



Ecological Impact Assessment

The Crooked House, 21 Queen Street, Emsworth, Havant, Hampshire, PO10 7BJ

July 2025

Client: Mr Bouch

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Contents

1. EXECUTIVE SUMMARY	4
2. INTRODUCTION	5
2.1 BACKGROUND AND PROPOSED DEVELOPMENT	5
2.2 PERSONNEL	5
2.3 PURPOSE OF THIS ECOLOGICAL IMPACT ASSESSMENT REPORT	5
2.4 SITE DESCRIPTION	6
3. LEGISLATION AND PLANNING POLICIES	9
3.1 POLICY	9
3.2 CONSERVATION LEGISLATION	12
4. METHODS	15
4.1 DESK STUDY	15
4.2 ECOLOGICAL IMPACT ASSESSMENT	15
4.3 BAT DUSK EMERGENCE SURVEY	17
4.4 ROOST CHARACTERISATION	18
4.5 SURVEY CONSTRAINTS AND LIMITATIONS	19
5. BASELINE ECOLOGICAL CONDITIONS	20
5.1 DESIGNATED SITES	20
5.2 HABITATS	20
5.3 PROTECTED SPECIES ASSESSMENT	21
6. RECOMMENDATIONS AND MITIGATION	26
6.1 DESIGNATED SITES	26
6.2 PROTECTED SPECIES	26
7. ECOLOGICAL ENHANCEMENTS	29
8. CONCLUSION	31
9. REFERENCES	32
APPENDIX 1: SITE PHOTOGRAPHS	34
APPENDIX 2: BAT SURVEY PLAN	39

1. Executive Summary

Site Details
- The Crooked House, 21 Queen Street, Emsworth, Havant, Hampshire, PO10 7BJ - Central grid reference: SU75130572
Scope of Works
Imprint Ecology was commissioned by Mr Bouch to undertake a Preliminary Ecological Appraisal (PEA), a Preliminary Bat Roost Assessment (PBRA), and Dusk Emergence Survey for a planning application with Havant Borough Council. The proposals involve demolition of an existing 1960's rear extension and construction of a new, rear single-storey sunroom and link extension, erection of new detached greenhouse, new entrance gates, and the replacement roof and alterations to a detached barn and car port.
Results
- The PBRA found the buildings on-site to have low suitability for roosting bats, triggering the requirement for a single Dusk Emergence Survey during the active bat season. The Dusk Emergence Survey was undertaken in July 2025 with four surveyors and six night vision aids (NVAs) and it recorded very low levels of bat activity with a total of two common pipistrelle passes, and one soprano pipistrelle pass. The surveys have confirmed that there is a likely absence of bat roosts on-site. - The garden has good habitat for foraging and commuting bats, nesting birds, hedgehogs, commuting amphibians and reptiles, and small mammals.
Mitigation
- Any external artificial lighting will be installed in an ecologically sensitive manner to avoid unnecessary light spill and minimise disturbance to local bat flightlines and other nocturnal wildlife. - Precautionary mitigation for hedgehogs, commuting amphibians and reptiles, nesting birds, and other small ubiquitous animals, is proposed to avoid committing an offence.
Enhancements
The following enhancements have been proposed for this site: - One bat roosting feature will be installed. - One bird box will be installed. - Nesting boxes for hedgehogs will be installed if there are suitable gaps for them to access the site.

2. Introduction

2.1 Background and Proposed Development

Imprint Ecology was commissioned by Mr Bouch to undertake an Ecological Impact Assessment at The Crooked House, 21 Queen Street, Emsworth, Havant, Hampshire, PO10 7BJ, hereafter referred to as the “site”. The suite of surveys has included a PEA, PBRA and a Dusk Emergence Survey. The site is located around central grid reference: SU75130572. The proposals involve demolition of an existing 1960's rear extension and construction of a new, rear single-storey sunroom and link extension on the main house (B1), erection of new detached greenhouse, new entrance gates, and the replacement roof and alterations to a detached barn (B2) and car port (B3).

2.2 Personnel

This assessment and report have been prepared by Emily Luck, BSc (Hons), MCIEEM, MRSB, Director of Imprint Ecology. Emily holds a Natural England Level 2 Class Licence for Bats (2024-12034-CL18-BAT) and has broad experience managing mitigation projects for bats across southern England. The PBRA was undertaken by experienced ecologist, Lauren Hale, BSc (Hons), MRes, ACIEEM. The Dusk Emergence Survey was led by Aidan Bird, an experienced bat ecologist. Lauren and Aidan work as Accredited Agents under Emily Luck's bat licence.

2.3 Purpose of this Ecological Impact Assessment Report

This report may be valid for planning purposes for up to 24 months from the report date. However, bat survey data is typically valid for one year and may need updating if it lapses or extends beyond another survey season, regardless of when planning was approved. The report assesses the ecological effects of the proposed development, outlines mitigation measures, explains how they will be secured, expected residual impacts, recommends ecological enhancements, and specifies any necessary post-construction monitoring.

Under the National Planning Policy Framework (NPPF) and the Conservation of Habitats and Species Regulations 2017 (as amended), Local Planning Authorities (LPAs) have a legal obligation to consider the potential presence of protected species, such as bats, prior to determining planning applications. Where works may impact bats or their roosts, sufficient survey effort must be undertaken to demonstrate presence or likely absence, and where necessary, an appropriate mitigation strategy must be proposed to ensure no offences will occur. This report satisfies that

requirement and provides the necessary ecological information to enable the LPA to make an informed decision.

2.4 Site Description

Refer to Figure 2.1 for the site location, Figure 2.2 for an aerial view, and Figure 2.3-2.4 for the existing and proposed site plans.

Figure 2.1 – Location ©OpenStreetMap, 2025. Licensed under the Open Data Commons Open Database License (ODbL) by the OpenStreetMap Foundation (OSMF).

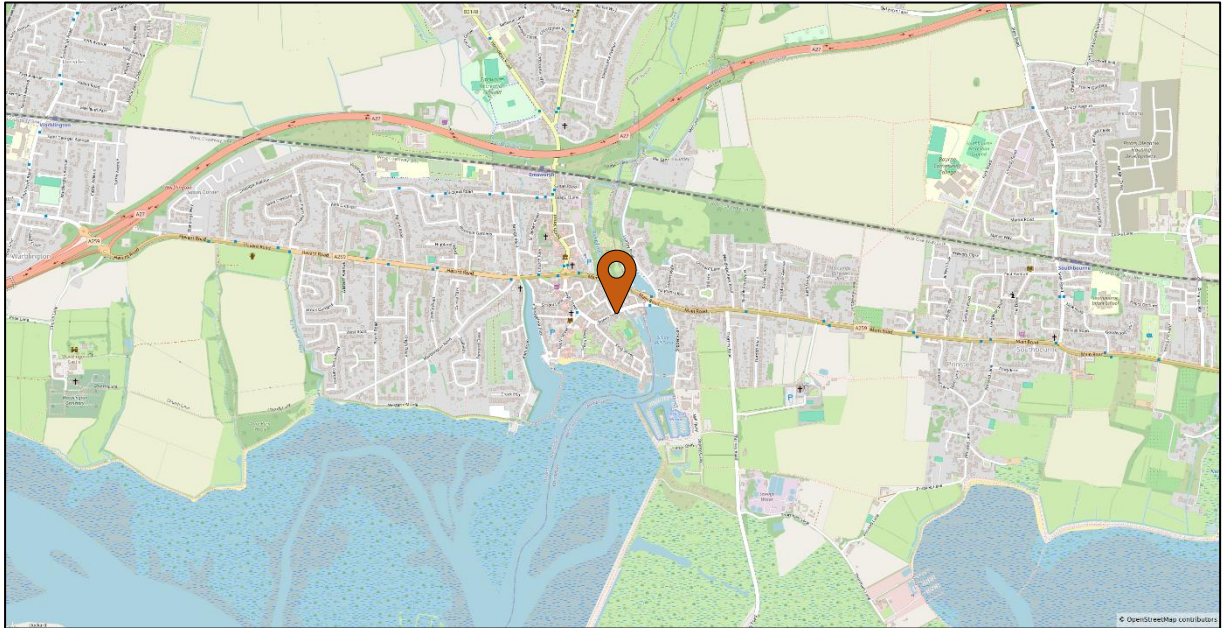


Figure 2.2 – Site aerial view, red line boundary and building references. ©Google Earth 2025.



Figure 2.3 – Existing site plan.



Figure 2.3 – Proposed site plan.



3. Legislation and Planning Policies

3.1 Policy

3.1.1 National Planning Policy

The latest National Planning Policy Framework (NPPF, 2024) was published in December 2024. Paragraph 187 states that planning policies and decisions must contribute to and enhance biodiversity and the natural environment by:

- Protecting and enhancing valued landscapes, biodiversity sites, geological features, and soils in line with statutory designations.
- Recognising the intrinsic character and beauty of the countryside, including the benefits of trees, woodlands, and agricultural land.
- Maintaining the character of undeveloped coastal areas while improving public access where appropriate.
- Minimising impacts on biodiversity and delivering net gains, including the establishment of resilient ecological networks and features supporting priority species such as swifts, bats, and hedgehogs.
- Preventing environmental harm from soil, air, water, and noise pollution, as well as land instability.
- Improving local environmental conditions, including air and water quality, informed by relevant policies such as river basin management plans.
- Remediating degraded, contaminated, or unstable land to enhance ecological value.

Paragraph 193 states that local planning authorities must apply the following principles when determining planning applications:

- Avoid significant harm to biodiversity where possible; if unavoidable, harm must be mitigated or compensated for, or planning permission should be refused.
- Development that affects Sites of Special Scientific Interest (SSSI) should not be permitted unless benefits clearly outweigh potential harm.
- Loss or deterioration of irreplaceable habitats (e.g., ancient woodland, veteran trees) should be refused unless there are exceptional reasons and a suitable compensation strategy.
- Development that enhances biodiversity should be supported, particularly where it secures measurable net gains or improves public access to nature.

In addition to the NPPF, Circular 06/2005: Biodiversity and Geological Conservation says, *“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.”*

Circular 06/2005 also provides statutory direction on biodiversity protection within the planning system. It clarifies legal obligations under the Wildlife and Countryside Act 1981, the Conservation of Habitats and Species Regulations 2017, and other key legislation. It outlines:

- The importance of ecological surveys and assessments in development proposals.
- The duty of local authorities to consider biodiversity in planning decisions, ensuring compliance with UK and European laws.
- Requirements for the mitigation hierarchy, ensuring avoidance, mitigation, or compensation for biodiversity impacts.
- The need for protected species licences where development affects legally protected species.

3.1.2 Local Planning Policy

Policies DM8 and CS11 in the Havant Borough Core Strategy (2011) are relevant for ensuring biodiversity and ecology are considered during planning applications, as follows:

DM8: Conservation, Protection and Enhancement of Existing Natural Features.

Development will only be permitted where it protects and enhances local habitats and landscape distinctiveness and which addresses all of the relevant criteria as set out below:

1. Protects natural features of nature conservation and/or amenity importance on the site, for example trees, woodlands, hedgerows, soils, streams, stream corridors, springs, ditches or ponds from damage, destruction and a deterioration in quality.
2. Sympathetically incorporates existing features into the overall design of the scheme including measures taken to ensure their continued survival.
3. Provides new landscape works that integrate successfully with the local environment and existing natural features, using local materials and plant species and making provision for future maintenance of new landscape works associated with new developments.
4. Ensures sequences of greenspaces are maintained and protects the attractiveness and visual amenity of all green open spaces that contribute to the identity of the borough.

CS11: Protecting and Enhancing the Special Environment and Heritage of Havant Borough.Planning permission will be granted for development that:

1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.
2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.
3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map):
 - i. Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International].
 - ii. Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National].
 - iii. Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].
4. Protects and where appropriate enhances the borough's statutory and non-statutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.
5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.
6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.
7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and historic or built structure, particularly the ancient woodland remnants of the Forest of Bere and old coastal marsh.
8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal habitat management and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Woodlands Edge as shown on the Proposals Map.
10. Resists the loss of the most versatile agricultural land that has the greatest potential for food security.
11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.

3.2 Conservation Legislation

Legislation for UK protected and non-native species is outlined in Table 3.1.

Table 3.1: Legislation of UK Protected/Priority species.

Species	Legislation
Badgers	Badgers are protected under the Protection of Badgers Act 1992, which prohibits the wilful killing, injuring, or taking of a badger and the interference with a badger sett. This includes activities such as destroying setts or obstructing access to them when in current use. Additionally, under the Wildlife and Countryside Act 1981 (as amended), badgers are protected from being harmed by certain prohibited traps and poisons.
Bats	British bats are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), which classifies them as European Protected Species (EPS). Additional protection is provided by the Countryside and Rights of Way (CRoW) Act 2000, the Bonn Convention (Agreement on Bats in Europe), and the Bern Convention. Seven bat species are also listed under Section 41 of the NERC Act 2006 as priority species for biodiversity. It is a criminal offence to kill, injure, capture, or disturb bats, damage or destroy a roost, or obstruct access to roosting sites. Bat roosts are protected regardless of whether bats are present at the time, as bats often return to the same roost annually. If a proposed development risks disturbing bats or their roosts, an EPSML must be obtained from Natural England. This licence permits works subject to approved mitigation measures to safeguard bats. The Natural Environment and Rural Communities (NERC) Act 2006 requires due consideration of biodiversity and enhancement opportunities during development planning.
Dormice	Hazel dormice are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as

	amended). This protection makes it an offence to intentionally kill, injure, or capture dormice, as well as to disturb them in their places of rest or damage, obstruct or destroy their breeding or resting sites. Due to their reliance on diverse, connected habitats such as woodland, hedgerows, and scrub, dormice are a priority species under Section 41 of the NERC Act 2006, meaning they must be considered in the planning process.
Great crested newts	Great crested newts (GCN) are strictly protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to capture, injure, kill, or disturb GCNs, as well as to damage or destroy their breeding or resting places. Licences from Natural England are required for activities affecting GCN or their habitats.
Hedgehogs	Hedgehogs are listed as a priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Hedgehogs are particularly vulnerable during the winter months when they are in hibernation, and during spring when building and sheltering in nests with dependent young.
Invasive Non-Native Species (INNS)	Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) prohibits the planting, release, or causing the spread of invasive non-native species such as Japanese knotweed, Himalayan balsam, and giant hogweed. Landowners have a duty to manage these species to prevent their spread, and strict controls apply to their disposal.
Invertebrates	Development must comply with legal protections for invertebrates, including those listed as European Protected Species (EPS) under the Conservation of Habitats and Species Regulations 2017 (as amended), such as large blue butterflies, Fisher's estuarine moths, and little ramshorn whirlpool snails. It is illegal to kill, injure, disturb, or destroy their breeding or resting sites, even when unoccupied. These species are also protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence to recklessly disturb or obstruct access to their shelters. Many other invertebrates are protected under Schedule 5 of the Act, while Section 41 of the NERC Act 2006 highlights rare species requiring conservation consideration during planning.
Nesting birds	Nesting birds are protected under several key pieces of legislation to prevent their disturbance or harm, particularly during the breeding season. The Wildlife and Countryside Act 1981 (as amended) makes it illegal to intentionally kill, injure, or take any wild bird, and to damage or destroy the nest of any wild bird while it is in use or being built. Some species, listed under Schedule 1 of the Act, receive additional protection. The Conservation of Habitats and Species Regulations 2017 (as amended) further implements protections for bird species considered of European importance, particularly through the designation of Special Protection Areas (SPAs). The term "nesting" encompasses all stages from adults building a nest or gathering nest materials to the point when chicks have fledged. To avoid disturbing nesting birds,

	works that could impact nests should generally be avoided from March to August inclusive. However, precaution should be given during February when some bird species can begin nesting, especially in milder conditions. Disturbance during these stages, such as interfering with eggs or nests with chicks, can cause significant stress or even nest abandonment, resulting in the failure of the breeding attempt
Other mammals	The Wild Mammals (Protection) Act 1996 protects all wild mammals, including ubiquitous species like mice, voles, as well as foxes, and rabbits, from intentional harm or preventable distress and suffering.
Otters	Otters are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). It is illegal to deliberately capture, kill, or disturb otters, or to damage or destroy their holts or resting places.
Reptiles	Widespread reptiles, such as slow worms and common lizards, are protected under the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to intentionally kill, injure, or take these reptiles. Additionally, they are listed as priority species under Section 41 of the NERC Act 2006, requiring public bodies to consider their conservation. While these reptiles are not protected from habitat disturbance, developers must take reasonable steps to avoid direct harm during activities such as site clearance.
Water voles	Water voles are protected under the Wildlife and Countryside Act 1981 (as amended), making it illegal to intentionally kill, injure, or take water voles, or to damage, destroy, or obstruct access to their burrows.

4. Methods

4.1 Desk Study

4.1.1 Biological database searches

A desk study on 3rd July 2025 involved reviewing online geographical databases and mapping tools to assess the site's proximity to key ecological features, including granted EPSMLs, designated sites, priority habitats, and protected habitats, within a 1km radius. A data search from the local biodiversity records centre was not obtained, as it was deemed disproportionate and unlikely to alter the assessment outcomes. The following resources were used:

- Havant Planning Portal
- Google Earth Pro Satellite Imagery
- LandApp by DigitalLandSolutions Ltd
- Multi-Agency Geographic Information for the Countryside (MAGIC)
- Ordnance Survey (OS) Explorer (1:25,000 scale)

4.2 Ecological Impact Assessment

4.2.1 UKHab Habitat Assessment

The site's habitats were assessed on 3rd July 2025 following the UK Habitat Classification (UKHab) system (Version 2.0). The survey involved a systematic site walkover to identify, classify, and map all habitats present. Pre-survey preparation included a review of existing ecological data, aerial imagery, and designated site information to establish a baseline and inform the survey strategy. The on-site field survey recorded habitat features, vegetation types, and management practices. Due to the relatively minor scale of the proposed works and the absence of any significant habitat loss beyond minor landscaping, detailed habitat mapping was not deemed necessary. All species referenced follow standard UK common names, and Latin names can be provided upon request for clarification if required.

4.2.2 Badgers

Any woodland, grassland, scrub, and hedgerow habitats within the site were searched for signs of badger activity, including setts, pathways, foraging pits, latrines, and hairs snagged on fences or vegetation. Particular attention was given to banks and woodland edges.

4.2.3 Bats

A comprehensive survey of buildings, trees, and surrounding habitats was undertaken across the site to evaluate the presence of suitable features for roosting, foraging, and commuting bats.

Equipment used included a 20,000-lumen LED torch, 8x42 binoculars, telescopic ladders, an inspection mirror, and a camera. Potential Roost Features (PRFs) – specific features within buildings, trees, or other structures that could provide shelter for bats – were recorded. These include cracks, crevices, joints, cavities, lifted roof tiles or weatherboarding, or loose bark on a tree. A PRF can take the form of any crevice or cavity in a building, tree or other structure that offers space, protection, and appropriate conditions for bat roosting. Evidence of bat presence, such as droppings, feeding remains (e.g., moth wings), urine stains, grease marks, lack of cobwebbing, or bats themselves, was recorded. Surrounding habitats were also assessed for their suitability to support commuting and foraging bats, focusing on features such as hedgerows, treelines, rivers, and woodland edges.

4.2.4 Dormice

Woodland, hedgerows, and scrub habitats were inspected for their potential to support dormice. Particular focus was given to any dense, species-rich hedgerows and areas with abundant food sources such as hazel, bramble, and honeysuckle. Any signs of dormouse activity, including characteristic gnawed hazelnuts (nuts with clean, smooth inner surfaces with a neat circular opening) or woven dormouse nests, were recorded.

4.2.5 Great Crested Newts (GCN)

Terrestrial habitats such as grassland, scrub, and woodpiles were examined for sheltering and foraging potential. Signs of GCN such as GCN eggs, efts, live or dead specimens were recorded. Any ponds on-site or near the site were assessed visually but no further surveys were undertaken for GCN.

4.2.6 Hedgehogs

Scrub, hedgerows, and grassland within the site were searched for hedgehog tracks, droppings, and nests. Habitat connectivity and the availability of hibernation-sites, such as piles of logs or leaves, were also recorded.

4.2.7 Invasive Non-Native Species (INNS)

The site was surveyed for invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), including Japanese knotweed, Himalayan balsam, and giant hogweed.

4.2.8 Nesting Birds

Habitats such as trees, hedgerows, scrub, grassland, and buildings were inspected for evidence of nesting birds, including nests, droppings, eggshells, or feathers. Suitability for breeding, foraging, and overwintering birds was assessed, and particular attention was paid to features likely to support species of conservation concern, such as holes in trees or buildings and dense scrub.

4.2.9 Otters

No habitats suitable for otter were present on-site.

4.2.10 Reptiles

Habitats within the site, including grassland, scrub, hedgerow bases and sheltered, sunny spots were assessed for their suitability to support widespread reptile species by providing basking, breeding, foraging, and hibernation opportunities. Any materials resting on the ground, such as wood, corrugated iron, or other debris (referred to as refugia), were lifted to check for sheltering reptiles.

4.2.11 Water Voles

No habitats suitable for water vole were present on-site.

4.3 Bat Dusk Emergence Survey

One Dusk Emergence Survey was undertaken on 15th July 2025. The survey followed the methodology set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, J., 2023). The survey was designed to establish the presence of any roosting bats, following the initial daytime inspection. See Appendix 2 for the Bat Survey Plan.

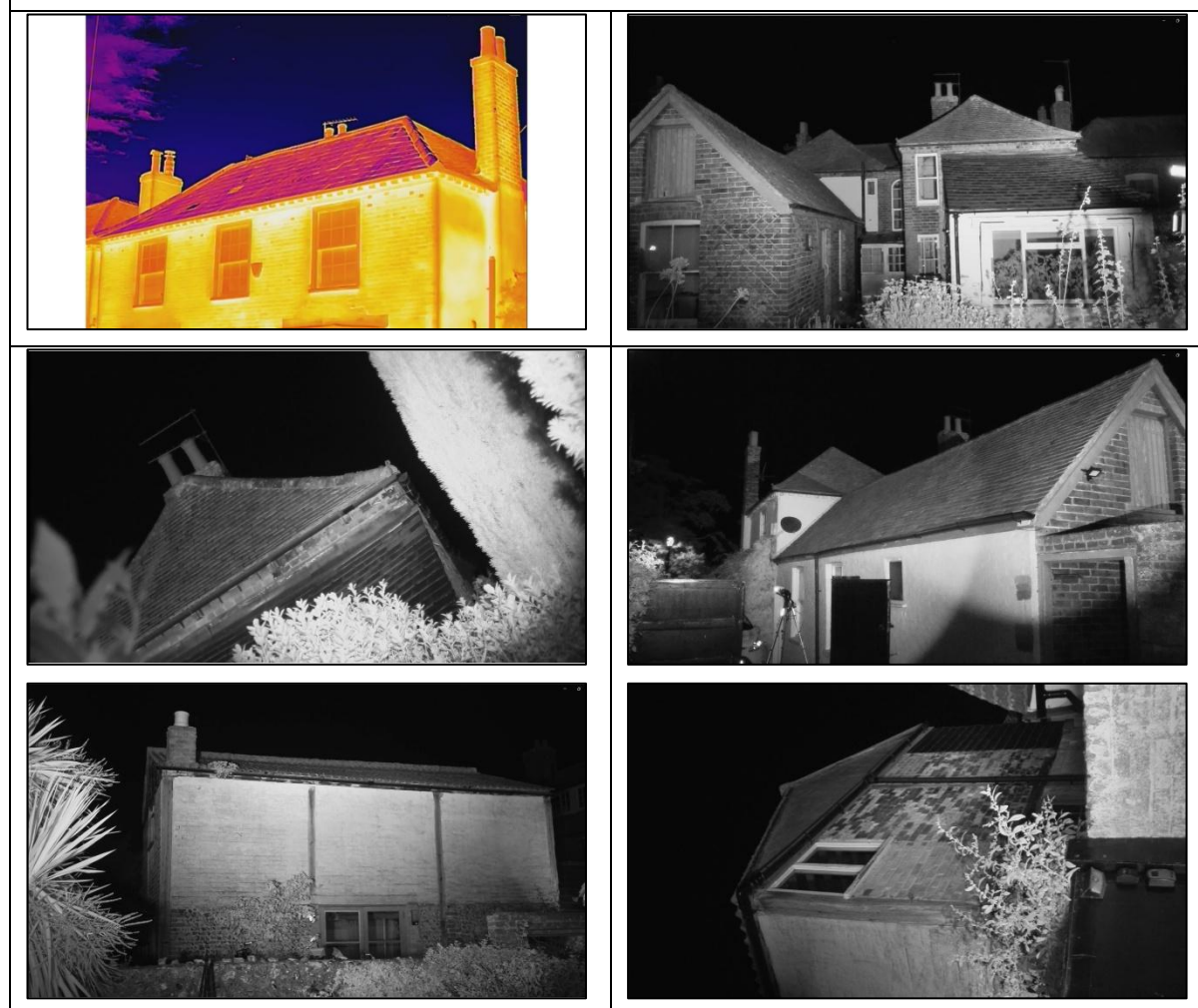
Four surveyors supported by six Night Vision Aids (NVA) were positioned around the buildings. Where necessary, footage was reviewed shortly after the survey using QuickTime at speeds between 0.5x and 2x. The NVA unit recorded at a resolution of 1920x1080 using an 850nm infrared wavelength. Bat calls were subsequently analysed using Wildlife Acoustics Kaleidoscope Pro software.

The survey was led by Aidan Bird (qualifications in Section 2.2). He was assisted Lucy Batchelor, Beth Smith, and Lexie Smith. Survey conditions and visibility were optimal, as follows:

Table 4.1: Dusk Emergence Survey conditions.

Date	15/07/2025		Sunset	21:19		Start Time	20:59		End Time	22:49	
Weather:	Start	Temp.	18.1°C	Cloud (Okt)	1/8	Wind (Bft)	Bft3	Rainfall	Nil		
	End	Temp.	17.0°C	Cloud (Okt)	2/8	Wind (Bft):	Bft2	Rainfall	Nil		
Equipment	Detectors: Echo Meter Touch 2 Pro, Peersonic RPA3. NVA kits: Pixfra thermal, Canon XA40, XA50, XA60 models.										
Abbreviations: Bft: Beaufort scale (wind speed 0-12); Okt: Okta (cloud cover 0-8)											

NVAs showing maximum infrared illumination at darkest point of the surveys:



4.4 Roost Characterisation

The classification of bat roost type is important for understanding the ecological function of each roost, the level of protection it is afforded, and the potential licensing requirements if works may result in roost damage or destruction. All bat roosts are legally protected, whether or not bats are present at the time of surveys. The characterisation of roosts in this report follows guidance provided by the Bat Conservation Trust (Collins, 2016) and Natural England licensing criteria. Roost type is determined through a combination of field evidence, bat behaviour observed during surveys, seasonality, and the known ecology of the species involved. See Table 4.2.

Table 4.2: Roost types.

Roost type	Description of roost
Day roost	A site where individual bats or small groups rest during the day, often used by males or non-breeding females.
Night roost	A place used by bats to rest during the night. These are not usually occupied during the day and may be used occasionally by individuals or regularly by a group.
Feeding roost (or feeding perch)	A place where individual bats or small groups consume prey during the night. These are not used during the day and may be identified by insect remains below the perch.
Transitional roost	A temporary site used for short periods in early spring or autumn by a few bats, usually as they move between hibernation and summer roosts.
Swarming site	A location where large numbers of bats gather in late summer to early autumn. These are important for mating and social interactions and are often located near hibernation sites.
Mating roost	A site used for mating activity from late summer and sometimes into winter. These may be occupied by males attempting to attract females.
Maternity roost	A site where female bats give birth and raise their young until they are weaned and independent. Sometimes called a breeding roost or nursery. These are typically occupied between May and August and generally of high conservation importance.
Satellite roost	An alternative roost close to the main maternity roost, used by a few breeding females or small groups of bats throughout the breeding season.
Hibernation roost	A cool, humid, and stable site used by bats over winter. Bats may be found here individually or in small groups, often in a state of torpor.

4.5 Survey Constraints and Limitations

During the dusk survey, it was not possible to view the full west elevation of the barn due to access limitations. Given the low level of bat activity recorded on the night and the strategic placement of NVAs and surveyors to capture any activity in that area, this was not considered a significant constraint to the survey findings. No other significant constraints were encountered during the surveys. However, it is important to note that bat activity naturally fluctuates over time due to variables such as weather, seasonal changes, and local foraging conditions.

5. Baseline Ecological Conditions

5.1 Designated Sites

The site is located within the Chichester Harbour National Landscape (formerly designated as an Area of Outstanding Natural Beauty), a nationally protected landscape recognised for its scenic and ecological importance.

Brook Meadow Local Nature Reserve (LNR) lies 170m north of the site. Brook Meadow is a 2.3ha site of semi-natural grassland, wet meadow, and riparian habitat located along the River Ems. The site supports a rich diversity of flora and fauna, including water voles, kingfishers, and a variety of native plants associated with chalk streams.

Chichester Harbour itself lies 218m south of the site to the west and is of particular significance for its coastal habitats. It is a large estuarine basin where, at low tide, extensive areas of mudflats and sandflats are exposed. Chichester Harbour is protected by a suite of overlapping national and international designations, as follows:

- Site of Special Scientific Interest (SSSI) designated for its nationally important intertidal habitats and bird populations.
- Special Protection Area (SPA) - a European designation under the Birds Directive, recognising the site's international importance for overwintering and migratory waders and waterfowl.
- Ramsar site – a wetland of international importance under the Ramsar Convention.
- Special Area of Conservation (SAC) designated under the Habitats Directive for its range of protected habitats such as mudflats and saltmarsh.

5.2 Habitats

5.2.1 Desk Study

Within 1km of the site are a number of protected and priority habitats listed under Section 41 of the NERC Act (2006), which include deciduous woodland, traditional orchard, lowland fens, reedbeds, mudflats, coastal saltmarsh, lowland meadow and chalk stream. None are located within or directly adjacent to the site. These habitats are of high ecological value and are considered Habitats of Principal Importance in England. Section 40 of the same Act places a duty on Local Planning Authorities to have due regard to the conservation of biodiversity when carrying out their functions.

5.2.2 Site Assessment

The site consists of the following habitats:

u1b/u1b5 – Buildings and hardstanding. The site supports a two-storey residential dwelling (B1), a detached barn (B2), and an open-fronted car port (B3). These are surrounded by hard landscaping including a paved rear patio, concrete footpaths, and a tarmac driveway separating B1 from B2 and B3. These surfaces provide no ecological value and do not support any vegetation.

u1 vegetated garden. The gardens are well-maintained and ornamental in character, comprising a short-mown lawn with low sward height and narrow pathways. Surrounding planting beds contain a variety of non-native and nectar-rich species, including ox-eye daisy, rose, agapanthus, lavender, rosemary, and crocosmia, alongside woody evergreen species such as cordyline and clipped shrubs likely to be box or escallonia. A dense central planting area with herbaceous species provides some foraging opportunities for pollinators such as bees and butterflies.

5.3 Protected Species Assessment

5.3.1 Badgers

No features within the gardens or adjacent to the site provide suitable sett-building opportunities and no access points in the fencing were noted. The site is in a suburban, coastal setting and the lack of nearby woodland cover within reduces the likelihood of sett construction within the garden or proposed impact zone, so badgers are unlikely to be present.

5.3.2 Bats

Desk Study

The following EPSMLs have been granted for bats within 2km of the site:

- 2019-44235-EPS-MIT for destruction to the resting place of a soprano pipistrelle bat, located 365m northwest, granted in 2020.

The results of the PBRA are presented in Table 5.1 and the full set of site photographs is presented in Appendix 1.

Table 5.1: PBRA

Foraging and Commuting Habitat	
	The site lies within a built-up suburban area near to a coastal lagoon, and the immediate surroundings comprise residential housing and hardstanding with a paucity of mature trees or linear features within or immediately adjacent to the site. A narrow strip of tree cover and harbour edge lies approximately 70m south, providing a potential foraging area or corridor for bats. Brook Meadow to the north offers good foraging and commuting habitat for bats with blocks of woodland, rough grassland and chalk stream. Overall, the site has low to moderate suitability for foraging and commuting bats, particularly by common urban-tolerant species such as common pipistrelle using garden vegetation or commuting across the area.
B1 - Main House	
 	The main dwelling is a complex structure of brick construction with rendered areas to the rear. The principal roof is hipped and clad in a mix of slate and clay tiles. Two lower rear extensions are present: a gabled clay-roofed extension on the south-west corner and a lean-to slate-roofed sunroom extension on the south-east. Externally, a low number of PRFs in the form of lifted roof tiles are present on the north and south elevations of the main house. The eaves are well-sealed. Windows and door frames are mostly tight-fitting, though minor, shallow crevices exist around some timber frames. The gabled brick extension to the rear has a low number of cambered clay tiles. Gaps on this lower roof identified could be thoroughly inspected from a ladder using a high-

	powered torch and many were found to be well-cobwebbed. The basement has a small metal grate to the rear which could allow bats inside although this is partially concealed and access is not direct. Conditions are dark and cool, with worn or missing ceiling boards allowing potential access to crevices in the floorboard rafters. Internally, there are three loft voids. The main loft void is lined with traditional 1F felt, with evidence of old wasp nests. The chimney stack has some minor crevices from historic settling and mortar loss. The very small loft void above the single-storey extension is part-lined and partially boarded, with minor crevices in the internal brickwork but overall in good condition. Daylight is visible through the west eaves. The lean-to loft void is timber-framed and lined with bitumen felt and appeared to be in good condition. No bat droppings were observed in any loft voids. Summary: Low suitability for roosting bats.
B2 - Barn	
	The detached barn is a tall, two-storey brick structure which is partially rendered, with a shallow, pitched, gabled corrugated metal roof. Gable ends are sealed with corrugated metal sheeting. Internally, the ground floor is dark and contains numerous exposed timber beams and rafters. The first-floor area receives a lot of daylight and the underside of the roof is visible with no loft void. The southern elevation has exposed brickwork with a large tightly-fitting black-painted timber bargeboard. The brickwork is well mortared with no visible cracks or crevices, and the fascia

	and soffit appear tightly sealed with no lifted sections. The timber beams appear to have small crevices and offer a low number of PRFs where they have weathered against the brickwork. Summary: Low suitability for roosting bats.
B3 – Car Port	
	This is a small, stone structure with a corrugated metal roof. The only PRFs observed are minor crevices where the rafters meet the stone walls at the rear. Summary: Low suitability for roosting bats.

Dusk Emergence Survey.

The results of the Dusk Emergence Survey is presented in table 5.1. Surveyor and NVA locations can be seen in Appendix 2.

Table 5.1: Bat emergence results

Survey Date	Emergences	Bat activity
15/07/2025	None.	A total of two common pipistrelle passes, and one soprano pipistrelle pass were recorded during the survey, indicating very low levels of bat activity. All bats were observed commuting, primarily moving east to west across the rear garden. One distant bat was detected by the surveyor to the north of the house. No bats were seen emerging from any of the buildings on site. The survey was undertaken during the peak bat maternity season, when maternity roosts are most likely to be active and detectable. No emergence or behaviour indicative of a maternity roost was observed in or around the structures.

5.3.3 Great crested newts (GCN) and Other Amphibians

There are no ponds on-site, and the garden is largely enclosed by walls, with much of the area comprising hardstanding, gravel, and closely mown lawn. The site lacks connectivity to suitable terrestrial habitats such as woodland or rough grassland. As a result, the habitat offers limited

refuge or movement opportunities for amphibians, and breeding is highly unlikely to occur on-site. However, occasional transient individuals may pass through or shelter beneath dense ornamental shrubs or garden features.

5.3.4 Hazel Dormice

The site does not contain suitable habitat for hazel dormice, such as ancient woodland or dense scrub. No further surveys or mitigation are required.

5.3.5 Hedgehogs

The site provides suitable habitat for hedgehogs, particularly along the garden boundaries where dense shrubs offer cover for foraging and occasional refuge. Although the boundaries are walled, there may be concealed access points that allow hedgehogs to enter. Features suitable for hibernation, such as dense undergrowth or leaf piles, are limited, but the site and surrounding area are still likely to be used by hedgehogs for commuting and foraging.

5.3.6 Invertebrates

The site has low plant diversity and is regularly managed, limiting suitability for invertebrates. While some pollinators may be present, the lack of year-round nectar sources and like log piles or deadwood reduces its value for a wider range of species, including protected invertebrates such as stag beetles.

5.3.7 Nesting Birds

The site offers moderate nesting opportunities for common garden bird species such as blackbird, robin, wren, house sparrow, and blue tit. A small number of ornamental shrubs provide cover for foraging and nesting. Under the current proposals, all vegetation is to be retained. In addition, the barn and car port may offer suitable ledges or sheltered areas for nesting birds.

5.3.8 Reptiles

Reptiles are unlikely to utilise the buildings, gravel areas or mown lawns. However, common species such as slow worm may occur beneath garden debris, pots or paving slabs, as well as in grass cuttings, shrub beds, and compost heaps.

5.3.9 Other Protected Species

There are no watercourses on site that may support water voles or otters. No other protected species were identified or considered during the assessments.

6. Recommendations and Mitigation

Mitigation measures are clearly presented to demonstrate how significant impacts can be avoided or reduced, following the CIEEM mitigation hierarchy (2018). Any residual impacts, after mitigation has been applied, are assessed to ensure their significance is minimised and fully accounted for in the overall ecological assessment.

6.1 Designated Sites

Potential impacts

No significant impacts upon Chichester Harbour or Brook Meadow are anticipated as the works are relatively modest in scale and involve improvements and alterations to a family home.

Mitigation

None required.

Significance of residual effects

There will be no residual effects.

6.2 Protected Species

6.2.1 Bats

Potential Impacts

There is a low risk of disrupting potential bat flightlines if external lighting is installed during or after works, particularly if directed towards boundary vegetation or uplighting of the building.

Mitigation for Bats

- Lighting - any new lighting will need to be carefully designed to avoid light spill. Artificial Light at Night (ALAN) can disrupt natural bat behaviour by altering foraging efficiency, commuting and social behaviour (Stone et al., 2009).

As such, where lighting is intended to be installed for safety or security, the following mitigation measures will be implemented:

- Motion-activated external lighting to be used in place of continuous illumination, with timers set to a short delay (1-2 minutes) after the last movement.
- Light intensity will be kept low (e.g. ≤ 500 lumens), using warm white light sources (approximately 2700 K) to reduce blue light content, which is especially disruptive to bats.

- All external fittings will be installed facing downward and fitted with appropriate shields or cowls to minimise upward and horizontal light spill.

Significance of residual effects

With mitigation measures in place, there will be no residual effects.

6.2.2 Hedgehogs and Small Animals

Potential impacts

Construction phase activities have very low potential to inadvertently harm or kill hedgehogs and other small, protected animals, such as smooth newts, common toads, mice, voles and foxes, that may occasionally cross the site, especially areas where contractor vehicles, materials, and machinery are likely to be during works.

Mitigation measures

- The removal of any patio, paving slabs and pots will be undertaken carefully by hand to avoid crushing of animals that may be sheltering or nesting beneath them.
- The grass on-site near to the construction impact zone will be kept short to discourage animals from sheltering within it.
- Piles of soil, rubble, pallets, and other construction materials will be stored on hardstanding or gravel. When they require removal or relocation, they will be dismantled carefully by hand.
- Excavations left open overnight will be fully covered or fitted with escape ramps. Ramps should either be soil slopes or a gently sloping roughened timber plank (maximum 45° angle) to enable animals to escape freely overnight.
- Open pipework will be checked for animals before use and sealed overnight.
- If an animal is found on-site, all works will pause to allow the animal to vacate the works area freely. If it cannot do this due to apparent illness or injury, an ecologist, a vet or a local wildlife hospital will be contacted immediately for advice.
- Hedgehog access holes measuring 13cm x 13cm will be installed in boundary fences or gates if no existing gaps are present, to ensure hedgehogs can commute through the rear garden between nests and foraging grounds.

Significance of residual effects

With mitigation measures in place, there will be no residual effects.

6.2.3 Nesting Birds

Potential impacts

There is a risk that birds and their nests, eggs or dependent young may be harmed, injured, or killed during works if any vegetation such as shrubs are accidentally crushed or damaged by construction contractors, equipment, or machinery.

Mitigation measures

- Contractors will be made aware, before works begin, of all the shrubs and vegetation that are due to be retained in full, to avoid any unnecessary damage. Any vegetation clearance to accommodate the works will be undertaken outside the bird nesting season (March to August inclusive). If vegetation removal must take place during the bird nesting season, the site will be reinspected by a suitably qualified ecologist to check for the presence of nesting birds. If an active nest is identified, the ecologist will inform the client and all contractors of a minimum 5m buffer zone to be maintained around the nest and works in that area will be postponed until the young have fledged and the nest is no longer in use.

Significance of residual effects

With mitigation measures in place, there will be no residual effects.

7. Ecological Enhancements

The applicants at The Crooked House will adhere to Local Planning Policies CS11 and DM8 by integrating ecological enhancements into the project's designs. The following recommendations have been made for this project:

Species	On-site Enhancements	Examples
Bats	To provide a long-term enhancement for bats, at least one bat roosting feature will be permanently installed on-site. This may be either an external bat box or an integrated bat feature, depending on the final design, materials and suitability, as follows: • External bat box: an external bat box fixed to a south or west elevation of the barn. Suitable options include the Schwegler 2F, Schwegler 2FN, Vivara Pro Beaumaris, or Vivara Pro Large Multi-Chamber box. Select boxes made of Woodcrete (or WoodStone®) as they maintain stable internal temperatures. • Integrated bat access tiles: where new roof tiles are proposed to be installed on new extensions, this presents an ideal opportunity to include a bespoke bat access feature within the new roof. Bat access tiles, such as those by Tudor or similar purpose-made bat tiles, can be installed into the roof or ridge to allow crevice-dwelling bats such as common pipistrelle to re-enter the roof void or under the tile into a simple crevice. However, they should not be installed in roofs that have been lined with a non-bat safe breathable roofing membrane. Note: bat boxes should be installed 3-5 metres above ground level, ideally facing between south-east and south-west to receive morning or midday sun, away from artificial lighting. If multiple boxes are installed, they could be positioned on different elevations to offer a range of thermal conditions.	<i>Schwegler 2F</i>  <i>Vivara Pro Beaumaris</i>  <i>Tudor Bat Access Tiles</i> 

Nesting Birds	To support nesting opportunities for birds, at least one bird box will be installed on-site. The type and placement of boxes will depend on the available habitat as follows: • Tree or wall-mounted bird box: a general-purpose bird box suitable for species such as blue tits, great tits, house sparrows, and robins will be installed on a mature tree or sheltered wall. Suitable options include the Schwegler 1B or Vivara Pro Seville or an equivalent design. • Shrub or hedge-mounted bird box: for species that favour dense vegetation, such as wrens and robins, a lower-level box such as the Schwegler 2H or similar can be installed within shrubs, laurel hedging, or climbing plants. Note: bird boxes should not be installed near very large glass panes or mirror/reflective surfaces, which can disorient birds and increase fatal collision risks. All bird boxes should be installed 2-4m above ground, facing north-west to north-east, away from artificial lighting and they must be left undisturbed during the nesting season (typically March to August inclusive).	<i>Vivara Pro Seville</i>  <i>Schwegler 2H</i> 
Hedgehogs/ small animals	If access is provided via gaps under fencing or through gates – at least a 13x13cm hole required – then a solid timber hedgehog nesting box will be installed in a quiet, sheltered part of the garden, ideally hidden within dense vegetation and away from artificial lighting and disturbance. The box should be made from FSC-certified, weatherproof timber and include an internal tunnel or baffle to deter predators, ventilation to prevent condensation, and a removable roof for maintenance. The box must not be disturbed while occupied.	<i>NestBox Co.</i>  <i>Hedgehog Highway</i> 

8. Conclusion

This Ecological Impact Assessment has determined that the buildings at The Crooked House do not currently support any bat roosts. No other protected species were recorded on-site. However, the garden offers low suitability for common species such as nesting birds, hedgehogs, and commuting amphibians or reptiles. As such, proportionate precautionary mitigation is recommended, including the avoidance of vegetation clearance during the bird nesting season (March-August), maintenance of access routes for hedgehogs, and the use of wildlife-sensitive lighting to prevent unnecessary illumination of the garden.

In line with the National Planning Policy Framework and Local Planning Policies CS11 and DM8, enhancements will be incorporated to support wildlife on-site. With the implementation of the proposed mitigation and enhancement measures, the development is not expected to result in any significant ecological impacts.

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Appendix 1: Site Photographs

Photo 1: Interior loft void.



Photo 2: Interior loft void.



Photo 3: Basement.



Photo 4: Basement.



Photo 5: Basement.



Photo 6: Basement.

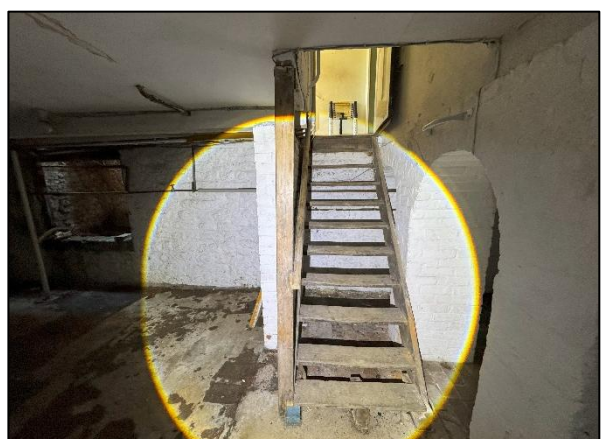


Photo 7: Interior loft void.



Photo 8: Interior loft void.



Photo 11: Interior loft void.



Photo 12: Interior loft void.



Photo 13: North elevation.



Photo 14: North elevation.



Photo 15: West elevation.



Photo 16: West elevation.



Photo 17: West elevation.



Photo 18: Extension to south.



Photo 19: Rear extensions to south.



Photo 20: Southern elevations.



Photo 21: Southern roofs.



Photo 22: East facing roof.



Photo 23: Garden and view to barn looking west.



Photo 24: Garden to south.



Photo 25: Barn east elevation.



Photo 26: Barn south elevation.



Photo 27: Barn north elevation.



Photo 28: Car port.



Photo 29: Barn interior.



Photo 30: Barn interior.



Photo 31: Carport interior.



Photo 32: Carport interior.



Appendix 2: Bat Survey Plan



Legend	
	Surveyor locations
	Night Vision Aid locations
	Common pipistrelle flight lines
	Soprano pipistrelle flight line
Site:	The Crooked House
Drawn:	25 July 2025