PRELIMINARY ROOST APPRAISAL (PRA) & BAT ACTIVITY REPORT

Southwood, Burley, Hampshire, BH24 4AS

On behalf of: Mark and Jacqui Evans

Agent/planner: N/A

ABR Ecology Ltd

REPORT ISSUE SHEET:

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Local Planning Authority:	New Forest National Park (NFNP)

Survey data lifespan

Information and data provided within this report is considered accurate at the time of writing. Bat survey data is considered valid for 18 months from the survey date for planning purposes only. However, as bats are a highly mobile species, update survey(s) will likely be required if (but not limited to):

a) The condition of the building(s) and/or general site changes; and/or
b) If the nature and/or extent of the proposed works change.

If a Natural England bat licence is required (i.e., if a bat roost is identified during further surveys and impacts on the bat roost(s) will occur), update bat survey(s) will likely be required for the bat licence application. Preliminary Roost Appraisal (PRA) (i.e., building inspections) data is considered valid for 3 months prior to a bat licence application; and bat activity survey data (emergence/re-entry surveys) is considered valid within the then 'current' bat survey season (e.g., if activity surveys are conducted in the summer survey season (May-September) 2022, emergence/re-entry data is considered valid until 30th April 2023 for the bat licence application).

Reporting and data validity

This report has been produced using all reasonable skill and care, and a Quality Assurance (QA) review process has been conducted prior to issue of this report. However, ABR Ecology Ltd cannot accept responsibility for any inaccuracies and/or discrepancies with third-party data supplied within this report.

This report aims to provide general advice on the constraints of roosting bats associated with the proposed development referred to within this report and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development on bats.

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Contents

Executive summary

- ABR Ecology Ltd were commissioned by Mark and Jacqui Evans to undertake a Preliminary Roost Appraisal (PRA) & bat activity surveys at Southwood, Burley, Hampshire, BH24 4AS to advise on the presence/absence of bats at the property. This report was requested to support a planning application for an 1st first floor extension on the rear elevation of the property.

- The PRA was undertaken on the 22nd of April by Natural England class 2 licensed bat ecologist Phil Smith and graduate ecologist Matt Gudgeon. A dusk emergence survey was conducted on the 12th May 2022 by Russell Hoyle and Chris Payne; and a dawn re-entry survey was conducted on the 26th May 2022 by James Gooding and Matt Gudgeon.

- The PRA survey revealed no evidence of bats however, the building was identified to hold '**moderate potential**' for roosting bats in line with BCT Survey Guidelines. This was due to the presence of a number if gaps around the building, and due to the property's rural location surrounded by woodland.

- The bat activity surveys were subsequently conducted, and no bats were recorded emerging/re-entering the building during the surveys.

- The building is not considered to support bats at this time and so no further works are required. However, should 18 months pass without works taking place (and/or any material change occur to the building or roof), this report will no longer be valid and an update site visit to re-assess the buildings would be required. Further information is provided in Section 5 regarding the validity of this report.

- There are bat records within 2km of the site and the property is situated in a rural location; records for barbastelle, myotis and long-eared species have been identified within the local area. As these species are sensitive to light, a 'bat friendly' lighting strategy is detailed in Section 5 of this report.

- To ensure the application is compliant with The National Planning Policy Framework (NPPF) and local planning policy, one 'bat ridge access tile' will be provided in the new extension. This is detailed in Section 5 of this report.

1. Introduction

ABR Ecology Ltd were commissioned by Marc and Jacqui Evans to undertake a Preliminary Roost Appraisal (PRA) & bat activity surveys at Southwood, Burley, Hampshire, BH24 4AS (central grid reference: SU 21945 03151) to advise on the presence/absence of bats at the property. This report was requested to support a planning application for a 1st floor extension on the rear elevation of the property.

The PRA was undertaken on the 22nd of April by Natural England class 2 licensed bat ecologist Phil Smith and graduate ecologist Matt Gudgeon. A dusk emergence survey was conducted on the 12th May 2022 by Russell Hoyle and Chris Payne; and a dawn survey was conducted on the 26th May 2022 by James Gooding and Matt Gudgeon. The properties existing elevations are shown in appendix 1 and proposed elevations are shown in appendix 2.

Site context

The application site comprises a residential property consisting of a detached two-storey house with front and rear gardens in Burley, Hampshire and within the New Forest National Park. The immediate surrounding landscape consists of woodland to the north with pastoral fields with wooded field margins to the south. The wider surrounding landscapes includes more woodland and as well as heathland, acid grassland and valley bogs. The surrounding landscapes are considered to provide excellent foraging opportunities and commuting corridors for bats.

Aims and scope of this report

This report is based on the results of the PRA, bats data search supplied by Hampshire Bat Group (HBG, 2022) and the bat activity surveys, which were principally aimed at determining if a bat roost is present within the property and/or whether the building(s) hold 'potential' to support roosting bats in line with The BCT Good Practice Survey Guidelines (Collins, 2016).

This report aims to establish whether the proposed works hold the potential to impact on roosting bats, which may inform the need for a bat European Protected Species (EPS) licence or Bat Mitigation Class Licence (BMCL) to allow the works to proceed lawfully following planning approval.

2. Legislation and planning policy

Legislation and UK BAP priority bat species

Legislation

In England, all bats are legally protected under Schedule 5 of the Wildlife and Countryside Act (1981) (as amended). Additionally, all bats are fully protected under Annex IV of the EC Habitats and Species Directive (1992), which is transposed into UK law under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

The legislation protects bats from many activities and acts, including to:

1. Deliberately take, injure or kill a wild bat.
2. Intentionally or recklessly disturb a bat in its roost or deliberately disturbing a group of bats.
3. Destroy or damage a place used by bats for breeding or roosts (even if bats are not occupying them at the time).
4. Intentionally or recklessly obstruct access to a bat roost.
5. Possess or advertise/sell/exchange a bat species found in the wild in the EU (dead or alive) or any part of a bat.

UK BAP priority bat species

Several species are listed under the UK Biodiversity Action Plan (UK BAP) (JNCC, 2016) as priority species due to their vulnerability or rarity as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Section 40 places a duty to conserve biodiversity on all public authorities.

These include bats including barbastelle (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), brown long-eared bat (*Plecotus auritus*), both species of horseshoe bat (*Rhinolophus spp*.), soprano pipistrelle (*Pipistrellus pygmaeus*) and noctule (*Nyctalus noctula*).

National and local policy

NPPF – The National Planning Policy Framework

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government, 2021) sets out the Government's planning policies for England and how these should be applied. In the context of this report, Section 15 of NPPF is relevant and applicable, Section 15 states:

'*Planning policies and decisions should contribute to and enhance the natural environment by, minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*.'

New developments and projects are supported where plans promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue measurable net gains for biodiversity.

To ensure this application is compliant with Section 15 of NPPF, ecological enhancements are required as part of the project/development.

The New Forest National Park Local Plan 2016-2036

The New Forest National Park Local Plan (The New Forest National Park Authority, 2019) Policy SP6 'The Natural Environment' states:

'*Development proposals which adversely affect locally designated sites, priority habitats and species populations, protected species or those identified of importance by national or local biodiversity plans will be refused unless the Authority is satisfied that a) it has been demonstrated that suitable measures for mitigating adverse effects will be provided and maintained in order to achieve a net gain in biodiversity value; and b) there are no alternative solutions; and c) there are overriding reasons which outweigh the harm'.*

Policy SP6 also states *'In addition, opportunities to enhance ecological should be maximised, particularly in line with the Authority's 'Action for Biodiversity'. Applicants will be required to demonstrate the impacts of their proposal on biodiversity, and for certain types of development by submission of an Ecological Appraisal, which should outline the mitigation and enhancement measures needed to achieve a net gain in biodiversity'.*

It is the applicant's/landowner's responsibility to ensure that the proposed development proceeds in full compliance with this report and/or any update version report thereafter, that works are undertaken lawfully, in compliance with national and local policy, and in accordance with all conditions of the obtained planning consent.

3. Methodology

Desktop data search

Hampshire Bat Group (HBG, 2022) was contacted to provide any records of bats and any bat roosts within a 2km radius of the application site. These records were used to inform the assessment of the site in its potential to support roosting bats and identifying any potential cumulative impacts on bats from the proposed development.

Preliminary Roost Appraisal (PRA)

Natural England class 2 licensed bat ecologist Phil Smith and graduate ecologist Matt Gudgeon undertook the PRA of the property on site. Timing and weather conditions for the survey are provided in the table below:

Survey date	Time of survey	Surveyor(s)	Equipment used	Weather conditions		
22/04/2022	10:00AM	Phil Smith & Matt Gudgeon	High-powered torch, extendable ladder, and binoculars	Temp:	Oktas cloud cover:	Beaufort wind force:
				13°c	6/8	2/12

The survey was undertaken in accordance with the Bat Conservation Trust (BCT) Good Practice Survey Guidelines (Collins, 2016). A thorough search for evidence of bats was undertaken in any internal loft spaces or voids and on any external features of the buildings, notably any windowsills, walls, floors and flat surfaces. Evidence of roosting bats include:

- Presence of live/dead bats;
- Bat droppings - distinguished from rat/mouse droppings by their crumbly texture;
- Staining from fur around access points; and
- The presence of feeding remains, such as insect wings and casings.

The building was identified as a 'confirmed' bat roost if evidence of roosting bats was recorded. If bat droppings were present, a sample of droppings were collected and sent to Swift Ecology Ltd for DNA analysis to confirm the species of bat present.

Most native bats in the UK are crevice-dwelling species, with bats roosting in remote areas, such as between tiles and membrane, behind cladding, at wall tops, in cavities, soffits and behind lead flashing, to name a few examples. Evidence of these species is often concealed and/or inaccessible due to the remote nature of the roost. Therefore, where no evidence of roosting bats was recorded, an

assessment on the availability of potential roosting areas and bat access points around the building(s), as well as the quality/availability of surrounding bat habitat, was conducted. The building(s) were then assigned a category based on a sliding scale of 'negligible' to 'high potential', in accordance with the BCT Guidelines (Collins, 2016):

Bat roosting potential	Description
'High potential'	A building with one or more potential roosting sites that are highly suitable for use by many bats on a regular basis and for a longer period of time.
'Moderate potential'	A building with one or more potential roosting features that could be used by bats due to appropriate conditions but are unlikely to support a bat roost of important conservation status (roost type only, not species).
'Low potential'	The building features one or more potential roosting features that could be used by bats opportunistically. These features do not provide the appropriate conditions to be used on a regular basis by large numbers of roosting bats.
'Negligible potential'	The features of the building are negligible and are highly unlikely to be used by roosting bats.

Bat activity surveys

Two bat activity surveys were conducted using two surveyors to cover the elevations of the property on each survey visit. Timing and weather conditions for the survey are provided in the table below:

Survey date	Timings	Surveyor(s)	Equipment used	Weather conditions		
12/05/2022 – dusk emergence survey	Start: 20:29 Sunset: 20:44 End: 22:30	Russell Hoyle and Chris Payne	EchoMeter Touch 2 with tablets x 2	Temp:	Oktas cloud cover:	Beaufort wind force:
				Start: 14°C End: 12°C	2/8	0/12
26/05/2022 – dawn re-entry survey	Start: 03:05 Sunrise: 05:05 End: 05:10	James Gooding and Matt Gudgeon	EchoMeter Touch 2 with tablets x 2	Temp:	Oktas cloud cover:	Beaufort wind force:
				Start: 10°C End: 10°C	0/8	0/12

The activity surveys were conducted in accordance with The BCT Good Practice Survey Guidelines (Collins, 2016); the surveys were conducted in suitable weather conditions (i.e., low wind speed, minimum temperature of 10°c at dusk and no precipitation). Each survey involved two surveyors positioned on opposite sides of the property offering the best view of the roofs and elevations. The surveyors were

specifically watching for any bats emerging and/or re-entering the building, whilst a note was also made on general bat behaviour and activity within the site vicinity, such as foraging, socialising and commuting bats across the site.

The surveyors used specialised bat recording equipment to detect any echolocating bats, and any sonograms (images) of bat calls on tablets were used to help identify the species of bat present. The surveyors also listened to the audible bat calls to aid the determination of the bat species.

AnalookW (Corben, 2018) sound analysis software was used to analyse bat echolocation call data.

Survey limitations

Preliminary Roost Appraisal (PRA) – property survey

Potential evidence of crevice-dwelling bats may have been missed due to the nature and remote location of potential roosting areas. However, binoculars were used to identify any potential bat droppings on the exterior features of the buildings, where possible.

The site visit provides a 'snapshot' of the site and does not take into account seasonal variation. Species may have been overlooked due to the constraints of the season and time in which the survey was undertaken. A lack of evidence of a species does not confirm its absence from site, rather there was no indication of its presence at the time of survey.

Bat activity surveys

Long-eared (*Plecotus spp*.) bats echolocate very quietly and are a later-emerging bat species, emerging from their roost when the light is dim. This makes it difficult to identify/observe bat activity and emergences/re-entries into the building. However, a dawn re-entry survey was conducted and it is often easier to 'pin-point' long-eared bats returning to roost within a building during pre-sunrise hours. Additionally, as no dropping evidence was recorded within the loft space and this species is primarily as loft-dwelling bat, it is considered unlikely that this species is present and has been potentially overlooked.

Bats of the myotis (*Myotis spp.*) genus are difficult to distinguish due to their variable, and often similar, echolocation calls. The identification of myotis bats down to species level was therefore subject to the analyst's interpretation.

Data validity

The data within this report should not be seen as comprehensive. Data obtained from the Hampshire Bat Group (HBG, 2022) data search is unlikely to provide a complete record of species within the search area. It is therefore possible that a bat species may occur within the vicinity that has not previously been identified within the data search.

This report is considered valid for 18 months from the survey dates for planning purposes only; and is only intended for the proposed plans outlined within this report. If any material changes to the building(s)/site occur or if the nature and/or extent of the proposed development changes, an update visit to reassess the building(s) will be required, as any conclusions provided herein may not be valid.

4. Results

Desktop data search

Hampshire Bat Group (HBG, 2022) provided records of bats and bat roosts within a 2km radius of the site, and the results of which are provided below.

Species	Number of records	Most recent record	Closest record to site
Brown long-eared	18	2021	250m northwest
Common pipistrelle	30	2021	250m northwest
Daubenton's	1	2019	900m northwest
Leisler's	1	2019	900m northwest
Long-eared sp.	16	2020	450m north
Myotis sp.	6	2019	900m northwest
Nathusius's pipistrelle	1	2019	900m northwest
Natterer's	6	2021	1.3km west
Noctule	9	2021	250m northwest
Pipistrelle sp.	14	2020	450m north
Serotine	7	2019	450m north
Soprano pipistrelle	15	2020	250m northwest
Western barbastelle	6	2019	900m northwest

There are records for western barbastelle, myotis and long-eared within 900m of the property, as these bats are known to be light sensitive, a 'bat-friendly' lighting strategy will be required and is outlined in the Section 5 of this report.

Preliminary Roost Appraisal (PRA)

Building descriptions

A description of the building surveyed for roosting bats is provided in the table below and photographs of the building are provided in Appendix 3:

Building name	Description
Southwood	• The property comprises of a detached two-storey house constructed of brick. • The roof has two pitches that meet to create a T-shape and is constructed from slates. • The property has two chimneys. An internal chimney at the end of the western roof ridge and an external chimney on the eastern elevation. • The property has closed eaves with wooden barge boards at the gable ends. • The window and door frames are constructed from uPVC. • There is a large conservatory at the rear (south) of the property, made from uPVC with a brick-built base. • A single storey extension is present at the rear of the building, with a flat felt roof. • A first-floor extension is present on the southern elevation constructed from uPVC, with a flat felt roof. The felt is secured onto the fascia boarding of the main roof.

	• A preformed garage is present on the western elevation with a flat felt roof, which connects to a carport, with a corrugated uPVC roof. • One loft void is present within the property, a description of which is provided below: - The loft void is an enclosed T-shape, with no lining, with a roof design of king post, ridge beams and purlins. - Fibreglass insulation is present. - An internal chimney is present at the end of the western pitch. - Cobwebs and rodent droppings are present. - Some items are stored in the loft and two water tanks are present, one current and one old. - The loft void running north to south measures 7.6m in length, 2.5m in width and 1.25 in height. The loft void running east to west measures 5m in length, 2.25 in width and 1.2 in height to the apex.

Evidence of bats recorded

A summary of any bat evidence recorded during the visit is provided in the table below:

Building name	PRA results
Southwood	▪ No evidence of roosting bats such as droppings, staining or feeding remains were identified during the survey.

Building(s) assessment – potential bat roosting areas and bat access points

An inspection of the internal and external features of the building was undertaken to identify any potential bat access points and potential areas where bats could roost, and these are summarised below:

Building name	Potential bat access points	Potential roosting provisions	Potential of the building
Southwood	• Gaps under ridge tiles on the southern side of the east to west pitch. • Gap between end ridge tile and barge board on northern gable end. • Roof tiles and barge board on western gable end. • Gaps under dormer fascia's on eastern elevation.	• Space between ridge and roof tiles. • Space between roof tiles and barge boards. • Crevices under fascia's on eastern elevation.	'Moderate potential' for roosting bats

The building was assessed against the BCT Good Practice Survey Guidelines (Collins, 2016) and was deemed to hold 'moderate potential' for roosting bats due to a moderate number of potential bat roosting provisions and/or bat access points around the building's exterior, as well as the location of the property being considered as excellent habitat for bats.

Despite no physical evidence of bats recorded during the survey, crevice-dwelling bats utilise external roof features which do not lead into the loft spaces/voids; typical roosting areas include between the tiles and roofing felt/membrane, at wall tops and under the ridge tunnel. The presence of felt and external building materials can often prevent bat droppings from entering the loft space and 'trap' droppings in the external fabric of the building, thereby concealing any potential evidence of bats during the PRA survey. Furthermore, the surrounding habitats do provide suitable bat foraging and commuting habitat, which can increase the likelihood of roosting bats within the building.

On this basis, the presence of roosting bats could not be ruled out based on the initial PRA assessment. In line with the BCT guidelines (Collins, 2016), two bat activity (emergence/re-entry) surveys were conducted to determine if roosting bats are present/likely absent within the building. The results of which are provided below.

Bat activity surveys

Two bat activity surveys were conducted upon the property; a summary of the results from the surveys are provided below and full results are provided in Appendix 4:

Survey date	Bat emergences/re-entries	General bat activity on site
12/05/2022- Dusk emergence survey	• No bats emerged from the property during the survey.	• At 21:12 a serotine (*Eptesicus serotinus*) was recorded commuting northeast to southwest, south of building. • At 21:17 a soprano pipistrelle was recorded commuting south to north, south of the property. • At 21:28 a myotis species (*myotis sp.*) was heard and not seen, south of the building. • From 21:27 until 22:30 a common pipistrelle (*Pipistrellus pipistrellus*) was recorded foraging around the tress to the south.
26/05/2022- Dawn re-entry survey	• No bats re-entered from the property during the survey.	• A brown long-eared was heard and not seen in the south at 03:36. Another was heard and not seen northwest of the property at 04:22. • From common pipistrelle was recorded foraging along the western treeline at 03:49 and again at 03:52.

No bats were recorded emerging/re-entering the property during the surveys, indicating the property does not support a bat roost at this present time. Therefore, no further action is recommended in relation to the proposed works. Further information is provided in Section 5 regarding the validity of this report.

5. Mitigation and enhancement strategy

Conclusions on roosting bats

The PRA of the house was undertaken, and the building was considered to hold 'moderate potential' for roosting bats due to a moderate number of suitable bat roosting provisions and potential access points around the property. Two bat activity surveys were conducted, and no bats were recorded emerging/re-entering the property during the surveys. Roosting bats are not considered to be impacted as part of the proposed works and therefore no further action is recommended.

It must be noted that the PRA and bat activity surveys provide a 'snapshot' of the conditions at the time of survey and do not account for seasonal changes. It is always possible for bat species to ingress at any point in the future, and therefore it is recommended that if 18 months pass and no works have been undertaken, and/or if the condition of the building changes, an update PRA and bat activity survey(s) are undertaken to assess whether the potential of the building to support roosting bats has altered.

In the unlikely event bat(s) are encountered at any stage, work must cease and Natural England or a suitably qualified bat ecologist must be sought for advice by the applicant/landowner. The applicant must be aware of the severe penalties associated with bat crimes and their legal obligation to report this information.

In the event a bat is discovered, the nature of the advice will concern allowing the bat(s) to leave on their own accord or waiting for a licensed person to remove the bat(s). A bat licence may then be deemed necessary following the necessary survey work. **All building contractors/roofers are explicitly forbidden from handling bats or interfering with bats in any way.**

Foraging and commuting bats

The general surrounding area and gardens are considered suitable for commuting and foraging bats, and there are records for long-eared and myotis species bats within 900m of the property (HBG, 2022). Artificial lighting can impact local bats as it can impede their ability to forage successfully and can deter bats from commuting across the property (BCT & ILP, 2018). Therefore, to ensure any lighting disturbance on bats is minimized, the following strategy for artificial lighting around the property will be adhered to:

- Any external lighting required as part of the development (e.g. security lighting) will be motion-triggered, set on timers (1 minute or less) and directed towards the ground to avoid upward light spill.

- For external light fixtures, only LED type luminaries which lack UV elements will be used, due to their sharp cut-off and lower intensity with a more directional light spill through a narrower beam. A warm white spectrum (ideally 2700Kelvin but up to 3000Kelvin however, lower is preferred) will be adopted to reduce the blue light component. Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.

- Hoods, baffles and/or cowls will be used as a last resort to direct the light spill downward and prevent upward illumination.

Ecological enhancement

To ensure the proposed development is compliant with the National Planning Policy Framework (NPPF) and local planning policy, the following ecological enhancement for nesting birds will be included as part of the proposed extension (see Appendix 5 for location and specifications):

- One 'bat access ridge tile' will be created within the new ridge of the extension. The ridge tile will be created by leaving a 50mm x 20mm gap in the ridge mortar and leaving out an infill mortar for 0.25m on either side of the ridge tile to create a 'tunnel-like' structure for crevice-dwelling bats.

- **The new bat ridge tile area must be lined exclusively with bituminous 1F type roofing felt**; Breathable Roofing Membranes (BRMs) are non-woven and are NOT suitable for roosting bats, this is due to loose fibres 'fluffing up' over time and resulting in entrapment/injury and eventual death of roosting bats (Waring *et al.*, 2011).

6. References

Bat Conservation Trust (BCT) and Institute of Lighting Professionals (ILP) (2018). *Bats and artificial lighting in the UK - Bats and the Built Environment series.*

Collins, J (ed) (2016). *Bat Surveys for Professionals Ecologists: Good Practice Guidelines (3rd Edition).* The Bat Conservation Trust, London.

Corben, C. (2018). *AnalookW Sound Analysis Software Version 4.4.*

Department for Communities and Local Government (2005). *Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.*

Hampshire Bat Group (HBG) (2022). *Southwood Burley - bats only data search 2km radius.*

JNCC (The Joint Nature Conservation Committee) (2016). *UK BAP priority terrestrial mammal species.*

Ministry of Housing, Communities and Local Government (2021). *National Planning Policy Framework.*

New Forest National Park Authority (2019). *The New Forest National Park Local Plan (2016 2036).*

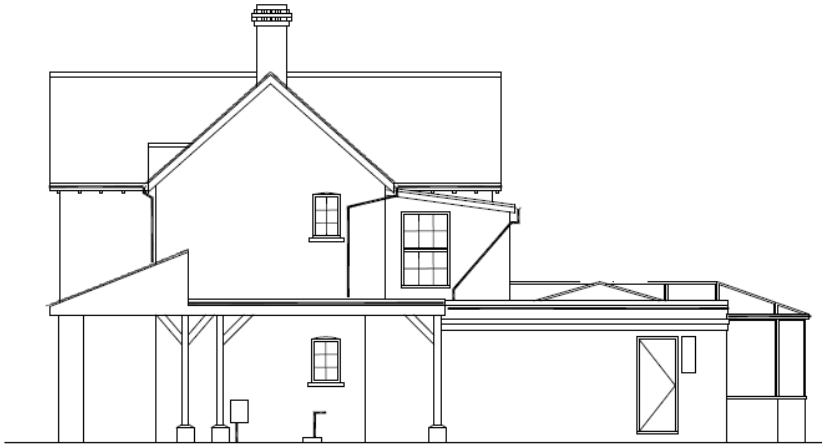
Waring S., Essah, E., Gunnell., K., (2011) *The Likelihood of Entanglement When Bats Meet Breathable Roofing Membranes.*

Appendix 1: Existing elevations

EXISTING FRONT ELEVATION
Scale 1:100

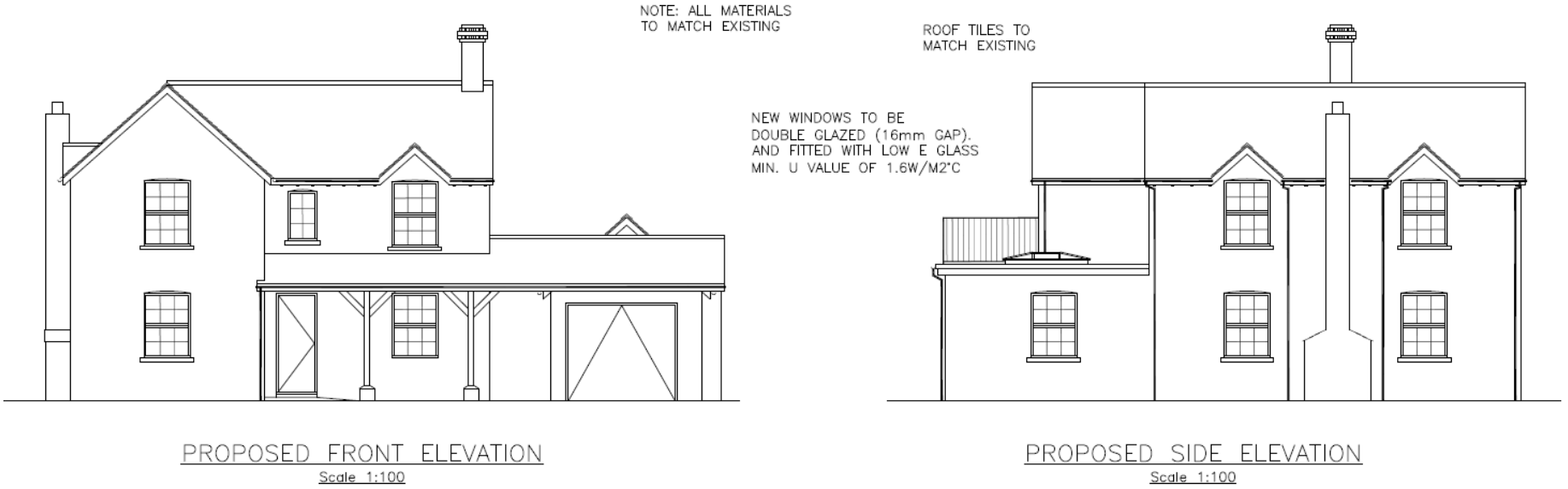
EXISTING SIDE ELEVATION
Scale 1:100

EXISTING REAR ELEVATION
Scale 1:100



EXISTING SIDE ELEVATION
Scale 1:100

Appendix 2: Proposed plans



Appendix 3: Photographs

Photo 1: North Elevation.

Photo 2: Southern elevation and conservatory.

Photo 3: Eastern elevation and external chimney.

Photo 4: Western elevation, car port and garage.

Photo 5: Gap under ridge tile on norther gable end

Photo 6: Raised ridge tiles

Photo 7: Gaps in dormer facsia on western elevation. **Photo 8:** 1st floor uPVC extension. **Photo 9:** Loft void

Appendix 4: Bat activity survey results

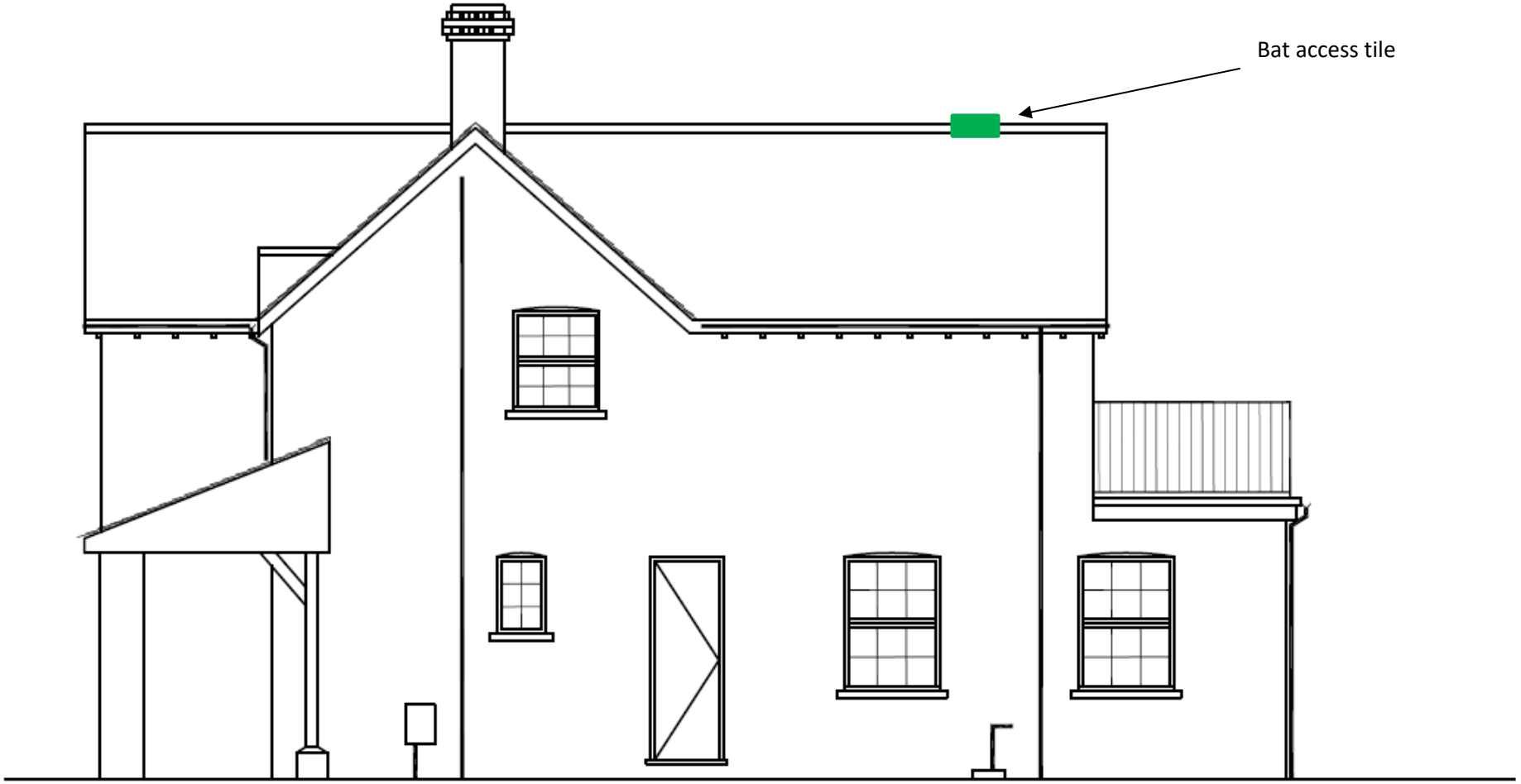
Dusk emergence survey on the 12th May 2022

Bat activity survey						
Date: 12/05/2022	**Sunset:** 20:44	**Weather conditions:** Mild and dry	**Location:** Southwood, Burley			
Temp: Start: 14°C End: 12°C	**Wind Force (Bft):** 0/12	**Equipment:** EchoMeter Touch 2 + tablets x2	**Cloud cover (Oktas):** 2/8	**Start Time:** 20:29	**End Time:** 22:30	**Surveyors and locations:** Russell Hoyle in south, Chris Payne in northwest
Time	**Sp. if ID'd**	**Number**	**Comments**			
21:06	Common pipistrelle	1	Heard not seen in south and north.			
21:12	Serotine	1	Commuted northeast to southwest in south.			
21:17	Soprano pipistrelle	1	Commuted south to north in south.			
21:25	Soprano pipistrelle	1	Heard not seen in south.			
21:27-END	Common pipistrelle	1	Foraging in south trees.			
21:28	Myotis sp.	1	Heard not seen in south.			

Dawn re-entry survey on the 26th May 2022

Bat activity survey						
Date: 26/05/2022	**Sunrise:** 05:05	**Weather conditions:** Calm + Clear	**Location:** Southwood, Burley			
Temp: Start: 10°C End: 10°C	**Wind Force (Bft):** 0/12	**Equipment:** EchoMeter Touch 2 + tablets x 2	**Cloud cover (Oktas):** 0/8	**Start Time:** 03:05	**End Time:** 05:10	**Surveyors and locations:** Matt G in NW. James G in S
Time	**Sp. if ID'd**	**Number**	**Comments**			
03:36	Brown long-eared	1	Heard not seen, south of the building.			
03:49	Common pipistrelle	1	Foraging. At western treeline.			
03:52	Common pipistrelle	1	Foraging. At western treeline.			
04:22	Brown long-eared	1	Heard not see, northwest of the property.			

Appendix 5: Ecological enhancements



Bat access ridge tile design