BAT SURVEY REPORT

Barn at Three Acres
Garway Hill
Herefordshire
HR2 8HD

July 2021

ENVIRONMENTAL CONSULTANT:
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REPORT SUMMARY

1. PROPOSAL

The owner of the barn at Three Acres proposes to convert it into habitable accommodation.

Bat survey specialist Environmental Methods Consultancy was appointed to survey the building and assess its potential for use by bats and nesting birds.

2. SURVEY METHOD

All relevant internal and external areas of the building were inspected and graded for potential bat roosting activity, including a search for evidence of bird nesting activity.

Subsequent dusk bat flight surveys using proportionate survey effort were carried out in June and July 2021.

3. SURVEY RESULT

- **Bats**
  The building hosts various internal and external features with potential for use by bats. One common pipistrelle bat day roost was found at the building during surveying.

  Nesting birds
- One active barn swallow nest was found.

4. RECOMMENDATIONS

- Implementation of a suitable Mitigation Plan (provided in this report) is required to ensure bats aren't harmed during the conversion, and to maintain roosting for bats at the site.

- Once planning permission is secured, the property owner will **apply for a European Protected Species licence** from Natural England before roof dismantling works begin. The works will be carried out in accordance with the conditions of the licence once granted.

RECOMMENDATIONS CONT…

Barn swallow nesting

- To compensate for the loss of the swallow nesting site within the barn, it is recommended that an overhang nest box structure is installed onto the south-west gable of the converted barn.

Biodiversity enhancement

- For any new development, national planning policy seeks to reverse the current decline in biodiversity by enhancing habitats for wildlife. Permanent features will therefore be incorporated into this development for nesting birds, which are proportionate and suitable for the characteristics of the site and scale of development.

1.0 Introduction

The owner of the barn at Three Acres proposes to convert it into habitable accommodation.

Bat survey specialist Environmental Methods Consultancy was appointed to survey the building and assess its potential for use by bats and nesting birds.

A methodology was adopted to investigate and provide a high confidence characterisation of bat use of the building, comprising bat flight emergence surveys during June and July 2021.

2.0 Site location and habitat

The building sits detached within a residential curtilage. The surrounding landscape comprises pasture fields, tree lines, hedgerows and nearby mostly broad-leaved woodland.

The landscape is well connected, with surrounding habitat of high quality for supporting bats.

Figure 1 – *Aerial view of the barn*

2.1 Property location

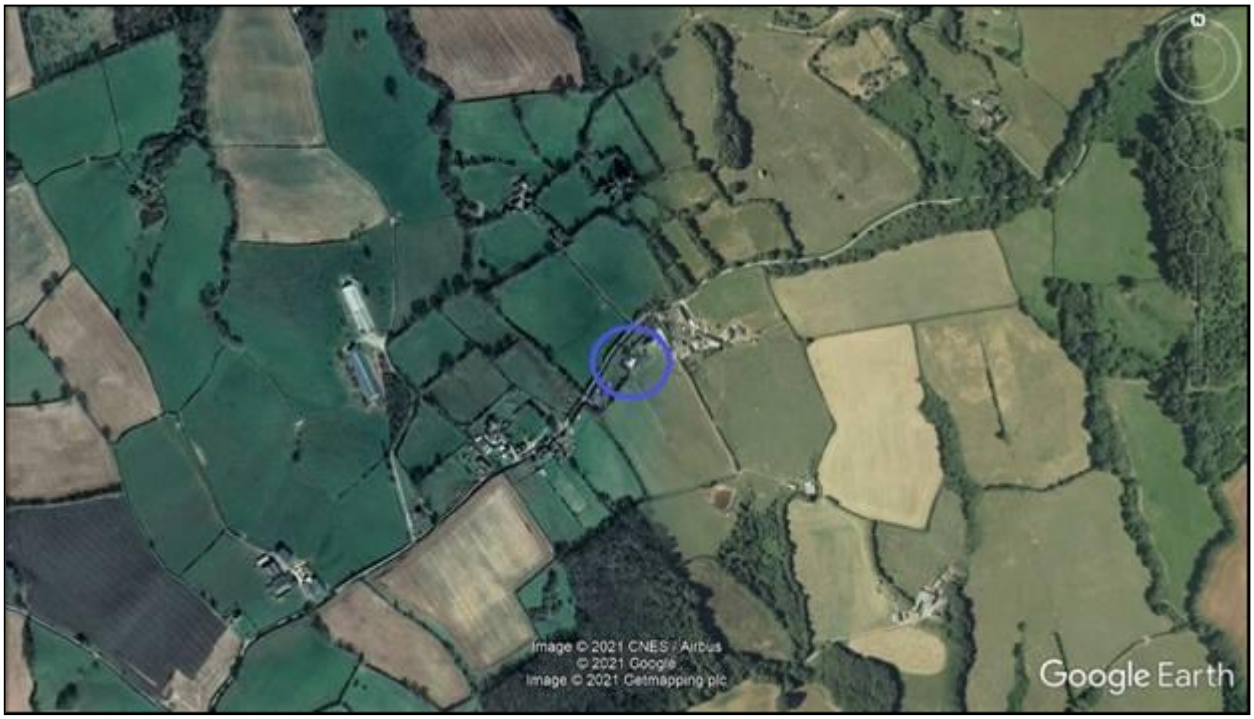

Figure 2 – *Aerial view showing wider landscape setting (property circled)*

- OS grid ref: **SO 45071 27499**

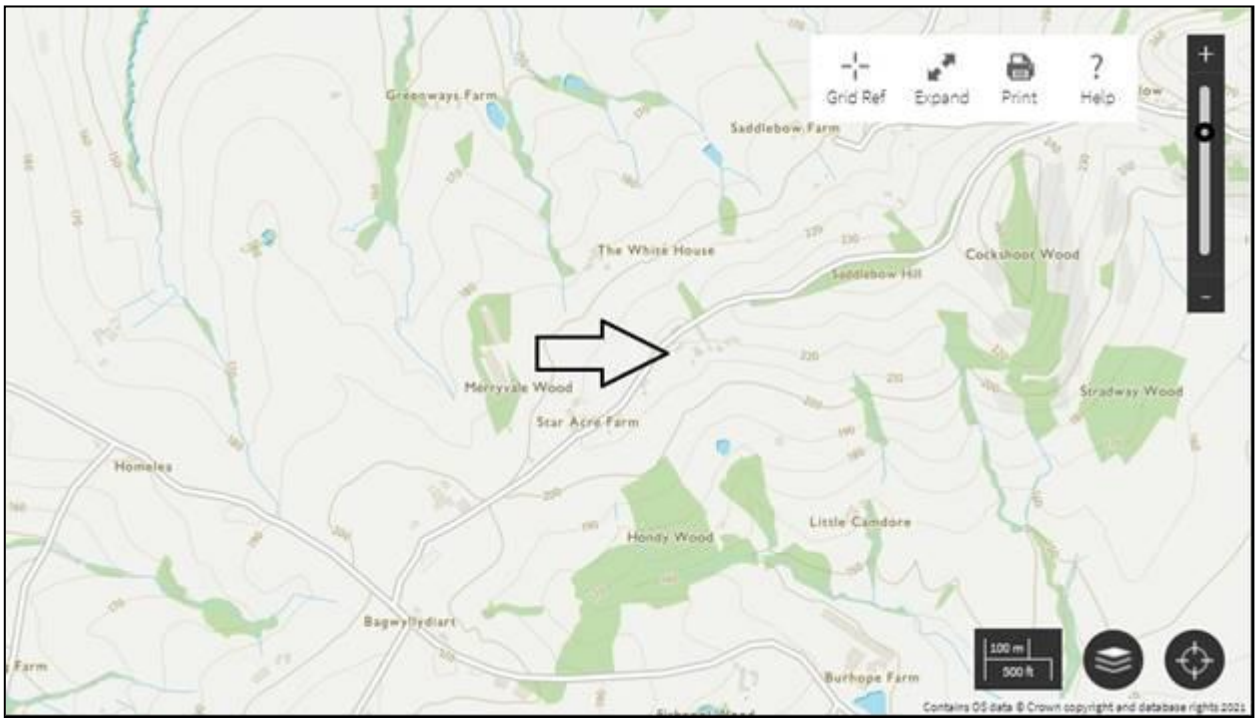

Figure 3 – *Ordnance Survey 2021 map showing site location*

3.0 Survey objectives

a) Establish if the building is providing roosts for bats, which are all protected species whose disturbance may require consent by law (The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017), including evaluation of nearby associated features as supporting foraging areas;

b) Identify the species of any bats found to use the building, and subsequently characterise the roost if found, to enable suitable mitigation to be designed;

c) Identify any features or works that may require special attention during development.

4.0 Methodology

4.1 Data search

Following the site inspection survey and given the focussed scope of assessment for the building, a full local records centre data search with its associated cost for the owner was deemed unnecessary.

A desk study was undertaken using the Nature on the Map website to establish the presence of statutory conservation sites within 2km of the site as well as establishing whether any European Protected Species (EPS) licences have been granted within 2km of the scheme.

4.2 Building inspection survey

A physical inspection of the building was carried out in daylight in May 2021 to identify and assess internal and external features for their potential to support use by bats. The inspection also provided opportunities to search for any live bats present.

Features were examined for signs of present and past use by bats including presence of bat droppings (a very useful indicator of species), surface smoothing, staining, urine deposits, crevice clearing and prey remains.

The following equipment was available for use:

- Bright LED hand and head torches and extendable ladder
- Digital camera and binoculars
- Google and Ordnance Survey mapping.

All relevant features of the building were inspected both inside and out, where necessary using binoculars to examine features beyond close range, and with a high powered torch to examine dark areas. Features included any crevices where bats may roost or any other signs of bat occupation.

4.3 Bat activity surveying

Externally, the physical inspection of the building revealed potential for roosting use by bats, with occasional gaps and crevices at timber cladding and roof-wall junctions.

Internally, no bat droppings or other sign of use by bats was found (e.g. butterfly or moth wing feeding remains).

Methodology

In accordance with national guidelines, a survey plan was therefore implemented to survey the building for bat activity during two dusk emergence surveys.

Two surveyors were positioned at viewpoints with clear sight of all relevant parts of the building to provide maximum opportunity to detect bat emergence or re-entry.

The surveyors used Batbox Duet (frequency division / heterodyne) bat detectors.

4.4 Survey assessment limitations

While no ecological survey can guarantee that all signs of species can be detected and exhaustively assessed, the surveyor is confident that the study method provides sufficient evidence to enable the buildings, bat use, and the impact on the protected species to be sufficiently characterised and evaluated.

5.0 Survey results

5.1 Desk top data search results

5.1.1 European Protected Species (EPS) licences granted within 2km of the scheme.

- No licence records were found for the site or its immediate surrounds;
- There is one EPS licence granted within the 2km search radius:
    - Common and soprano pipistrelle, brown long-eared and Daubenton's bats in 2012, 1.4km to the south.

5.1.2 Relevant designated sites within search radius

- There are no statutory designated or non-statutory sites within the 2km search radius.

5.2 Results of the building inspection survey

Bat habitat evaluation – the building was assessed for potential roosting features as follows:

The building is of relatively modern concrete block construction, comprising garaging, stables and general storage. The external walls are bare pointed, with the southern façade timber clad. The roof is covered with corrugated steel sheeting.

There are various gaps and crevices within the timber cladding, and at the roof-wall junctions.

The interior walls are bare pointed blockwork. The ceilings are unlined and open to the corrugated sheets.

Close inspection revealed no bat droppings or other sign of use by bats (e.g. butterfly or moth wing feeding remains).

Photo 1 *– North-east gable view*

Photo 2 *– General west aspect view*

Photo 3 – South aspect

Photo 4 – Gaps at south roof-wall junction verge

Photo 5 – Example interior room view

Photo 6 – Example interior room view

5.3 Other species – nesting birds

One barn swallow nest was present within the south-western stable room – with the birds accessing through the open stable door.

5.4 Results of bat flight activity surveys

Two dusk emergence surveys were undertaken. The surveyor's bat activity survey sheets can be found at **Appendix 1**. They display the contemporaneous notes made during each activity survey, including bat flight path descriptions.

Bat activity was noted on tables and maps with approximate height, flight direction, numbers and species recorded. The significant observations are detailed as follows.

SUMMARY OF BAT ACTIVITY SURVEY RESULTS	
Survey date and conditions	**Observations**
1st June 2021 **21:05 to 22:35hrs** Sunset 21:20hrs **Start temp:** 20°C **Fin temp:** 18°C **Cloud:** 1/8 **BFT:** 6 **Precip:** Nil	**Dusk survey** Bat activity was surveyed from 15 minutes before sunset. Common pipistrelles briefly commuted and foraged through the site, but there was no activity directly associated with the building.
21st July 2021 **21:05 to 22:35hrs** Sunset 21:20hrs **Start temp:** 23°C **Fin temp:** 20°C **Cloud:** 0/8 **BFT:** 3 **Precip:** Nil	**Dusk survey** At 21:45hrs, a common pipistrelle emerged from a gap under the metal verge covering on the south gable at the position shown below. Common and soprano pipistrelles commuted and foraged through the site intermittently.

	

6.0 Assessment

6.1 Characterisation of the bat roosting identified at the site

Common pipistrelle roosting

The surveying confirmed that **one common pipistrelle bat** is using an area of the metal cladding on the south gable roof verge for roosting. It was present on only one of the survey sessions.

As a single bat, it is most likely a male or non-breeding female using the building as an occasional **summer day resting roost.**

6.2 Nature conservation significance

Assessed in accordance with the *Bat Mitigation Guidelines 2004, Figure 4 Guidelines for Proportionate Mitigation* (displayed at Appendix 2), the building is providing a common pipistrelle roost of **low nature conservation significance**.

Whilst there is flexibility over provision of a replacement roost, for example a bat box, a compensatory roost will be necessary and suitable based on the species' requirements to ensure continued roosting facilities. No timing constraints or monitoring are necessary.

6.3 Potential impacts

As the roof of the barn will be rebuilt, the roost will be destroyed during works.

If this takes place without appropriate controls during late spring to early autumn months when the bat is likely to be present within its roost, there is a risk of killing or injuring it. Therefore a carefully designed working method is detailed in the Mitigation Plan at Section 9 below.

6.4 Impacts to bird nesting – barn swallow conservation

The barn swallow is listed on the RSPB's Amber List of birds of medium conservation concern (Eaton *et al* 2015), reflecting the decline in numbers of this species. Swallows return to previously occupied nest sites where old nests are present, and the loss of existing nest sites is known to be a factor in local population declines.

An unmitigated loss of nesting sites would be contrary to the requirements of policy (*e.g*. NPPF paragraphs 9 and 17) and legislation (including NERC Act 2006; Conservation of Habitats and Species Regulations 2017 (as amended)).

Natural England standing advice *'Wild birds: surveys and mitigation for development projects'* (a material consideration in the making of planning decisions) states that developments should provide replacements for any nesting sites lost.

As the building is a nesting site for swallows, it would be appropriate, and in accordance with the requirements of policy and legislation to provide replacement swallow nesting opportunities / sites. Recommendations are made below.

7.0 Conclusions

7.1 Bat roost

This study confirmed that **one common pipistrelle bat** is using an area of the metal cladding on the south west gable roof verge as an **occasional summer day roost**.

The building is therefore a place of rest or shelter for a European Protected Species. As the roof will be rebuilt, the roost will be destroyed.

Therefore the development of the site must mitigate and potentially compensate for the likely disturbance and/or damage to the roost with the provision of a suitable replacement roost if necessary.

7.2 European Protected Species licensing for bats

Any work adversely affecting European Protected Species and/or their places of rest or shelter **must only be carried out under and in accordance with an EPS licence issued by Natural England**. This derogates the development for activities that would otherwise be illegal.

7.3 Nature conservation significance for bats

It is assessed that the site is of low nature conservation significance as defined in the *Guidelines for proportionate mitigation of the Bat Mitigation Guidelines (2004)*. As such the guidelines recommend flexibility over provision of a replacement roost, with no timing constraints or monitoring necessary.

7.4 Nesting barn swallows

As the building is a nesting site for swallows, it would be appropriate, and in accordance with the requirements of policy and legislation to provide replacement swallow nesting opportunities.

8.0 Recommendations

8.1 Bats - derogation licensing

Once planning permission is granted, before any development that will affect the bat roost proceeds (dismantling of the relevant part of the roof), a **European Protected Species licence needs to be obtained by the property owner from Natural England**. The application will need to detail suitable mitigation and compensation within a method statement to enable the bats to persist at the site, where necessary in a replacement roost.

- Disturbance and/or damage to the bat roost will be permitted and lawful only once the licence is granted.

8.2 Compensation for loss of swallow nest site

To compensate for the loss of the swallow nesting site within the barn, it is recommended that an overhang nest box structure is installed onto the south-west gable of the converted barn.

One artificial swallow nest bowl will be installed 150mm below the internal apex at the back of the box on the wall of the barn to encourage uptake. See drawing below.

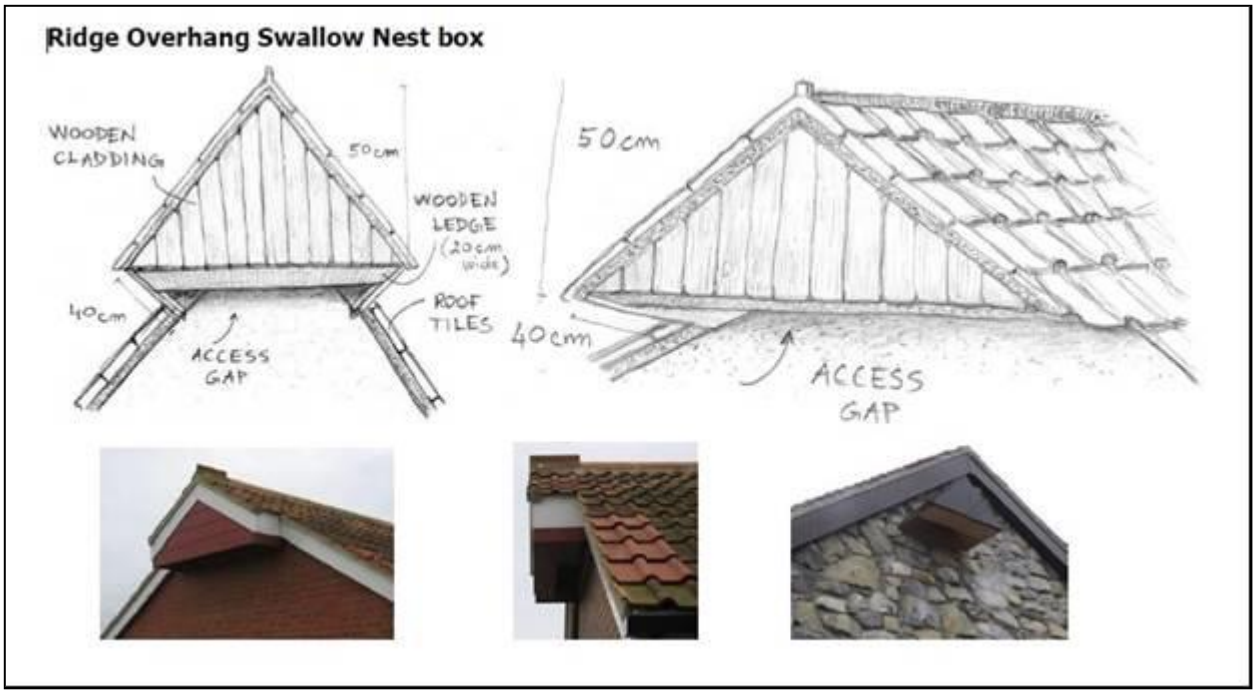

Figure 1 – *Detail and examples of overhang swallow nesting box*

8.3 Biodiversity enhancement

For any new development, national planning policy seeks to reverse the current decline in biodiversity by enhancing habitats for wildlife. The following permanent feature will therefore be incorporated into this development for nesting birds, which is proportionate and suitable for the characteristics of the site and scale of development:

- One **3S Schwegler Starling Nest Box** (or other suitable 'woodstone' starling nest box e.g. Vivara Pro) will be permanently installed onto the south façade of the converted building at eaves level, at the position shown below.

  Starling populations have declined dramatically in recent years and are now on the Red List of birds of high conservation concern. Loss of habitat is one of the major pressures on this species and household renovations and new buildings offer much fewer nesting sites than have previously been available.

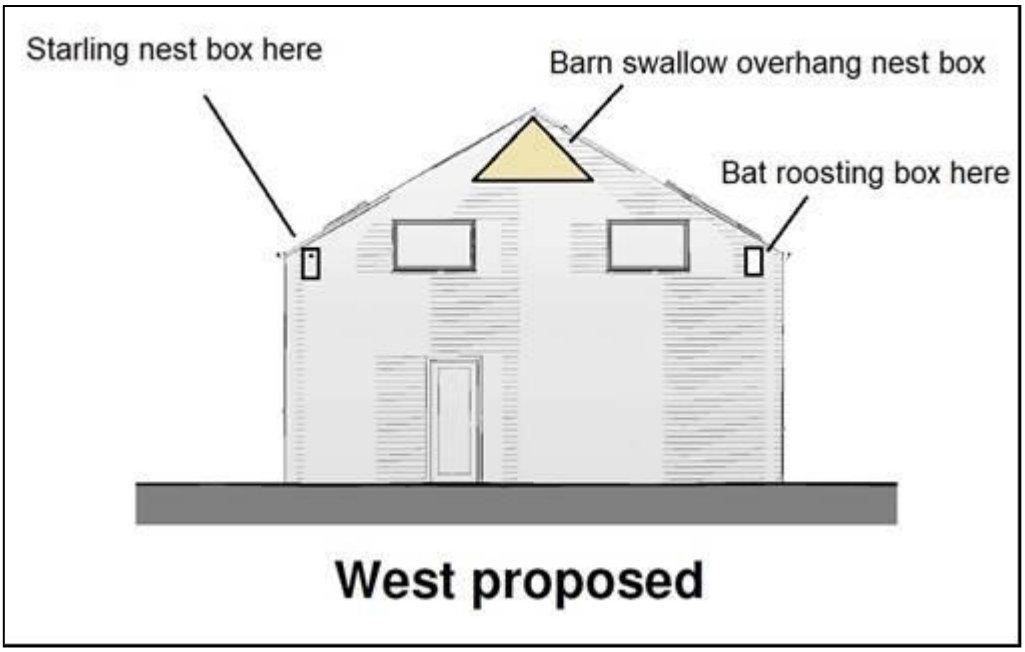

Figure 4 – *Bird and bat box positions on south-west gable*

9.0 Mitigation plan for bats

This Mitigation Plan comprises two main sections:

- Method Statement
- Bat discovery action plan (BDAP)

9.1 Method statement

The following **mitigation** will be undertaken to maintain the building as a roost site for common pipistrelle bats, and this mitigation plan will be adhered to in entirety.

9.1.1 Site briefing

A briefing by the bat ecologist fulfilling the role of Ecological Clerk of Works (ECW) will be provided to all contractors involved with the dismantling of the roof before any such works commence. The ECW will brief the contractors on the possible presence of bats, the legal implications of their presence and the appropriate procedures and control measures to be put in place to avoid harming or disturbing them.

9.1.2 Existing roost

The roof-wall junction at the south-west verge hosts the bat roost. The roof is due to be dismantled as part of the conversion.

1. Immediately prior to the dismantling, the licensed ECW will carefully inspect the relevant areas containing the bat roost with an endoscope if necessary to ensure that there are no bats present. If any are found, where necessary and appropriate they will be captured by hand or with a hand-net and safely removed for temporary safekeeping and later released or transferred to a new roost box in accordance with the BDAP below.

2. All roofing sheets, timber elements etc within 2m of the bat roost location will be removed by hand as a controlled strip under direct supervision of the ECW. Sheets and facia boards etc will be gently lifted away by hand and hand tools and inspected underneath to prevent injuring or killing any bats that might be present. If any are found, they will be captured by hand as detailed above.

3. A copy of the licence and Method Statement will be available on site at all times for the contractors to refer to.

4. All contractors on site are explicitly forbidden from handling bats and this message will be reinforced during the briefing. If any bats are found at any time that the ECW is not present, then work will cease immediately.

The bat must be left to disperse of its own accord, or wait for a licensed bat ecologist to move the bat in accordance with the BDAP.

5. Implementation for the compensation measures will, where practicable be in place during summer 2022.

6. As it is not possible to rule out the possibility that bats might occupy the building as transient roosts during autumn or spring, all workmen will be advised according to the Method Statement and BDAP that if bats are found during operations, work should stop immediately and the ECW must be consulted.

7. The following table summarises the work programme:

WORK PROGRAMME	
TIMING	**ACTION**
Before works start	Briefing provided to contractors.
Autumn / winter 2021	Pre-dismantling check by retained ECW followed by supervised destructive search of roost area.
Spring 2022	New bat roosting box installed on the converted building.

9.1.3 Compensation roost

To compensate for the loss of the common pipistrelle roost, one proprietary self-contained roost box (Vivara Pro Woodstone Bat Box (midi size) will be installed onto the south-west gable of the newly converted barn as shown in the drawing at **Figure 4** above.

9.1.4 Use of materials safe for bats

- **Breathable roofing membrane**

It is imperative that modern breathable roofing membranes are not used in any new roofing areas to which bats could come into contact. Bat's claws become entangled in the fine

filaments of the membrane, entrapping and killing them. Only bituminous felt shall be used in sections of the roof accessible to bats.

- **Wood treatments**

Prior to the treatment of any timber or use of any other chemical sprays in areas into which bats could come into contact, they must be checked to ensure they're harmless for bats (details are available on the internet; search for '*Natural England Technical Information Note TIN092*').

9.1.5 Lighting

Pipistrelle bats are amongst the most light-tolerant bat species; often seen seeking out flood lamps to forage insects. No lighting protection scheme is therefore necessary, in particular as there is no potential for any new lighting to directly illuminate the new bat roost.

9.2 Bat Discovery Action Plan (BDAP)

If any bats are found during works when the bat ecologist is not present, work must stop immediately and the licensed bat ecologist must be consulted. If necessary and possible, the ecologist will rescue the bat/s and hold them in accordance with methods detailed in the Bat Workers Manual in a suitable handling box for release at a suitable location on site in the evening.

This will be done by transferring the bat into a bat box suitable for pipistrelle bats (e.g. RSPB Burford Bat Box) installed at a suitable position, at least 2.8m height on the site. This will allow the bat/s to settle for the remainder of the day, and to emerge safely in the evening.

10.0 References

- Bat Surveys for Professional Ecologists – Good Practice Guidelines, Bat Conservation Trust, third edition 2016;
- Bat Workers Manual, Ed: T. Mitchell-Jones & A. P. McLeish, JNCC 2001
- Bat Mitigation Guidelines version Jan 2004 A.J.Mitchell-Jones, English Nature 2004, ISBN 1 85716 781 3
- Natural England website: www.gov.uk
- Legislation.gov.uk website: www.legislation.gov.uk

11.0 Surveyors

Haydn Brookes BSc (Hons) CMCIEH

- Ten years' experience of conservation field study and ecological consultancy surveying, including training for Phase 1 habitat surveys, SSSI impact assessments, reptile, badger and bat surveys;
- Committee member of Gloucestershire Bat Group (Chairman 2018, Underground Secretary 2014-18 and Bat Care Coordinator);
- Natural Resources Wales bat licence to disturb and take (science, education and conservation) **no. S085825/1**;
- Natural England Volunteer Bat Roost Visitor licence registration number **2016-15125-CLS-CLS**;
- Natural England Level 2 Bat Class Survey Licence registration number **2016-15126-CLS-CLS**;
- Local authority Environmental Protection and Licensing Officer/Manager 2000 to 2015;
- Fully EBLV vaccinated with experience of handling many bat species. Registered bat carer.

Liz Brookes MSc, MCIEEM

- Over ten years' experience in an ecological consultancy role, including training for Phase 1 habitat surveys, SSSI impact assessments, reptile, badger and bat surveys;
- Phase 1 Habitat and National Vegetation Classification (NVC) specialist;
- FISC Field Identification Skills Certificate Level 4;
- Natural England great crested newt licence registration 2015-19234-CLS CLS;
- Natural England dormouse licence registration 2016-22162-CLS CLS.

Stephanie Boocock BSc (Hons), MSc, MCIEEM

- Ten years' experience of conservation, consultancy bat surveying and field study;
- Consultant Principal Ecologist;
- Natural Resources Wales bat licence to disturb and take (science, education and conservation) **66446:OTH:CSAB:2015**;
- Natural England Level 2 Bat Class Survey Licence registration number **2015-10651-CLS-CLS.**

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Environmental Methods

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APPENDIX 1

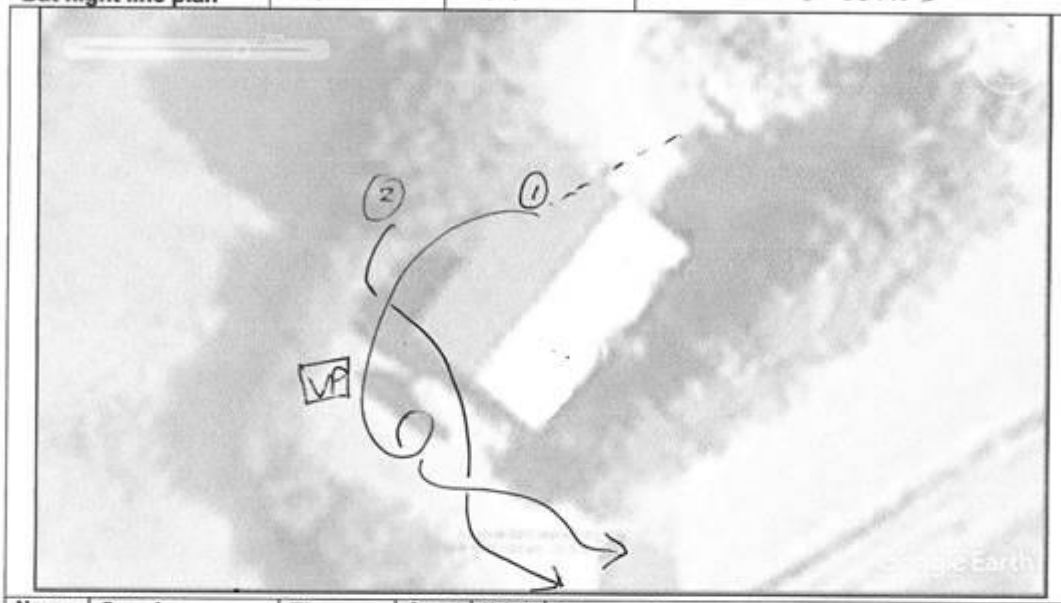
Bat activity survey sheets

Bat activity survey sheet 1 **(DUSK – 1st June 2021 – H. Brookes)**

Bat flight survey record sheet

Site: Three Acres	Date: 1/6/21	Dusk / ~~dawn~~ From : 21:05 To : 22:35	Cloud: / /8 Precip: NIL BFT: 6 Temp start: 20 °C Fin: 18 °C
	Detector: EMT Pro	Sunset / ~~sunrise~~: 21:20	Surveyor: H. Brookes

Bat flight line plan



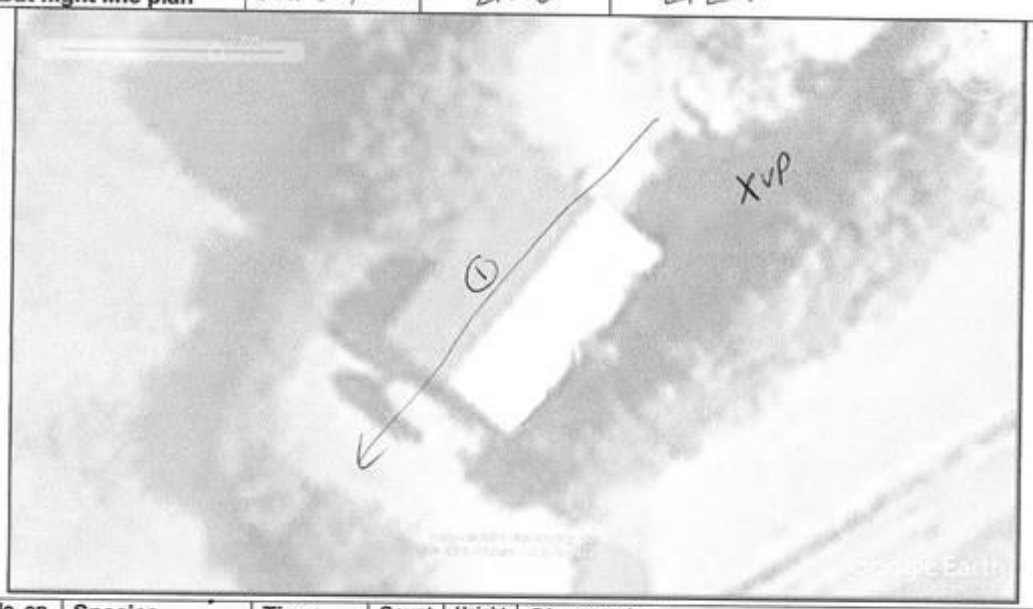
No. on plan	Species	Time	Count	Height	Observations
1	C. PIP	21:46	1	M	Brief pass
2	"	21:54	1	M	Brief foraging pass.

Heights are approximate and indicative: **Low** = below eaves, **Med** = eaves to tree tops, **High** = above tree tops.

Bat activity survey sheet 2 **(DUSK – 1st June 2021 – L. Brookes)**

Bat flight survey record sheet

Site: Three Acres	Date: 01/06/21	Dusk / ~~dawn~~ From : 21:05 To : 22:35	Cloud: 1/8 Precip: NIL BFT: 6 Temp start: 20°C Fin: 18°C
Bat flight line plan	Detector: Bat box dusk	Sunset / ~~sunrise~~: 21:20	Surveyor: LIZ ~~BROOKES~~



No. on plan	Species	Time	Count	Height	Observations
~~1~~	~~e.pip~~	~~21:46~~	~~1~~	~~M~~	~~flew out barn roof from main house~~
					ENTRY CORRECT – CROSSED OUT BY MISTAKE!

Heights are approximate and indicative: **Low** = below eaves, **Med** = eaves to tree tops, **High** = above tree tops.

Bat activity survey sheet 3 **(DUSK – 21st July 2021 – L. Brookes)**

Bat flight survey record sheet

Site: Three Acres	Date: 21/07/21	Dusk / ~~dawn~~ From: 21:05 To: 22:35	Cloud: 0/8 Precip: NIL BFT: 3 Temp start: 23°C Fin: 20°C
Bat flight line plan	Detector: Duet	Sunset / ~~sunrise~~: 21:20	Surveyor: LJZ & BROOKES

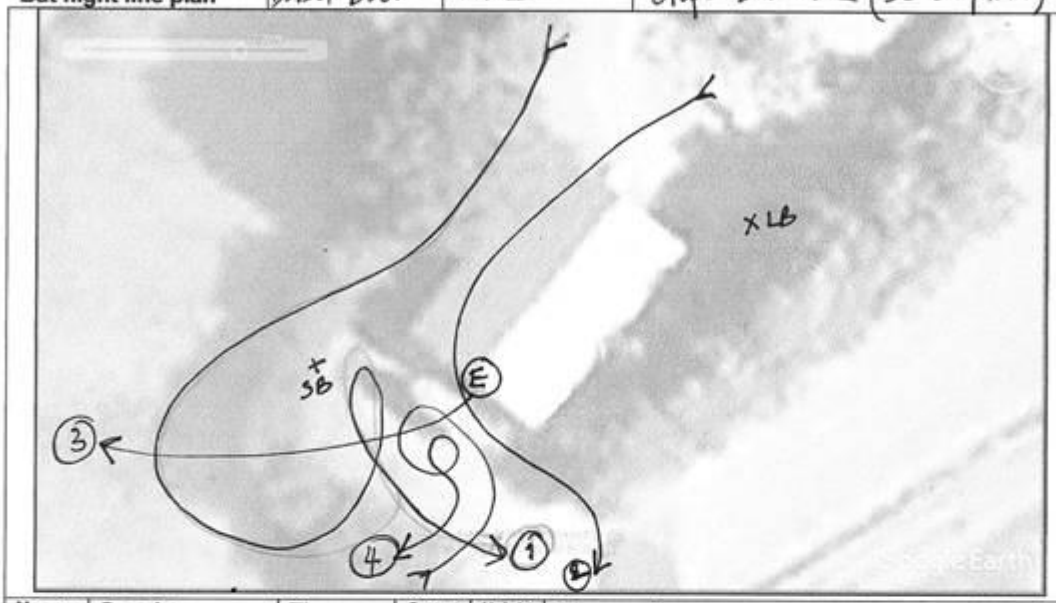
No. on plan	Species	Time	Count	Height	Observations
①	C.pip	21:43	1	M	flew overhead.
②	C.pip	21:47	1	M	flew round building + flew into opening of garage and flew out again
①	S.pip	21:51			Flew from direction of main house.
	Nochule	21:58	1		HNS

Heights are approximate and indicative: **Low** = below eaves, **Med** = eaves to tree tops, **High** = above tree tops.

Bat activity survey sheet 4 **(DUSK – 21st July 2021 – S. Boocock)**

Bat flight survey record sheet

Site: Three Acres	Date: 21/07/21	Dusk / dawn From: 21:05 To: 22:35	Cloud: 0 /8 Precip: NIL BFT: 3 Temp start: 23°C Fin: 19°C
Bat flight line plan	Detector: Batbox Duet	Sunset / sunrise: 21:20	Surveyor: Steph Boocock (*SB on plan)



No. on plan	Species	Time	Count	Height	Observations
(1)	Pip	21:35	1	M	Rapid flight, committed
	Swallows	21:39			Flying in and out of barn door + in to roost.
(2)	Pip 45	21:43	1	M	Over barn, rapid flight
(3)	Pip 45	21:45	1	(E)	Emerged from near apex, metal facia, gable
As (2)	Pip 45	21:48	1	M	Flight as for (2).
(4)	Pip 55	21:51	1	L	V. low, foraging around gable end + along lane
" "	" "	21:55	1	L	Foraging around gable end lane
N/A	Noctule	21:56	1	?	Heard NOT seen, overhead

Heights are approximate and indicative: **Low** = below eaves, **Med** = eaves to tree tops, **High** = above tree tops.