



Phase II Survey Report

26 Beacon Square, Emsworth

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Report	Phase II Bat Surveys
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Executive Summary

Ecosupport Ltd was instructed by PMC Construction to undertake Phase II bat emergence surveys of the 26 Beacon Square in Emsworth. This was required following the results of the Preliminary Ecological Appraisal (PEA) previously carried out by Ecosupport Ltd., which identified:

- Low roost potential for bats within the garage
- Moderate roost potential for bats within the dwelling

Ecosupport Ltd undertook two Phase II bat surveys during May - June 2024. No bats were identified roosting in the buildings.

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was instructed to carry out the Phase II Bat surveys at the 26 Beacon Square in Emsworth (here after referred to as 'the site') between May - June 2024.

1.2 Aims

The aim of the Phase II Bat surveys was to confirm the presence/likely absence of these protected species within the site.

A single emergence bat survey was conducted to confirm the presence/likely absence of roosting bats within the garage while two surveys were conducted for the main dwelling.

NB If the development does not take place within 18 months¹ of this report then the findings may need to be updated.

1.3 Site Description & Location

The site is comprised of a residential dwelling, garage and associated garden located at 26 Beacon Square, Emsworth, PO10 7HU (centred on OS grid reference SU 74539 05379) (**Fig 1**). The site is bound by the Beacon Square Road to the west, other residential dwellings to the north and east, and Fowley Rithe to the south. The immediate surrounding area consists of the small town of Emsworth to the north as well as agricultural land to the east and seaside to the south.

Figure 1. Approximate redline boundary of the boundary (Google Maps, 2023).



¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

1.4 Development Proposals

It is understood that the proposals involve the demolition of the existing structures and the construction of a five-bedroom house and garage on the same blueprint.

2.0 RELEVANT LEGISLATION & POLICY

2.1 Legislation

2.1.1 *The Conservation of Habitats and Species Regulations 2017 (as amended)*

The Conservation of Habitats and Species Regulations 2017 transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

The Conservation of Habitats and Species Regulations 2019 (EU Exit) makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue. The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

2.1.2 *The Wildlife and Countryside Act (1981) (as amended)*

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

The Wildlife & Countryside Act (1981) states that it is an offence to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9 part II of the Act. This list over 30 plants including Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Parrot's Feather (*Myriophyllum aquaticum*).

2.2 Policy

2.2.1 *National Planning Policy*

The National Planning Policy Framework (NPPF) (2023) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 15 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity, the wider benefits from natural capital and ecosystem services, minimising impacts on and providing net gains for biodiversity.

The NPPF states that plans should distinguish between the hierarchy of international, national and locally designated sites and that the scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

To protect and enhance biodiversity plans should:

identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

and promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for biodiversity.

The NPPF states determining planning applications, local planning authorities should apply the following principles:

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

2.2.2 Local – Havant Borough Core Strategy (2011)

Part of the 'Vision for Havant Borough in 2026' is to protect and enhance biodiversity. Policy 'CS11: Protecting and Enhancing the Special Environment and Heritage of Havant Borough' states that planning permission will only be granted when development protects and where possible enhances the borough's statutory and non-statutory designated habitats and features of biological interest. and features of biological interest and prevents the fragmentation of existing habitats.

The strategy states that protection and enhancement will be achieved by appropriate adaptation and mitigation measures. It also has particular regard for nature conservation designations with international designations given the highest regard and supports an ongoing programme of surveys of habitats and species and designations of SINCs.

The proposed Local Plan 2036 was withdrawn after examination and therefore the above Local Plan will remain in place until a new Havant Borough Local Plan is adopted.

3.0 METHODOLOGY

3.1 Emergence Survey

The main dwelling on site was classified as having moderate potential to support roosting bats, and consequently two emergence survey was undertaken as per BCT best practice guidelines (Collins (ed), 2023), while the garage on site was classified as low potential and required one emergence survey. The surveys were carried out on 7th May and 3rd June 2024, led by Darla Brown BSc (Hons) and Katalin Balazs BSc (Hons) MSc with assistance from Matt Baldwin, Nikki Windebank, Josh Morrisby, Aga Sitko, Elizabeth McBay, Zoltan Balazs, Lily Pogson and Kelly Clarke, all experienced surveyors with Ecosupport. The approximate locations of the surveyors are indicated in **Figure 2**. Both heterodyne (Bat Box Duet, Peterson D230 and Elkon Batscanner) and time expansion (Elekon Batlogger) detectors were used for identifying species calls / analysis of calls via sonogram (where required). In addition to this, Night Vision Aid's (NVAs) were set up with each surveyor. The NVAs used were the Nightfox Whisker which were checked periodically in 20 – 30 minute intervals to ensure appropriate Infrared (IR) levels were set for the conditions on site. The NVA footage was reviewed the next day for any emergences that were not observed during the survey. The specifications of the Nightfox Whisker can be found appended to this report with images showing the NVA field of view at the end of the survey shown in **Table 1**.

The dusk emergence survey began approximately 15 minutes prior to sunset and continued until approximately 1 hour and 30 minutes after sunset. The survey was carried out in suitable weather conditions. Survey sheets were used to record the following information:

- Time of call registration
- Species (if possible, to identify using heterodyne detector)
- Location / activity
- Direction of flight (if seen)
- NVA number used

Figure 2. Approximate locations of the surveyors (red circles) and NVAs (yellow circles) (Google Maps, 2024).

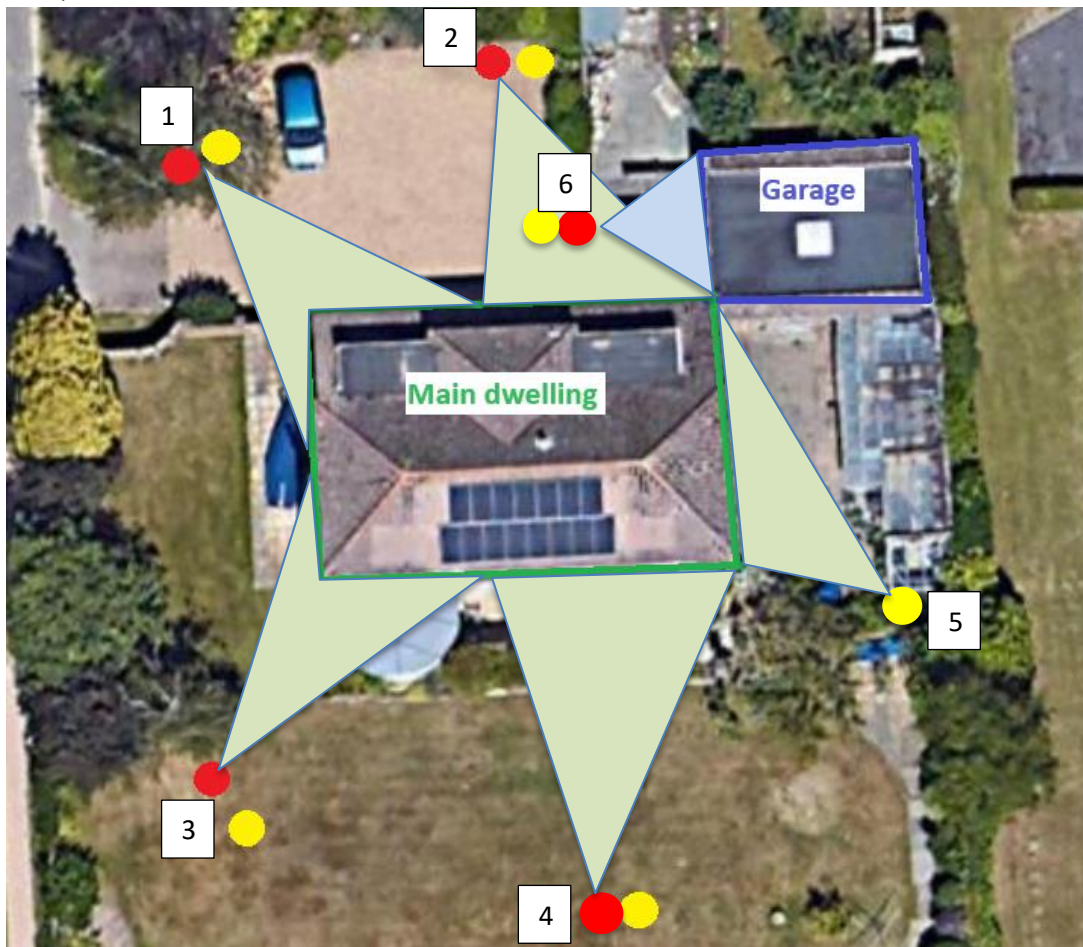
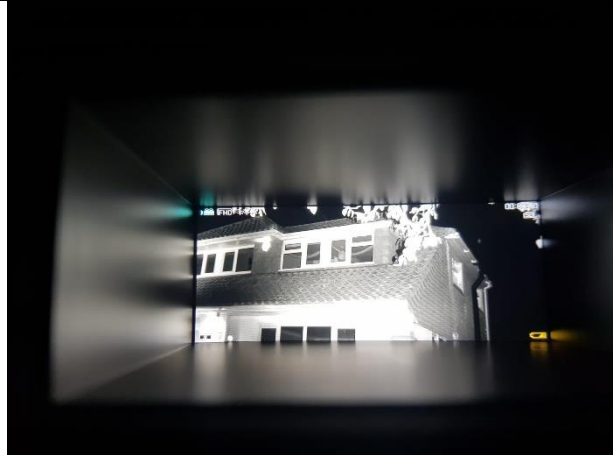
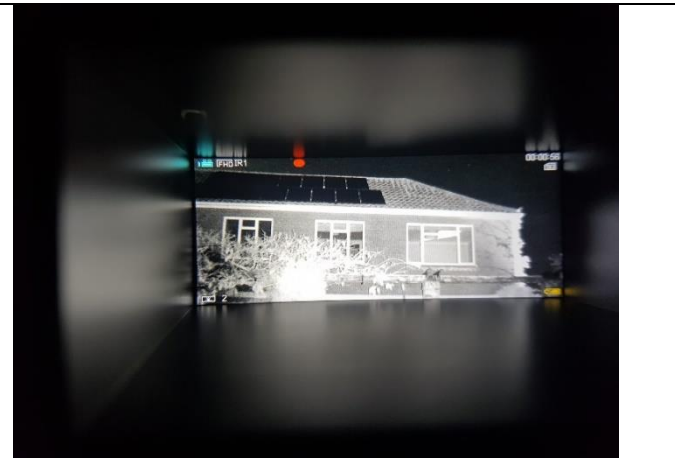
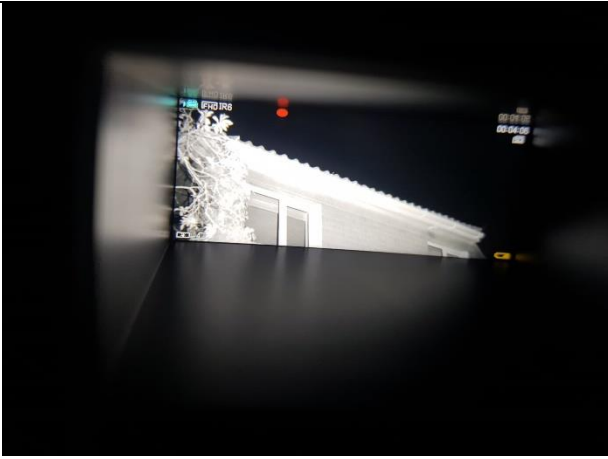
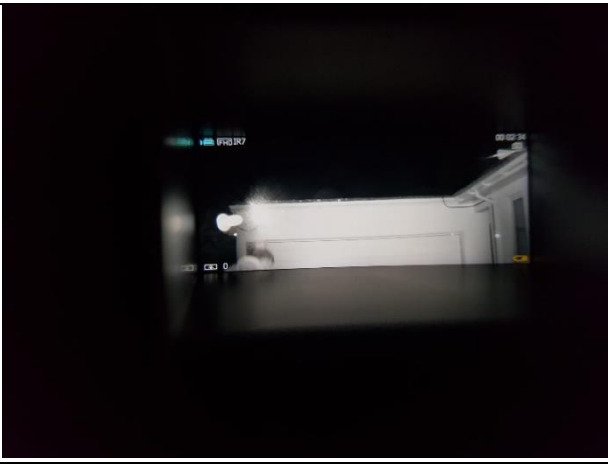
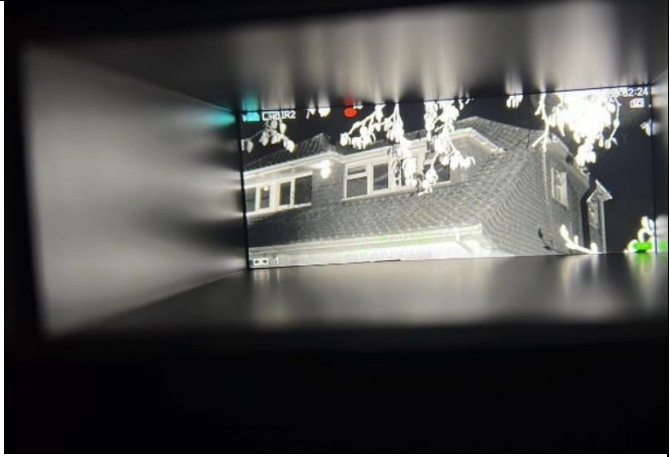
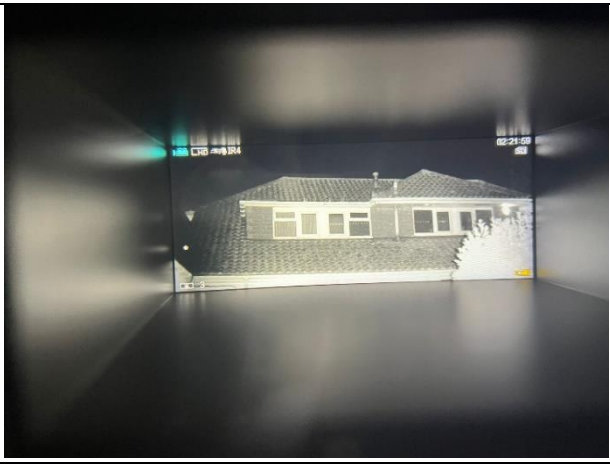


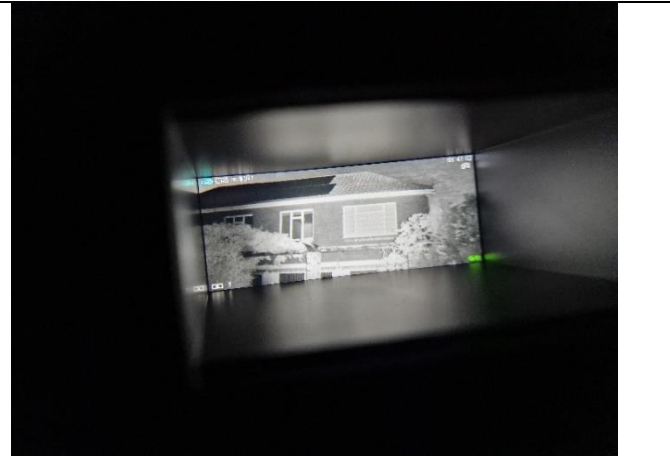
Table 1. Field of views of the NVAs, relating to the locations shown in **Fig 2**.

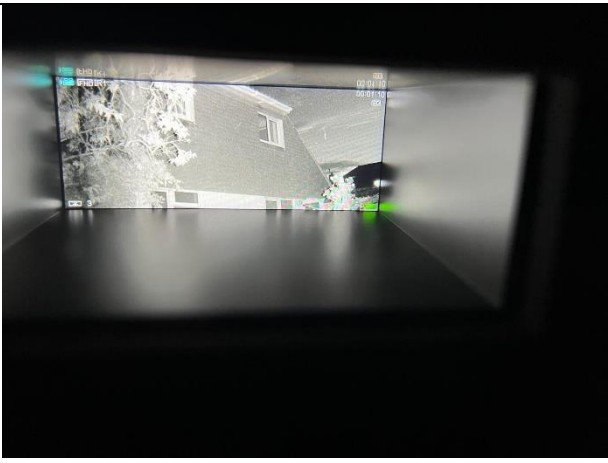
Survey Date	NVA	Field of view (start of survey)	Field of view (end of survey) with infrared setting
7 th May 2024	1		
	2		

	3			
	4			

	5				
	6				

3rd June 2024	1		
	2		

	3			
	4			

	5		
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3.2 Limitations

There were not considered to be any significant limitations to the surveys with all surveys carried out as per BCT best practice guidance (Collins (ed), 2023).

4.0 RESULTS

4.1 Emergence Survey

The results of the bat emergence surveys can be found within **Table 3**, along with other relevant information of survey conditions are provided in **Table 2** below.

Table 2. Relevant information on survey conditions recorded.

Date	Start Temp (°C)	End Temp (°C)	Cloud Cover (%)	Wind (Beaufort scale)	Sunset Time	Start Time	Finish Time
07/05/2024	17	15	10	0	20:35	20:20	22:05
03/06/2024	18	16	30	1	21:10	20:55	22:40

Table 3. Results from the emergence survey on the main dwelling and the garage (HNS = Heard Not Seen).

Survey Date	Recorded Bat Roost(s)	Bat Activity on Site		
		Species	First Pass	Last Pass
7 th May 2024	No emergences. Surveying the main dwelling and the garage.	Soprano Pipistrelle	21:00	22:02
		Common Pipistrelle	21:31	21:55
		<u>Summary:</u>		
		Activity during this survey consisted of only two species which were recorded from all locations around the building commuting and foraging. Activity was considered low with most foraging activity recorded in the back garden. The first registration was from a Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>), which was recorded as HNS at 21:00. The second species recorded during this survey was a Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) at 21:31 commuting to East. A total of 6 registrations as Soprano Pipistrelle and 4 registrations of Common Pipistrelle were recorded during this survey, mostly as HNS commuting over the site but as foraging too, with the last recording at 22:02. The NVAs were reviewed on the 8th May 2024, no emergences or additional bats were identified.		
3 rd June 2024	No emergences. Surveying the main dwelling.	Species	First Pass	Last Pass
		Common Pipistrelle	21:36	22:29

		Soprano Pipistrelle	21:40	22:30
		Noctule	21:47	21:58
		<u>Summary:</u> Activity during this survey consisted of three species which were recorded from all locations around the building commuting and foraging. Activity was considered low with mostly passes and some foraging activity recorded in the back garden. The first registration was from a Common Pipistrelle (<i>Pipistrellus pipistrellus</i>), which was recorded as HNS at 21:36. The second species recorded during this survey was a Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) at 21:40 as HNS. The third species recorded during this survey was a Noctule (<i>Nyctalus noctula</i>) at 21:47 as HNS. A total of 4 registrations as Soprano Pipistrelle, 6 registrations of Common Pipistrelle and 4 registrations of Noctule were recorded during this survey, mostly as HNS commuting over the site and a few foraging activities too, with the last recording at 22:34. The NVAs were reviewed on the 4th June 2024, no emergencies or additional bats were identified.		

5.0 EVALUATION, IMPACTS & RECOMMENDATIONS

5.1 Summary & Evaluation of Results

5.1.1 Foraging and Commuting

Overall, the levels of foraging and commuting bats recorded on site during the surveys were low and almost entirely restricted to common species (Common Pipistrelle, Soprano Pipistrelle) and occasional rarer Noctule. Given the size and nature of the development, and the surrounding habitat, it is considered there will only be a **minor adverse impact** at the **Local Scale** for foraging and commuting bats.

5.1.2 Roosting

Based on the results of the PEA and follow up Phase II surveys, the main dwelling and the garage are considered unlikely to be used by roosting bats and no further survey work with regard to roosting bats within buildings is considered necessary.

5.2 Mitigation

No bats were recorded within the two buildings during the two surveys and therefore no specific mitigation will be required.

5.3 Recommendations & Enhancements

5.3.1 Sensitive Lighting

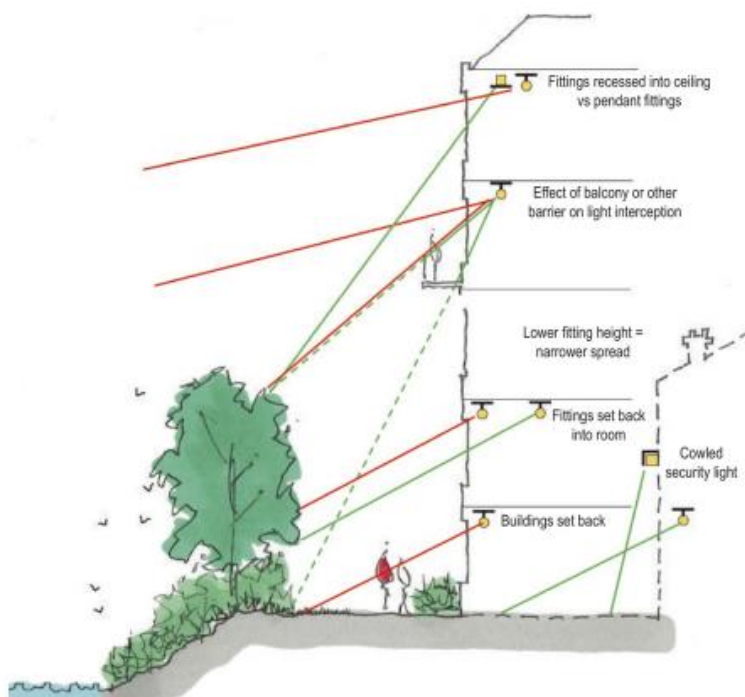
It is recommended that any lighting complies with the following the newly published *Guidance Note 08/23 Bats and Artificial Lighting at night* (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

'Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*
- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 3**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*

- Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01
- Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'

Figure 3. Internal lighting mitigation options (ILP 2023).



5.3.2 Bat Bricks

To act as biodiversity enhancement, one bat brick will be included in the new dwelling. The bat brick used should be the ibstock bat brick B, or similar, as they are available in a variety of different brick colours and requires no maintenance (**Fig 4**). This will also be positioned as close to the eaves as possible, away from windows and in a position that will receive some direct sunlight.

Figure 4. The ibstock bat brick 'B' that will be incorporated into the new dwelling.



6.0 REFERENCES

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Appendix – Nightfox Whisker Specifications

- *Fixed optical magnification: 1x to 10x (adjustable)*
- *Adjustable digital magnification: 8x*
- *IR wavelength: 850nm*
- *Digital sensor resolution: 1920*1080*
- *Infrared LED power output: 3 watts*
- *Power supply: Built-in lithium battery*
- *Battery Life: 5 hours mixed IR - 10 hours (no IR)*
- *Recharge via USB: Yes*
- *Photo taking capability: Yes*
- *Video recording capability: Yes*
- *Audio recording: Yes*
- *Memory card: Micro SD (32GB included). Min 4GB. Max 256GB*
- *Recording resolution: 1920*1080*
- *Unit dimensions metric: 157*140*57mm*
- *Unit dimensions imperial: 6.2 * 5.5 * 2.2"*
- *Unit weight: 609g inc. battery*
- *Viewfinder technology: TFT*
- *Screen size: 2.86"*
- *Screen resolution: 960*376*
- *Sensor type: CMOS*
- *Aspect ratio: 5:2*
- *Aperture: F1.6*
- *Viewing angle (FOV): 57° on 1x, 11° on 10x*
- *Aspect ratio: 5:2*
- *Viewing distance at night: 270m / 30 yards*
- *Aperture: f/1.6*
- *Minimum focus: 3cm*
- *Sensor frames per second: 30fps (20fps in low light)*
- *Video recording frames per second: 30fps*
- *Integrated Laser Rangefinder: No*
- *EAN: 5060577470687*
- *Battery Composition: Lithium Ion*
- *Number of batteries: 1*
- *Battery weight (grams): 95g*
- *Cells per battery: 1*
- *Watt hours per battery: 18.5Wh*
- *Lithium content (grams): 1.2*
- *Hazardous for: Waste, Transportation*
- *UN classification: UN3481*

(<https://nightfoxstore.com/products/nightfox-whisker-night-vision-goggles-infrared-binoculars>)