an endoscope. After five nights of suitable weather for bats to be active and when the RC is confident that bats are no longer present, removal can proceed. Should small numbers of bats be encountered during removal of roost features (post-exclusion), these will be re-located (under licence) to the mitigation bat box - previously erected on a tree within the curtilage of the property.

4.1.2 Site Induction

All contractors and site staff will receive a toolbox talk by the RC on the BMCL prior to the start of external works. A copy of the licence should be displayed at all times in the site office, along with contact details for the RC (Appendix C).

The induction of all site workers (including those working on non-licensable parts of the site, such as the thatches part of the property, and internal works) should include information on bats, as detailed in this report, including:

- The legally protected status of all bat species;
- That roosting bats are present on the site and no work to start on the extension without written confirmation from the RC (following implementation of the BMCL or compliance with a written Non-Licensed Method Statement);
- Measures that will be used to protect bats;
- Good working practices;
- Licensed activities; and
- All works to stop immediately if bats, or signs of bats, are found during works on any part of the building: Site Manager and RC to be consulted for advice on how to proceed.

A written record of this should be kept, confirming that site staff have received induction relating to bats; All present should sign to confirm attendance at the toolbox talk and/or induction (Appendix C), confirming that they are aware of the potential presence of protected species, the implications of disturbance, and how to deal with a situation if bats are encountered during works.

4.2 Derogation Tests

Proposals would result in the permanent loss of a bat roost. Therefore, a licence will be required to proceed with proposals. There are three tests which Natural England address when deciding whether to grant a licence:

1) *'The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety'*

Listed Building and planning applications were submitted in May 2021 to Uttlesford District Council (reference: UTT/21/1821/HHF and UTT/21/1822/LB), for the demolition of the existing extension and construction of single and two-storey extensions, with dormer windows and internal remodelling. The application was withdrawn pending results of the bat surveys and will be re-submitted in summer 2022. The existing cottage does not meet modern living standards, the requirements of the homeowners, or energy conservation guidelines. Extension and upgrading are the only sustainable options, to enable the property to meet required standards.

2) *'There must be no satisfactory alternative'*

Without renovation, bats could be harmed if they continue to use the existing roost: The oak boards are internally lined with breathable membrane which is known to be harmful to bats. If bats continue to use the existing roost, there is a high risk of fatalities due to entanglement in the fibres of the membrane, therefore, doing nothing is not an option.

Alternative options (retaining external woodwork) were considered at the planning stage and found to be un-safe for bats, not would meet basic living standards, building control (insulation of extension), or the needs of the homeowners.

3) *'Favourable conservation status of the species must be maintained'*

The mitigation and compensation strategy detailed within this document should enable the local conservation status of the species recorded at the site to be maintained. The roost recorded is of low conservation significance (low numbers of common and widespread pipistrelle species: Mitchell-Jones, 2004 – see Table 4.1) and will be sensitively mitigated with alternative like-for-like roosting opportunities provided in the same location as the existing roost. The site will be registered under the BMCL, and a supervised, sensitive destructive search will enable the roost to be destroyed without harming bats. Natural England advocate a 'like-for-like' strategy such that any loss is mitigated by provision of habitat/roosting opportunities of equivalent type and value. Additionally, the LPA has an obligation under the NPPF (MHCLG, 2021), to enhance habitat through the planning process.

4.3 Non-licensable Works – Thatched Cottage

Roosting bats were only recorded in the extension southern elevation. The main (thatched) house has negligible potential to support roosting bats and can be work on at any time without further survey, if precautions are implemented to ensure that works do not directly or indirectly affect bats roosting in the extension (e.g., by noise, light, dust etc.). If, at any time during the works, the presence of bats is suspected or identified, works should cease immediately, and the project ecologist or Natural England contacted to enable further appropriate steps to be implemented.

It may also be possible to carry out works on the roof of the extension, and elevations to the north, west and east without disturbance to roosting bats. This should be checked and approved by the Registered Consultant ecologist to ensure that wildlife legislation would not be breached, and an approved *Non-Licensed Method Statement* must be adhered to.

For non-licensable works which will not impact the roost: Contractors should be made aware of the protection afforded to bats and appropriate standard due diligence practices: This should be covered in a pre-start induction for all site contractors

4.4 Additional Habitat Enhancement Recommendations

A Schwegler bat box (2F - Appendix B) will be erected within a mature retained tree in the garden of the property to facilitate the destructive search by providing a temporary re-location site for any bats encountered during a destructive search of the extension/roost area. An additional Schwegler 2F or cedar-wood Kent-style bat box (or similar and approved by the RC), should be located on the same tree (exact location to be approved by the RC). The bat boxes will be retained as additional enhancement, post completion, and remain permanently for a minimum of 5 years. If the boxes are occupied by bats, they become legally protected roosts.

Both boxes will be retained to enhance the site for bats by providing further roosting opportunities: This will help towards Essex BAP targets and enhancement, as encouraged through the National Planning Policy Framework (MHCLG, 2021).

Bat boxes in trees should be 3m to 6m above ground level, facing south-east, south and/or south-west (both on the same tree to give bats a choice of thermal opportunities), and be sited out of reach of cats. There should be unobstructed flight access enabling entry/exit for bats, but with suitable flight-lines in close proximity. Schwegler boxes are durable and long-lasting. The access hole is at the base so that the boxes are self-cleaning and do not require any maintenance. Damage, disturbance or removal of a bat box used by roosting bats could be a breach of legislation. Boxes used by roosting bats can be checked or moved legally by an appropriately licensed individual.

4.5 Sensitive Lighting

Lighting at the site should be minimized to encourage bats to use the site, both during the construction works, and on completion. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:

- The boundary hedges, ponds, and mature trees within and surrounding the garden should be maintained as dark corridors, with no lighting directed towards these features.
- LED luminaires should be used where possible (No UV elements: Metal halide, fluorescent sources should not be used).
- A warm white spectrum (ideally <2700Kelvin) should be used to reduce the blue light component.
- Peak wavelengths higher than 550nm should be used to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered (where this is feasible and meets safety standards) – e.g., if lighting used in the driveway/parking area.
- Column heights should be as low as functionally feasible to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (See ILP 2011).
- Luminaires should be mounted on the horizontal to avoid upward tilt.
- Any external security lighting should be set on motion-sensors sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting should be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres can be used to reduce light spill and direct light only to where needed.
- Lighting should be appropriately directed to avoid illuminating the hedges, pond and trees in the garden, and any mitigation/enhancement bat boxes or replacement roost-features on the new extension.
- Construction works should only be undertaken during daylight hours and task lighting should not be used during the construction phase of the development.

5 Conclusion

A BMCL licence will be required to proceed with the proposed extension. Due to the localised nature of the roost, any works to the thatched part of the property, or to approved parts of the extension, can proceed prior to the licence being achieved and implemented. This must be done under a Method Statement to ensure that the roost is not disturbed.

If a licence is achieved and implemented, then any impact to protected bats from the extension should be minimal and can be mitigated within the scope of the project.

If the project is delayed until the next bat survey season (after May 2023), updating surveys will be required to inform the licence: A licence application must be accompanied by survey data from the most recent bat survey season.

6 References

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Appendix A: DNA Result.



Folio No: E14155
 Report No: 1
 Purchase Order: REP22020
 Client: ROBSON ECOLOGY LTD
 Contact: Odette Robson

TECHNICAL REPORT

ANALYSIS OF BAT DROPPINGS FOR SPECIES OF ORIGIN IDENTIFICATION

SUMMARY

The droppings of bats contain small amounts of DNA belonging to the organism from which they originated. By analysing droppings collected from a bat roost or colony for the presence of DNA, a robust identification of the species present can be made. Recent advancements in molecular methods including PCR (polymerase chain reaction) and DNA sequencing mean that 92% of bat species worldwide can be identified including all 17 UK resident bat species.

RESULTS

Date sample received at Laboratory: 15/06/2022
Date Reported: 21/06/2022
Matters Affecting Results: None

Lab Sample ID.	Site Name	O/S Reference	Genetic Sequence	Common Name	Result	Sequence Similarity
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B778	Lincolns	TL4859239488	AATAATTGGAGCCCTGACA TGGCATTTCCTCGTATAAAT AATATAAGTTTCTGACTCCTA CCTCCTTCTTTTCTACTACTA CTAGCCTCGTCTATAGTAGA AGCGGGAGCGGGTACAGGC TGAACAGTCTACCCCTCT AGCAGGAAANCTTGCNCAN GCTGGAGGNANN	Common pipistrelle	<i>Pipistrellus</i> <i>pipistrellus</i>	97.60%
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 Company Registration No. 08950940

Appendix B: Bat Boxes and Roost Features.

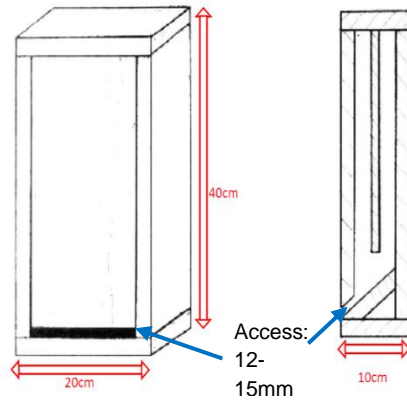
Schwegler 2F

Multi-purpose bat box for pipistrelles – tree-mounted. Manufactured from long-lasting Woodcrete, a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years.

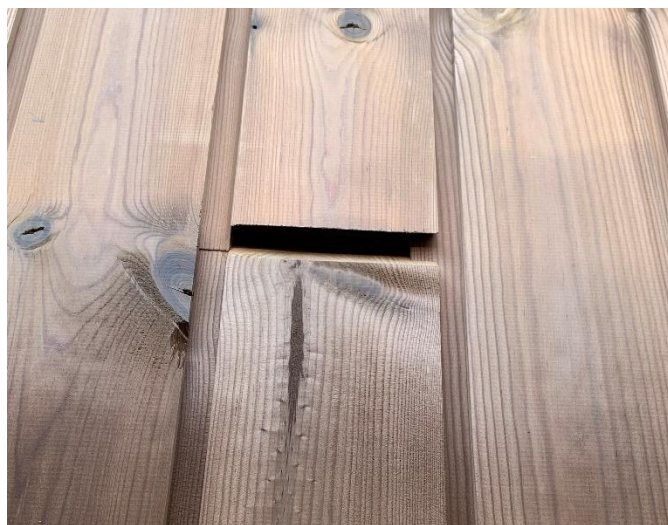


Bespoke bat box.

Designed to fit beneath wall cladding, boxed eaves, or the rake trim at a gable end.



Example bespoke bat box under vertical timber wall-cladding.



Appendix C: Record of Induction

Record of attendance:

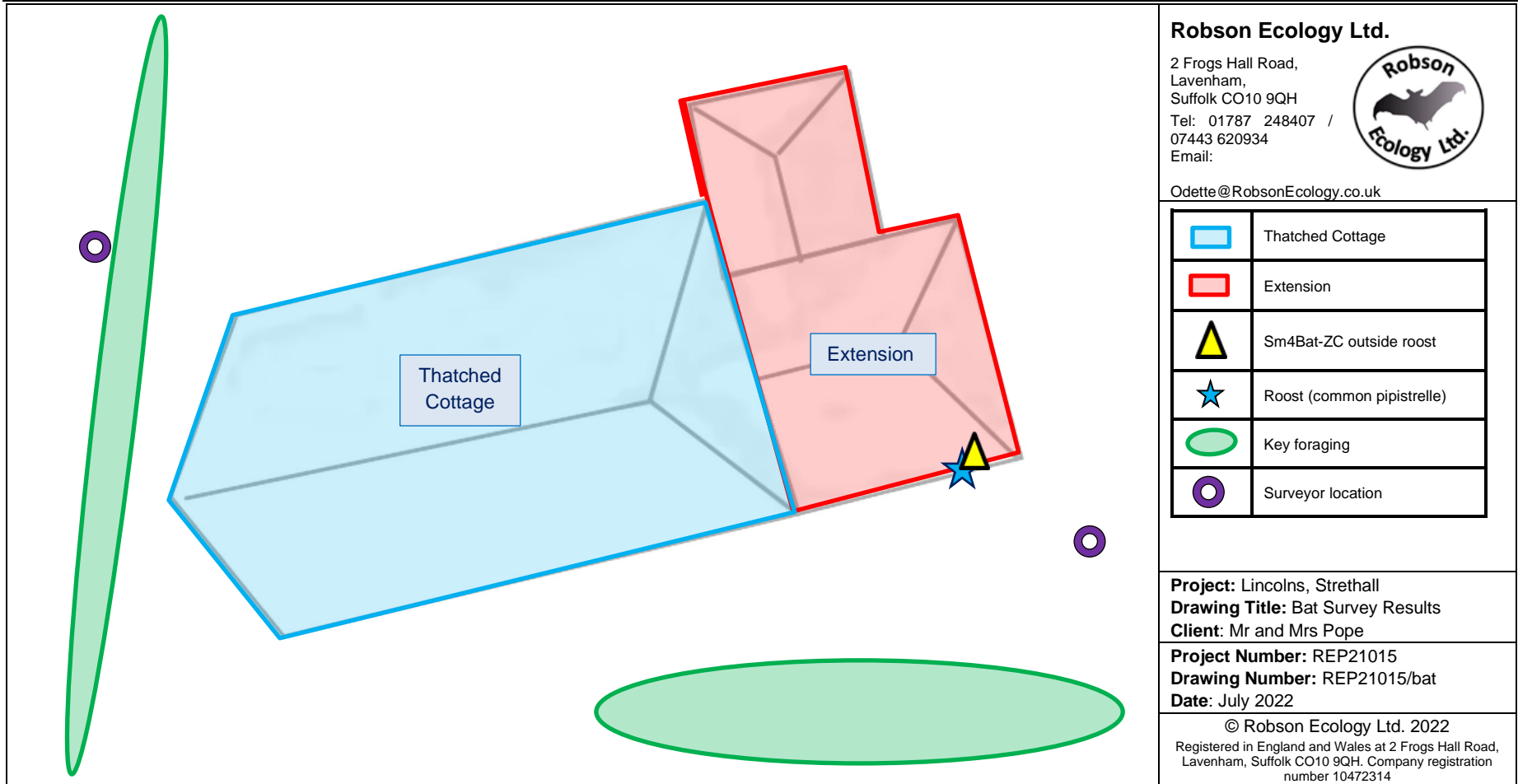
Wildlife legislation/Protected Species briefing at Lincolns, Strethall.

NAME:	COMPANY and POSITION:	Date:	Signed:



Ecology/Bat issues: If you find a bat during works, or have any other questions or concerns, please call Registered Consultant for advice on how to proceed:

Odette Robson (Licensed by Natural England to survey and handle bats under Class Licence CLS001262, bats (Level 2).
07443 620934
odette@robsonecology.co.uk

Appendix D: Roost Entry Point; Surveyor and Static Detector Locations.



Appendix E: Proposed Mitigation

	Re-creation of crevice-roost on south-facing elevation of the new extension – re-creating the roost that will be lost
	Bespoke bat roosting feature under weather-board cladding on eastern gable of new extension.

Project: Lincolns, Strethall	
Drawing Title: Bat Mitigation	
Client: Mr and Mrs Pope	
Project Number: REP21015	
Drawing Number: REP21015/mit	
Date: July 2022	
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