Preliminary Bat and Bird Assessment & Bat Survey Report

Cottages at Trereife House, Newlyn, Penzance, Cornwall, TR20 8TJ

Grid Reference: SW 45186 29576

14th November 2023

Plan for Ecology Ltd

Tremough Innovation Centre

Tremough Campus, Penryn, Cornwall, TR10 9TA

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Document Control:

Site Name:	Cottages at Trereife House, Newlyn, Penzance, Cornwall, TR20 8TJ
OS Grid Reference:	SW 45186 29576
Report Author:	Naomi Scala BSc (Hons) MSc ACIEEM; bat licence no. 2018-34120-CLS-CLS; Barn Owl licence no. 2023-11048-CL29-OWL; dormouse licence no: 2016-20661-CLS-CLS
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Client:	Jonathan Rhind Architects on behalf of Will Chapman
Report Reference Number:	P4E3204
Version:	01
Date:	14th November 2023

Declaration:

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

Naomi Scala	[redacted]
Kim Jelbert	

Report Lifespan:

Ecological features can change over time, particularly if site management/ use changes. Typically, preliminary bat and bird assessments and bat surveys are valid for 18 months (until March 2025).

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1.0 Summary

Bat evidence?	The combined bat survey work has confirmed the presence of two common pipistrelle (*Pipistrellus pipistrellus*) bat day roosts within the building (supporting likely two individuals in total).
Proposed works?	Remediation and re-roofing works
Bat specific mitigation recommendations?	Works will not commence until an appropriate licence has been obtained from Natural England. The licence cannot be obtained until planning consent (if required) is in place. Works with potential to impact bats will be carried out under an ecological watching brief and scheduled for a time of year when bats are least likely to be negatively impacted. A temporary bat box will be installed on a nearby structure or tree to accommodate any common pipistrelle bats uncovered during works. NB: the bat box (1 x Schwegler 2F or a comparable product) will be installed in advance of works commencing. The two common pipistrelle bat day roosts located beneath a ridge tile on the northern section of the building and from the chimney on the west elevation, will likely be lost. Loss of the common pipistrelle bat day roosts will be compensated preferably by reinstating comparable gaps beneath a ridge tile and roof tile. This can be achieved by leaving a 20mm x 50mm gap beneath a ridge tile through sparing use of mortar and by installing a bat slate within the roof structure. Alternatively, two bat boxes could be installed on the exterior of the renovated building. The location/ aspect of the alternative bat roost features will replicate those lost as closely as possible (north and west elevations). Where bats will come into contact with the roof membrane, this **must** comprise **bitumen type 1F** or a non-bitumen coated roofing membrane (NBCRM) with a test certificate approved by Natural England. This is because modern synthetic membranes are harmful to bats and their use will not be permitted by Natural England. The roof will be 'soft stripped' under an ecological watching brief at a time of year when bats are least likely to be negatively impacted, and following a thorough search of the building for bats. A licensed bat ecologist will oversee removal of the roof; any common pipistrelle bats uncovered will be relocated to a bat box installed within a nearby tree or structure. Lighting can have significant impacts on roosting bats; **no exterior lighting will be installed close to the temporary or permanent bat roost features**. A licensed and suitably qualified bat ecologist will oversee works. Building contractors will be briefed prior to commencement of site works. Contractors will be notified about the potential presence of bats and

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	informed that if a bat/s is uncovered during works, work must stop immediately (as soon as it is safe to do so) and advice sought from a licenced bat ecologist.
Bird evidence?	No evidence of nesting birds was found during the survey. Due to the absence of evidence of barn owl and suitable access for this species, the building was assessed as being of '**negligible suitability'** for barn owl.
Bird mitigation recommendations?	A precautionary approach should be adopted. If, during construction works, an active bird nest is uncovered, works within at least 5m of the nest must stop immediately (as soon as it is safe to do so) and delayed until nesting activity has ceased. Works are most likely to be delayed between April and July. No further surveys for birds are recommended. There is opportunity to incorporate provision for nesting birds post-development by installing bird boxes within the site.

2.0 Introduction

2.1 Background

Plan for Ecology Ltd were commissioned by Jonathan Rhind Architects, on behalf of Will Chapman, to undertake a Preliminary Bat and Bird Assessment (sometimes referred to as a Bat and Barn Owl Assessment) and further bat surveys of Cottages at Trereife House, Newlyn, Penzance, Cornwall, TR20 8TJ (OS Grid Ref: SW 45186 29576) in July 2023.

The Preliminary Bat & Bird Assessment, undertaken on 29th August 2023, assessed the building as being of 'moderate suitability' for roosting bats. Further bat surveys were recommended to inform the planning application and subsequent development works. The client proposes remediation and re-roofing works.

In accordance with the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016), the recommended further survey work comprised a minimum of two bat emergence or re-entry surveys and a static monitoring survey of the building during the bat active season (May to September inclusive), along with DNA analysis of bat droppings collected from within the building.

This report describes and evaluates the use of the building by bats, and details mitigation recommendations to minimize impacts upon bats in accordance with the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016).

2.2 Project Administration

Property Address:	Cottages at Trereife House, Newlyn, Penzance, Cornwall, TR20 8TJ
OS Grid Reference:	SW 45186 29576
Client:	Will Chapman
Planning Authority:	Cornwall Council
Planning Reference Number:	Unknown

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Report Reference Number:	P4E3204
Proposed work:	Remediation and re-roofing works
Visual Assessment Date:	29th August 2023
Emergence Survey Dates:	29th August 2023 and 26th September 2023
Static Monitoring Survey Dates:	26th – 30th September 2023
Ecologist & Licence Number:	Naomi Scala BSc (Hons) MSc ACIEEM; bat licence no. 2018- 34120-CLS-CLS; Barn Owl licence no. 2023-11048-CL29-OWL Caroline Davey BSc (Hons) MSc ACIEEM; Bat licence (Level 2) no. 2022-10817-CL18-BAT Holly Thomas FdSc John Blackburn BSc (Hons), MSc, MCIEEM; bat licence no: 2019-39576-CLS-CLS Rebecca Golder BSc (Hons) ACIEEM (Bat licence no: 2015-16519-CLS-CLS) Chloe Balmer MSci (Hons) ACIEEM; bat licence No: 2020-47040-CLS-CLS; Barn Owl licence No. 2022-10943-CL29-OWL.

2.3 Legislation & Planning Policy

Planning: The local planning authority has a statutory obligation to consider impacts upon protected species resulting from development. Planning permission will not be granted with outstanding ecological surveys, and if applicable an appropriate mitigation plan.

Bats: In Britain protection of European Protected Species (EPS) such as bats is achieved through their inclusion on Schedule 2 of the Conservation and Habitats Regulations 2017 (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019)), Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 12 of the Countryside and Rights of Way Act 2000 (HM Government, 1981, 2000, 2017, 2019).

As a result of this statutory legislation it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat/s in its roost;
- Intentionally or recklessly damage, destroy or obstruct access to a bat roost (even if bats are not occupying the roost at the time);
- Possess or sell or exchange a bat (dead or alive) or part of a bat.

Works with potential to cause significant disturbance to roosting bats may require a European Protected Species (EPSL) licence or Bat Mitigation Class Licence (CL21) from Natural England before works can legally commence. Works likely to result in less significant disturbance may be carried out under a Bat Mitigation Method Statement. The magnitude of disturbance and, therefore, the requirement for an EPSL, Bat Mitigation Class Licence or method statement is assessed on a case-by-case basis by the bat ecologist. The Bat Mitigation Method Statement or EPSL must be prepared and/or applied for by a suitably experienced and licenced bat ecologist.

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Where planning permission is required, the appropriate licence cannot be obtained until planning permission has been granted.

Birds: In Britain the nests (whilst in use or being built) and eggs of wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981 (as amended) (HM Government, 1981). The barn owl (*Tyto alba*) is listed on Schedule 1 of the Wildlife and Countryside Act (HM Government, 1981); this legislation makes it an offence to:

- Intentionally capture, injure or kill a barn owl;
- Intentionally or recklessly disturb a barn owl whilst nesting;
- Intentionally or recklessly disturb a dependent young barn owl.

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3.0 Methodology

3.1 Visual Assessment

A visual assessment of Cottages at Trereife House was undertaken on 29th August 2023. The ecologist (Naomi Scala) assessed the suitability of the building and surrounding habitat to support bats and birds in accordance with Collins (2016). A high-power torch was used to illuminate all accessible areas of the building with potential to support roosting bats. The ecologist searched for signs of bats including droppings, staining and feeding remains.

The assessment was carried out in accordance with the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016). Potential bat roosts identified during the visual inspection of the building were categorised as to their suitability in accordance with the Bat Conservation Trust's (BCT) Good Practice Guidelines (Collins, 2016) as described below:

Negligible: negligible features with potential to support roosting bats.

Low: one or more features with potential to support individual bats on an occasional basis. Unlikely to support large numbers of bats.

Moderate: one or more features with potential to support roosting bats but unlikely to be of high conservation status.

High: one or more features with potential to support large numbers of bats on a regular basis.

3.2 Emergence Surveys

Emergence surveys of the building were undertaken on 29th August and 26th September 2023. An emergence survey involves an ecologist(s) counting the number of bats emerging from the building at dusk, commencing 15 minutes before sunset and continuing for a period of at least 1.75 hrs. The surveyor(s) records the calls of any bats that emerge using a bat detector and recording equipment; this enables identification of the species present and the location of bat access points. Four ecologists were required to cover all elevations of the building. Surveyor locations are shown in Fig. 1 (below).

In accordance with the interim guidance note on the use of night vision aids (BCT, 2022), the surveyors also used night vision recording equipment as detailed below; this enables identification of the species present and the location of bat access points (where applicable). Night vision aids increase the likelihood of detecting bats emerging later during the survey (45 minutes after sunset onwards) when light levels are low. The ecologists reviewed the video footage for the last 60 minutes of the survey (when light levels were low, and bats could be missed by the surveyor).

On both bat emergence survey occasions, surveyor 1 (Rebecca Golder) used an Echo Meter Touch 2 (EMT2) detector and surveyor 2 (John Blackburn) used at Anabat Walkabout detector. On the first survey occasion, surveyor 3 (Holly Thomas) used an Anabat Express and BatBox Duet detector; and surveyor 4 (Naomi Scala) used an Echo Meter Touch 2 (EMT2) detector. On the second survey occasion, surveyor 3 (Chloe Balmer) and surveyor 4 (Caroline Davey) used an Echo Meter Touch 2 (EMT2) detector. Surveyors 3 and 4 also used a Reolink RLC-811A security camera with JC Security Infrared Illuminator 12-LED, and surveyor 2 used a Sony FDR-AX700 4K HDR camcorder and Infrared Illuminator. All cameras and infrared illuminators were mounted on tripods. The Reolink RLC-811A and Sony FDR-AX700 4K HDR cameras are widely and successfully used to record bats emerging from buildings.

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Different bat detector types use different methods of detecting; the EMT2 detectors use heterodyne and real-time expansion; the BatBox Duet uses heterodyne and frequency division; the Anabat Express uses frequency division; and the Anabat Walkabout in addition to these modes uses the Pitch Shifting mode of detection. Each method of detection is described below:

- Frequency division: this method automatically and continuously records bat calls at all frequencies and makes them audible to the human ear by dividing the call frequency by 10. Calls are played in real time and can be readily identified with sound analysis.
- Heterodyne: this method identifies bat calls echolocating at the frequency set by the operator but will fail to/ or only partially record bat calls outside this frequency.
- A real-time expansion bat detector digitally records ultrasonic bat calls and then plays them back at a slower rate and frequency to give an audible output.
- Pitch shifting compresses the ultrasonic spectrum into an audible band by shifting the pitch of the sound, allowing calls to be heard in real time. Harmonic components and amplitude of bat calls are kept in the process. Files are recorded for subsequent sound analysis.

Data analysis was undertaken by an ecologist experienced in bat sound analysis (Naomi Scala) using AnalookW.

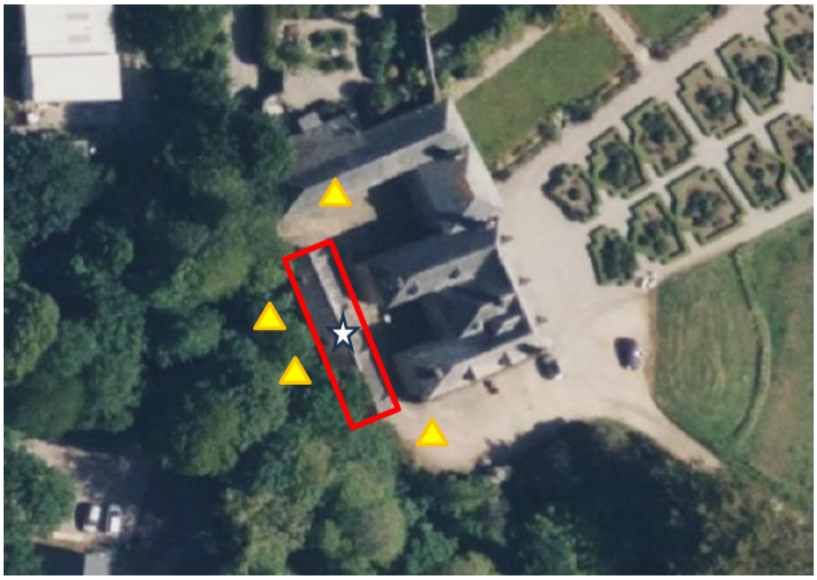

Figure 1: Emergence surveys – surveyor locations. The building surveyed is outlined in red. Yellow triangles show the approximate locations of surveyors and cameras on both emergence surveys and the white star shows the location of the static detector within the roof void.

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Figure 2: Still images taken from the infra-red video footage from two of the cameras during the emergence survey on 29th August 2023, showing the field of view in the latter stages of the survey.

3.3 Static Monitoring Survey

To provide more detailed information about bat activity, a static monitoring survey was carried of the interior of the building between the nights of 26th and 30th September 2023. A static bat detector (Anabat Express) was installed in the roof void (Fig. 1; white star). The detector was set to record continuously overnight (30 minutes prior to sunset until 30 minutes after sunrise) for a

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total of 5 nights. The Anabat Express uses the frequency division method of detecting as described in Section 3.2 above. Data analysis was undertaken by an ecologist experienced in bat sound analysis (Naomi Scala) using AnalookW software.

3.4 Ecological Evaluation

The value of the building for roosting bats is determined following the framework provided by Wray *et al.* (2010). This framework determines the appropriate value of a roost on a geographic scale, based on the relative rarity of the bat species using the site (based on the known distribution and population size in the U.K.), as well as the type of roost (based on the results of the emergence/ re-entry and static detector surveys). Where more than one bat species is present within the site, each species is valued individually, and the highest value obtained is assigned to the site.

Table 1 (below) categorizes bat species by their distribution and rarity in England. Table 2 (below) assigns a value for each roost type for the different rarity categories (Tables 1 and 2 are adapted from Wray *et al*. 2010).

Table 1: Relative rarity of bat species in England (adapted from Wray *et al.* 2010)

Rarity (within range)	**Region**
	England
Common	Common pipistrelle (*Pipistrellus pipistrellus*) Soprano pipistrelle (*Pipistrellus pygmaeus)* Brown long-eared (*Plecotus auritus*)
Rarer	Lesser horseshoe (*Rhinolophus hipposideros)* Whiskered (*Myotis mystacinus)* Brandt's (*Myotis brandtii)* Daubenton's (*Myotis daubentonii)* Natterer's (*Myotis nattereri)* Leisler's (*Nyctalus leisleri)* Noctule (*Nyctalus noctula)* Nathusius' pipistrelle (*Pipistrellus nathusii)* Serotine (*Eptesicus serotinus)*
Rarest	Greater horseshoe (*Rhinolophus ferrumequinum)* Bechstein's (*Myotis bechsteinii)* Alcathoe (*Myotis alcathoe)* Greater mouse-eared (*Myotis myotis)* Barbastelle (*Barbastella barbastellus)* Grey long-eared (*Plecotus austriacus)*

Table 2: Value of bat roosts (adapted from Wray *et al.* 2010)

Value	**Roost types**
District, local or parish	Feeding perches (common species) Individual bats (common species) Small numbers of non-breeding bats (common species) Mating sites (common species)

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Value	Roost types
County	Maternity sites (common species) Small numbers of hibernating bats (common and rarer species) Feeding perches (rarer/rarest species) Individual bats (rarer/rarest species) Small numbers of non-breeding bats (rarer/rarest species)
Regional	Mating sites (rarer/rarest species) including well-used swarming sites Maternity sites (rarer species) Hibernation sites (rarest species) Significant hibernation sites for rarer/rarest species or all species assemblages
National	Maternity sites (rarest species) Sites meeting SSSI guidelines
International	SAC sites

3.5 Weather Conditions

The emergence surveys and static detector survey were undertaken during suitable weather conditions, as described below:

- 29th August 2023: Dry with no cloud cover and a temperature of 16°C at the beginning of the survey, and 15°C at the end of the survey. In accordance with the Beaufort Scale, wind was no greater than 'light air'.
- 26th September 2023: Dry with no cloud cover and a temperature of 17°C at the beginning of the survey, and 15°C at the end of the survey. In accordance with the Beaufort Scale, wind was no greater than 'light air'.

Table 3: Bat Static Detector Survey- survey information and weather conditions

Survey period	Assessor(s)	Weather
26th – 30th September 2023	Naomi Scala	Weather conditions in line with seasonal norms; no spells of heavy rain or high wind.

3.6 Limitations

All parts of the building were accessible and could be visually inspected for evidence of bats except for the shallow roof void, which could only be viewed from the loft hatch. The building exterior was viewed from ground level. It is, therefore, possible that some Potential Roost Features (PRFs) located at height were not visible from the ground. The building supports a small number of exterior features that could not be fully inspected and provide potential roosting locations for bats. These limitations were addressed by undertaking two bat emergence surveys and a static monitoring survey. There are no limitations associated with weather conditions.

The bat surveys were undertaken in accordance with best practice guidance; however, the results of these surveys represent only a snapshot of use at the time of survey.

The calls of four bat species are notoriously difficult to record: the long-eared bat (*Plecotus spp.)* and the barbastelle bat (*Barbastella barbastellus*) have a quiet echolocation call, and the horseshoe bats (*Rhinolophus hipposideros* & *R. ferrumequinum*) have highly directional calls. The long-eared, barbastelle and horseshoe species can be easily missed during bat detector surveys. We presume all *Plecotus spp.* recordings are those of brown long-eared bat (*Plecotus auritus*) because Cornwall is outside the known range of the grey long-eared bat (*Plecotus austriacus*).

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4.0 Bat Survey Results

4.1 Site Description and Habitat Assessment

Trereife Cottages are located *c.* 0.5 km northwest of the outskirts of Newlyn and *c.* 0.7 km southwest of Penzance town, Cornwall. The property is situated in a rural position accessed off a long private access track. Barns and residences associated with the wider Trereife Estate are located immediately to the north of Trereife Cottages. Pockets of Deciduous Woodland (UK BAP Priority Habitat/ Section 41 NERC Act) are located *c.* 30m west, *c.* 75m northeast, and *c.* 360m southeast of Trereife Cottages. The wider Trereife Estate supports large areas of wood pasture and parkland (UK BAP Priority Habitat/ Section 41 NERC Act) located *c.* 220m west of Trereife Cottages at their nearest point. Habitats in the wider area comprise predominantly mixed farmland enclosed with species-rich Cornish hedges with further pockets of broadleaved woodland, small villages, riparian and coastal habitats. Buildings in the wider area comprise a mixture of farm buildings and period properties with vegetated gardens, outbuildings and barns. In combination, these features provide potential high-quality foraging and roosting habitat for bats.

4.2 Visual Assessment

The visual assessment was undertaken on 29th August 2023. The Cottages at Trereife House is a two-storey building of stone construction with a pitched slate roof with ornate Victoria ridge tiles (Figs. 3-5). There are three rendered chimneys off the west elevation (Fig. 5) and four dormer windows off the east elevation (Fig. 3). The building supports wooden fascias throughout which have gaps beneath and some of the ridge tiles are loose and/or missing. There are gaps beneath hanging slates located at each gable end (north and south) of the building.

The interior of Cottages at Trereife House supports a long shallow roof void above the first floor. The roof is timber framed and partially lined with bitumen and partially unlined, with rolled insulation between the joists (Fig. 6). Evidence of roosting bats in the form of bat droppings scattered over the loft hatch was observed.

Figure 3: East and south elevations of cottages at Trereife House.

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Figure 4: North and east elevations of cottages at Trereife House.

Figure 5: North and west elevations of cottages at Trereife House.

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Figure 6: View of roof void within cottages at Trereife House.

Cottages at Trereife House was assessed as being of '**moderate suitability**' for roosting bats.

4.3 Emergence Surveys

During the first emergence survey on 29th August 2023, a common pipistrelle bat was seen to emerge at 20:50 from near a missing ridge tile at the northern section of the roof (Fig. 7; yellow arrow). A second common pipistrelle bat was seen to emerge at 20:51, close to the chimney on the west elevation (Fig. 7; red arrow; Fig 8; red circle).

During the second emergence survey on 26th September 2023, a common pipistrelle bat was seen to emerge at 19:29, close to the chimney on the west elevation (Fig. 5; red arrow Fig 7; red circle).

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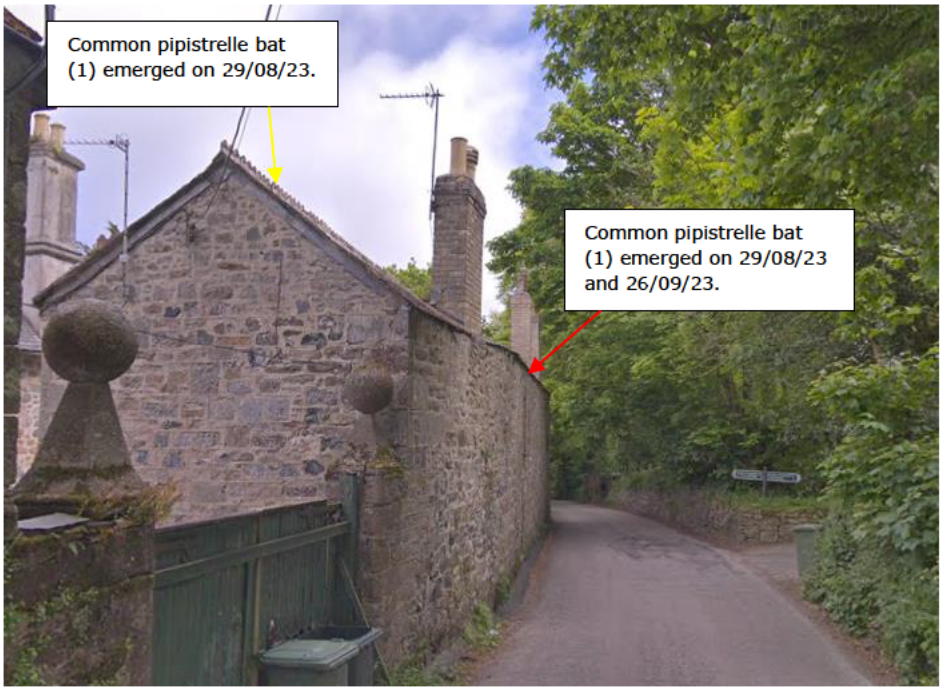

Figure 7: North and west elevations of cottages at Trereife House. Yellow arrow shows approximate emergence location of common pipistrelle bat on 29th August 2023; red arrow shows emergence location of common pipistrelle bat on 29th August 2023 and 26th September 2023.

Figure 8: View of chimney on west elevation of cottages at Trereife House. Red circle shows approximate emergence location of common pipistrelle bat on 29th August 2023 and 26th September 2023.

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4.4 Bat Static Monitoring Survey

A static monitoring survey of the roof void (Fig. 1) was undertaken between 26th and 30th September 2023. No bats were recorded during the static monitoring survey.

4.5 Bat Species Evaluation

The combined survey results have shown that Cottages at Trereife House supports two day roosts for small numbers of common pipistrelle bat (likely two individuals in total).

The common pipistrelle bat: is a crevice dwelling bat species that typically roosts between slates/ tiles and the roofing felt, or beneath fascia boards/ soffits. The common pipistrelle bat is common and widespread throughout the UK, and evidence indicates that the UK population has increased in recent years (BCT, 2023). Common pipistrelle is also considered common and widespread in Cornwall.

These roosts are considered to be of **low conservation significance** for this bat species.

Following the framework described by Wray *et al* (2010), as outlined in Section 3.5 above (Tables 1-2), the rarity of the bat species recorded on-site is 'common' for common pipistrelle bat. The corresponding value for a day roost of a small number of non-breeding bats (common species) is 'Local' level. The Cottages at Trereife House is, therefore, considered to be of **Local** importance for roosting bats.

4.6 Bird Assessment

No evidence of nesting birds was found during the survey, and the building was assessed as being of **negligible suitability** for roosting or breeding barn owls.

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5.0 Impacts and Mitigation Recommendations

5.1 Evaluation of Development Proposals and Impacts

The further survey work has shown that the Cottages at Trereife House supports two day roosts for small numbers of common pipistrelle bats. The client proposes to undertake remediation works and re-roof the building.

In the absence of mitigation, the proposals have the potential to disturb, injure or kill bats and result in the loss of the identified roosts; the impact of this on the local bat populations is detailed below:

- Two common pipistrelle bat day roost supporting two individuals (low impact);

5.2 Bat Mitigation

To avoid, mitigate and compensate for the potential impacts outlined above, it is recommended that provision for day roosting common pipistrelle bat is made within the fabric of the re-roofed building.

To proceed legally, an appropriate licence must be obtained from Natural England to protect bats during the construction process. The appropriate licence will set out the mitigation required to maintain the favourable conservation status (FCS) of the bat species using the Cottages at Trereife House.

An outline of the recommended mitigation is detailed below:

- **DNA analysis of bat droppings is required to avoid any ambiguity associated with species identification.**
- Works will not commence until an appropriate licence has been obtained from Natural England. The licence cannot be obtained until planning consent (if required) is in place. If the works will commence later than April 2024, then the licence must be informed by at least one additional bat emergence survey, to be undertaken in the most recent bat survey season (May-September). This is a condition of the licence application and is not a planning requirement. The current level of survey effort (two bat emergence surveys and a static monitoring survey less than 18 months old) is sufficient to inform a planning application. No further survey effort is required to inform the planning application.
- The roof will be 'soft stripped' under an ecological watching brief at a time of year when bats are least likely to be negatively impacted, and following a thorough search of the building for bats. A licensed bat ecologist will oversee removal of the roof; any common pipistrelle bats uncovered will be relocated to a bat box installed within a nearby tree or structure. NB: one bat box (Schwegler 2F or comparable product) will be installed within an adjacent tree or structure in advance of removal of the roof. See https://www.nhbs.com for product specification.
- Loss of the common pipistrelle bat day roosts will be compensated preferably by reinstating comparable gaps beneath a ridge tile and roof tile. This can be achieved by leaving a 20mm x 50mm gap beneath a ridge tile through sparing use of mortar and by installing a bat slate within the roof structure. Alternatively, two bat boxes could be installed on the exterior of the renovated building. The location/ aspect of the alternative bat roost features will replicate those lost as closely as possible (north and west elevations).
- Where bats will come into contact with the roof membrane, this must comprise bitumen type 1F or a non-bitumen coated roofing membrane (NBCRM) with a test certificate

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approved by Natural England. This is because modern synthetic membranes are harmful to bats and their use will not be permitted by Natural England.

- Lighting can have significant impacts on roosting bats; no exterior lighting will be installed close to the temporary or permanent bat roost features.
- A licensed and suitably qualified bat ecologist will oversee works. Building contractors will be briefed through means of a toolbox talk prior to commencement of site works. Contractors will be notified about the potential presence of bats and informed that if a bat/s is uncovered during works, work must stop immediately (as soon as it is safe to do so) and advice sought from a licenced bat ecologist (Plan for Ecology Ltd, 01326 218839) or Bat Conservation Trust (0345 1300 228).

5.3 Bird Mitigation

Although no evidence of nesting birds was found, a precautionary approach should be adopted. If, during construction works, an active bird nest is uncovered, works within at least 5m of the nest must stop immediately (as soon as it is safe to do so) and delayed until nesting activity has ceased. Works are most likely to be delayed between April and July.

The building was assessed as being of **negligible suitability** for roosting or breeding barn owl.

No further surveys for birds are recommended as part of this assessment.

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