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Bat Scoping Report

Site Name

Stonehurst – Main House

Client

Ian Adam Smith
Architects

Issue Date

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Author

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About the Author

This report has been prepared by Joshua Harwood, a Consultant Ecologist at The Ecology Co-op, with 8 years' experience. He is an accredited agent under a Level 1 bat survey licence. As a member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Owen Crawshaw, a Principal Ecologist with over 10 years' experience. He has a Level 2 bat survey licence and has held multiple European Protected Species licences for bats. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by Ian Adam Smith Architects to undertake a Bat Scoping Assessment at Stonehurst, main house further to a proposal to reinstate the tower to the property, install a conservatory extension to the southern aspect and renovate sections of the building
Context	This site is situated in a rural location with Wakehurst botanical gardens located immediately west of the site and wider grassland and woodland habitats to the east. The site ownership comprises a number of old buildings, the proposed works focused upon the main house dwelling only.
Key findings	The building was assessed as having high suitability to support roosting bats and acts as a confirmed brown long eared bat roost. The property comprises a large number of potential roost features to all aspects, the majority of which are created by lifted, missing or damaged hanging and roofing tiles with some other possible access/egress points noted across the dwelling. Habitat within the zone of influence of the proposals was considered to be of value to bats for foraging/commuting/dispersal purposes.
Recommendations	As the property has a high suitability for roosting bats, in line with best practice guidance, three bat surveys between May and August are required to characterise the nature of the identified roost as well as to confirm the presence/likely absence of additional roosts from elsewhere within the building..
Further survey requirements	<u>A minimum of three bat emergence/re-entry surveys are required to determine the importance of this building to bats as without further surveys the level of impact upon bats cannot be fully assessed.</u> <u>To ensure adequate coverage of all potential roost features, it is estimated that to cover the entirety of the main house building a minimum of eight observers will be required for each survey visit to observe all suitable roost features. To ensure that the survey effort conforms with interim guidance on the use of night vision aids, produced by the Bat Conservation Trust, a minimum of ten night vision cameras (NVA's) with infra-red lighting to support surveyors will be required.</u> <u>As proposed works may not impact the entirety of the dwelling and the segmented sections and aspects of the property it may be appropriate to reduce the surveyor and NVA requirements and focus upon specific areas to be impacted though this will be based upon more detailed information on proposed works in combination with a suitably qualified ecologists' best judgement.</u>



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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 Stonehurst main house by Ian Adam Smith Architects. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Joshua Harwood BSc (Hons) an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) on the 28th August 2024. Mr Harwood is accredited to disturb bats for survey purposes, under the survey class licence of Sam Lunn, a Principle Ecologist and class 2 licensed bat surveyor (licence number available upon request). 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.

The proposal for the site seeks to reinstate the tower to the property, install a conservatory extension to the southern aspect and renovate sections of the building. 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. Where bat roosting potential or physical evidence of bats has been identified, further survey effort will be required in order to complete an impact assessment to inform a planning application.

1.2 Background

The site is located at Stonehurst House, Selsfield road, Haywards Heath, RH17 6TN. The central grid reference for the site is TQ 34352 31621.

The site comprises a single three storey dwelling with a cellar currently being rented as a residential property. The property is located in a rural setting north of Haywards Heath and located opposite Wakehurst botanical garden.

The location of the study building is based on a site plan provided by Ian Adam Smith Architects and is illustrated in Figure 1, with the existing floor plans shown in Figure 2.

The proposed development/project seeks to re-instate the main house's iconic tower and renovate sections of the building to restore the overall building to match its historic features and renovate and repair sections. A view of the building with its former tower block is shown in Figure 3 and sections proposed for works in Figure 4.

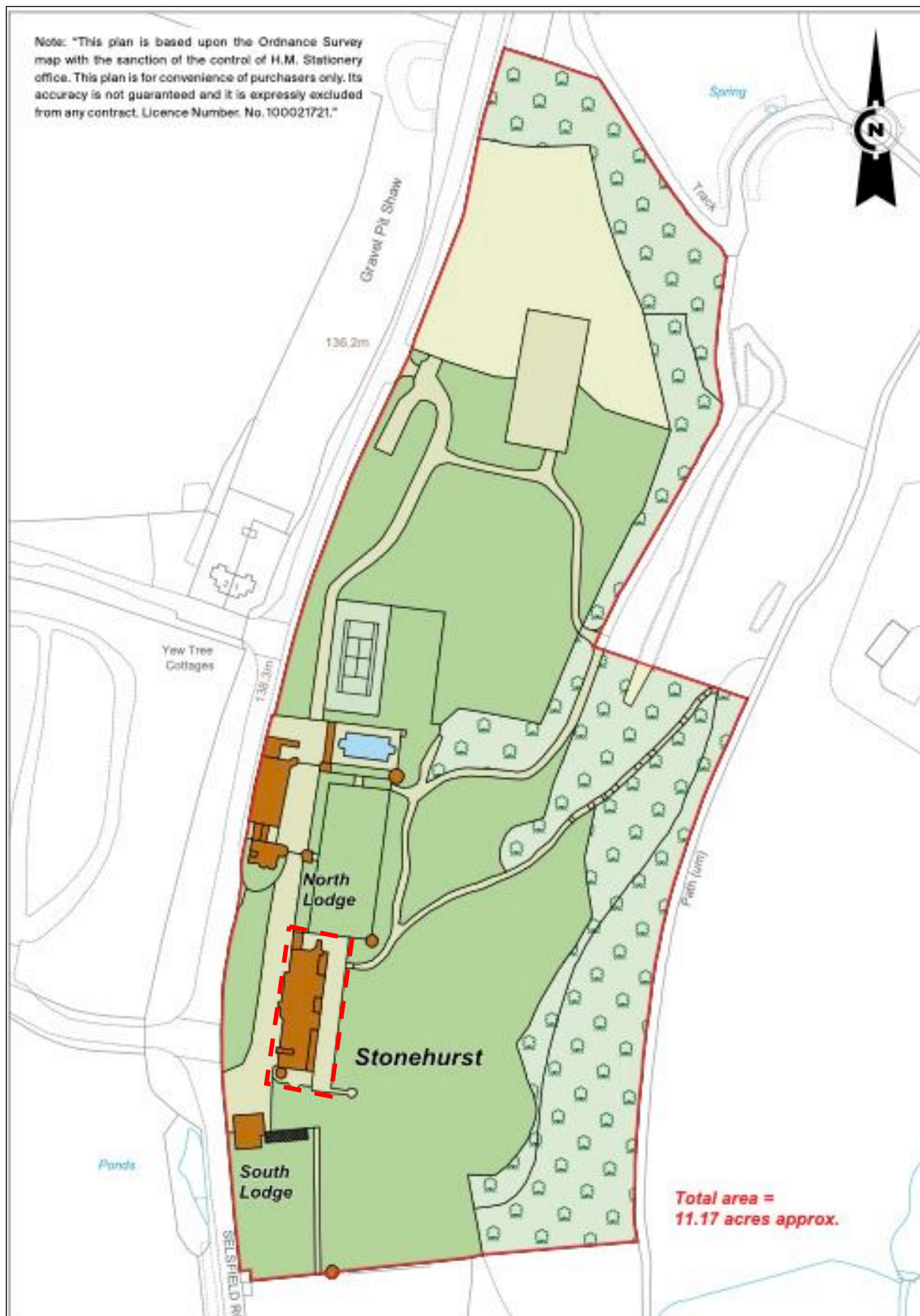


Figure 1. Aerial image showing the location of Stonehurst grounds illustrated with a red line boundary, the main house is illustrated with a red dashed boundary. Image produced courtesy of Ian Adam Smith Architects.



Figure 2. Existing floor plan of Stonehurst Main house. Image produced courtesy of Ian Adam Smith Architects



Figure 3. Historic view of Stonehurst Main house with view of the tower. Image produced courtesy of Ian Adam Smith Architects.

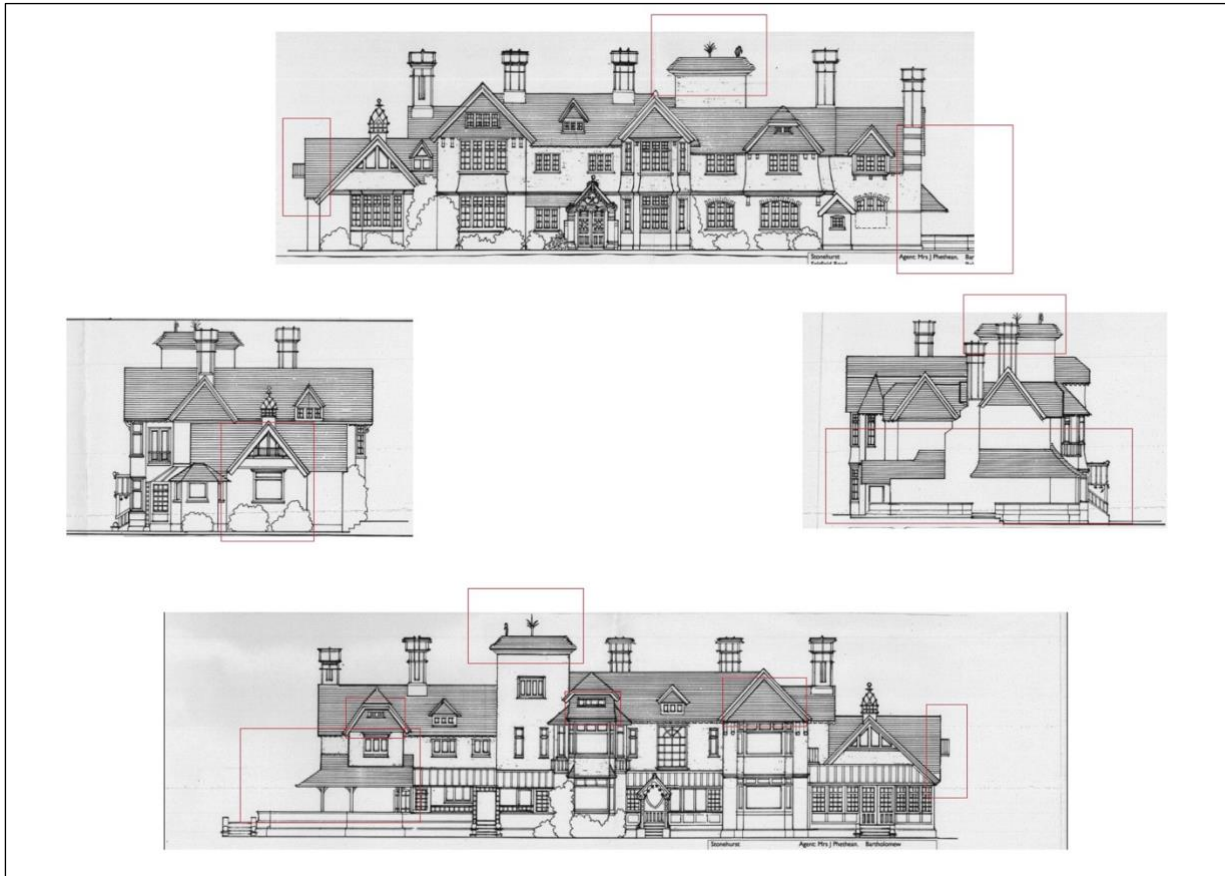


Figure 4. Elevation plans of proposed work areas of Stonehurst Main house (indicated with red boxes). Image produced courtesy of Ian Adam Smith Architects

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 of on-line mapping resources has been undertaken to characterise the local context of the site with

¹ Collins, J.(ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.



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 designated sites for nature conservation within 2km and 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 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.

The suitability of each feature, or group of features, to support roosting bats has been assessed as either none, 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 to support bat roosts

Suitability	Description of roosting habitats
None	No habitat features on the structure likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	A structure that does not have any obvious habitat features that are likely to be used by roosting bats. However, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
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).

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



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 within the wider landscape were broadly assessed for their potential to support foraging and commuting bats, and were categorised as negligible, low, moderate or high 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*.

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

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.



3 RESULTS/OBSERVATIONS

3.1 Desk Study and Granted EPS Licences

Two statutory designated sites are present within a 2km buffer of the site (see Figure 5). Full details of the designated sites are provided in Table 2 below. None of these sites include bats as a designated feature.

Table 2. Designated sites within 2km of the site.

Site name	Designation	Features listed on citation	Proximity to the site
Chiddingly woods	Wakehurst & Chiddingly woods SSSI	Booth woodland features contain extensive exposures of sandrock supporting rare and unique flora and a range of breeding birds (50 species recorded) in addition the rare crane fly <i>Erioptera nigripalpis</i> has been recorded along with a number of uncommon beetle species.	429m north
Wakehurst woods			434m west
Hook Quarry	Philpot's and Hook Quarries SSSI	Non ecological designation	1.1km east

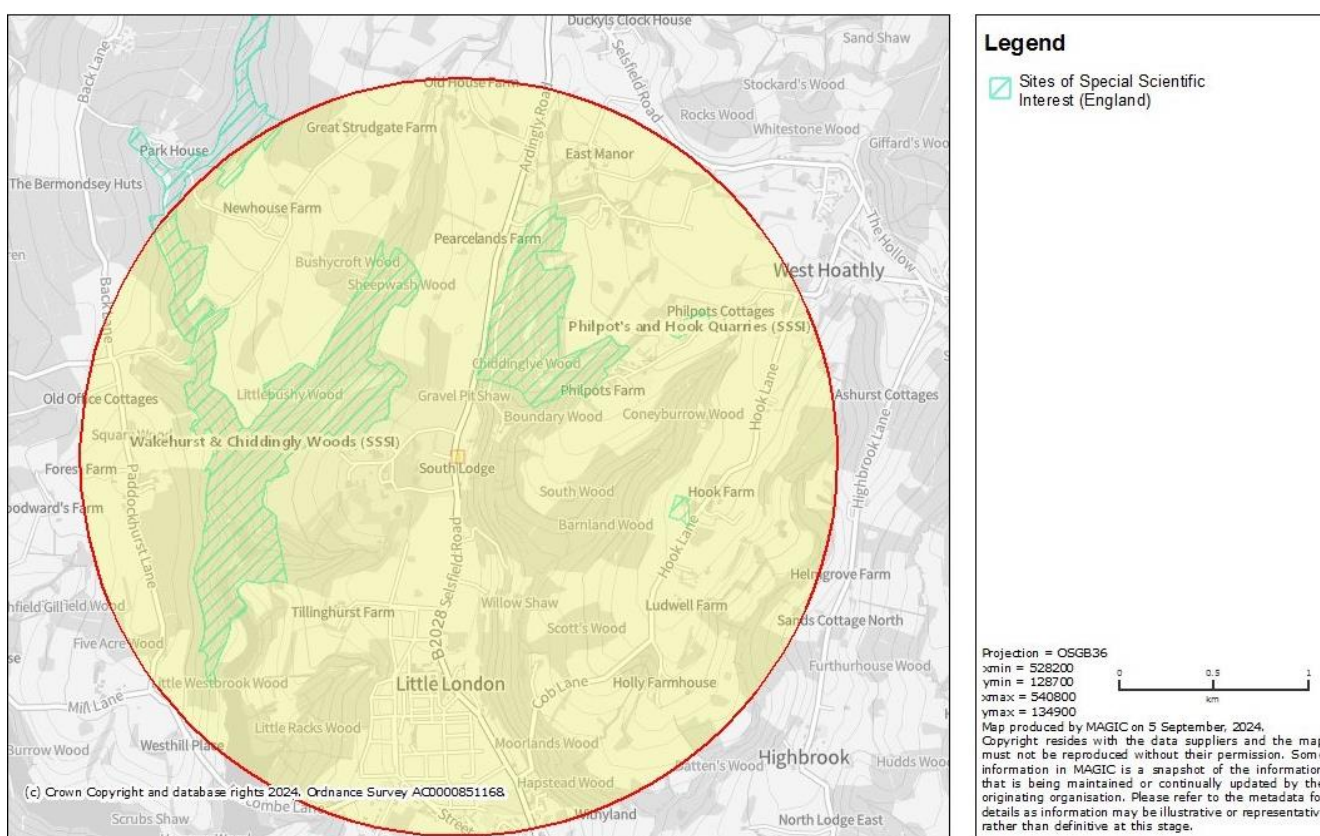


Figure 5. Designated sites within a radius of 2km of the application site. Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0)

The nearest parcel of woodland to the site is located 100m east of the site with a designated area of woodpasture and parkland located approximately 40m west of the site (see Figure 6).



Figure 6. Priority woodland habitats relative to the site (red square). Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0)

There are no EPS licences granted for mitigation projects concerning bats within 1km of the site shown on the Magic Maps website. The closest granted EPS license is located 2.1km north east of the site and concerns bats (species include; common pipistrelle, *Pipistrellus pipistrellus*, Brown long eared bat, *Plecotus auritus* and serotine, *Eptesicus serotinus*).

3.2 Site Context and Surrounding Habitats

This site is located in a rural location north of Haywards Heath. dense woodland parcels mosaiced with arable and grassland fields surround the site to all aspects. The close surrounding habitats are considered to be of high value for a range of bat species, whilst within the wider landscape there are high value habitats present, including ancient woodland, which provide a variety of habitats that are likely to support a wide variety of bat species.

The site supports a number of large buildings with the main house being the southernmost being located on site. The building is sits within a garden space comprising mown lawn areas, occasional shrubs. A treeline is present along the western boundary of the plot.

3.3 Inspection for Bats

3.3.1 Roost Potential

The building inspection identified a confirmed bat roost through the presence of droppings within the loft space. Several collections of approximately 50 to 100 droppings per collection were identified under the ridges with a



quarter of these appearing to be fresh. These droppings were morphologically similar to long-eared bats with occasional droppings appearing similar to pipistrelle bats. A small number of droppings were collected and submitted for DNA analysis that returned confirming the species as brown long eared bats.

The main house is a detached dwelling with brick walls, clay hanging tiles to all aspects and a slate roof formed of multiple pitch's and designs including a former tower block. Whilst there are some signs of deterioration, it is in good condition overall.

A large number of potential roost features were evident around the building that could potentially allow entry into the enclosed loft space(s) of the building or act as independent roosting features themselves. These are described in Table 3 below and illustrated in the following photographs section.

Table 3. Assessment of PRFs

Building section	Description of features	Assessment of suitability ⁵
Cellar	The basement area and wine cellar is a large space and is used by the occupants on a regular basis with areas such as a gym, laundry room and boiler room. There is limited access from the external areas with the majority of access points were large gaps such as gully areas, a few smaller gaps were noted to sections of wiring that had been cut to allow the cables through, these were large enough to allow a bat to pass but was not obvious as to where it would travel to. The overall temperature of these rooms was quite low with the wine cellar temperature controlled and was recorded at 6°C at the time of the survey.	low bat roost suitability
Exterior	The exterior of the property has several areas of lifted and damaged hanging tiles to all aspects, the large size and height of the building as such offers a large number of areas that can act as suitable bat roosts or access into void areas internally. Areas of lifted roof slate tiles are also noted through the roof with the varied roofing/pitch styles noted not all areas of the roof tiles were able to be seen so additional areas of suitable roosting features may be present.	High bat roost suitability
Interior/ loft space	A single loft space was found during the internal inspection, the space was large measuring ~15m in length, 5m in width and 2.5m in height, though the loft space was divided with beams running across the width at ~ 1m slightly restricting the openness of the void but not enough to restrict open flying bat species but did reduce the effectiveness of the internal survey as access was restricted. The void is long with two separate chimneys noted within, a large number of droppings were noted scattered throughout the void space in small clusters with approximately 10-15 droppings resembling long eared bats (<i>Plecotus</i> sp.) identified per beam. In addition, larger clusters of droppings were noted to the base of the chimneys which formed larger piles as such it is impossible to estimate numbers here, though may act as potentially access/egress points for bat species. A single dropping resembling a pipistrelle species (<i>Pipistrellus</i>) was noted (it was not possible to collect this for DNA analysis). The droppings found on the beams were largely fresh. Droppings were analysed and return confirmed to be brown long eared bats and results can be seen in appendix 3.	High bat roost suitability Confirmed bat roost

Overall, the bat roost suitability at this site is assessed as high, considering the condition of the building and its

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



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context within the wider foraging habitat for bats. The habitats surrounding the building will offer increased foraging potential and offer flight lines for a variety of bat species emerging/re-entering any potential roosts on the dwelling.

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

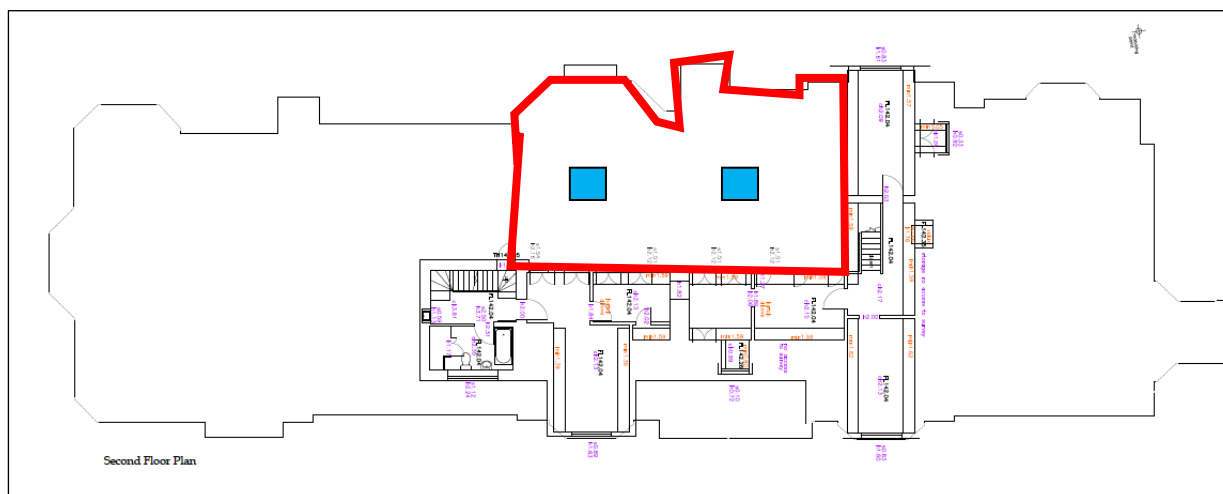


Figure 7. View of the existing second floor plan of the main house, the approximate location of the loft void access is outlined in red, with chimney shown as a blue square.

3.3.2 Hibernation Potential

Each structure/feature was assessed for its hibernation potential. The potential for each structure/feature is described in Table 4 below and illustrated in the following photographs section.

Table 4. Assessment of hibernation roost potential.

Building section	Description of features	Assessment of hibernation potential ^{1 & 3}
Cellar	The cellar offers more “typical” hibernating opportunity's for bat species, particularly crevice dwelling species, the available opportunity for bats in the basement/cellar feature is limited to certain sections though the potential is still present, in particular to areas where the temperature is more stable in the corridor features, though some of these were quite damp at the time of survey which would further reduce the suitability of some of the areas or features within this floor of the structure.	Low potential
Exterior	It would not be typical for bats to be found over wintering in this type of structure. However, due to the uncertain nature of hibernation occurring with the <i>Pipistrellus</i> genus unexpected incidents of hibernation could occur (likelihood being low, but not impossible). No bat roosts were found within the structure, or nearby during the activity survey programme. Although this is not what would be regarded as a ‘classic’ hibernation site there is the potential that bats could be occupying the property over the winter period (e.g. pipistrelle species in small numbers).	Low potential
Interior	It would not be typical for bats to be found over wintering in this type of structure. However, due to the uncertain nature of hibernation occurring with the <i>Pipistrellus</i>	Low potential



Building section	Description of features	Assessment of hibernation potential ^{1 & 3}
	genus unexpected incidents of hibernation could occur (likelihood being low, but not impossible). No bat roosts were found within the structure, or nearby during the activity survey programme. Although this is not what would be regarded as a 'classic' hibernation site there is the potential that bats could be occupying the property over the winter period (e.g. pipistrelle species in small numbers).	

3.4 Other Protected and/or Notable Species

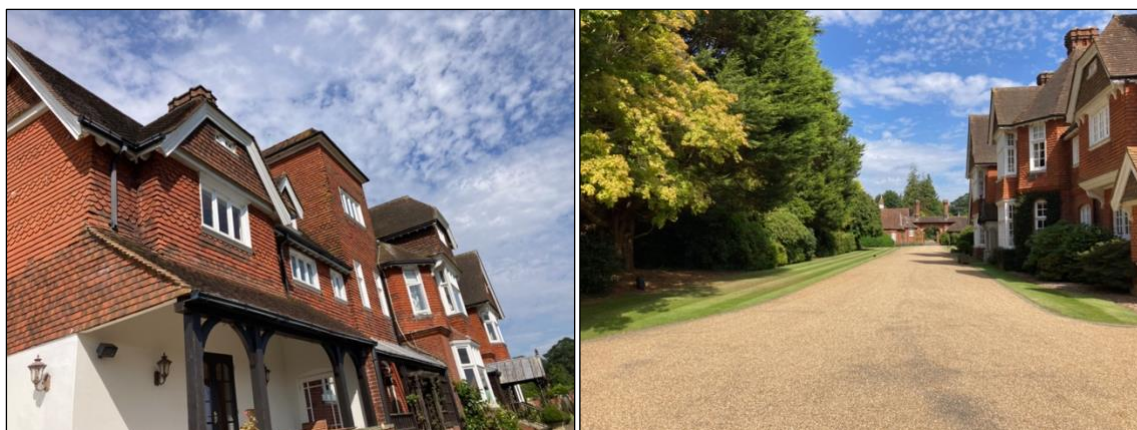
There are a few access points of the building large enough to accommodate house sparrow *Passer domesticus* and starling *Sturnus vulgaris*, which commonly nest in buildings, though no evidence of their use was found.

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. Bats will commonly roost in small inaccessible crevices, such as spaces underneath ridge tiles that are impossible to inspect during a scoping assessment. For this reason, habitats and features are assessed for their potential to support bats, even where no direct evidence (such as droppings) has been identified.

There were few access limitations encountered during the survey; whilst the single loft space encountered was entered and searched, due to the size of the building it is considered likely that additional voids are likely to be present but were unable to be accessed during the survey. In addition, due to the size of the dwelling and the large number of aspects to the building's roof not all areas were able to be assessed. There was sufficient visibility from the ground across the dwelling to be considered a satisfactory inspection, however.

3.6 Photographs



Photographs 1a (left) and 1b (right). 1a) View of the main house from the eastern aspect illustrating its length and varied aspects. 1b) View of the house from the western aspect illustrating the length and aspects of the house to the



right of the image with the access drive and other properties on site to the centre of the image.



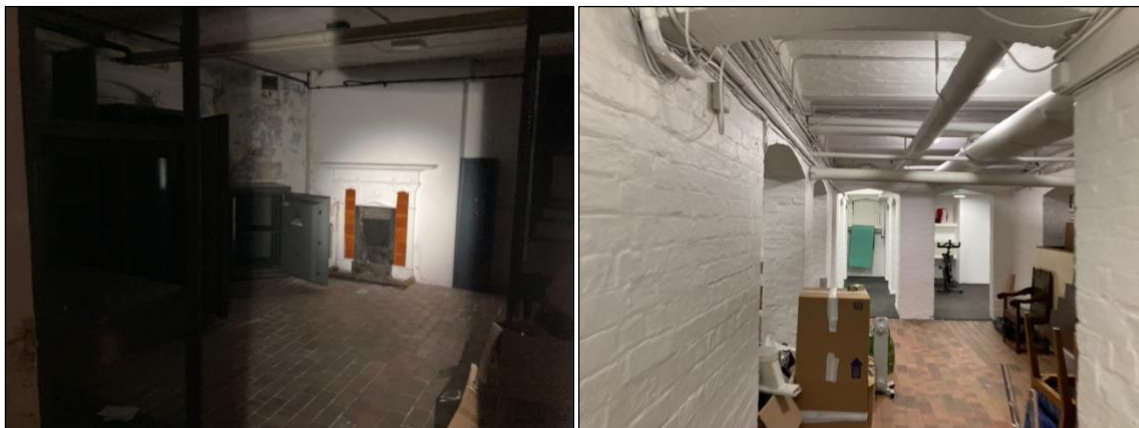
Photographs 2a (left) and 2b (right). 2a) View of hanging tiles located to the southern aspect of the property with some signs of lifted and damaged tiles visible. 2b) View of hanging tiles located on the property with clear signs of damage, lifting and missing tiles.



Photographs 3a (left) and 3b (right). 3a) View of lifted lead flashing and roof tiles noted to the western aspect of the property. 3b) View of lifted hanging and roof tiles noted to the northwestern aspect of the property.



Photographs 4a (left) and 4b (right). 4a) View of the former tower block located to the centre left of the image, image taken from the eastern aspect of the property, clear signs of damage to hanging tiles noted included lifted and missing tiles throughout image. 4b) View of the northern aspect of the property with the image taken from the eastern aspect, some signs of damaged roofing tiles noted to these aspects.



Photographs 5a (left) and 5b (right). 5a) View of the room within the cellar illustrating its connection to the chimney, room is located to the far south of the property and sits directly below the ground floor kitchen. 5b) view of an adjacent corridor and gym area within the basement/cellar, the white walls show no obvious signs of bat usage such as droppings or staining.



Photographs 6a (left) and 6b (right). 6a) View of a corridor space within the cellar/basement level with view of the access adjacent to the external ground floor gully that may act as possible access/egress to this area. 6b) view of hole with cables running through the first cellar room shown in photograph 5a.



Photographs 7a (left) and 7b (right). 7a) View of the loft space access, view of the beams located to the top of the image. Image taken from the north facing south. 7b) View of a beam located to the rear wall (south of loft space) with several bat droppings identified.



Photographs 8a (left) and 8b (right). 8a) View of the rear wall with gaps to the exterior/roof lining noted to the top of image. The image also illustrates the ridge beam and rafters that are typical throughout the loft space that can act as roosting opportunities for cavity dwelling bat species. 8b) View of the gaps to lining as shown in photograph 8a from approximately 0.5m away.



Photographs 9a (left) and 9b (right). 9a) View of a large number of bat droppings located to the southern aspect of the northern most chimney within this loft space, the photograph illustrates a large pile up on droppings on top of the exposed brick feature indicating more long-term use of this loft space. 9b) View of a chimney to the right of the image, and rafters and cladding located to the left of the image, the condition of the cladding and rafters is consistent to this throughout the void space.



4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Bats

4.1.1 Roost Potential

In accordance with the Bat Conservation Trust guidelines, the overall suitability of the building to support bats is rated as high. The works to the property have the potential to impact upon features that have the potential to support bat roosts, not yet identified, and may impact upon the loft void depending upon the extent of the tower block works. In accordance with the Bat Conservation Trust guidelines, the building has been confirmed as a bat roost, with the overall potential for the buildings to support further roosting bats rated as high.

Therefore, in accordance with the guidelines a minimum of three bat emergence/re-entry surveys are required to characterise the nature of the identified bat roosts as well as to confirm the presence/likely absence of additional bat roosts from elsewhere within the building, as without further surveys the level of impact upon bats cannot be fully assessed. To ensure adequate coverage of all potential roost features, it is estimated that to cover the entirety of the main house building a minimum of eight observers will be required for each survey visit to observe all suitable roost features. To ensure that the survey effort conforms with interim guidance on the use of night vision aids, produced by the Bat Conservation Trust⁶, a minimum of ten night vision cameras (NVA's) with infra-red lighting will be used to support surveyors.

As proposed works may not impact the entirety of the dwelling and the segmented sections and aspects of the property, it may be appropriate to reduce the surveyor and NVA requirements and focus upon specific areas to be impacted though this will be based upon more detailed information on proposed works in combination with a suitably qualified ecologists best judgement.

These surveys can be undertaken between May and mid-September (although September is considered to be a sub-optimal survey month and surveys cannot be undertaken in September for low potential buildings). These surveys will be completed at dusk or at dawn, during suitable weather conditions for bat activity to observe any bats emerging or re-entering roosts. Surveyors will use ultrasonic recording equipment to try and establish the species of bat present. If bats are discovered, further surveys to classify the nature of the roost (day/maternity/social) may be required.

The identification of a bat roost also means that careful timing of the development may be required in order to avoid impacts on bats, a precautionary 'soft strip' of tiles supervised by a licensed and suitably qualified bat ecologist and provision of permanent bat roosting features into the development will also be required, the nature of which will be dependent on the outcome of the surveys.

An EPS licence will be required for any actions that would directly disturb, modify or destroy a bat roost. This would include measures to replace the existing roosting habitat such as designing integral bat roosting opportunities into the building fabric such as bat tiles and internal voids/access points for bats, depending on the scale of impact.

⁶ Bat Conservation Trust (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.



4.1.2 Hibernation Potential

The main house is assessed as having low hibernation potential for bats. The features that could be used for hibernation include roof tiles which it would be impossible to fully investigate bat use over the winter period without dismantling the features, and hence potentially destroying a bat roost. Therefore, in this instance no further surveys for winter roost potential are recommended. Instead, mitigation must be implemented to reflect the risk that bats may use this building for hibernating during the winter. This must include timing the works to the building between the period between mid-March and the end of October to avoid disturbing bats that could be in hibernation.

The cellar/basement features may support hibernating bat species and could be surveyed under the bat survey guidelines; however these areas are not proposed to be impacted through the development and in combination with the above mitigation implemented for possible hibernating bats in roof tiles any hibernating bats are considered to be unaffected by the proposals.

4.2 Other Protected and/or Notable Species

Since the building has potential to support nesting birds such as house sparrow and swallow, demolition and/or construction work upon the building should be timed outside of the nesting bird season (avoiding 1st March–31st August inclusive). If this is not possible, the building 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 5m radius of the nest must be established to protect it from disturbance until the young have fledged.

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 Trust⁷ 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;
- 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,

⁷ 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/>



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



APPENDIX 3 – Bat DNA analysis results

Results

Sample ID: EG-1742-1

Sample information:

Sample type: Faecal

Species group: Bats

Suspected species: LE bat species & pipistrelle species

Site Location: RH17 6TN

Comments: P6718.Jh.Stonehurst - Main house

Laboratory information:

DNA Extraction Code: EG-2024-1866

Identification method: qPCR

Analysis Procedure Notes:

All UK bat species tested for - only a single species detected in this sample.

Laboratory Comments:

None

Species Identified:

Species 1: Plecotus auritus (Brown long-eared bat)

qPCR Ct Value: 23

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