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Bat Scoping Report

Sunray, Dogmersfield, Hampshire

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Report Summary

1. The Ecology Co-op was commissioned by Mr Wyard & Mrs Borgnis to undertake a Bat Scoping Assessment at Sunrary, Dogmersfield. The purpose of this report is to present the findings of the appraisal and identify potential ecological constraints and opportunities in relation to a proposal. The proposed development includes the demolition of the existing shed and the creation of a single-storey link between the dwelling and the garage at their south-western and northern elevations respectively. Additionally, the interior of the garage will be converted into additional living space.
2. An assessment of the site was carried out by Owen Crawshaw BSc (Hons), MCIEEM & Natural England level 2 bat survey class license holder and Joshua Harwood BSc (Hons) on 11th January 2023. This included a ground-based external inspection of the buildings, an internal inspection of potential roost features, such as enclosed loft spaces (subject to access), and an appraisal of the surrounding habitats, to evaluate the site for its potential to support bats. All bat species are European Protected Species (Annex IV, 'Habitats Directive').
3. This site is situated on the edge of the rural village of Dogmersfield. It comprises three buildings (the main house, the garage, and the shed) with associated garden to the front of the property with some ornamental planting noted to the property.
4. The garage and dwelling were both assessed as having high suitability to support roosting bats. Both the main house and garage contained evidence of bat roosting with droppings recorded within the loft of the main house, and stuck to the external wooden cladding of the garage. Habitat within the zone of influence of the proposals was considered to be of potential value to bats for commuting and dispersal purposes.
5. The shed was assessed as having 'negligible' roosting potential.
6. The works to link the garage and the main house will not directly impact upon identified roost sites and will not impact upon any identified potential roosting features. However, without the adoption of sensitive timing, certain works such as knocking through of walls and drilling could result in the disturbance of the bat roosts identified behind the garages external cladding.
7. Therefore, in accordance with current guidelines, no further surveys of the dwelling or garage are recommended; however, as a precautionary measure any works that are to be undertaken in close-proximity to the garage's eastern gable must be undertaken in March-April (inclusive) or September-October (inclusive), thus avoiding the times when bats are most likely to be using the roost in the spring and summer, as

well as being cautious not to disturb any bats that may hibernate within the roost in winter. In the unlikely event a bat is to be discovered during works, the feature should be made good where possible and works would need to cease immediately, and a suitably qualified ecologist is contacted.

8. The design of the link corridor must include a sensitive lighting design so as not to allow the upward spillage of light which could result in the severance of flight lines between identified roosts and high value bat foraging habitat within the immediate locality e.g. Basingstoke Canal

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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 Sunrary, Dogmersfield, by Mr Wyard & Mrs Borgnis. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Owen Crawshaw BSc (Hons), MCIEEM & Natural England Level 2 bat survey class licence holder and Joshua Harwood BSc (Hons) on 11th January 2023.

Whilst this report has maintained a focus on assessing potential impacts upon roosting bats and bat activity within the proposal's zone of influence, it has also considered the potential for any other protected/notable species and/or habitats to be adversely affected. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment are provided, if necessary. Where appropriate, measures to avoid, mitigate and/or compensate for significant adverse effects are outlined.

This report is intended to inform the client and the appropriate planning authority of the potential impacts that this development proposal may have upon roosting bats as well as identifying potential impacts to commuting routes and foraging habitat of value.

1.2 Background

The site is located at Sunrary, Dogmersfield, RG27 8SS (Grid reference centred at SU 78069 53432, hereafter referred to as "the site").

The site comprises three buildings (the main house, the garage, and the shed) with associated garden space to the front of the property with ornamental planting, no other vegetation has been noted on site. The location of the site is rural located west of Dogmersfield village. The site and surrounding habitats are illustrated in Figure 1

The proposed development includes the demolition of the existing shed and the creation of a single-storey link between the dwelling and the garage at their south-western and northern elevations respectively. Additionally, the interior of the garage will be converted into additional living space. There will also be a proposed ground-level infill extension at the eastern elevation of the dwelling.



Figure 1. Aerial image showing the location of the site and surrounding landscape, the site indicated within red outline. Image produced courtesy of Google maps (map data ©2023 Google).

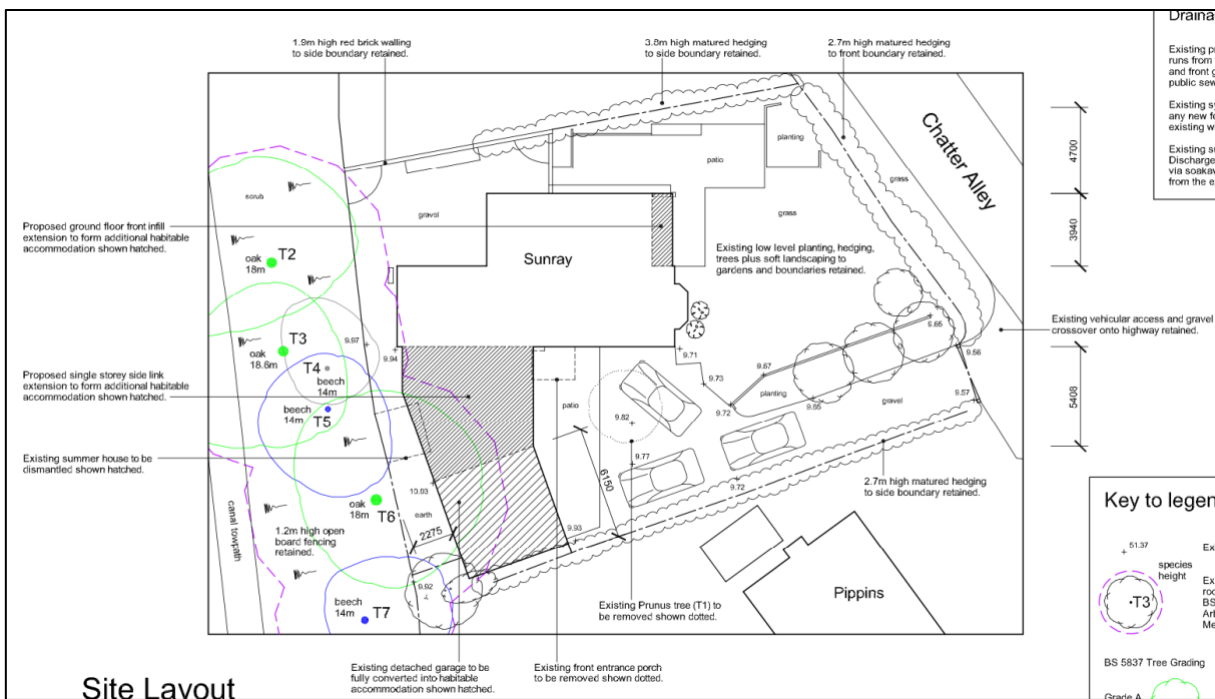


Figure 2. A layout plan showing the extent of proposed works at Sunray, Dogmersfield. Reproduced courtesy of Waterstone Design Ltd. (Drawing No. WSD/570-002) (Dated: February 2023).

1.3 Policy and Legislation

Legal protection applying to all bat species in the UK and any other species relevant to this appraisal, 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/compensation strategy to ensure compliance with UK wildlife legislation, policy and best practice.

2 METHODOLOGY

The methodologies used for this survey are in accordance with the bat survey guidelines produced by the Bat Conservation Trust¹. Where there has been any deviation from the guidelines due to any site-specific constraints or other circumstances, reasoning and justification has been provided.

2.1 Desk Study

A search for existing records of bats within a radius of 1km of the site has been requested from the Hampshire Biodiversity Information Centre (HBIC).

A search of on-line mapping resources has been 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) has been used to identify the location of European Protected Species (EPS) licences granted within a 1km radius of the survey site. Priority habitats and ancient woodland, upon the site and within the proposal's zone of influence, 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

2.2.1 Roosting Potential

Bats can use a wide range of features for roosting purposes 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, feeding remains, staining or droppings. This included a ground-based external inspection around the building and internal inspection of PRFs, such as enclosed loft spaces or roof voids or basements, where safe access was possible. A high-powered torch was used for the internal and external assessment with an endoscope used where suitable roosting features were accessible.

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>.

The suitability of each feature, or group of features, to support roosting bats has been assessed as either negligible, low, moderate, or high, in accordance with best practice guidance¹ (see Table 1) Any evidence confirming the presence of bats was clearly recorded including photos and samples taken (e.g. droppings), where appropriate. Further surveys have been recommended in accordance with best practice guidance and the surveyor's professional judgement, where evidence of a bat roost or PRFs have been identified that would be adversely impacted by the proposal and where precautionary mitigation alone cannot ensure that bats would not be potentially disturbed or harmed.

Table 1. Guidelines for assessing suitability of structures (buildings) to support bat roosts

Suitability	Description of roosting habitats
Negligible	A structure that does not support any features that could be used by roosting bats.
Low	A structure that has one or more potential roosting features that could support individual roosting bats opportunistically. These features however lack the space, shelter or appropriate conditions, to support larger numbers of bats (such as a maternity roost).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter and suitable conditions for roosting, but are unlikely to support a roost of high conservation significance.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection and conditions.

2.2.2 Hibernation Potential

The structure and its associated features were assessed for their suitability to be used by hibernating bats. The assessment was carried out in accordance with guidelines produced by BatAbility³ and the bat survey guidelines produced by the Bat Conservation Trust¹. To determine the potential for features to support hibernating bats the following aspects were considered:

- the suitability of features to support roosting bats or to allow access for roosting bats;
- the temperature and humidity conditions likely to be present within the feature during the winter period and the suitability in this respect for it to be used by bats for hibernating;
- the surrounding habitat, in terms of its potential for use by bats outside of the hibernation period for commuting and/or foraging purposes; and
- the presence of known roosts within the structure, or adjacent structures, or surrounding area during the active season.

The potential for use by hibernating bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with best practice. Further surveys are recommended where appropriate, considering the feasibility of a hibernation survey for certain PRFs.

2.2.3 Foraging and Commuting Potential

The habitats surrounding the site and wider landscape were broadly assessed for their potential to support foraging and commuting bats, and were categorised as negligible, low, moderate or high

³ Middleton. N. (2019). *Assessing Sites for Hibernation Potential. A Practical Approach, including a Proposed Method & Supporting Notes. Version' Draft/V2.2019.* BatAbility.

potential suitability in line with published guidance¹.

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 Concern⁴ and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981), such as barn owl *Tyto alba*.

Whilst this survey has focussed on bats and no specific searches were made with respect to other protected/notable species, any evidence of such species that was encountered during the site visit was also recorded.

3 RESULTS/OBSERVATIONS

3.1 Desk Study and Granted EPS Licences

There are four designated sites within the zone of influence of the site, national designated sites have been searched within 2km with international searched within 5km.

Table 2. Designated sites within zone of influence of the site.

Site name	Designation	Features listed on citation	Proximity to the site
Basingstoke Canal	SSSI	The Basingstoke Canal, together with associated 'flashes' and heathland, is nationally important for aquatic plants and invertebrates. The transition from calcareous spring water to slightly acidic conditions produces extremely diverse flora, containing approximately half (87) of Britain's native aquatic higher plant species, including five nationally scarce species. The invertebrate fauna is correspondingly rich with 24 species of Odonata (dragonfly and damselfly) recorded on the Canal in 1992 and 1993, making the Canal one of the most important sites for Odonata in Britain.	Adjacent to western site boundary
Odiham Common with Bagwell Green and Shaw	SSSI	Odiham Common with Bagwell Green and Shaw Site of Special Scientific Interest comprises an extensive area of wood pasture, meadows and common land at the junction of the London Clay, Plateau Gravel and Lower Bagshot Beds on the edge of the Thames Basin The SSSI supports a number of nationally rare flies; of these <i>Xylota abiens</i> and <i>Callicera aenea</i> are strongly associated with the dead wood habitat. In addition the notable beetle <i>Phyllobrotica quadrimaculata</i> occurs within the site. At least 28	1.8km E

⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, N., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the status of bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man. British Birds 114, pp 723-747..

Site name	Designation	Features listed on citation	Proximity to the site
		invertebrate species of a restricted national distribution have been recorded whilst grass snakes breed on the Common and birds include woodcock and wood warbler.	
Thames Basin Heaths	SPA	The SPA is of international importance as a habitat for heathland birds: nightjar (<i>Caprimulgus europaeus</i>), woodlark (<i>Lullula arborea</i>) and Dartford warbler (<i>Sylvia undata</i>). It is of European importance because the site qualifies under Article 4.1 of the Birds Directive (79/409/EEC) as it is used by 1% or more of the Great Britain population of a species listed in Annex I.	3.7km E 4.3km N

Designated site codes. SSSI= Site of Special Scientific Interest. SPA = Special Protection Area.

The site is located within the impact risk zone of Basingstoke Canal SSSI. The proposals however do not require consultation with Natural England.

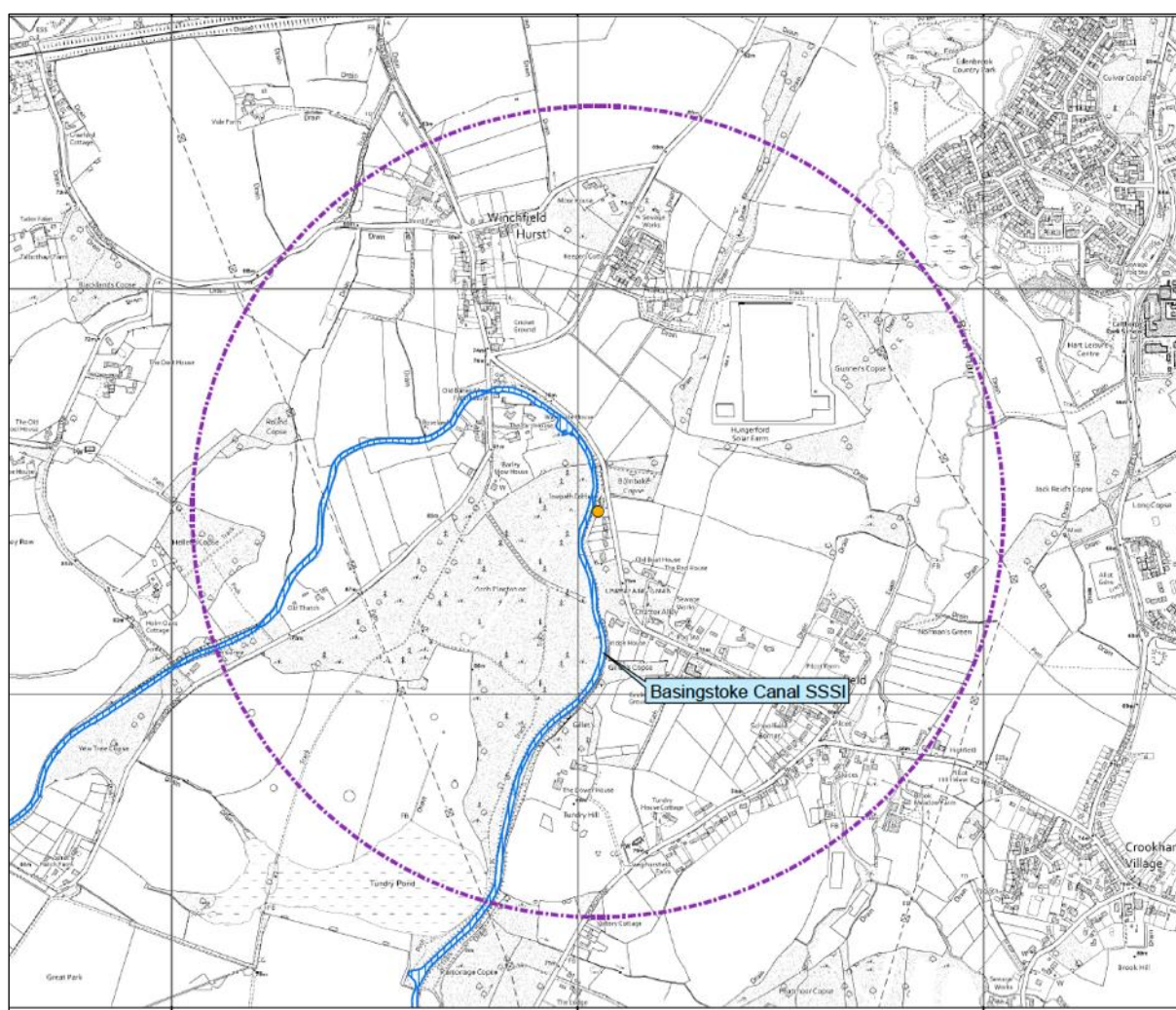


Figure 3. View of designated sites within 1.0km of the site (purple boundary). Site centred at orange circle.

Several parcels of priority habitat exist within 2km of the site, the nearest of which is located some 30m west. No priority habitats are noted on site (see Figure 4).

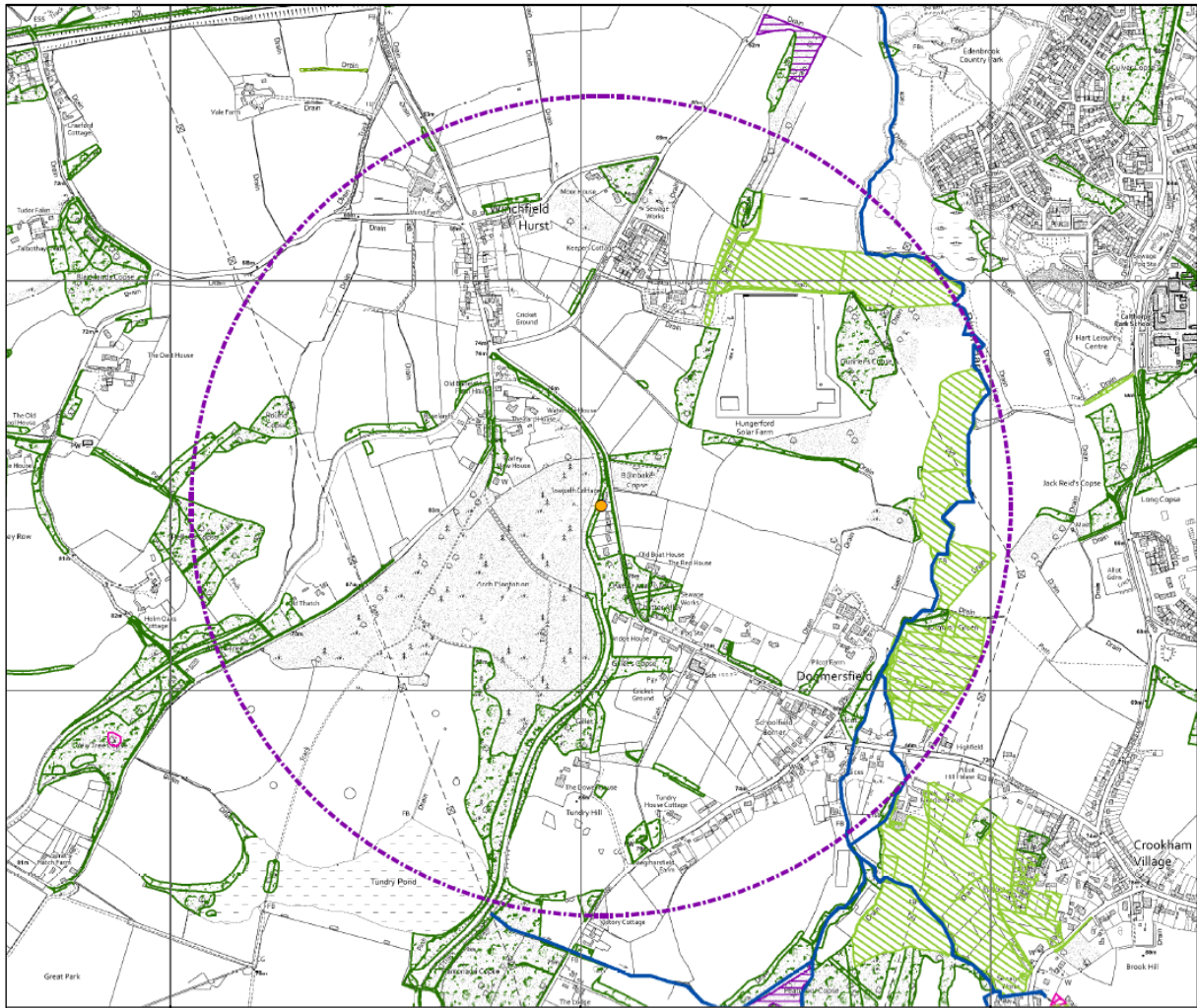


Figure 4. Priority habitats within 1km of the site (orange circle). Key available online at <https://documents.hants.gov.uk/HBIC/HBICUKPriorityandBroadHabitatslegendforGIS.pdf>. Image produced courtesy of HBIC.

HBIC provided 32 bat records within the search area comprising 7 identified species, which are detailed in Table 3 below. The most recent records are from 2019 all from emergence surveys. Precise locations are not known.

Table 3. Bat records returned within a 1km radius of the site.

Species		Number of records
Common name	Scientific name	
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	6
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	4
Pipistrelle species	<i>Pipistrellus spp.</i>	6
Brown long-eared bat	<i>Plecotus auritus</i>	8
Long-eared species	<i>Plecotus sp.</i>	1
Serotine	<i>Eptesicus serotinus</i>	1
Noctule	<i>Nyctalus noctula</i>	3
Leisler's bat	<i>Nyctalus leisleri</i>	1
Daubenton's bat	<i>Myotis daubentonii</i>	1

There are no EPS licences granted for mitigation projects concerning bats within 1km of the site shown on the Magic Maps website (see Figure 5). There are three EPS licenses granted for mitigation projects regarding any bats within 2km of the site.

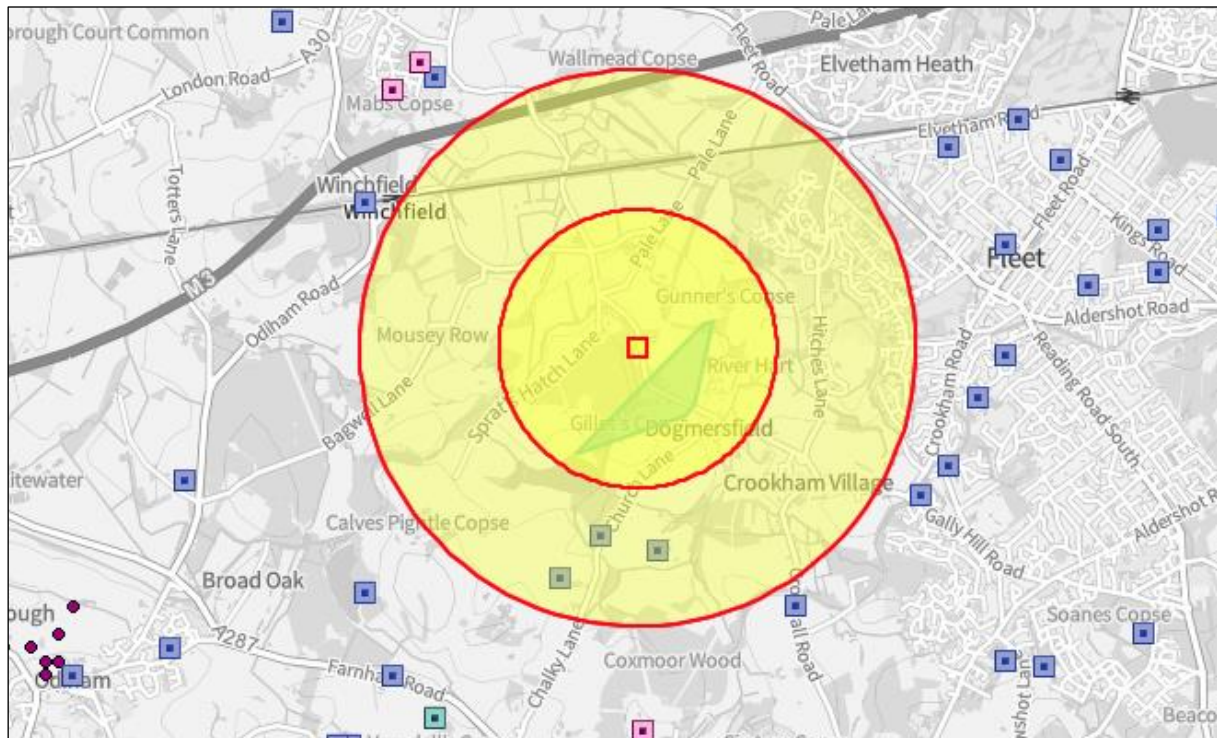


Figure 5. European Protected Species Licence within a radius of 1km of the application site (Inner circle is 1km buffer, wider circle is 2km buffer from site). Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

3.2 Site Context and Surrounding Habitats

This site is located in a rural location in just east of Dogmersfield village. The site is located adjacent to Basingstoke canal. The wider landscape is that of woodland the east, arable land to the west and dwellings to the immediate north and south (with woodland located just beyond). The woodland parcel extends to the wider habitat up to Whitehall village. Areas of arable land are mosaiced between the woodland.

The close surrounding habitats are considered to be of high value for range of bat species, whilst within the wider landscape there are high value habitats present, including lowland mixed woodland, coastal and floodplain grazing marsh and Basingstoke canal, which combine to provide a variety of habitats that are likely to support a wide variety of bat species.

The site supports three existing buildings: the main building, the garage and shed. The buildings are surrounded by a garden space comprising mown lawn areas and small shrub parcel.

3.3 Inspection for Bats

3.3.1 Roost Potential

The three buildings on site were assessed independently for their potential to support roosting bats, Table 4 below provides detailed breakdown of each structure and their features.

Table 4. Assessment of PRFs

Building section	Description of features	Assessment of suitability ⁵
Main Building	<p>A two-storey east to west facing brick building with a pitched roof and chimney to the centre. The building has had a previous extension and as a result there are two independent loft voids. The building is comprised of clay roof tiles to both the areas of pitch and hanging tiles, additional areas of wooden cladding have been installed to the buildings facings, these features create accessible crevices for bats..</p> <p>Some missing tiles are noted across the pitched roof with areas of lifted; pitched and hanging tiles along with lifted wooden boards noted to across the building.</p> <p>The void space has been divided into two, the first is the original void space with the second the recent extension.</p> <p>The first loft space is 7m (L) x 3.5m (W) x 1.75m (H) with a lack of roofing felt and bare tiles exposed to the roof. Droppings suspected to be those of a long eared bat species were noted at three locations, ~100 droppings adjacent to the chimney, with a further 75 clustered 0.5m north with an additional 100 stuck to cobwebs above. (Photographs 4)</p> <p>The second loft void is approximately 4m (L) x 3m (W) x 1.75m(H). The void is of newer construction with less access noted within, bitumen felt lines the roof and a total of three long eared droppings have been noted (Photographs 3).</p>	Confirmed roost with 'High' roosting suitability
Garage	<p>The garage is a single storey pitched roof garage with a wooden panelling noted to the apex on the building's frontage. The buildings footprint measures approximately 9m (L) x 6m (W) x 6m (H) with the wooden cladding to the frontage 3m above ground extending towards the apex of the roof. T</p> <p>The timber cladding is warped, with numerous exposed gaps as a result. A large number of bat droppings (suspected to be those of a pipistrelle species) were observed within the gaps behind the boards and stuck to the external wall of the garage.. An accessible cavity is created between the cladding and the breezeblocks of the building's internal wall (Photographs 8).</p>	Confirmed roost with 'High' roosting suitability

⁵ Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

Building section	Description of features	Assessment of suitability ⁵
	Some lifted and missing roof tiles are noted to the building.	
Shed	The shed is a small (2.5m x 2m x 2m) wooden cladded building with a bitumen felt roof. The roof and cladding are intact with no possible egress or access points noted.	Negligible

Overall, the bat roost suitability at this site is assessed as 'high', considering the condition of the buildings, confirmed roosts and its context within the local foraging habitat for bats, namely Basingstoke Canal.

There were no trees contained within the boundary of the site and tree roosting bats would therefore not be a constraint to development.

3.3.2 Hibernation Potential

Each structure was assessed for its hibernation potential. The potential for each structure is described in Table 5 below and illustrated in the following photographs section.

Table 5. Assessment of hibernation roost potential.

Building section	Description of features	Assessment of hibernation potential ^{1 & 3}
Main Building	Bat roosts were found within the structure, as such the building (although not typical for bats to be found overwintering in such a structure) may offer hibernation potential for opportunistic bats such as pipistrelles or long eared bats (where droppings were noted) in low numbers.	Moderate potential
Garage	Bat roosts were found within the structure, as such the building (although not typical for bats to be found overwintering in such a structure) may offer hibernation potential for opportunistic bats such as pipistrelles in low numbers.	Moderate potential
Shed	No features for hibernation suitability are noted to this structure.	Negligible

3.4 Foraging and Commuting Potential

The site is situated directly adjacent to Basingstoke canal, which is likely a valuable foraging and commuting resource for bats, particularly species that specialise in aquatic habitats, such as the Daubenton's bat. The site is considered to be of **site** value to foraging and commuting bat species.

3.5 Other Protected and/or Notable Species

An open-fronted bird box exists on the shed building.

The proposed zone of impact is comprised of buildings. The habitats on site are not considered to have value for reptiles, amphibians, badgers, the site may support commuting and foraging hedgehogs *Erinaceus europaeus*.

3.6 Survey Limitations

There were considered to be no limitations to this survey. All loft voids were accessible and inspected in full and all aspects of the buildings could be observed fully during the survey.

3.7 Photographs



Photographs 1 a (left) & b (right). a) View of the main house from the southern aspect with view of the main door to centre of image and lifted tiles noted. b) View of the main house from the southern aspect with views to damaged/lifted tiles.



Photographs 2 a (left) & b (right). a) View of the main house from the eastern aspect where the new ground-level infill extension is proposed. View of wooden cladding to the top of the building. b) View of the window feature located in Photograph 2a (left of image). View of hanging tiles with some gaps noted to the northern aspect. Hanging tiles noted to both aspects of the window.



Photographs 3 a (left) & b (right). View of long eared bat droppings located within the first loft space of the main building. b). View of the second loft space from the previous extension. Three droppings were noted within this void space.



Photographs 4 a (left) & b (right). a) View of long eared droppings from the first loft space. b) View of droppings caught by cobwebs to the apex of the first void. Note the lack of roofing felt within this loft void providing increased access and egress points across the space.



Photographs 5 a (left) & b (right). View of the garage block from the eastern aspect, view of the wooden cladding to the apex of the building. b) View of the garage block from the north western aspect of the site.



Photographs 6 a (left) & b (right). a) View of the right garage door as seen from Photograph 5a, view of several bat droppings noted contrast against the white door. b) View of the brick work below the wooden cladding with view of bat droppings again.



Photographs 7 a (left) & b (right). a) View of the wooden cladding as illustrated in photograph 5a clear gaps can be seen across the boards. b) View of bat droppings from within the cladding as indicated in photograph 7a, image taken using an endoscope.



Photographs 8 a (left) & b (right). a) Internal view of the garage unit facing the breezeblock construction (backing of the wooden cladding). This section is well intact and any roosting bats within the cladding will be restricted within this aspect unable to migrate to other aspects or the internal area. b) View of the northern aspect of the garage block, some slipped tiles are noted although infrequently. The open space within the garage is considered to be of lower temperature than that of surrounding habitats and roosting features.



Photograph 9 a left & b right). a) View of the shed located to the western aspect of the site, image taken from the northern aspect. b) View of the main building to the north western aspect of the site, view of potential access/egress point visible to the fascia.

4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Designated Sites

Two statutory designated sites are present within 2km of the site. The closest is Basingstoke Canal SSSI, 23m west with Odiham Common with Bagwell Green and Shaw SSSI located 1.8km east of the site.

The proposed extension is small in scale and as such does not require consultation from Natural England. However, due to the close proximity between the site and Basingstoke Canal SSSI, the sites the construction phase impacts such as dust, lighting, physical damage, vibration and noise are considered likely to negatively impact, as such precautionary measures are required.

All precautions must be taken during construction to avoid discharges and spills to the ground and potential pollution to the canal immediately west. Best working practices relating to dust suppression through damping and surface water management will help to minimise this risk.

Post construction the proposals will not result in an increase in the number of residents and therefore there is no potential for increased recreational pressure to designated sites within the impact risk zones of the site (Table 2).

4.2 Bats

4.2.1 Roost Potential

In accordance with the Bat Conservation Trust guidelines, the main building and the garage have been assessed as confirmed bat roosts, with the overall potential for the main building to support roosting bats rated as high.

The works to create a single-storey link between the dwelling and the garage at their south-western and northern elevations respectively, as well as converting the interior of the garage into additional living space will not directly impact upon the roosts identified within either building or any other potential roost features. The proposals will see the retention of all tiles across the dwelling, with only a small number of tiles (bottom rows at northern aspect) requiring removal from the garage to facilitate the connection with the new link section. Tiles in these areas are tight-fitting and do not create potential roost features.

There will be no impacts upon the loft void of the main house and will not require any works to the wooden cladding fitted to the garage (confirmed roost areas).

In this instance no further surveys are recommended, and a European Protected Species Mitigation Licence is not required for the proposed works to proceed. However, as a precautionary measure to ensure there is no disturbance of bats, any works that will result in significant noise/vibration that are to be undertaken in close-proximity to the garage's eastern gable e.g. knocking through of walls, hammering drilling etc. must be undertaken in March-April (inclusive) or September-October (inclusive), thus avoiding the times when bats are most likely to be using the roost in the spring and summer, as

well as being cautious not to disturb any bats that may hibernate within the roost in winter.

The removal of the small amount of roof tiles from the garage must only be undertaken in March-April (inclusive) or September-October (inclusive) and under the direct supervision of a suitably qualified ecologist.

In the unlikely event a bat is to be discovered during works, the feature should be made good where possible and works would need to cease immediately, and a suitably qualified ecologist is contacted. Work would likely not be able to continue until an EPS mitigation licence has been obtained. It is likely that any license application would need to be supported by further surveys to classify the nature of the roost (day/maternity/transitional).

4.2.2 Foraging and Commuting Suitability

The proposed development will impact an area of open land between several potential roosting features and Basingstoke canal. It is considered that Basingstoke canal is a likely foraging area for a large number of bat species and as such the site although of limited foraging habitats is likely to be used by bats commuting from nearby roosts to this area. The proposals are for one-storey and as such would not impact flight lines to these bats. No large equipment is not to be stored overnight at the development area as to not increase obstructions within a small area to commuting bats.

As the site and zone of influence may be used by 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). The design of the link corridor has included a sensitive lighting design so as not to allow the upward spillage of light which could result in the severance of flight lines between identified roosts and high value bat foraging habitat within the immediate locality e.g. Basingstoke Canal. The roof lantern within the new link will utilise automated black out blinds so as to prevent the upwards spillage of light (Figure 6).

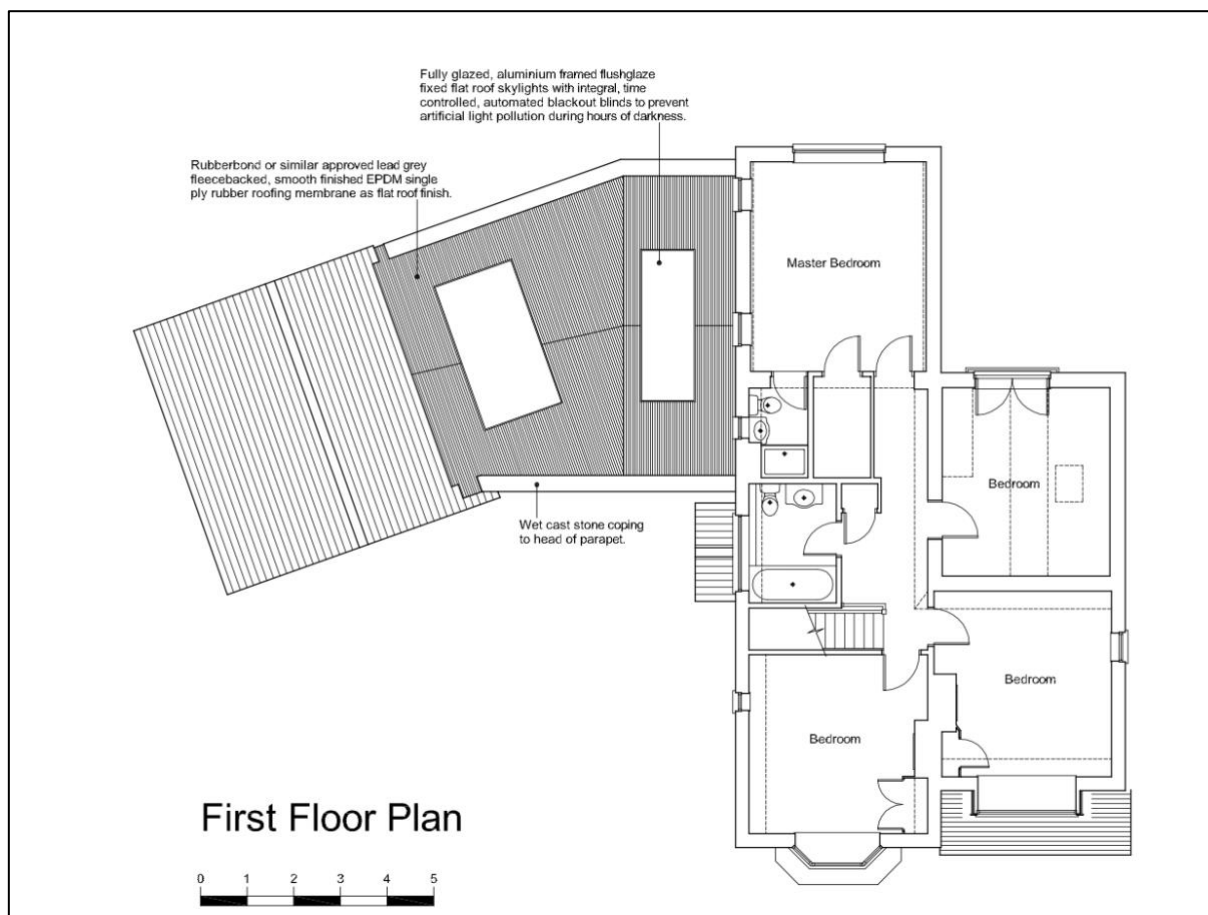


Figure 6. The proposed first-floor plan for the development, showing how automated blackout blinds will be used to avoid light spillage and associated impacts on bat commuting/foraging routes. Reproduced courtesy of Waterstone Design Limited. (Drawing No. WSD/570-009) (Dated: July 2023).

4.3 Other Protected and/or Notable Species

Removal of the bird box fitted to the shed must be undertaken outside of the nesting season (avoiding March – August inclusive).

The site may support commuting and foraging hedgehogs. Any ground works over 10cm depth should be covered overnight to ensure no animals are trapped.

4.4 Biodiversity Enhancement Opportunities

Whilst detailed enhancements may be best refined in more specified and detailed report the site provides opportunity for biodiversity enhancements and should be considered by the client examples of such enhancements are listed below.

- Use of green or brown roof to the proposed structure;
- Use of green wall, living wall or climbers to the proposed structure;
- Installation of bird boxes for a variety of species attached to the existing buildings;
- Installation of bat boxes (crevice and cavity) to the existing buildings;

- Use of native mixed species vegetation within the site to improve invertebrate, bat foraging and bird foraging habitats.

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 bats or other protected species are found during the development, work should be stopped immediately, and an ecologist must be contacted 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 Licence (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 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 Trust⁶ 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 cats 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

⁶ 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/>

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=15421093