

Bat Survey Report

Fern House, Dereham Road, Reepham,

Norfolk, NR10 4LA

for

Mr & Mrs R Dacre

Icení Ecology Ltd.



September 2023

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Drusilla Hall is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and is a Chartered Environmentalist (CEnv). The code of professional conduct is subscribed to for all work.


Project	Author	Status	Date
Fern House Ref: 23 0052	Drusilla Hall BSc (Hons) MCIEEM CEnv  Bat Licence: 2015-10742-CLS-CLS (Level 2). Dormouse Licence: 2016-20740-CLS-CLS. Great Crested Newt Licence: 2015-18908-CLS-CLS (Level 2).	V1.1	September 2023

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INTRODUCTION

Instruction and background

Iceni Ecology Ltd. was instructed by Mr & Mrs R Dacre, 'the Clients', to undertake a Preliminary Bat Roost Assessment (PBRA) and follow-on emergence surveys at Fern House, Dereham Road, Reepham, Norfolk NR10 4LA to support a planning application for minor development.

This report details the findings of the PBRA and follow on emergence bat surveys undertaken at the site by Iceni Ecology Limited during August / September, 2023.

Location and description of site

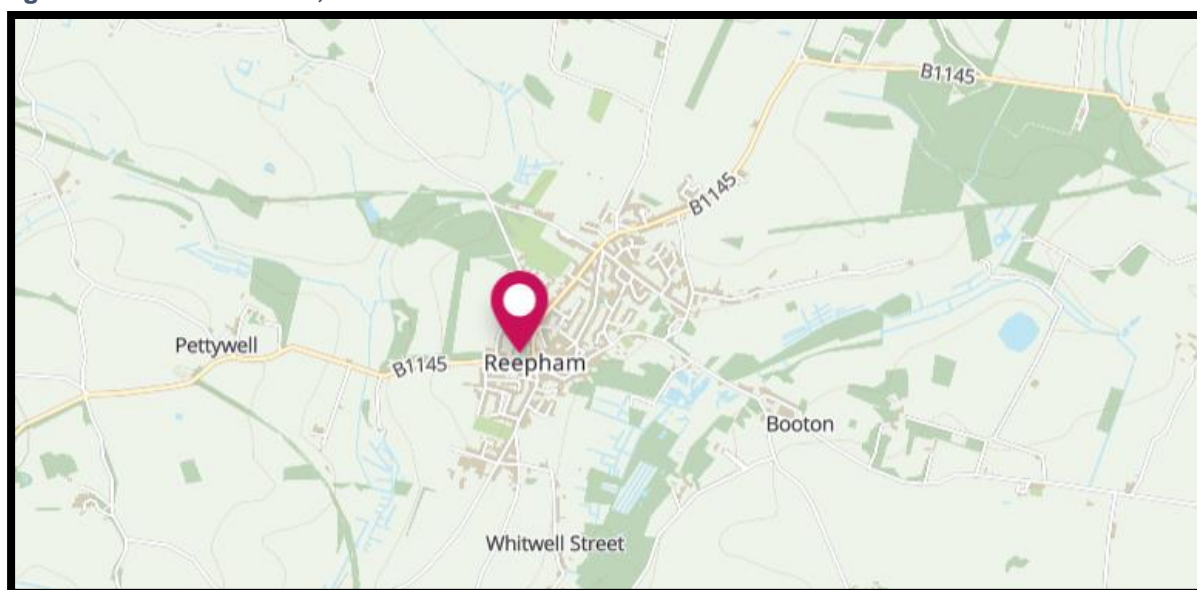
The 'site' is 1.9 acres in the centre of Reepham, accessed from the Dereham Road (B1145) to the south. In summary it comprises the following:

- Fern House, a grade II listed two-storey house, circa. 1848 with service wing.
- Coach House with adjoining Coal Store, Potting Shed, Log Store and Garage.
- Driveway and extensive Walled Garden.

Note that bat assessments / surveys were only undertaken at Fern House with service wing, the Coach House (with adjoining buildings) and trees within the garden area.

The site is centred on Ordnance Survey (OS) National Grid Reference: TG 09850 22934 (Figure 1).

Figure 1: Location of site, centred on red marker.



An aerial view of the site is shown as Figure 2, with relevant features.

Figure 2: Site (redline) boundary. Source: Hudson Architects Pre-application Document, June 2023.



Proposals

The proposed works (relevant to this report) are summarised below, with implications for bats:

- Opening-up of the service wing to Fern House to create an open plan living arrangement with good natural light. Entire re-roof of this area.
- Thermal upgrading of Fern House with insulation at ceiling level only (floor of loft).
- To re-instate the physical link between the Fern House and the Coach House complex with an extension / link building.
- To convert and renovate the Coach House to provide secondary living areas and a guest suite. Major disturbance to Coach House and demolition of the Coal Shed.
- Removal of some of the trees within the garden area of the site.

The roof plan of the proposals is presented as Appendix A.

There will be no net increase in overnight accommodation and thus the proposals will not require additional measures to be implemented to achieve Nutrient Neutrality.

Relevant wildlife legislation

Certain habitats and species are protected under legislation. The principal legislation relevant to the proposed development is as follows:

- The Conservation of Habitats and Species Regulations 2017 (as amended)¹ [‘The Habitats Regulations’]. The Habitats Regulations implement The Habitats Directive 1992 [92/43/EEC] into English Law.
- European Union (Withdrawal Agreement) Act 2018 (as amended).
- Wildlife & Countryside Act 1981 (as amended)² (WCA).
- The Natural Environment & Rural Communities Act 2006 (NERC).

With respect to bats, under The Habitats Regulations it is an offence to:

- Deliberately capture, injure or kill a bat.
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young (or hibernate or migrate) or significantly affect the local distribution or abundance of the species.
- Damage or destroy a roost. This is an ‘absolute’ offence and need not be deliberate or intentional.
- Possess, control, transport, well, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

With respect to bats under the WCA, it is an offence to:

- Intentionally or recklessly disturb a bat at a roost.
- Intentionally or recklessly obstruct access to a roost.
- Sell and advertise.

Planning context

The National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2019 (amended 2021) – which applies only to England – was first published in 2012. It provides the framework for producing local plans for housing and other development, which in turn provide the background against which applications for planning permission are decided.

The NPPF must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

¹ Amended by the Conservation of Habitats and Species (Amendment) Regulations 2012 S.I. 2012/1927.

² Amended by the Countryside & Rights of Way Act (2000).

When determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development on land within or outside a Site of Special Scientific Interest (SSSI), and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs;
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity. While opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Of particular significance in the 2021 amendments, the NPPF now requires opportunities to incorporate biodiversity improvements in and around development; this demonstrates further steps taken by the government towards achieving the 25 Year Environment Plan (2018).

The Environment Act 2021

The Environment Act 2021 introduces a new regime of environmental principles and governance to fulfill the role that will be lost upon Brexit. The Act creates a new regime of environmental policy for the UK, together with a new system of targets, monitoring and reporting on issues such as air quality, water, waste and biodiversity. It also creates an entirely new regulator – the Office for Environmental Protection – with wide-ranging enforcement powers, and a new form of litigation: environmental review.

The Act contains a general duty to enhance biodiversity which applies to the planning system by insertion of a new section 90A within the Town and Country Planning Act 1990 (TCPA). The new section will make it a requirement that by 2023

all planning permissions in England be subject to a condition to ensure the biodiversity value attributable to the development exceeds the predevelopment value by at least 10% - the biodiversity net gain (BNG) objective. The biodiversity value of a development will be measured using the DEFRA metric. Habitat will need to be secured for at least 30 years via obligations or a conservation covenant. Delivery of BNG may be on-site, off-site or via statutory biodiversity credits and there will be a national register for BNG delivery sites. The mitigation hierarchy will continue to apply and there will be no change to existing legal environmental and wildlife protections.

SURVEY METHODOLOGY

Desk study

Designated wildlife areas

A search³ was undertaken for designated wildlife areas within 1km of the site.

Online biological records

A search³ was undertaken for European Protected Species Mitigation Licences (EPSML) and returns for bats within 2km of the site.

Preliminary Bat Roost Assessment

Fern House (main property and service wing), Coach House complex with Coal Store and trees earmarked for felling were assessed on 27th July, 2023 by Dru Hall and Ross Winchester of Icen Ecology Limited in accordance with Good Practice Guidelines, Collins (2016)⁴.

Buildings and trees are categorised in terms of their 'suitability' to support a roost or provide suitable habitat, as per 'Table 4.1' from the Guidelines (see below).

The assessment entails a detailed inspection of a structure to look for features which bats could use for entry/exit and roosting and to search for bats and any signs of use by bats. A high-powered torch and binoculars were used to aid the observations. The loft spaces of buildings were fully inspected except for the Coal Store.

³ MAGIC maps. <https://magic.defra.gov.uk/>

⁴ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation^b).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.^c</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Emergence surveys

Three emergence (dusk) surveys were undertaken at Fern House and service wing, and two emergence surveys at the Coach House complex and Coal Store by Icen Ecology Limited in accordance with the Bat Conservation Trust's (BCT) Good Practice Guidelines⁴ during August and September, 2023. For emergence surveys, this method involves ecologist(s) visiting at dusk to observe, listen and record bats in terms of general activity and whether a structure supports a bat roost by observing bats either emerging around dusk or re-entering a roost around sunrise.

Information on species, numbers, exit/access points and roosting locations is also noted, together with general bat activity and weather conditions. Sufficient surveyor coverage is required of a structure.

The optimal time for emergence and re-entry surveys is from May to August, which can run into September if surveying has already commenced between May to August. Multiple surveys are recommended to be spaced out at least two weeks apart.

Different species vary in the time they tend to emerge (and return to roost) according to their flight and predator avoidance capabilities.















Emergence surveys commence 15 minutes prior to sunset time and finish 1.5 to 2.0 hours after sunset time.

Cameras were also deployed during the emergence surveys.

Fern House and service wing

The surveys were carried out as detailed in Table 1 below and Figures 3a to 3d for Fern House and the service wing.

Table 1: Bat survey details: Fern House and service wing – August/September, 2023.

Date and survey parameters	Survey	Scope	Surveyors and positions (dots refer to Figures 4a to d)
Date: 01/08/23 Sunset: 20:48 Start: 20:33 14°C End: 22:18 12°C	Emergence (dusk)	To establish if the buildings support a bat roost and to make any other incidental observations of general bat activity.	Dru Hall  Christine Hipperson-Jervis + Camera Sony FDR-AX53  Ben Jervis + Nightfox Whisker  Josie Cox* + Camera Guide R510P  Ross Winchester 
Date: 29/08/23 Sunset: 19:51 Start: 19:36 16°C End: 20:50 13°C (Rain)	Emergence (dusk)		Dru Hall  Christine Hipperson-Jervis + Camera Sony FDR-AX53  Ben Jervis + Nightfox Whisker  Josie Cox* + Camera Guide R510P  Ross Winchester 
Additional survey at the service wing due to rain on 29/08/23 Date: 30/08/23 Sunset: 19:49 Start: 19:34 13°C End: 21:19 12°C	Emergence (dusk)		Christine Hipperson-Jervis + Camera Sony FDR-AX53 
Date: 07/09/23 Sunset: 19:31 Start: 19:16 21°C End: 21:01 19°C	Emergence (dusk)		Dru Hall  Josie Cox* + Camera Guide R510P  Ross Winchester 

* manually operated camera – incidental records of bat passes were not recorded.

Figure 3a: Position of bat surveyors and camera – Fern House and service wing – 01/08/23.

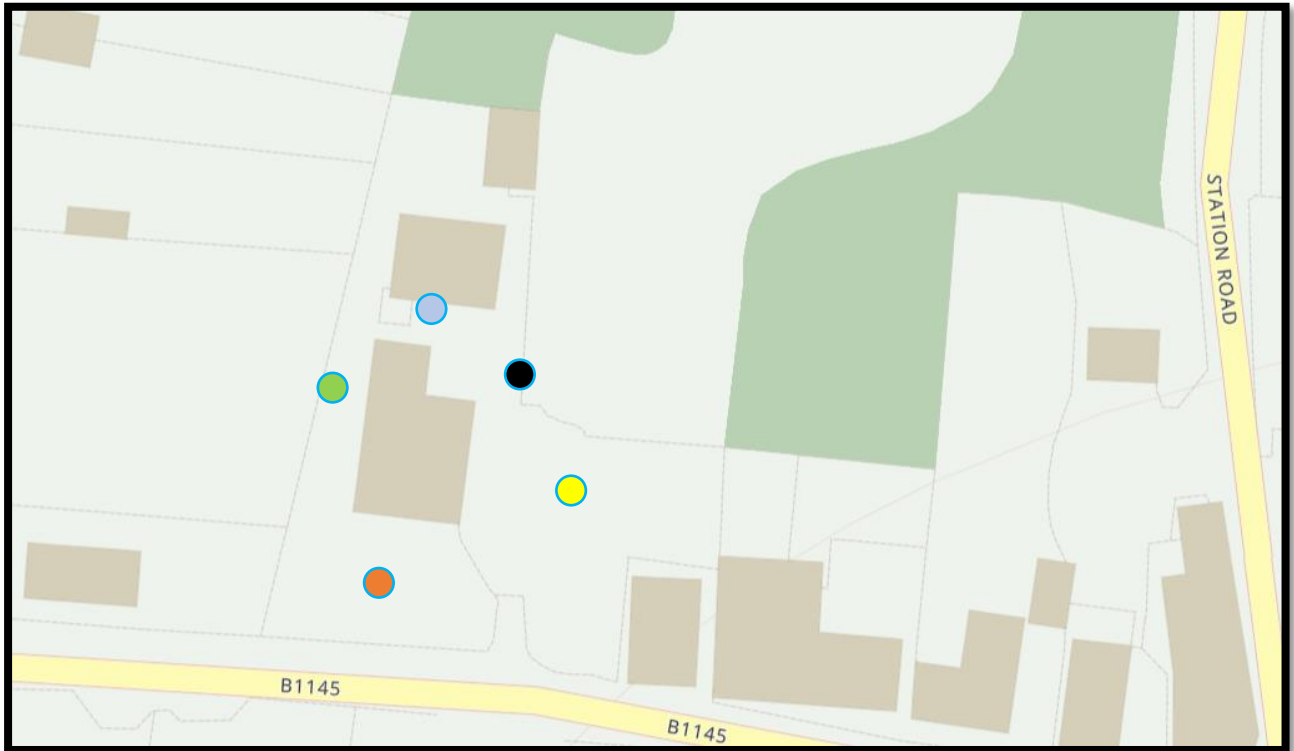


Figure 3b: Position of bat surveyors and camera – Fern House and service wing – 29/08/23.

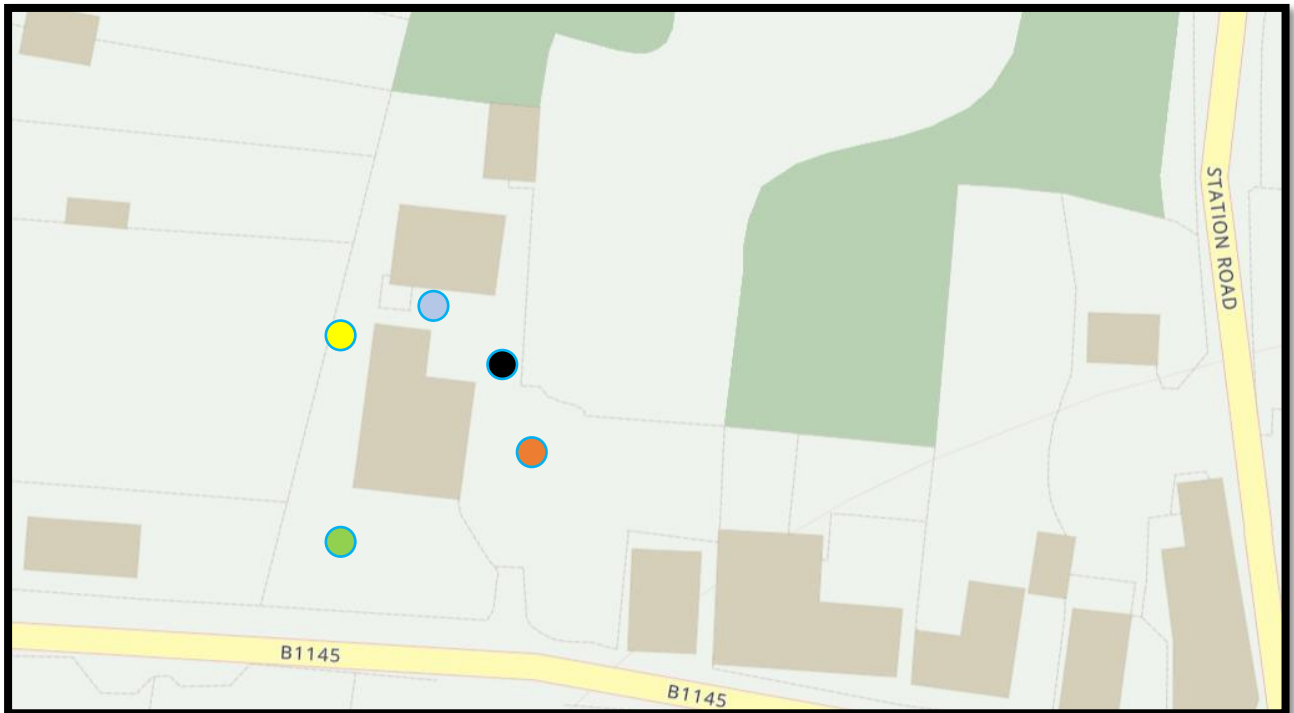


Figure 3c: Position of bat surveyors and camera – service wing – 30/08/23.

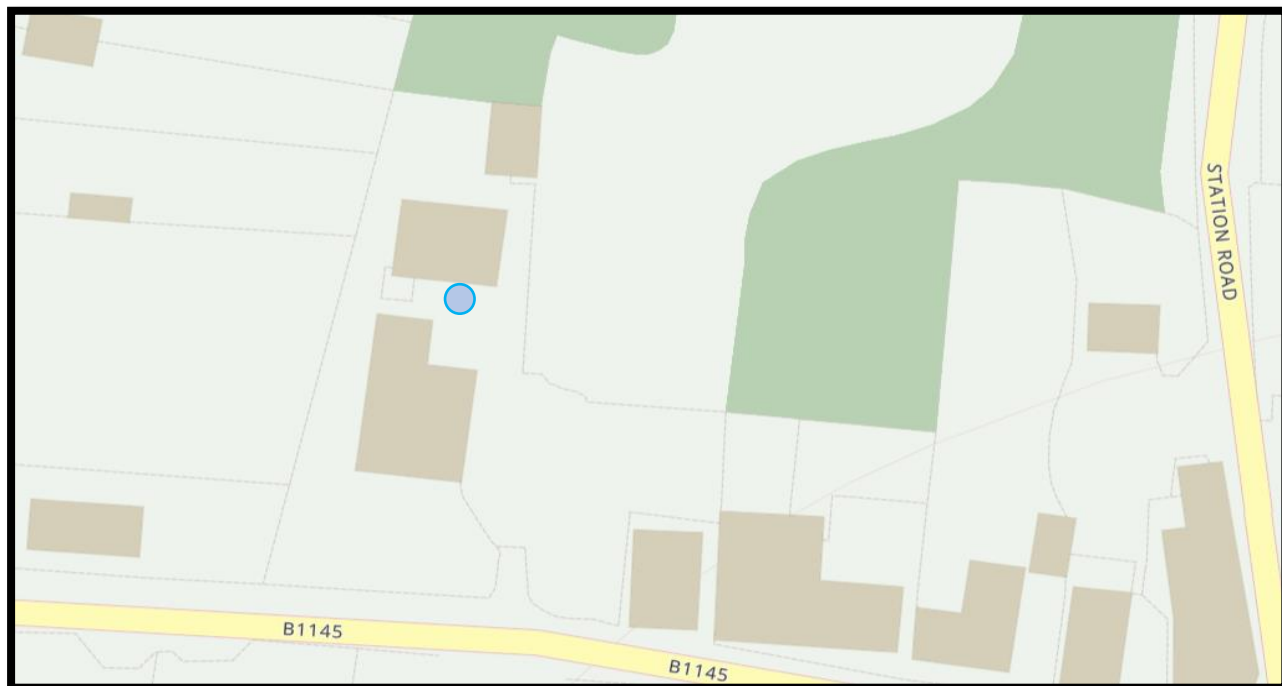
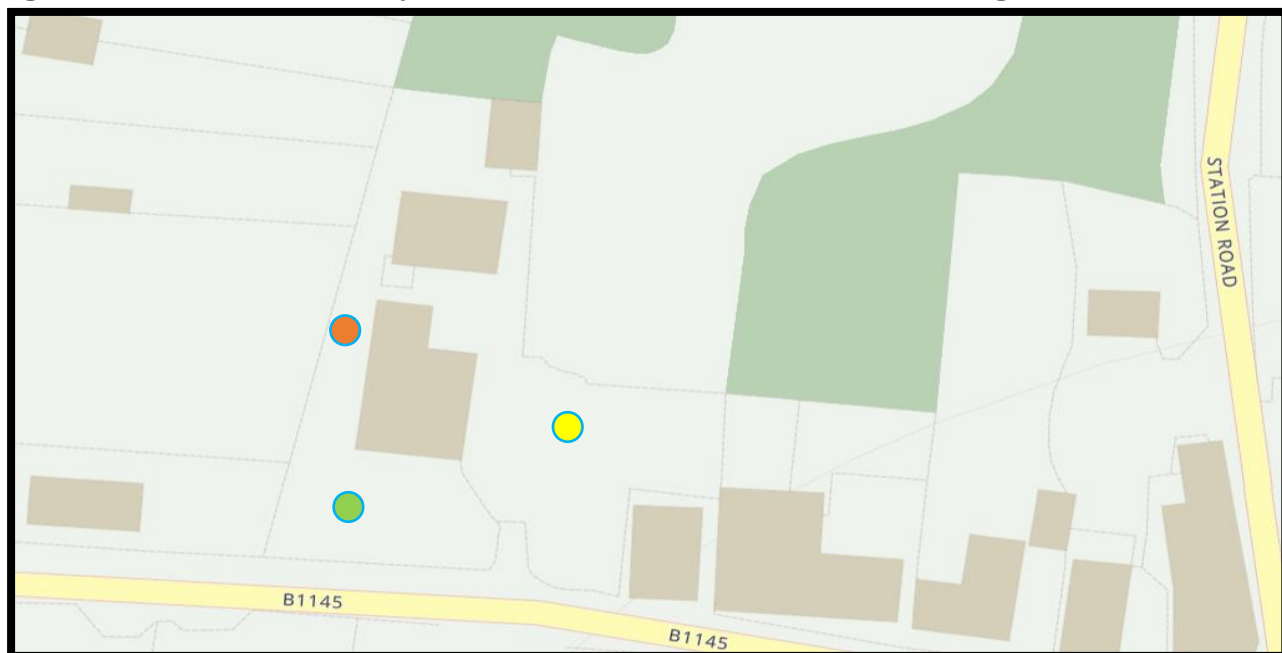










Figure 3d: Position of bat surveyors and camera – Fern House and service wing – 07/09/23.



Coach House and Coal Store

The surveys were carried out as detailed in Table 2 and Figures 4a to 4c for the Coach House complex and Coal Store. The surveys amount to two full emergence surveys (one survey split between 15th and 16th August).

Table 2: Bat survey details: Coach House and Coal Store – August 2023.

Date and survey parameters	Survey	Scope	Surveyors and positions (dots refer to Figures 5)
Date: 15/08/23 Sunset: 20:22 Start: 20:07 18°C End: 21:52 16°C	Emergence (dusk)	To establish if the buildings support a bat roost and to make any other incidental observations of general bat activity.	Christine Hipperson-Jervis + Nightfox Whisker  Ben Jervis + Camera Sony FDR-AX53 
Date: 16/08/23 Sunset: 20:20 Start: 20:05 18°C End: 21:50 16°C	Emergence (dusk)		Christine Hipperson-Jervis + Camera Sony FDR-AX53  Ben Jervis + Nightfox Whisker 
Date: 30/08/23 Sunset: 19:49 Start: 19:34 13°C End: 21:19 12°C	Emergence (dusk)		Dru Hall  Ben Jervis + Nightfox Whisker  Josie Cox* + Camera Guide R510P  Ross Winchester 

* manually operated camera – incidental records of bat passes were not recorded.

Figure 4a: Position of bat surveyors and camera – Coach House and Coal Shed – 15/08/23

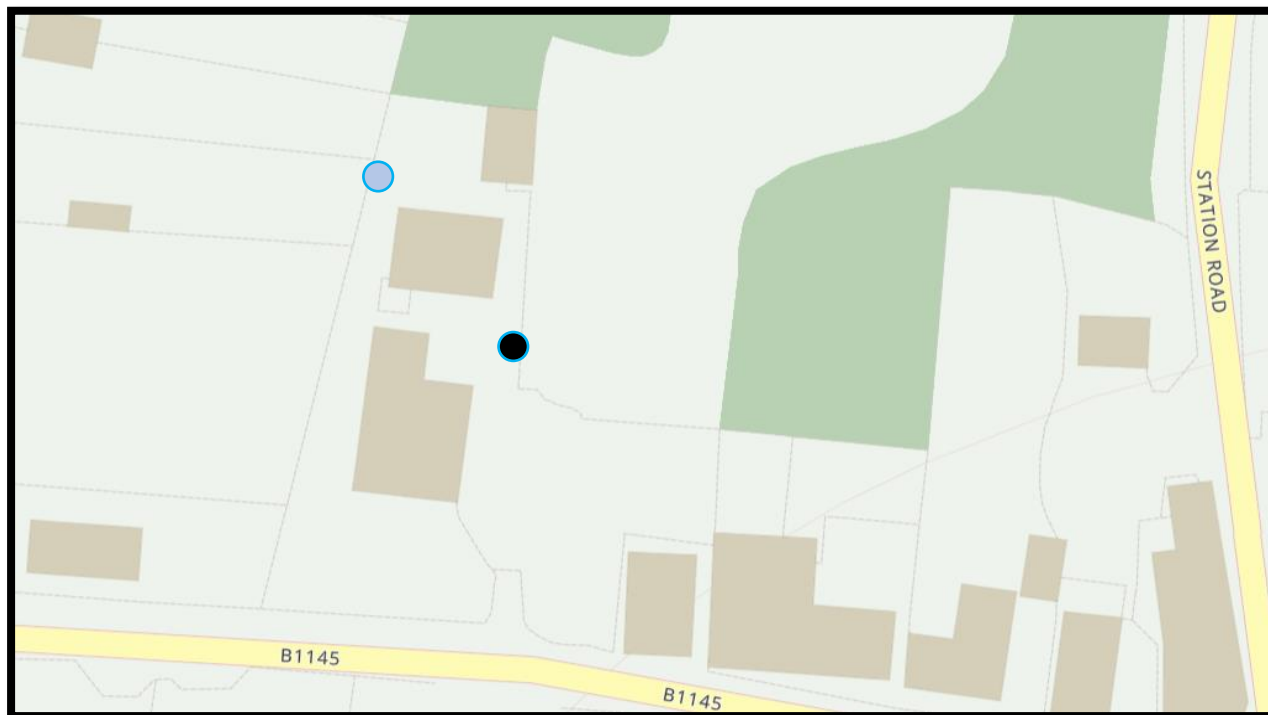


Figure 4b: Position of bat surveyors and camera – Coach House and Coal Shed – 16/08/23

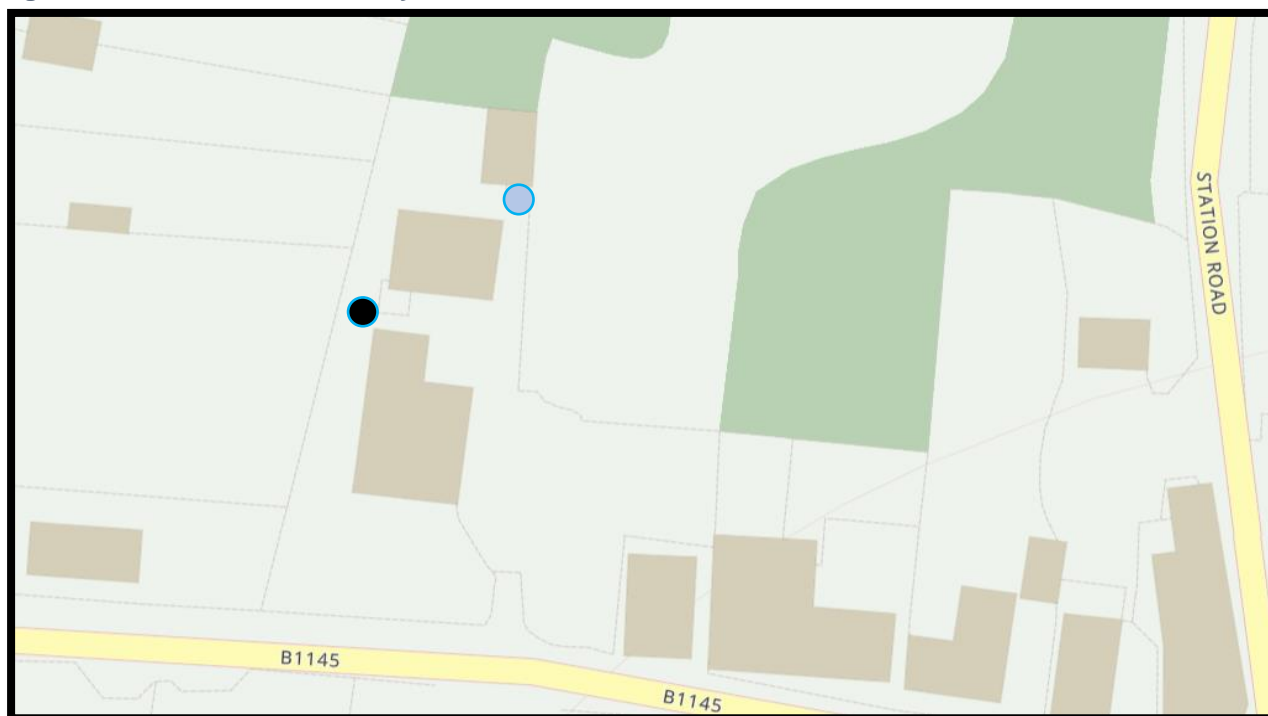
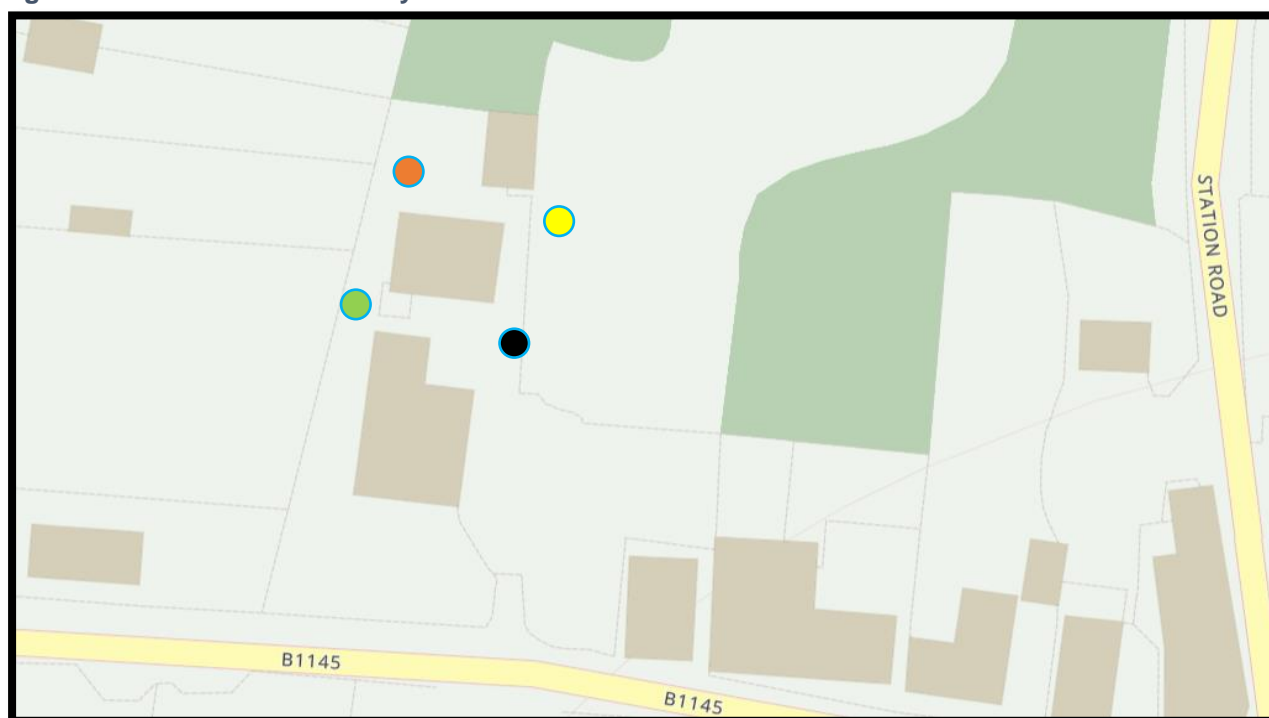


Figure 4c: Position of bat surveyors and camera – Coach House and Coal Shed – 30/08/23

Tree inspection

Trees identified for removal by the Clients were marked on a topographical map, presented as Appendix B. These trees comprised yew *Taxus baccata*, Lawson's cypress *Chamaecyparis lawsoniana* and Leyland cypress *Cupressus x leylandii*.

All of the trees marked on the map were inspected for bat roost potential, checking for conducive features and evidence of current or of previous use by bats.

Limitations

Due to rain, survey dates had to be moved and emergence surveys finalised in September 2023. The emergence survey on 29/08/23 at Fern House / service wing was halted after one hour due to heavy rain. An extra survey at the service wing was undertaken to make up for this time.

RESULTS

Desk study

Designated wildlife areas

Within 1km of the site, the desk study identified two designated statutory wildlife sites at 977m east: Booton Common Site of Special Scientific Interest (SSSI) and Norfolk Valley Fens Special Area of Conservation (SAC). The proposals are not anticipated to impact upon these sites.

Online biological records

There were no EPSML or licence returns for bats identified within 2km of the site.

Preliminary Bat Roost Assessment

Fern House and service wing

The main property (see Figure 2) comprises a two-storey Grade II listed house, circa. 1848. The main section of the house has a formal three-bay typology to the south and east elevations. A two-storey lean-to element exists to the north-east corner of the house, built as a waiting room to a doctor's surgery, which once occupied the main section.

To the west and north elevations there has been various alterations over the years. The west elevation is dominated by two buttresses presumably built at a later date to structurally secure the west wall. This forms part of the 'service wing'.

The roofing is pitched pantiles with ridge and hip tiles. There are plastic grilles along most of the end tiles to prevent ingress of wildlife. There is a total of five chimney stacks with lead flashing and sealed soffit boxes around upper walls of the property.

There were minor gaps observed in a small number of tile lifts and within the ridge and hip tiles.

The loft space comprises wooden rafters and joists with part boarded out flooring with fibre insulation. Bitumen felt is under the tiles. There was evidence of a small number of old bat droppings within the service wing area of the house, but no sign of fresh droppings or observations of actual bats.

Due to the evidence of old bat droppings in the service wing and some lifted areas of tiles, Fern House and service wing were assessed as having 'High' potential to support a bat roost and thus three further surveys were recommended. Photographs of the property are shown in Table 3 below.

Table 3: Preliminary Bat Roost Assessment Photographs – Fern House and service wing.



Eastern elevation of Fern House.



Southern elevation of Fern House.



Service wing. Northern (rendered) and eastern (brick) elevations.



Service wing eastern elevation (brick). Pink area is the 'lean-to'.

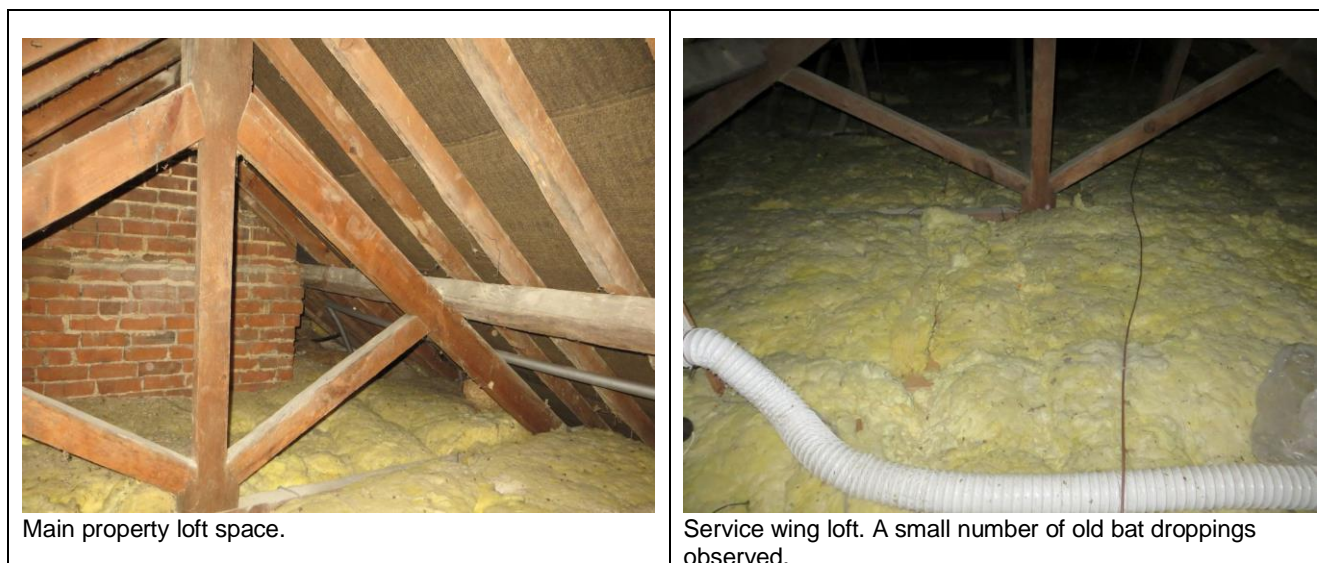


Roofing area where the service wing adjoins the main property and 'lean-to'. Pantiles.



Sealed soffit box.

Table 3 Continued: Preliminary Bat Roost Assessment Photographs – Fern House and service wing, lofts.



Coach House and Coal Store

Part of the Coach House complex comprises a tack room which contains original stable partitions. Behind this to the north is a small complex of brick outbuildings including a garage, potting shed and log store. The ceilings of these small outbuildings are mainly boarded along the underside of the roofing tiles.

Above the Coach House is a large loft space with wooden flooring with debris which was accessed through a ceiling door from the garage area. The roof comprises pitched pantiles over wooden supports and lathe and plaster with reeds. There were many gaps in the reeds giving the roof space low thermal stability. No evidence of current or previous use by bats was observed within the roof space. There is a louvre weather-vane tower at the top of the Coach House with gaps and some minor lifts on roofing tiles.

The Coal Store, adjoined to the Coach House at the south-western elevation comprises a small single-storey brick built structure with a fireplace and chimney stack, pitched pantiled roof with ridge and hip tiles and lead flashing against the Coach House. The roof space could not be viewed as it was sealed by the ceiling. Very minor gaps under roofing tiles.

Due to minor gaps and proximity to the service wing, the Coach House complex and Coal Store were assessed as having 'Moderate' potential to support a bat roost and thus two further surveys were recommended. Photographs of these buildings are shown in Table 4 below.

Table 4: Preliminary Bat Roost Assessment Photographs – Coach House and Coal Store.



Southern elevation of Coach House and Coal Store to the left of photograph. Photographer facing north.



Eastern elevation of Coach House.



Northern elevation of Coach House.



Roof area of Coach House inside main area.



Loft area of Coach House inside main area.



Coal Store.

Tree inspection

None of the trees surveyed were identified as having any features to support a bat roost, i.e. splits, cracks, loose bark, holes or dense ivy cover. These were all assessed as having 'Negligible' bat roost potential and no further bat surveys were recommended prior to felling.

Emergence surveys

The full results are presented as Appendix C, a summary is given below:

Fern House and service wing

Three emergence surveys were undertaken between 01/08/23 and 07/09/23. No bats were observed emerging from either Fern House nor the service wing area during surveys or from camera footage.

With respect to activity, six species of bat were recorded / observed:

- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Noctule *Nyctalus noctula*
- Brown long-eared *Plecotus auritus*
- Serotine *Eptesicus serotinus*
- *Myotis* species.

The most frequently recorded activity and sightings were for common pipistrelle. The first emergence survey on the 01/08/23 recorded numerous common pipistrelles commuting from over the garden area east of the property shortly after sunset, indicating a likely roost in one of the neighbouring properties to the east of the site.

There were occasional passes from the other species of bat, the second most common being from soprano pipistrelle.

The garden area to the east is also frequently used for foraging by common pipistrelle.

Coach House and Coal Store

Two emergence surveys were undertaken between 15/08/23 and 30/08/23. No bats were observed emerging from either building during surveys or from camera footage.

With respect to activity, six species of bat were recorded / observed:

- Common pipistrelle
- Soprano pipistrelle
- Noctule
- Brown long-eared

- Daubenton's bat *Myotis Daubentonii*.
- *Myotis* species.

The most frequently recorded activity and sightings were for common pipistrelle, followed by soprano pipistrelle and occasional passes from the other species.

SUMMARY AND EVALUTION

Iceni Ecology Limited undertook a PBRA and follow-on emergence bat surveys in August/September 2023 at a site at Fern House, Reepham, Norfolk NR10 4LA to support a planning application for minor development.

The PBRA assessed Fern House and its service wing as having 'High' potential to support a bat roost due to conducive features and old bat droppings within the loft of the service wing; the Coach House and Coal Store as 'Moderate' due to conducive features; and garden trees as 'Negligible' due to the lack of conducive features.

The proposed development comprises the following:

- An entire re-roof of the service wing of Fern House.
- Thermal upgrading of Fern House with insulation at ceiling level only (floor of loft).
- To re-instate the physical link between the Fern House and service wing with the Coach House with an extension / link building.
- To convert and renovate the Coach House to provide secondary living areas and a guest suite. Major disturbance to Coach House and demolition of the Coal Shed.
- Removal of some of the trees within the garden area of the site.

Based upon the PBRA, three emergence surveys were undertaken at Fern House and its service wing and two at the Coach House and Coal Store. No further surveys were recommended for the trees.

The emergence surveys (including camera footage) did not identify bats emerging from any of the buildings, however bat activity within the garden of the site identified activity by seven different species of bat, most commonly by common pipistrelle, with a roost likely east of the site in neighbouring buildings.

No further surveys are recommended, however precautionary measures are recommended for works on the service wing of Fern House due to the presence of old bat droppings.

The survey results are typically valid for 12-18 months. If this time lapses, the status of the buildings may be required to be updated.

PRECAUTIONARY MEASURES

The following precautionary measures are recommended at the service wing:

‘Soft-strip’ Procedure

The removal of the roofing tiles should be supervised by a bat licenced Ecologist under a ‘soft-strip procedure’:

- Each tile removed should be carefully removed by hand and checked underneath before stacking/discarding as bats often cling to the undersides of materials. Each tile should be lifted clear with two hands rather than lifting the front and rolling the tile/sheeting backwards which may crush any bats beneath.
- Should any bats be encountered during this initial check and soft strip, works at this point will cease until advice has been sought from a licensed ecologist.

Timing of Works

Roofing works should be undertaken when bats are unlikely to be using the roof, i.e. from the end of September to end of April, with optimum months being September to October and April.

Roofing Membrane

Roofing membrane of either bitumen 1F roofing felt or an underlay that has passed the required snagging test (E., Essah *et al*, 2020⁵) for non-bitumen coated roofing membranes (NBCRMs) should be used. Bitumen 1F felt that has a non-woven, short fibre construction does not need a snagging test.

Buildings Regulations require all construction materials to be fit for purpose, but some breathable roofing membranes (BRMs), although appropriate for their intended purpose, can potentially threaten the viability of roosts because of the way bats physically interact with their surface.

Currently the Bat Conservation Trust’s steering group is only aware of one product that has passed the snagging propensity test completed by an independent laboratory, this is TLX ‘Bat Safe’. For technical questions including building regulations in relation to TLX ‘Bat Safe’ please contact TLX Insulation on **01204 674 730** or email sales@tlxinsulation.co.uk. Their website is: <https://tlxinsulation.co.uk/tlx-batsafe/>.

⁵ E., Essah *et al*, 2020. Method for evaluating the snagging propensity of roofing membranes in buildings by roosting bats Building Research and Information 48(4).

BIODIVERSITY GAIN

Biodiversity gain is required under the NPPF and local planning policy.

The following is recommended:

Bat boxes

It is recommended that at least four bat boxes are installed on mature trees in the garden area, for example the Eco 'Kent', or similar. Bat boxes can be purchased from www.nhbs.co.uk and similar stockists.



The Eco Kent Bat Box has a weatherproof outer shell, making it secure and long-lasting; the additional plastic layer also reduces draughts inside the box, thus providing a more attractive roosting environment for bats.

The Eco Kent Bat Box is suitable for crevice-dwelling species. The two crevices inside the box are approximately 18mm wide, ideal for common and soprano pipistrelles. The FSC-certified spruce wood is roughly sawn on the inside, providing good grip for bats once inside the box. This box is self-cleaning and does not require any maintenance, as the droppings fall straight down out of the bottom entrance.

These bat boxes can be mounted on either a tree or building using the three concealed keyhole fixings located at the top of the box. If possible, site the box at a height of between 4m and 6m, southern/western/eastern elevations, away from artificial light sources. The box should not be positioned in direct sunlight. A clear path to the entrance of the box is essential.

Specification:

- * Materials: Recycled LDPR plastic outer, FSC spruce inner
- * Dimensions: H 52cm x W 23cm x D 16cm
- * Crevice Size: 18mm wide slot
- * Weight: 4.5kg
- * Fixing: Three concealed keyhole fixings at top of box

Security lighting

Security lighting around the property should be in compliance with the Institute of Lighting Professionals Guidance⁶ to maintain dark corridors in the garden area. The guidance can be found at <https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released>. Avoidance of lighting, however, should be a priority.

The 2023 guidance considers bats' roosting, foraging and commuting needs in the greater planning context. Some bat species have been shown to be impacted by significantly lower lighting levels than others, certain colour temperature environments also play a factor in the level of impact. However, all bats require dark roosting areas, corridors through the landscape and habitats to feed.

⁶ Bat Conservation Trust. Guidance Note Guidance Note GN08/23 Bats and Artificial Lighting At Night.

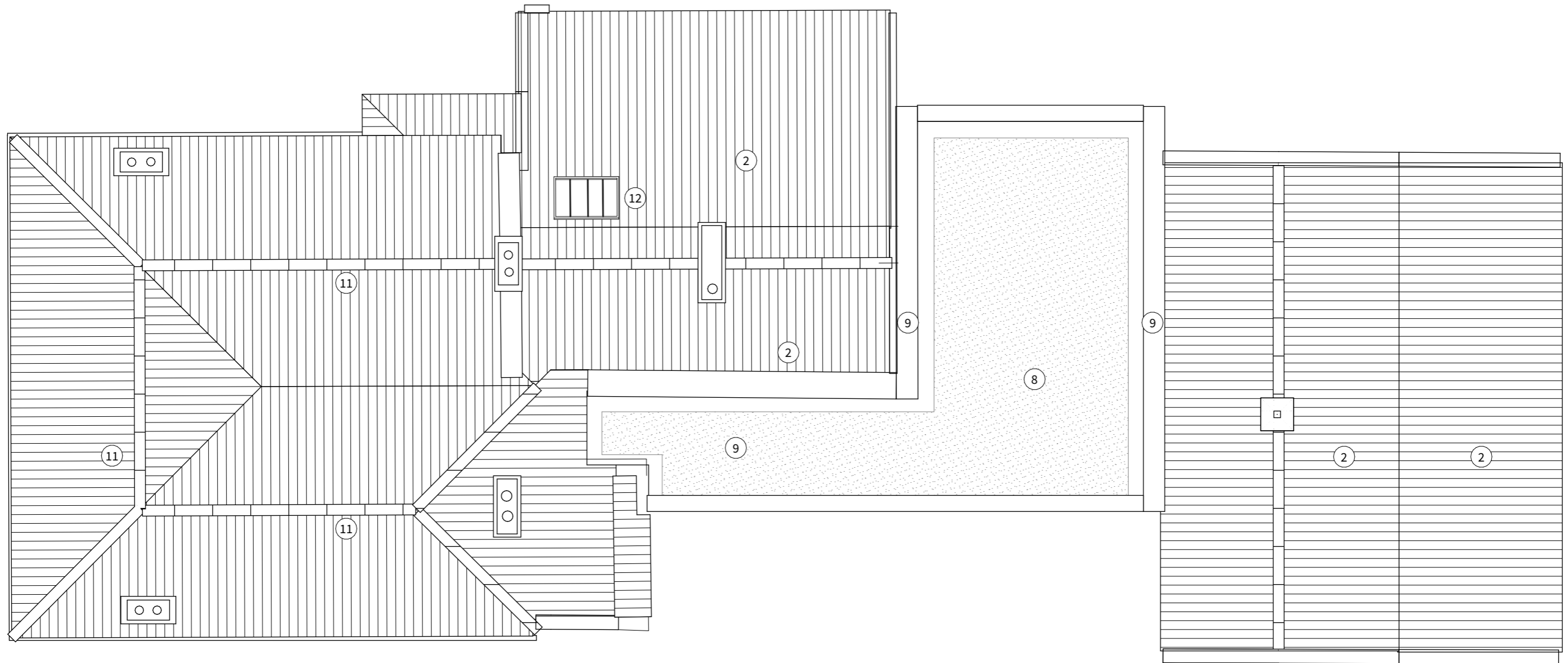
APPENDICES

Appendix A: Roof plan of proposals. Architects' drawing.

Appendix B: Topographical map showing trees earmarked for felling.

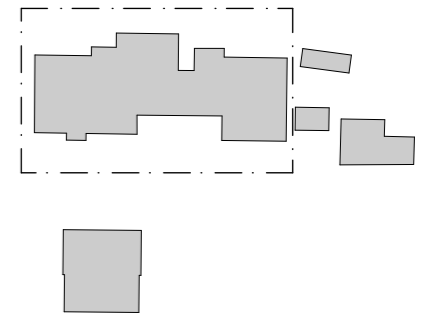
Appendix C: Emergence survey results 2023.

Appendix A
Architect's Drawing: Roof Plan



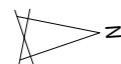
Key

1. Areas to be insulated using breathable insulation and lime plaster finishes.
2. Existing roof structure to be insulated at rafter level. Allow for new lime plaster ceiling finishes. Existing tiles to be relaid over new breather membrane.
3. Proposed retrofit of slimline double glazed units to existing joinery.
4. Proposed triple glazed window/door behind existing retained shutters
5. Underpinning to south wall of stable block at proposed link abutment.
6. Existing parapet capping to be removed, brickwork repaired with appropriate mortar. Stepped lead flashing at roof abutment and parapet capping replaced.
7. Proposed triple glazed screen with new structural steel columns behind
8. Sedum blanket roof.
9. 500mm wide triple glazed abutment detail
10. Allow for boarding existing structure with plywood
11. Existing flat ceilings to be enhanced with additional insulation.
12. Proposed conservation rooflight
13. Replacement carpet floor finish.
14. Tiled floor finish.
15. Engineered timber floor finish.
16. Proposed replacement sanitaryware.
17. Proposed fitted joinery throughout, including kitchen, larder etc
18. Timber stair with quarter landing.
19. Existing window opening enlarged to make door.
20. Proposed triple glazed hardwood window joinery to suit new/existing opening
21. Proposed triple glazed hardwood door joinery to suit new/existing opening
22. Photovoltaic array (shown indicatively, sizing subject to detailed design).
23. Proposed insulated limecrete slab consisting compacted foamglass insulation, lime slab incorporating UFH. Tiled floor finish.
24. Proposed insulation between existing joists, retained by new breather membrane. Existing floorboards carefully reinstated.
25. Existing panment tiles to be carefully removed and reinstated following insulation works.
26. Proposed garden wall, refer to landscape plan.
27. Proposed secondary glazing installed behind existing window.
28. Proposed hard landscaping; refer to landscape plan.
29. Existing stable partitions retained and refurbished.
30. Existing stable partitions retained and refurbished. Higher level solid panelling removed. Door removed.
31. Proposed painted lime render.



PROPOSED ROOF PLAN

1:100@A3



DRAFT 26.09.23 HUDSONArchitects <small>revisions</small> +44 (0)1603 766 220 www.hudsonarchitects.co.uk info@hudsonarchitects.co.uk	job Fern House Reepham	PL-110	
	address EYNSFORD HOUSE NR10 4LA	FHR job code	revision
	title AS PROPOSED PROPOSED ROOF PLAN	status	
	scale 1:100@A3	<small>Do not scale off dimensions. Check all dimensions on site and report any discrepancies immediately. This drawing is copyright.</small>	

Appendix B
Topographical Drawing Showing Tree Removal

Tom Leylandii to remove

Fallen tree to extract

Stumps out

Dead out

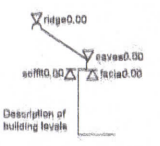
Leylandii & Chamaecyparis at their life end

Dead shrubs to remove

Chamaecyparis to remove giving space to Mulberry and Beech

sick Yew to extract

Notes:



Survey to Ordnance Survey grid and datum by
 GPK GPS translated from ETR569 to OSGB36(15)
 coordinates using OSTN/OM10 models. Local scale
 factor 1.000

Trees identified where possible but subject to
 confirmation from arborist. Tree heights
 approximate unless otherwise stated or shown by
 level above 0.00m.

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Thomas Goodliffe Surveying Ltd
 Measured Building and Land Surveys

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			

Thomas Goodliffe Surveying Ltd
 2 WALTERTON ROAD
 IFFTINGHAM
 NORFOLK NR11 7BA
 01263 587386
 tom@tgsurveying.co.uk

CLIENT:
 Hudson Architects

SITE:
 Eynsford House Reepham

TITLE:
 Topographical survey

SCALE AT A1: 1:250	DATE: 26/04/23	DRAWN: TJWG	CHECKED: TJWG
PROJECT NO: 2097	DRAWING NO: A1/006	REVISION: B	

Appendix C
Emergence Bat Survey Results 2023

- 1. Fern House and Service Wing**
- 2. Coach House & Coal Store**

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	01/08/2023	Sunset / Sunrise [24hr]:	20:48
Type of survey:	Emergence	Surveyor(s):	D Hall
Start time:	20:33	End time:	22:18
Start temperature °C:	14	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batlogger M	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: East of main house (in garden)

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:55	Common pipistrelle	2	P from east over to front garden (south)
20:57	Common pipistrelle	2	P from east over to front garden (south)
21:00	Common pipistrelle	4	P from east over to front garden (south)
21:06	Common pipistrelle	2	P from east over to front garden (south)
21:09	Common pipistrelle	4	P from east over to front garden (south)
21:12	Common pipistrelle	1	P from front garden (south) to east
21:12	Common pipistrelle	3	P from east over to front garden (south)
21:14	Common pipistrelle	3	P from east over to front garden (south)
21:16	Common pipistrelle	4	P from east over to front garden (south)
21:19	Soprano pipistrelle	1	P from east over to front garden (south)
21:20	Common pipistrelle	1	P from east over to front garden (south)
21:37	Common pipistrelle	1	P from east over to front garden (south)
21:45	Common pipistrelle	1	P from east, then F next to front garden (south)
21:46	Common pipistrelle	1	P HNS
21:50	Common pipistrelle	1	F HNS
21:52	Common pipistrelle	1	F in garden to east
21:59	Common pipistrelle	1	F HNS
22:03	Common pipistrelle	1	F in garden to east
22:09	Common pipistrelle	1	F in garden to east
22:12	Common pipistrelle	1	F in garden to east
22:14	Common pipistrelle	1	F in garden to east
22:17	Common pipistrelle	1	F HNS
Notes:	No emergences observed.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	01/08/2023	Sunset / Sunrise [24hr]:	20:48
Type of survey:	Emergence	Surveyor(s):	C H-J
Start time:	20:33	End time:	22:18
Start temperature °C:	14	End temperature °C:	12
OS Grid Ref:		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Anabat Scout + Sony FDR-AX53	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: North-eastern / northern elevation of service wing in garden area

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
21:03	Common pipistrelle	1	P over house from east
21:09	Common pipistrelle	1	P north-east over house from east westwards
21:11	Common pipistrelle	1	P north-east over house from east westwards
21:16	Common pipistrelle	1	F
21:18	Common pipistrelle	1	F
21:30	Soprano pipistrelle	1	P across roof
21:37	Common pipistrelle	1	F around northern elevation
21:40	Soprano pipistrelle	1	P west along northern elevation
21:41	Soprano pipistrelle	1	P west along northern elevation
21:42	Soprano pipistrelle	1	P from north-west, then F. Headed north.
21:46	Common pipistrelle	1	F along northern elevation
21:50	Soprano pipistrelle	1	P North-east to west across roof
22:05	Common pipistrelle	1	Brief F P
22:13	Common pipistrelle	1	Brief F P
Notes:	No emergences observed		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	01/08/2023	Sunset / Sunrise [24hr]:	20:48
Type of survey:	Emergence	Surveyor(s):	Ben Jervis
Start time:	20:33	End time:	22:18
Start temperature °C:	14	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	EMT2 Pro + Nightfox Whisker	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: East of service wing

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:55	Common pipistrelle	1	HNS likely from E in gardens
20:56	Common pipistrelle	1	P North-east to south-west in garden
21:03	Common pipistrelle	1	P from east, over house
21:06	Common pipistrelle	2	P from east, heading south-west
21:09	Common pipistrelle	1	Ditto
21:11	Common pipistrelle	1	Ditto
21:12	Common pipistrelle	1	Ditto
21:16	Common pipistrelle	2	Ditto
21:18	Soprano pipistrelle	1	P HNS
21:27	Soprano pipistrelle	1	P HNS
21:32	Common pipistrelle	1	P HNS faint
21:37	Common pipistrelle	1	P HNS
21:38	Common pipistrelle	1	F north-east of house. Social Calls.
21:57	Serotine	1	HNS
22:02	Common pipistrelle	1	HNS faint brief P
22:04	Common pipistrelle	1	HNS brief P
22:05	Common pipistrelle	1	HNS brief P
22:09	Common pipistrelle	1	HNS
22:13	Common pipistrelle	1	HNS v.brief P

Notes: No bats observed emerging. Maternity roost of common pipistrelle likely to north/north-east of site.

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	01/08/2023	Sunset / Sunrise [24hr]:	20:48
Type of survey:	Emergence	Surveyor(s):	R Winchester
Start time:	20:33	End time:	22:18
Start temperature °C:	14	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batscanner	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: south-west of Fern House

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:55	Common pipistrelle	1	P from east
20:57	Common pipistrelle	1	P from east
20:59	Common pipistrelle	1	P along hedgerow (south) from east
21:01	Common pipistrelle	1	P along hedgerow (south) from east
21:02	Common pipistrelle	1	P HNS
21:04	Common pipistrelle	2	P HNS
21:07	Common pipistrelle	1	P HNS
21:08	Common pipistrelle	1	P HNS
21:09	Noctule	1	P HNS
21:10	Common pipistrelle	1	F in front garden (south)
21:15	Common pipistrelle	1	F in front garden (south)
21:16 to 21:20	Common pipistrelle	1	F in front garden (south)
21:23	Common pipistrelle	1	F in front garden (south)
21:27	Common pipistrelle	1	F HNS
21:31	Common pipistrelle	1	F HNS
21:34	Common pipistrelle	1	P HNS
21:35	Common pipistrelle	1	P north to south to road
21:38	Common pipistrelle	1	P HNS
21:42	Noctule	1	P HNS
21:48	Common pipistrelle	1	P HNS
21:50	Soprano pipistrelle	1	P HNS
21:55 to 21:58	Common pipistrelle	1	F HNS
22:11 to 22:13	Common pipistrelle	1	F HNS
22:17	Common pipistrelle	1	P HNS

Notes: No emergences observed from south or west of house.

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	29/08/2023	Sunset / Sunrise [24hr]:	19:51
Type of survey:	Emergence	Surveyor(s):	D Hall
Start time:	19:36	End time:	21:18
Start temperature °C:	16	End temperature °C:	13
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batlogger M	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N/L to M
Position of surveyor: north-west of service wing			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:08	Common pipistrelle	1	P from north then moving west over wall
20:10	Soprano pipistrelle	1	P north to south alongside house
20:15	Common pipistrelle	1	P over roof of house (east to west)
20:17	Common pipistrelle	1	P north to south alongside house
20:23	Common pipistrelle	1	P HNS
Notes:	No bats observed emerging from house. Survey ended at 20:50 due to rain.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	29/08/2023	Sunset / Sunrise [24hr]:	19:51
Type of survey:	Emergence	Surveyor(s):	C H-J
Start time:	19:36	End time:	21:21
Start temperature °C:	16	End temperature °C:	13
OS Grid Ref:		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Anabat Scout + Sony FDR-AX53	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N / L to M
Position of surveyor: North-eastern / northern elevation of house / service wing in garden area			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:07	Common pipistrelle	1	P from along eastern elevation of house
20:10	Common pipistrelle	1	P east to west along northern elevation of house
20:13	Common pipistrelle	1	P from east to west along northern elevation of house
20:14	Common pipistrelle	1	P/F from east to west (as above)
20:16	Common pipistrelle	1	Ditto above
20:17	Common pipistrelle	1	P/F from north-east to south-west
Notes:	No bats observed emerging from house. Survey ended at 20:50 due to rain.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	29/08/2023	Sunset / Sunrise [24hr]:	19:51
Type of survey:	Emergence	Surveyor(s):	Ben Jervis
Start time:	19:36	End time:	21:21
Start temperature °C:	16	End temperature °C:	13
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	EMT2 Pro + Nightfox Whisker	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N / L to M
Position of surveyor: East of service wing			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:05	Common pipistrelle	1	P HNS
20:07	Common pipistrelle	1	P flying to east, then F in garden (east)
20:15	Common pipistrelle	1	F east to west
20:18	Soprano pipistrelle	1	P HNS
Notes:	No bats observed emerging from house. Survey ended at 20:50 due to rain.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	29/08/2023	Sunset / Sunrise [24hr]:	19:51
Type of survey:	Emergence	Surveyor(s):	R Winchester
Start time:	19:36	End time:	21:21
Start temperature °C:	16	End temperature °C:	13
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batscanner	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N / L to M

Position of surveyor: East of Fern house

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:05	Common pipistrelle	1	P from east to west
20:07	Common pipistrelle	1	P from east to west
20:10	Common pipistrelle	1	P from east to west
20:14	Common pipistrelle	1	P from east to west
20:17	Common pipistrelle	2	P from east to west
20:23	Common pipistrelle	1	P from east to west
20:39	Common pipistrelle	1	P from east to west
20:41	Soprano pipistrelle	1	P from east to west
20:42	Brown long-eared	1	P HNS
20:44	Brown long-eared	1	P HNS
20:48	Noctule	1	P HNS
20:49	Common pipistrelle	1	P from east to west

Notes:

No bats observed emerging from house. Survey ended at 20:50 due to rain.

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	30/08/2023	Sunset / Sunrise [24hr]:	19:49
Type of survey:	Emergence	Surveyor(s):	C H-J
Start time:	19:34	End time:	21:19
Start temperature °C:	13	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Anabat Scout + Sony FDR-AX53	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N
Position of surveyor: <i>north-east elevation of house (by service wing)</i>			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:12	Common pipistrelle	1	P along east of house from the south
20:14	Common pipistrelle	1	P from north-east to south-west across site
20:30	Common pipistrelle	1	F north-east to west / commuting
20:36	Common pipistrelle	1	P
20:41	Common pipistrelle	1	P
20:43	Common pipistrelle	1	F briefly up and down northern elevation of extension
Notes:	No bats observed emerging from the house extension.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	07/09/2023	Sunset / Sunrise [24hr]:	19:31
Type of survey:	Emergence	Surveyor(s):	D Hall
Start time:	19:16	End time:	21:01
Start temperature °C:	21	End temperature °C:	19
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batlogger M	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: West of Fern House

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
19:56	Common pipistrelle	1	P North to South along edge of property
20:04	Common pipistrelle	1	P South to North
20:07	Common pipistrelle	1	P HNS
20:08	<i>Myotis sp.</i>	1	F over garden area to west of house
20:09	Common pipistrelle	1	P South to North
20:22	Common pipistrelle	1	F over garden area to west of house
20:38	Common pipistrelle	1	P HNS
20:40 to 20:41	Common pipistrelle	1	F HNS
20:45 to 20:47	Common pipistrelle	1	F HNS
20:48	Soprano pipistrelle	1	P HNS
20:50	Common pipistrelle	1	P HNS
20:54	Common pipistrelle	1	F HNS (likely in next door's garden)
20:57	Common pipistrelle	1	P HNS
21:01	Common pipistrelle	1	P HNS in distance
Notes:	No bats observed emerging from house		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk		23 0052
Date:	07/09/2023	Sunset / Sunrise [24hr]:	19:31
Type of survey:	Emergence	Surveyor(s):	R Winchester
Start time:	19:16	End time:	21:01
Start temperature °C:	21	End temperature °C:	19
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batscanner	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: East of Fern House

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
19:43	Common pipistrelle	1	P east to north
19:50	Common pipistrelle	1	P HNS
19:53	Common pipistrelle	2	P north to south
19:54	Common pipistrelle	1	P HNS
19:56	Common pipistrelle	1	P north to south
19:58	Noctule	1	P north to south
20:00	Soprano pipistrelle	1	P east to west along main road
20:05	Common pipistrelle	1	P north to south
20:08	Common pipistrelle	1	P HNS
20:09	Common pipistrelle	2	P west to east
20:28	Common pipistrelle	1	P HNS
20:30	Common pipistrelle	1	F HNS
20:41	Common pipistrelle	1	P HNS
20:44	Brown long-eared	1	F
20:51	Common pipistrelle	1	P HNS
20:55	Noctule	1	P HNS
20:56	Common pipistrelle	1	P east to west
20:59	Common pipistrelle	1	P HNS

Notes: No bats observed emerging from house

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [COACH HOUSE]		23 0052
Date:	15/08/2023	Sunset / Sunrise [24hr]:	20:22
Type of survey:	Emergence	Surveyor(s):	C H-J
Start time:	20:07	End time:	21:52
Start temperature °C:	18	End temperature °C:	16
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Anabat Scout / Nightfox Whiske	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N
Position of surveyor: North-west corner of Coach House / Coal Store			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:42	Common pipistrelle	1	P from north to south along coach house and house
20:50	Common pipistrelle	1	P from around north-west corner of building, to south
20:52	Common pipistrelle	1	P & F ditto as above
20:55	Common pipistrelle	1	P & F
20:56	Soprano pipistrelle	1	P
21:11	Common pipistrelle	1	P
21:23	Common pipistrelle	1	F faint calls
Notes:	No bats observed emerging from buildings.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [COACH HOUSE]		23 0052
Date:	15/08/2023	Sunset / Sunrise [24hr]:	20:22
Type of survey:	Emergence	Surveyor(s):	Ben Jervis
Start time:	20:07	End time:	21:52
Start temperature °C:	18	End temperature °C:	16
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	EMT2 Pro + Sony FDR-AX53	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: South-east corner of Coach House / Coal Store

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:40	Common pipistrelle	1	HNS in distance
20:43 and 20:45	Common pipistrelle	1	Faint P
20:54	Soprano pipistrelle	1	P east to west
21:00	Common pipistrelle	1	P east to west, then south
21:04	Common pipistrelle	1	P north-east
21:06	Soprano pipistrelle	1	P east to west
21:08 & 21:10	Common pipistrelle	1	HNS brief P
21:13 to 21:27	Common pipistrelle	1	F
21:37	Common pipistrelle	1	P HNS
21:39 & 21:43	Brown long-eared	1	P HNS
21:43	Common pipistrelle	1	P HNS
21:45	Daubenton's	1	P HNS

Notes: No bats observed emerging from buildings.

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [COACH HOUSE]		23 0052
Date:	16/08/2023	Sunset / Sunrise [24hr]:	20:20
Type of survey:	Emergence	Surveyor(s):	C H-J
Start time:	20:05	End time:	21:50
Start temperature °C:	18	End temperature °C:	16
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Anabat Scout/Sony FDR-AX53	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N
Position of surveyor: North-east of Coach House / Coal Store			
Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:39	Common pipistrelle	1	P faint HNS
20:46	Common pipistrelle	1	P north to west to south
21:10	Soprano pipistrelle	1	P north to north-east
21:17	Common pipistrelle	1	F HNS brief
Notes:	No bats observed emerging from buildings.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [COACH HOUSE]		23 0052
Date:	16/08/2023	Sunset / Sunrise [24hr]:	20:20
Type of survey:	Emergence	Surveyor(s):	Ben Jervis
Start time:	20:05	End time:	21:50
Start temperature °C:	18	End temperature °C:	16
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	EMT2 Pro + Nightfox Whisker	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: South-west of Coach House / Coal Store

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:37	Common pipistrelle	1	P north to south
20:41	Common pipistrelle	1	P east to west, then south
20:46 & 20:48	Common pipistrelle	1	P north to south
20:56 to 21:00	Common pipistrelle	1	F west
21:01	Soprano pipistrelle	1	P HNS
21:05	Soprano pipistrelle	1	P west to east
21:07	Common pipistrelle	1	P north to south
21:11	Common pipistrelle	1	P north-east to south-west
21:21	Common pipistrelle	1	P
21:33	Common pipistrelle	1	P HNS
21:38 to end	Soprano pipistrelle	1	Occasional P
ditto	Common pipistrelle	1	Occasional P
ditto	Noctule	1	Occasional P
Notes:	No bats observed emerging from buildings.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [CART SHED]		23 0052
Date:	30/08/2023	Sunset / Sunrise [24hr]:	19:49
Type of survey:	Emergence	Surveyor(s):	D Hall
Start time:	19:34	End time:	21:19
Start temperature °C:	13	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batlogger M	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: North-east corner of Coach House / Coal Store

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:12	Common pipistrelle	1	F in distance HNS
20:15	Common pipistrelle	1	P east to west (from garden)
20:17 to 20:24	Common pipistrelle	1	F over garden to east
20:25	Common pipistrelle	1	P from west to east
20:28	Common pipistrelle	1	P HNS
20:32 to 20:34	Common pipistrelle	1	F over garden to east
20:36	Common pipistrelle	1	P HNS
20:37	Soprano pipistrelle	1	P west to east
20:41 to 20:45	Common pipistrelle	2	F over garden to east
20:47	Common pipistrelle	2	F over garden to east
20:49	Common pipistrelle	1	F over garden to east
21:16	Common pipistrelle	1	P HNS faint call
21:18	<i>Myotis sp.</i>	1	P HNS
21:19	Common pipistrelle	1	P HNS
Notes:	No bats observed emerging from buildings.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [CART SHED]		23 0052
Date:	30/08/2023	Sunset / Sunrise [24hr]:	19:49
Type of survey:	Emergence	Surveyor(s):	Ben Jervis
Start time:	19:34	End time:	21:19
Start temperature °C:	13	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	EMT2 Pro + Nightfox Whisker	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: South-east of Coach House / Coal Store

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:12	Common pipistrelle	1	P HNS (likely to south/east).
20:20	Common pipistrelle	1	P HNS
20:30	Common pipistrelle	1	P from east heading west between buildings
20:32	Common pipistrelle	1	P HNS
20:36	Common pipistrelle	1	P to west at buildings
20:41	Common pipistrelle	1	P HNS
20:43 to 20:44	Common pipistrelle	2	Passes from north-east heading west between buildings
20:47 to 20:50	Common pipistrelle	1	F + social calls around south and east of building
20:51	Noctule	1	P HNS
20:54 to 20:58	Common pipistrelle	1	P + social call HNS
20:58	<i>Myotis sp.</i>	1	Brief P (2 x pulses) HNS
21:00 to 21:19	Common pipistrelle	1	Occasional P and F HNS (likely in garden to the east)
Notes:	No bats observed emerging from buildings.		

BAT SURVEY RESULTS - EMERGENCE



Project name:	Fern House, Dereham Road, Reepham, Norfolk [CART SHED]		23 0052
Date:	30/08/2023	Sunset / Sunrise [24hr]:	19:49
Type of survey:	Emergence	Surveyor(s):	R Winchester
Start time:	19:34	End time:	21:19
Start temperature °C:	13	End temperature °C:	12
		Wind: (N)one, (L)ight, (M)od, (S)trong:	N
Bat Detector(s):	Elekon Batscanner	Rain: (N)one, (L)ight, (M)od, (H)eavy:	N

Position of surveyor: North west of Coach House / Coal Store

Time(s):	Species:	No.	Activity: (E)mergence, (R)e-entry, (P)ass/Commuting, (F)oraging, (S)warming; Heard Not Seen (HNS) & Target Notes such as flight direction.
20:03	Common pipistrelle	1	P north to south
20:07	Common pipistrelle	1	P north to south
20:17	Common pipistrelle	1	F HNS
20:18	Common pipistrelle	1	P north then out to west
20:19	Common pipistrelle	1	P north then out to west
20:21	Common pipistrelle	1	P north then out to west
20:22	Common pipistrelle	1	P north to east
20:24	Common pipistrelle	2	P north to east
20:25	Common pipistrelle	1	P HNS
20:25	Soprano pipistrelle	1	P HNS
20:26	Common pipistrelle	2	P HNS
20:28	Soprano pipistrelle	1	P HNS
20:29	Common pipistrelle	1	P HNS
20:32	Brown long-eared	1	P east to west
20:33	Common pipistrelle	1	P west to east
20:35 to 20:38	Common pipistrelle	1	F HNS
20:41	Soprano pipistrelle	1	P HNS
20:41 to 21:16	Common pipistrelle	1	F HNS
21:18	Noctule	1	P HNS
21:19	Common pipistrelle	1	P HNS

Notes: No bats observed emerging from buildings.