



The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU.

Tel: 01798 861 800 - E-Mail: info@ecologyco-op.co.uk - Web: www.ecologyco-op.co.uk

Bat Emergence Survey Report Rev 1

Site Name

Red Oaks, Cuckfield

Issue Date

3rd September 2025

Client

Mrs Sue Orpen

Author

Andy Fry

Project No: P10801

The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

Company number: 8905527





Document Control

Issue No	Author	Reviewer	Issue Date	Additions/alterations	Notes
Original	Andy Fry BSc (Hons) MSci (Hons)	Kate Priestman MCIEEM, CEnv	03/09/25		
Rev 1	Andy Fry BSc (Hons) MSci (Hons)	N/A	11/09/2025	Plans updated	

Conditions of use

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client, and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

About the Author

This report has been prepared by Andy Fry, an Assistant Ecologist at The Ecology Co-op. He holds a master's degree in Zoology, and over 4 years' experience in consultancy.

About the Reviewer

This report has been reviewed by Kate Priestman, who is a Principal Ecologist with over twenty years' experience. Kate has undertaken extensive survey work and reporting, encompassing a breadth of deliverables, and prepared European Protected Species licences for numerous schemes. As a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist (CEnv), she is bound by CIEEM's code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by Sommerer Architecture & Living Limited to undertake a bat emergence survey at Red Oaks, in relation to a proposal to convert and extend the existing garage into additional living accommodation for multigenerational use, construct a single-storey glass link extension, and demolish the existing porch extension and replace it with a new utility room extension.
Context	The site currently comprises a semi-detached house, garage and garden space with lawns, ornamental planting, hedgerows and mature trees. A previous survey of the site identified low suitability for roosting bats associated with lifted roof tiles on both the garage and the main house. Based on the above assessment, and in line with Bat Conservation Trust Guidelines, one bat emergence survey visit was carried out in August 2025 to determine the presence of roosting bats and evaluate the conservation importance of the site for bats. The purpose of this survey work was to provide advice, and where necessary prescribe further surveys and avoidance/mitigation/compensation measures to inform a planning application for the site.
Key findings	No bats were seen to emerge from either building during the survey. Bats, including common pipistrelle, soprano pipistrelle, and serotine, were detected foraging and commuting around the property.
Interpretation	These surveys indicate that it is unlikely that the features identified in the bat scoping survey are regularly used by roosting bats. No further surveys are required, and a European Protected Species (bat) Mitigation Licence will not be required for the proposed works to proceed. However, the highly transitory nature of many bat species means that it is not possible to completely dismiss this possibility as the potentially suitable features may be used infrequently.
Recommendations	It is recommended that the works proceed in a careful and controlled manner with the removal of roof tiles by hand. In the unlikely event that bats or significant evidence of bats (for example accumulations of fresh droppings) are identified, works must stop immediately, and advice be sought from a suitably qualified ecologist. Works may then be able to recommence once a licence has been secured from Natural England.



CONTENTS PAGE

1 INTRODUCTION	5
1.1 Background.....	5
1.2 Purpose of the Report	7
2 LEGAL PROTECTION	7
3 METHODOLOGY	7
3.1 Limitations to Emergence Surveys.....	8
4 RESULTS	9
4.1 Bat Emergence Surveys.....	9
4.1.1 Survey Conditions.....	9
4.1.2 Bat Emergence Results	9
• 12th August 2025.....	9
5 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS.....	9
5.1 Precautionary Approach.....	9
5.2 Ecological Enhancements	10
APPENDIX 1 – LEGISLATION AND POLICY	11
APPENDIX 2 – DARKEST POINTS	12
APPENDIX 3 – EXAMPLES OF REPLACEMENT BAT ROOSTING FEATURES.....	13
APPENDIX 4 – REDUCING IMPACTS OF ARTIFICIAL LIGHT.....	14



1 INTRODUCTION

1.1 Background

The owners of Red Oaks intend to submit a planning application for a proposed development that involves the construction of a single storey extension from the house to the garage, and the creation of two bedrooms and a bathroom within the existing garage space. The planned extension consists of a hallway linking the main building and the garage, a living room and kitchen on the western and eastern elevations respectively, along with a tower at the apex of the existing garage roof (see Figure 1). This work will result in the removal of an estimated ten rows of handmade clay tiles on the house and a large proportion of the roof tiles on the garage.

The full address for the site is Red Oaks, Staplefield Road, RH17 5HY. The central National Grid Reference for this site is TQ 29352 25821.

The Ecology Co-op undertook a bat scoping assessment of the existing buildings in July 2025, during which several features were identified that were suitable to support roosting bats¹. Overall, the buildings were assessed as having low suitability to support roosting bats and in accordance with current best practice guidelines², a minimum of one emergence survey was recommended to determine the presence of roosting bats and evaluate the conservation importance of the site for bats.

¹ The Ecology Co-op (2025) Proposed extension at Red Oaks, Cuckfield.

² Collins, J.(ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London.



Red Oaks, Cuckfield – BAT EMERGENCE SURVEY REPORT

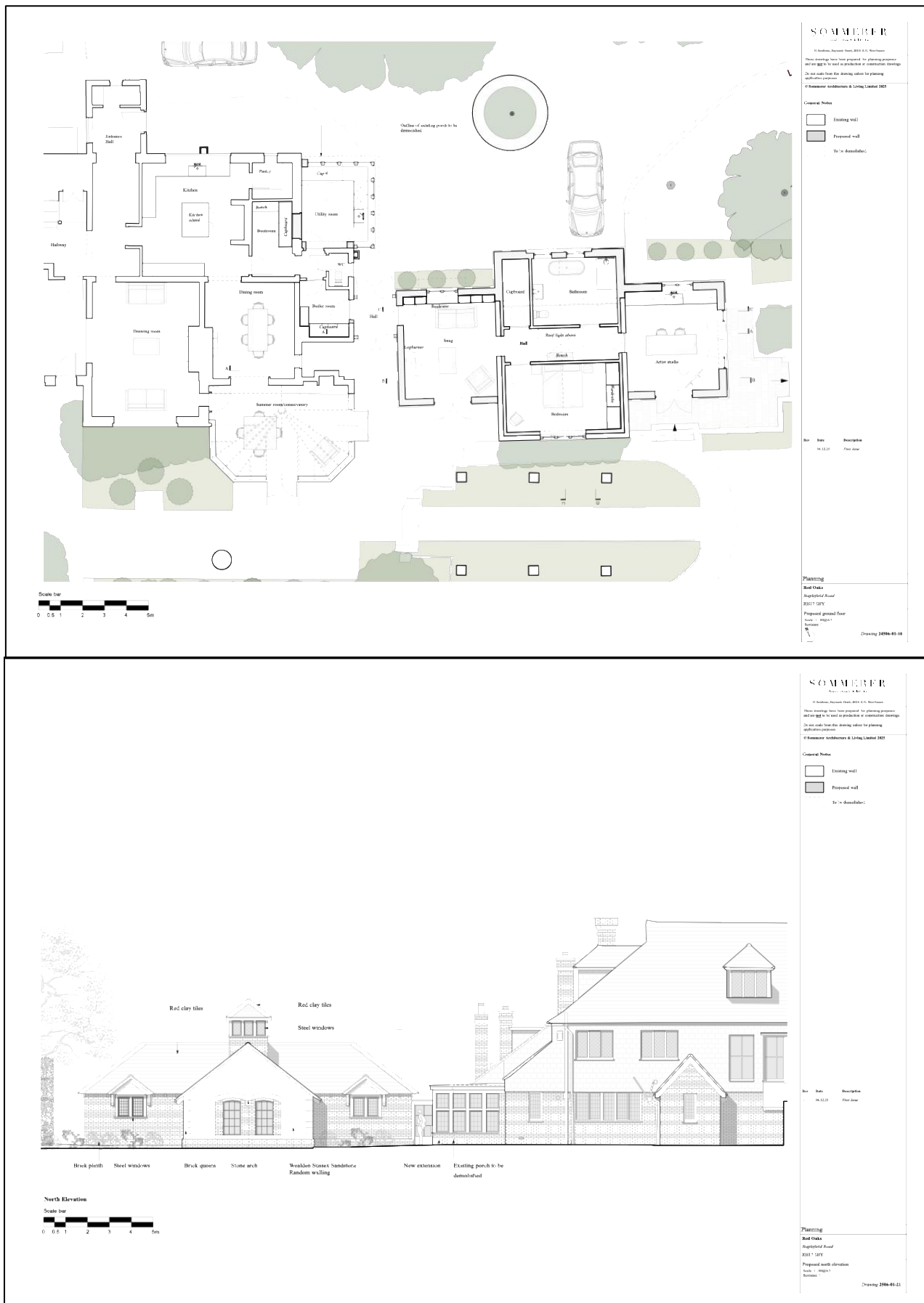


Figure 1. Architectural plans showing the proposed floor plan and north elevation. Image produced courtesy of Sommerer Architecture & Living, dwg number: 24506-01-10 dated 13/08/2025.



1.2 Purpose of the Report

In accordance with recommendations, bat emergence surveys were carried out by The Ecology Co-op on the 12th of August led by Josh Harwood, an Associate member of the Chartered Institute of Ecology and Environmental Management and Level 1 licensed bat surveyor.

The purpose of this survey work was to determine presence of roosting bats and where necessary prescribe further surveys and/or appropriate mitigation advice to inform the planning application for the proposed development at the site.

This survey and report were carried out at the request of Sommerer Architecture & Living Limited.

2 LEGAL PROTECTION

Details of legislation and legal protection afforded to all species of British bats are given in Appendix 1.

The results of this survey will be used to determine the need for an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.

3 METHODOLOGY

One emergence survey was undertaken on the 12th of August 2025, using the methodology set out in the best practice guidelines prepared by the Bat Conservation Trust.

Two surveyors and two night-vision cameras (shown in Figure 2) were positioned around the garage to observe both sides of the building, where lifted field tiles are present on the roof presenting gaps suitable for roosting bats. A second night-vision camera was focused on the eastern elevation of the main building, from which the extension will be built, where there are also gaps beneath roof tiles and a hole in the brickwork under the eaves, which may be suitable for bats.

The surveyors recorded any bat activity on or around the potential roosting entry/exit features identified during the scoping survey, using full spectrum handheld bat detectors to identify species through call frequencies. The bat calls were logged and recorded as sonograms for later confirmation of species where necessary.

The following equipment was used to support this survey:

- 2 x Echometer Touch 2 Pro detectors with Apple recording devices.
- 1 x SiOnyx Black night vision camera paired with a surveyor
- 1 x Canon XA 20 night vision camera
- 2 x infra-red flood lamps and two infrared torches with focused beams.



Figure 2. An aerial image of the site, showing the positions of surveyors (red dots) and night-vision cameras (orange dots). Arrows indicate the primary focus of each surveyor/camera. Image produced courtesy of Google maps (map data ©2025 Google).

3.1 Limitations to Emergence Surveys

In accordance with best practice guidelines, the survey visit was undertaken during the peak period in bat activity and during good weather conditions. The results presented here are therefore considered to be an accurate representation of the general use of the property by roosting bats.

Nevertheless, bats can use roosting features intermittently throughout the year and may be present in larger or smaller numbers depending on their breeding cycle, weather conditions, and in response to disturbance. Surveys record the emergence of bats at the time of the survey visits and therefore only provide a snapshot of bat roosting activity at the site at that time. Bats may be present at other times and the results should therefore be viewed with caution.

During the survey, one of the surveyors discovered a fault with their detector and was, therefore, operating without a working detector for much of the survey. This was mitigated for through regular communication between surveyors to discuss sightings. Given that no bat emergences were recorded this is not considered to have had a significant impact on the survey results.

The artificial lighting (operated by motion sensors) on the eastern aspect of the garage was switched on for the duration of the survey. As a result, the garden was quite well lit for large portions of the survey, which can deter roosting and passing bats. Given that this lighting is left on consistently by the client, this is unlikely to have



significantly affected the reliability of survey results.

4 RESULTS

4.1 Bat Emergence Survey

4.1.1 Survey Conditions

The dates, times, weather conditions, temperatures and personnel for the survey visit are presented in Table 1 below:

Table 1. Details of surveys undertaken, timings weather conditions and personnel.

Date	Survey start time/end time	Temperature (°C) degrees centigrade, weather conditions throughout survey	Surveyors
12/08/2025	Start time: 19:58 Sunset: 20:28 End time: 22:28	Max/min temp: 19–17. 0% cloud cover, calm (BF0), and dry.	Andy Fry Josh Harwood

4.1.2 Bat Emergence Results

The following description summarises bat activity and emergence from the building for the survey visit.

- **12th August 2025**

General bat activity was relatively low. No bat emergences were seen. The first bat detected was a noctule *Nyctalus noctula* passing high overhead at 39 minutes after sunset, with another seen foraging high over the garage six minutes later. A common pipistrelle *Pipistrellus pipistrellus* was also detected 1 hour and 27 minutes after sunset. Two bats were seen passing through the gardens, the first being a soprano pipistrelle *Pipistrellus pygmaeus*, which appeared at 42 minutes after sunset and circled the apex of the garage before flying east. Later, a serotine *Eptesicus serotinus* flew in from the southeast to forage for a few minutes 1 hour and 15 minutes after sunset, returning to forage once more 20 minutes later.

5 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS

5.1 Precautionary Approach

As no bats have been identified emerging from or entering roosts, it is considered highly unlikely that the features identified in the bat scoping survey are regularly used by roosting bats. The proposed extension and renovation will have no foreseeable impacts on bats or their roost sites. No further surveys are required, and a European Protected Species (bat) Mitigation Licence will not be required for the proposed works to proceed.

Given the highly transitory nature of many bat species, it is not possible to completely dismiss this possibility of opportunistic sheltering by bats within potential roost features on an infrequent basis. As a precautionary measure, the identified potential roost features shall be removed by hand. In the unlikely event a bat is discovered, works will cease immediately and advice sought from an ecologist.

In addition, as the site is utilised by foraging and commuting bats, an 'ecologically sensitive lighting scheme'



should be included within the proposed development in accordance with guidance produced by the Bat Conservation Trust (Appendix 4).

5.2 Ecological Enhancements

As the garden has been shown to support foraging bats, it is recommended that a minimum of one new bat roosting feature is installed on the mature trees within the site boundary or incorporated into the roof structure. Examples of bat roosting features are shown in Appendix 3. Bat boxes should be installed as high as possible and preferably on a south-facing surface to ensure they receive maximum warming by the sun. Where bat access tiles are used, only a Type 1F bitumen lining must be used instead of modern breathable membranes such as Tyvec, which over time fray and entangle bats. The bat boxes and features should be installed under the instruction of a suitably licensed ecologist to ensure that the positioning is optimal, but generally locations above 3.5m in the most southeasterly facing aspect of the buildings would be best.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – LEGISLATION AND POLICY

All species of British bat are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2017 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”) which defines European protected species of animals.

Bat species are afforded further protection by the Natural Environment and Rural Communities Act 2006.

Under the above legislation it is an offence to:

- kill, injure or take an individual;
- possess any part of an individual either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by these species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberate disturbance in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring or killing bats (for example a trap or poison), or knowingly cause or permit such an action. In the case all species of British bat there is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of these species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. In England, Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the ‘three derogation tests’) are met:

- a licence can be granted for the purposes of “preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 53 (2) (e);
- a licence can only be granted if “there are no satisfactory alternatives” to the proposed action;
- a licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

A bat roost is defined as “any structure or place, which any wild bat uses for shelter or protection.” Bats tend to re-use the same roosts; therefore, legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This can include all summer roosts, used for breeding, resting or sheltering and all winter roosts used for hibernating.



APPENDIX 2 – DARKEST POINTS



Figure 1. Darkest point from the night-vision camera focused on the northeastern elevation of the garage from the survey on 12th August 2025.



Figure 2. Darkest point from the night-vision camera focused on the eastern elevation of the main house from the survey on 12th August 2025.



APPENDIX 3 – EXAMPLES OF REPLACEMENT BAT ROOSTING FEATURES



Figure 1. Left to right, the 2F, 2FN and the 1FS bat boxes produced by Schwegler. These and other brands are available at many on-line wildlife stores. These are constructed of ‘woodcrete’ (a mixture of cement and woodchip) and are designed to be durable and replicate the stable thermal properties of trees and buildings. They may be attached to trees or buildings.



Figure 2. Examples of integral bespoke bat roosting features that may be incorporated into buildings during construction/renovation. From left to right: an example of bat access tile into loft space; the 2FR bat tube; and an example of 2FR bat tubes installed into a house wall in a series of three. Other brands and designs are available.



APPENDIX 4 – REDUCING IMPACTS OF ARTIFICIAL LIGHT

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust³ should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat's eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;
- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;

³ Bat Conservation Trust and Institute for Lighting Professionals (2023) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features;
- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;
- dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- lighting spectra: peak wavelength >550nm
- colour temperature: <2700k (warm)
- reduction in light intensity
- minimal UV emitted
- upward light ratio of 0% and good optical control.

Further reading:

Buglife (2011) A review of the impact of artificial light on invertebrates.

Royal Commission on Environmental Pollution (2009) Artificial light in the environment. HMSO, London. Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) Ecological Consequences of Artificial Night Lighting. Island Press. ISBN 9781559631297.

CPRE (2014) Shedding Light: A survey of local authority approaches to lighting in England. Available at:



<http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: <https://www.gov.uk/guidance/light-pollution>

Institution of Lighting Professionals (2021) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. Available at: <https://www.theilp.org.uk/resources/free-resources/>

Voigt, C.C., Azam, C., Dekker, J., Ferguson, J., Fritze, M., Gazaryan, S., Hölker, F., Jones, G., Leader, N., Lewanzik, D. and Limpens, H., 2018. *Guidelines for consideration of bats in lighting projects*. Unep/Eurobats. Available at: https://cdn.bats.org.uk/uploads/pdf/Resources/EUROBATSGuidelines8_lightpollution.pdf?v=1542109376