



Bat Scoping Report

**Land at Glebe Farm, High Street, Angmering,
West Sussex, BN16 4AG**

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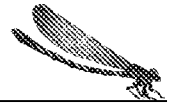
Report Summary

1. Jonathon Lovejoy commissioned the Ecology Co-op to undertake a Preliminary Ecological Appraisal and bat scoping survey at Glebe Farm in Angmering. The purpose of this report is to present the findings of the appraisal and identify potential ecological constraints to the proposed conversion of three buildings within the site.
2. An assessment of the site was carried out by Sam Lunn BSc, MSc ACIEEM on the 6th September 2019. This included a ground-based external inspection of the buildings, internal inspection of enclosed loft spaces where possible and an appraisal of the surrounding habitats, to evaluate the site for its potential to support roosting bats. All bat species are European Protected Species (Annex IV, 'Habitats Directive').
3. The site comprises seven buildings surrounded by hard-standing and accessed via a long road off Honey Lane, with short amenity grassland on either side. There is an area of isolated short amenity grassland south of buildings A and F. The only trees present are a small number of cypress trees north of Building E. Only buildings C, D and E were surveyed as the other buildings are not being impacted.
4. The three buildings were determined to have negligible bat roosting potential according to Bat Conservation Trust guidelines. Although there are a small number of features present on all three buildings, the lack of foraging habitat present within the site and the urban location of the site within central Angmering, reduces the likelihood of bats being present.
5. No further surveys are required. As a precautionary measure the small number of gaps identified on the three buildings must be examined using an endoscope immediately prior to any works and the roof features should be removed by hand under a 'soft strip' supervised by an ecologist with a class 2 bat licence.
6. To increase the amount of roosting potential within the site, three crevice bat boxes such as the Beaumaris Woodstone Bat Box or improved crevice bat box will be erected onto the newly refurbished buildings on the south or east gable ends as close to the apex as possible. Purpose built structures are commercially available, some recommended examples of which, are shown in Appendix 3.

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1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake a bat scoping assessment of three buildings within Glebe Farm by Jonathon Lovejoy. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Sam Lunn BSc MSc ACIEEM, [class 2 bat licence holder] on the 6th of September 2019. It provides details of the potential for any protected species and/or habitats to be present at the site and an assessment of the potential ecological constraints to the proposed redevelopment of the site. Recommendations for further surveys that are likely to be required to inform a planning application are provided, if necessary. Where appropriate, measures to avoid, mitigate and/or compensate for impacts are outlined.

1.2 Background

The site is located at Glebe Farm, High Street, Angmering, West Sussex, BN16 4AG. The central grid reference for the site is TQ 0715 0427.

The site comprises seven buildings surrounded by hard-standing and accessed via a long road off Honey Lane, with short amenity grassland on either side. There is an area of isolated short amenity grassland south of buildings A and F (See Figure 1). The only trees present are a small number of cypress trees north of Building E.

The survey area is based on the site plan provided by RDV & Design, which shows the boundary to the development site and is reproduced in (Figure 1).

The proposed development includes the conversion of three of the buildings at the site from small single storey agricultural buildings into residential properties. The buildings that are proposed for conversion include the 'Workshop' (Building C), the 'Flint Barn' (Building D) and the 'Garage' (Building E) and the bat scoping survey effort has focused upon these structures.

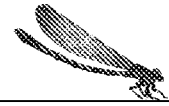


Figure 1. The site boundaries outlined in red provided by RDV & Design.

1.3 Policy and Legislation

Legal protection applying to all bat species in the UK is outlined in Appendix 1 of this report.

The results of this survey will be used to determine the need for further surveys, impact avoidance measures and/or an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.



2 METHODOLOGY

The methodology used for this survey are in accordance with the bat survey guidelines produced by the Bat Conservation Trust¹.

2.1 Desk Study

A search of on-line mapping resources was undertaken to characterise the local context of the site with respect to semi-natural habitats and linear features of value to foraging and commuting bats.

The MAGIC website resource (www.magic.gov.uk) was used to identify the location of designated sites for nature conservation within 2km and EPS licences granted within a 1km radius of the survey site. Priority habitats and ancient woodland sites upon or adjacent to the site have also been identified, due to their ecological value and potential to act as important foraging resources for bats.

Priority habitats and ancient woodland are classified as habitats of principal importance. Habitats of principal importance are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006², which places a duty on Local Planning Authorities to have due regard to biodiversity.

2.2 Field Survey

Bats can use a wide range of features including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

A detailed building inspection was carried out, looking for potential access points and 'potential roosting features (PRFs)' that bats could use and any evidence indicating the presence of bats using the building, such as rub marks, staining or droppings. This included a ground-based external inspection around the building and internal inspection of any enclosed loft spaces or roof voids, where safe access was possible. All three buildings were assessed using a ladder, high-powered torch and binoculars.

The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with best practice. Any evidence confirming the presence of bats that was found was clearly recorded including photos and samples taken (e.g. droppings) where appropriate.

The habitats surrounding the site and wider landscape were broadly assessed for their potential to support foraging and commuting bats.

¹ Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

² HM Government (2006). Natural Environment and Rural Communities Act 2006. Available online at: <https://www.legislation.gov.uk/ukpga/2006/16/section/41>.



2.3 Other Protected and/or Notable Species

Any birds identified, or evidence of nesting birds discovered during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton et al. 2015) and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981).

Whilst this survey focussed on bats and no specific searches were made with respect to other protected species, any evidence of other protected species that was encountered during the site visit was also recorded. This included badgers, dormice, great crested newts, or reptiles.

3 RESULTS/OBSERVATIONS

3.1 Desk Study

There are no designated sites within 5km of the site. The west boundary of a section of the South Downs lies approximately 600m from the site.

There are no EPS licences granted for mitigation projects concerning bats within 1km of the site shown on the Magic Maps website.

3.2 Site Context and Surrounding Habitats

The site is located in an urban setting within the centre of Angmering surrounded by residential properties and their associated gardens. A large allotment lies to the west on the otherside of Honey Lane and Angmering Manor Hotel sits to the north. Residential dwellings are located to the east and south of the site.

The site is dominated by hard-standing and buildings with a total of seven agricultural buildings contained within the site. The only trees present are a small number of Cypress trees on the corner of Building E in close proximity to an isolated area of short amenity grassland in the western part of the site.

3.3 Building Inspection for Bats

The three buildings proposed for residential conversion are all generally in good condition with very few suitable features for roosting bats and Table 3 below describes each building in detail and assesses each building's potential for roosting bats.

**Table 1.** Assessment of Potential roost features

Building section	Description of features	Assessment of potential (Collins 2016)
Building C	External A long building constructed from brick with a pitched asbestos roof and asbestos ridge panels. The building has been divided into two rooms by a brick wall. There are no suitable gaps on the north or south roof faces and no suitable gaps at the eastern gable end, which is exposed brick. There are several large gaps under old weatherboarding on the western gable end (Photograph 1). These large gaps were closely assessed using a ladder and head-torch and no bats or signs of bats (such as droppings) were identified under the panels. Internal – Eastern room This room is open to roof height with no roof void present. The walls and the asbestos roof are lined with plywood boards. There is light cobwebbing along the ridge line and a skylight on the northern roof face. No evidence of bats such as droppings or feeding remains were identified. Internal – Western room This room is also open to roof height and lined with plywood boards on the roof and the ceiling that have been recently painted. Large windows are present on both the north and south elevations. There are no visible access points into the room and no evidence of bats such as droppings or feeding remains were identified.	Negligible to low bat roost potential
Building D	External A brick and stone wall building with a slate tiled hipped roof with slate hip and ridge tiles on the south roof face. There are no suitable gaps for roosting bats with all tiles flush. There is one gap at the bottom of the south east corner which is blocked by guttering. On the remaining three faces, there are 2 to 3 small gaps present under tiles with a large part of the west face covered in fibre glass. Internal Internally, the roof is lined with expanding insulation foam with no gaps visible. There are no gaps at the eaves and cobwebbing is visible along the ridge line of the roof. The timber framework is fitted together well with no gaps present. No bats or evidence of bats such as droppings were identified within the building and there is a lack of roosting features present.	Low to negligible bat roost potential
Building E	External A brick and stone wall building with a pitched slate tiled roof. There are between 2 and 3 small gaps on both roof faces. The ridge tiles are tight fitting and there are no gaps at either gable end. On the east wall, there is a section of weatherboarding, but this is tightly fitted together with no gaps present.	Low to negligible bat roost potential



	Internal The building is divided into two parts with the main larger section exposed to roof height with no void present. The roof is unlined, with the slate tiles exposed from underneath. At the southern end there is a small room with a plywood ceiling. The area above this ceiling is part of the main roof space and can be easily accessed as it is not enclosed and can be viewed by ladder from the main room. No droppings or other evidence of bat presence was found within the building and there is cobwebbing along the ridge line.	
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There are a small number of features present on all three buildings. However, given the lack of foraging habitat present within the site and the urban location of the site within central Angmering, it is my professional opinion that the overall bat roost potential at this site is rated as 'negligible'.

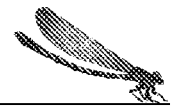
The small number of cypress trees contained within the site do not have any suitable gaps or features and tree roosting bats would therefore not be a constraint to development.

3.4 Other Protected and/or Notable Species

The buildings are surrounded by hard-standing, with a small isolated section of short amenity grassland. Therefore, there are no suitable habitats present that could support other protected species. The small number of Cypress trees north of building E have a low potential to support nesting birds.

3.5 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support bats, even where no direct evidence (such as droppings) has been found.



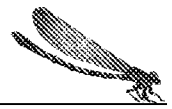
3.6 Photographs



Photograph 1. The north elevation of building C showing the pitched asbestos roof.



Photograph 2. The weatherboarding on the west gable of Building C.



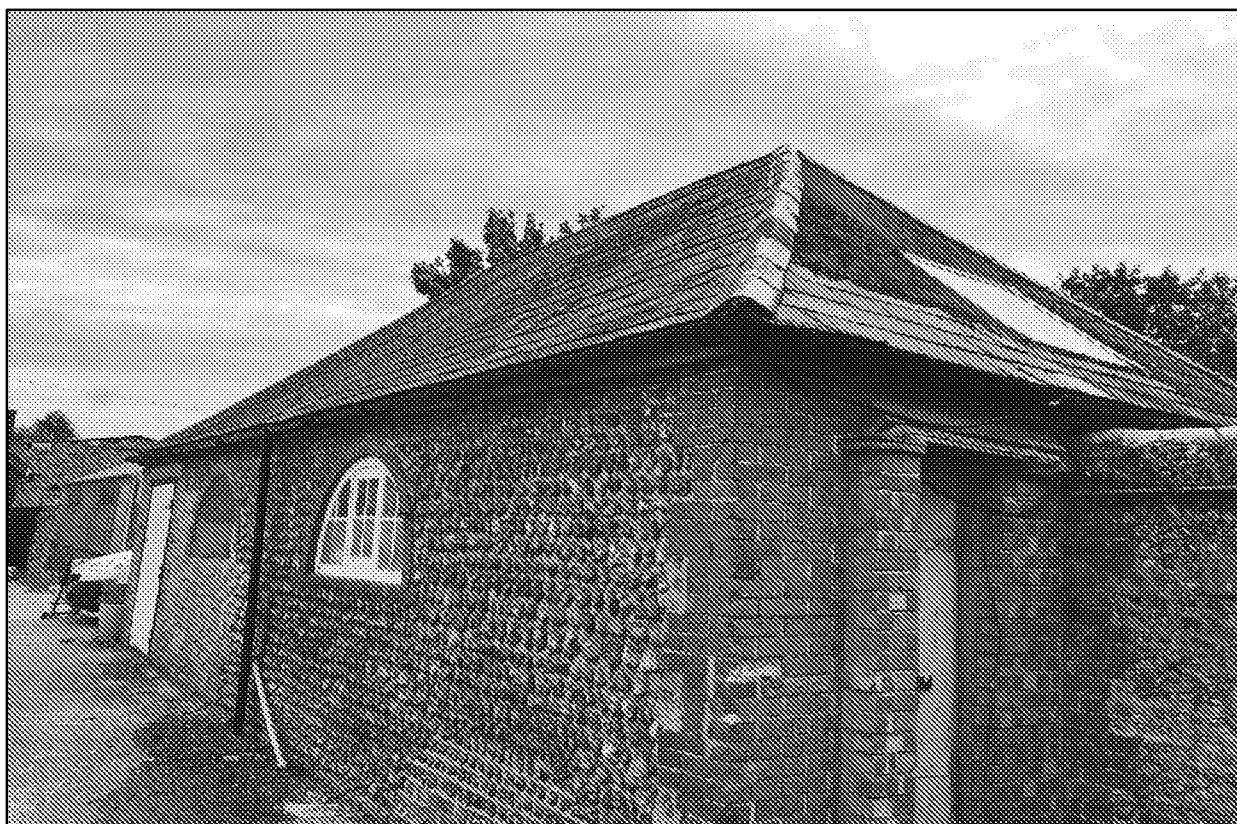
Photograph 3. The eastern room inside Building C covered in plywood panels.



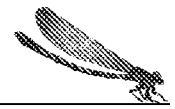
Photograph 4. The western room inside Building C that has been recently painted.



Photograph 5. The north roof face of Building D.



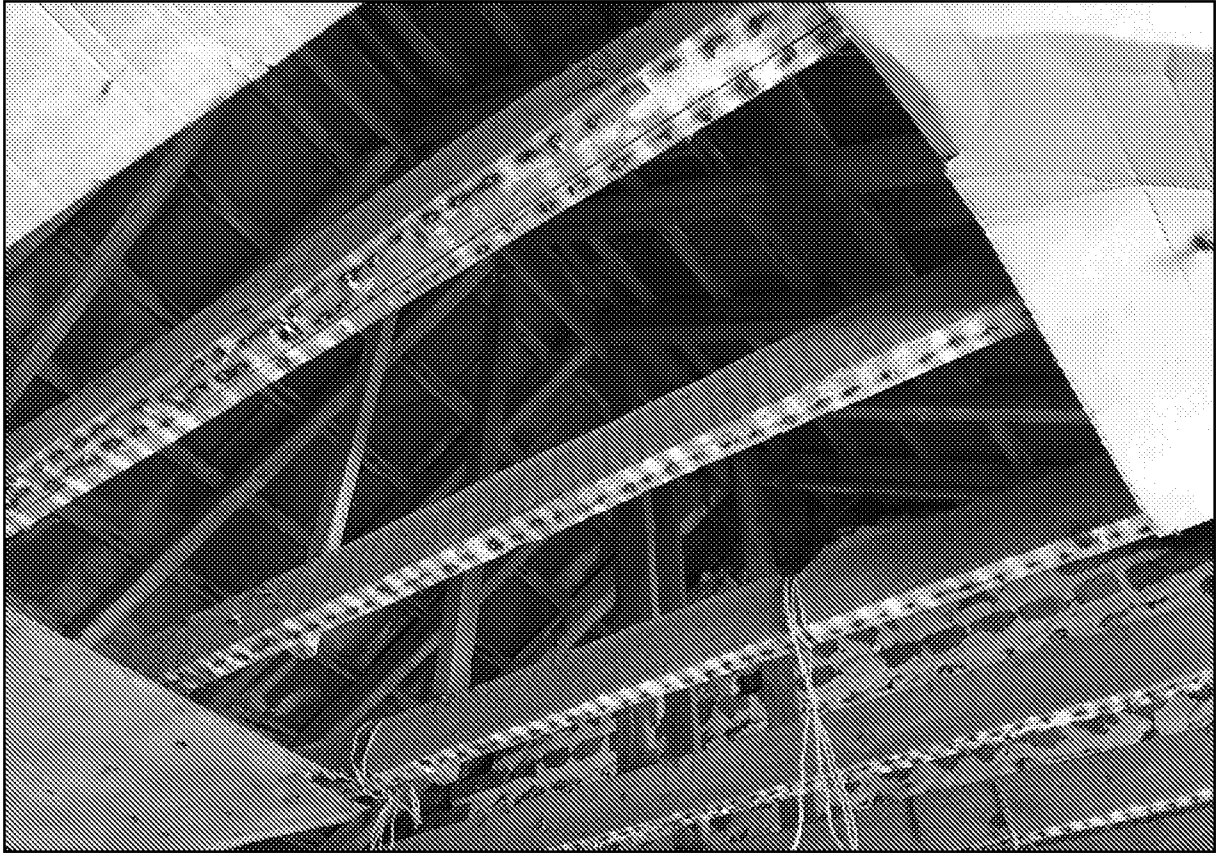
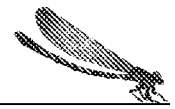
Photograph 6. The north and west roof faces of Building D.



Photograph 7. The inside of Building D. The orange texture is the expanding foam insulation.



Photograph 8. The east roof face of Building E. Note the tight weatherboarding on the right of the photograph.



Photograph 9. The inside of Building E with no void in the main section and no lining exposing the slate tiles.



Photograph 10. The plywood ceiling of the small room inside Building E.



Photograph 11. The area above the plywood ceiling with no bat droppings or other evidence identified.

4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Bats

In accordance with the Bat Conservation Trust guidelines, the overall potential for buildings C, D and E to support bats is rated as 'negligible', and no further surveys are required. As a precautionary measure, the small number of gaps identified on the three buildings must be re-examined using an endoscope immediately prior to any works and the roof features should be removed by hand under a 'soft strip' supervised by an ecologist with a class 2 bat licence.

A European Protected Species licence will not be required in this instance, however the precautionary mitigation above will reduce the risk of a bat being injured in the unlikely event that one is found during the works.

There are a small number of cypress trees present within the site which provide low value foraging habitat and the site is located within the centre of Angmering. No activity surveys are required at the site given the low value of the habitats present for foraging bats.

In line with National Planning Policy Framework (NPPF) guidance, opportunities exist to increase the value of the site for wildlife. Three crevice bat boxes such as the Beaumaris Woodstone Bat Box or



improved crevice bat box will be erected onto the newly refurbished buildings on the south or east gable ends as close to the apex as possible. Purpose built structures are commercially available, some recommended examples of which, are shown in Appendix 3.

As the site may be used by foraging and commuting bats, it is important that the potential for disturbance from artificial lights is considered. The proposed development should include an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 2).

4.2 Other Protected and/or Notable Species

Since the site comprises entirely of buildings and is surrounded by paved ground, the risk of impacts on reptiles, amphibians, badgers, and any other protected species is considered negligible in this case and no other surveys are considered necessary.

The small number of Cypress trees have a low potential to support nesting birds and if they are to be removed this should be timed outside of the nesting bird season (1st March – 31st August). If this is not possible, the trees should be subject to nesting bird checks by a suitably qualified ecologist as appropriate to the works. If an active nest is identified, a minimum exclusion zone for all works within 5 meters radius of the nest must be established to the nest to protect it from disturbance until the young have fledged.

4.3 Biodiversity Enhancement Opportunities

The proposed development represents an opportunity for habitat enhancement to benefit insects, birds, and bats. Any planting scheme must include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of the NPPF and as such would be considered favourably when determining the planning application.

If any protected species are found during the proposed work, work should be stopped immediately, and an ecologist must be contacted immediately for advice.

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



APPENDIX 1 Wildlife Legislation and National Planning Policy

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to bats.

All bat species in the UK are 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 ("The EC Habitats Directive"). As such all bat species in the UK are defined as 'European Protected Species (EPS).

Four species of bat (Bechstein's bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus*, greater and lesser horseshoe bats, *Rhinolophus ferrumequinum* and *R. hipposideros*) are also listed on Annex IV of the EC Habitats Directive. This requires the designation of a series of sites which contain important populations of these species as Special Areas of Conservation (SACs).

All species of British bat are also fully protected under the Wildlife and Countryside Act (1981), as amended, through inclusion in Schedule V.

All species of bat are listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Section 41 of the NERC Act lists the habitats and species of principle importance. This places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of habitats and species of principal importance for the conservation of biodiversity in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers.

Under the above legislation it is an offence to:

- Kill, injure or take any individual bat of any species;
- possess any part of an individual bat, either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by bats for shelter, rest, protection, or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberately disturb bats in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, to rear or nurture their young; 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. There is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of bats.

A European Protected Species License (EPSL) in relation to bats is required from Natural England for any work that would result in an otherwise unlawful activity (e.g. damage to a bat roost). A license can

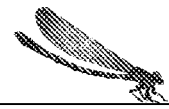


only be issued to permit otherwise prohibited acts if Natural England are satisfied that all the following three tests are met:

- The proposal is for 'preserving public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- There is no satisfactory alternative; and
- The action authorised by the license will not be detrimental to the maintenance of bat populations at a favourable conservation status in their natural range.

A bat roost is defined by the Bat Conservation Trust's Bat Surveys—Good Practice Guidelines 3rd Edition as "the resting place of a bat". In general, the word roost is interpreted 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 includes summer roosts used for resting during the day and/or breeding; or winter roosts, used for hibernating.



APPENDIX 2 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 on 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 considered while designing the lighting scheme. A simple process which should be followed where the impact on bats is being considered as part of a proposed lighting scheme. It contains techniques which 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 on key habitats and features altogether

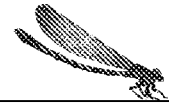
there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, 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
- Consider 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. Consider 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
- 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.

³ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



- 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*



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



APPENDIX 3 Examples of Bespoke Bat Roosting Features

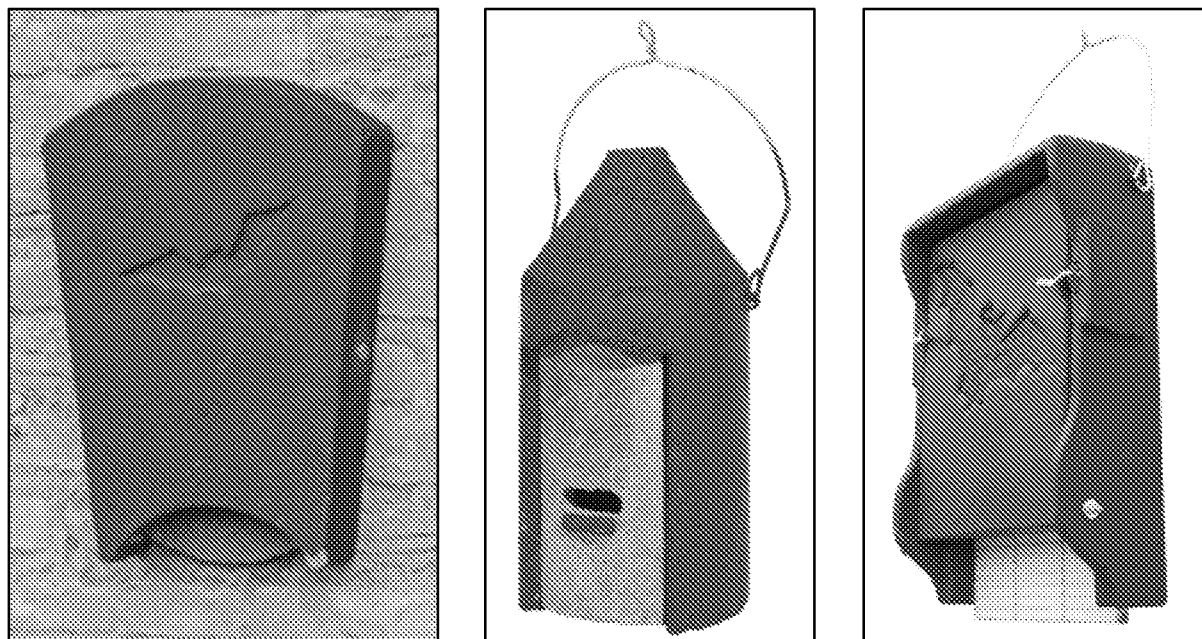


Figure 1. Left to right, the Beaumaris woodstone bat box, the 2F Schwegler Bat Box and the 1FF Schwegler Bat Box. These and other brands are available at many on-line wildlife stores. These are constructed of 'woodcrete' (a mixture of cement and woodchip) and are designed to be durable and replicate the stable thermal properties of trees and buildings. They may be attached to trees or buildings.

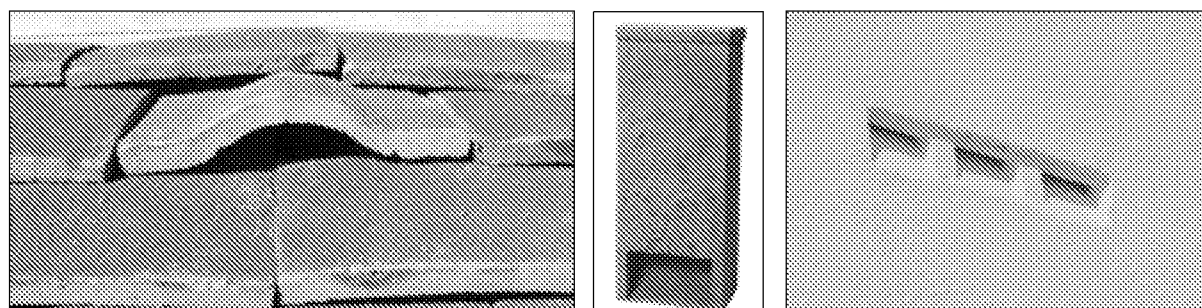


Figure 2. Examples of integral bespoke bat roosting features that may be incorporated into buildings during construction/renovation. From left to right: 1. An example of bat access tile into loft space; 2. The 2FR bat tube; 3. An example of 2FR bat tubes installed into a house wall in a series of three. Other brands and designs are available.