



Bat Emergence and Re-entry Surveys

Lullings Cottage, West Hill, Balcombe, Haywards Heath, West Sussex RH17 6QY

Tim Musker

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Ltd was instructed by Tim Musker to undertake Bat Emergence and Re-entry Surveys (BERS) at Lullings Cottage, West Hill, Balcombe, Haywards Heath, West Sussex RH17 6QY (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition and rebuild of two garden sheds and the existing cottage (hereafter referred to as “the proposed development”).

No bat roosts were identified at the site during the **first survey visit** conducted on 20th September 2022. Buildings B1 was assessed as ‘moderate’ value for roosting bats, as such requires two BERS. B2 was assessed as ‘low’ value and one BERS was recommended. No emergences were recorded for B2, and a likely absence of roosting bats has been determined. However, due to the large time frame from the emergence survey completed in September 2022, a precautionary working method including a further inspection by a suitably qualified ecologist is recommended prior to any works being carried out on B2. This may lead to the requirement of additional surveys if any material changes or bat evidence is recorded. The building B1 still requires a further survey to be carried out in the active bat season mid-May to September 2023 in order to determine the absence of roosting bats. Further surveys may be necessary if bats are observed utilising either building as a roost and will require a mitigation licence issued by Natural England.

As such, this report is released in draft until the full survey data has been gathered.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Tim Musker to undertake Bat Emergence and Re-entry Surveys (BERS) at Lullings Cottage, West Hill, Balcombe, Haywards Heath, West Sussex RH17 6QY (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition and rebuild of two garden sheds and the existing cottage (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

The aim of the BERS was to determine the presence or likely absence of roosting bats and to characterise any roosts present. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2016).

The BERS have been informed by a Preliminary Roost Assessment (PRA) which was completed by Phlorum Ltd on 1st September 2022 (Phlorum, 2022). The report designated the B1 as having ‘moderate’ value for roosting bats and B2 as ‘low’ value. As such, two BERS surveys were recommended for B1 and a single survey for B2. One of the two recommended surveys has been completed (Arbtech, 2022) for B1 and the second dawn survey is due to commence in the active season of 2023. The survey for B2 was completed on 20th September 2022. The PRA survey results are summarised in Table 1 below.

Table 1: Results of the PRA and subsequent survey requirements

Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations
Building B1	<p>Building B1</p> <p>Building 1 was inspected thoroughly externally, and partially internally, only the ground floor was accessible as second floor was derelict in places and not safe to walk on. The roof spaces were also not accessible. There was no evidence of bats on the ground floor, such as bat droppings or insect remains for example There were points of ingress/egress seen at the exterior, this included a larger missing section of roof at the southern elevation, and holes in the soffit</p>	<p>The proposed development will result in the demolition of this building. This could result in destruction of any bat roosts present and could cause disturbance, death or injury to bats.</p>	<p>Two bat emergence and re-entry surveys are required during the active bat season (May – September) to confirm presence or likely absence of a bat roost in the buildings. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive.</p> <p>One of these surveys should be a dawn re-entry survey or infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart.</p> <p>Four surveyors are required to provide full coverage of the building B1 and two surveyors to cover B2.</p>

	<p>boards. Other roost features included loose tiles, broken and missing tiles, and open windows. It was considered this building had moderate potential to support roosting bats.</p>		<p>Surveys are likely to be required before planning permission can be granted.</p> <p>If bat roosts are confirmed in the building one additional survey will be required to inform an EPSL application to Natural England. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p>
<p>Building B2</p>	<p>Building B2</p> <p>Building 2 was inspected internally and externally. There were multiple wooden beams within the building. The building displayed multiple points of ingress and egress in the form of cracks, splits, gaps, and holes in the wooden exterior. There were also no doors, therefore the building was relatively open fronted to the west. Whilst the barn would offer open access to bats, due to its single layer metal roof and open nature it was considered that roosting potential was restricted to behind the wooden beams within the building. It was considered this building had low potential to support roosting bats.</p>	<p>The proposed development will result in the demolition of this building. This could result in destruction of any bat roosts present and could cause disturbance, death or injury to bats.</p>	<p>One bat emergence or re-entry survey is required during the active bat season (optimal May to August, suboptimal September) to confirm presence or likely-absence of a bat roost in the building.</p> <p>The survey can be either a dusk emergence or dawn re-entry survey. Two surveyors are required to provide full coverage of the building. The survey is likely to be required before planning permission can be granted.</p> <p>If bat roosts are confirmed in the building two additional surveys will be required to inform an EPSL application to Natural England. Surveys should be a minimum of two weeks apart. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p>

1.2 Site Context

The site is located at National Grid Reference TQ 32825 30400 and has an area of approximately 0.2ha comprising buildings, which are surrounded by mixed woodland and a modified grass garden. The site is surrounded by agricultural fields in all directions around the site, which form a mosaic with the surrounding parcels of woodland. There is also an adjacent residence to the west of the cottage, including a small pond.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report provides a description of the bat activity observed and recorded during BERS. The aim of the surveys was to determine the presence or likely absence of bats and to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use the site. The report provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any mitigation proposals, including a European Protected Species Licence (EPSL), where appropriate, to achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- BERS of built structures has been undertaken to determine the presence or likely absence of bat roosts.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

2.0 Methodology

2.1 BERS

One BERS, comprising one dusk emergence survey was undertaken of buildings B1 & B2. One further survey is still required for B1, which must include the use of night vision aids to detect more inconspicuous species such as long-eared bats, as per the recommendations from the PRA (Phlorum, 2022). The survey involved surveyors positioned around the buildings ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. Each surveyor was assigned an area of the building to observe for the duration of the survey.

Surveyors used heterodyne and frequency division bat detectors, and Echo Meter Touch detectors connected to iPads or Android tablets. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species, however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

Dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility.

Surveys were completed during optimal weather conditions i.e., when temperatures were above 10°C, with no rain or strong winds (greater than 5m/s), as these adverse weather conditions can impact upon bat emergence and foraging behaviour. Periods of high moon illuminance (>80%) were also avoided insofar as possible as this can reduce bat activity.

2.2 Surveyors

The lead surveyor was Spike Vaughan-Ide who was assisted by five surveyors, each with several years of bat survey experience. The designated position of each surveyor during each survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 3.

2.3 Limitations

This survey follows best practice guidance to confirm presence or likely absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the buildings, and the site as a whole by bats, at all times cannot be established based on this information. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

There were no specific limitations to the survey.

3.0 Results and Evaluation

3.1 Survey Results

The results of each survey are provided in the tables below and shown on the plan in Appendix 3..

Table 2: Survey results (first visit)

Date		20/09/22		
Start and end times		18:48 – 20:30 Sunset: 19:03		
Weather conditions		<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Start: Temp: 17°C Relative Humidity: 63% Cloud Cover: 100% Wind: 3mph Rain: None </td> <td style="width: 50%; vertical-align: top;"> End: Temp: 15°C Relative Humidity: 73% Cloud Cover: 100% Wind: 3mph Rain: None </td> </tr> </table>	Start: Temp: 17°C Relative Humidity: 63% Cloud Cover: 100% Wind: 3mph Rain: None	End: Temp: 15°C Relative Humidity: 73% Cloud Cover: 100% Wind: 3mph Rain: None
Start: Temp: 17°C Relative Humidity: 63% Cloud Cover: 100% Wind: 3mph Rain: None	End: Temp: 15°C Relative Humidity: 73% Cloud Cover: 100% Wind: 3mph Rain: None			
Surveyor (position) As shown in Appendix 3		Sarah Lamb - (Position 1 – observing the south and west elevation and roof structure of B1) Dan Davidson - (Position 2 – observing the south and east elevation and roof structure of B1) Olga Herman - (Position 3 – observing the north and east elevation and roof structure of B1) Sophie Gullan - (Position 4 – observing the north and west elevation and roof structure of B1) Lyric Palmer - (Position 5 – observing the southwest and northwest elevation and roof structure of B2) Spike Vaughan-Ide - (Position 6 – observing the southeast and northeast elevation and roof structure of B2)		
Building reference	Surveyor position	Notes/observations:		
B1	1	The first bat activity was recorded at 19:26, where a common pipistrelle was heard but not seen. The first soprano pipistrelle was recorded at 19:35 and was also heard but not seen. The bat was audibly detected foraging nearby. Common pipistrelles were observed favouring the flight lines from northwest to southeast, flying over the top of B1. Constant activity from a soprano pipistrelle was observed above the surveyors’ positions from 19:35 to 19:41.		
B1	2	The first activity recorded was a soprano pipistrelle at 19:28, where the bat flew in from the southwest and continued northeast over the top of B1. The first common pipistrelle was heard but not seen at 19:31. Common and soprano activity continued until 19:44, where four common pipistrelles were observed foraging by the trees off the southwest elevation of B1.		
B1	3	The first bat activity was recorded at 19:24, where a common pipistrelle passed through the site from the west and continued east, flying over the top of B1. The first soprano pipistrelle was observed at 19:26, where the bat was observed circling above B1. Common and		

		soprano pipistrelle activity was then recorded until 19:41, where the majority of bats were observed favoring the flight lines from the northwest and continuing southeast.
B1	4	The first bat activity was recorded at 19:07, where a common pipistrelle was observed passing through the site from the northeast and continued southwest. The first soprano pipistrelle was observed at 19:26 using the same flight path. A noctule was heard but not seen at 19:48.
B2	5	The first bat activity was recorded at 19:08, where a common pipistrelle was observed circling the trees to the west of the surveyor's position and continued for one minute. The first common pipistrelle was recorded at 19:31, which was heard but not seen. Constant activity from common pipistrelles was recorded until 20:02, however, the bats were heard but not seen.
B2	6	The first bat activity was recorded at 19:08, where a common pipistrelle was heard but not seen. The first soprano pipistrelle was observed passing through the site from the northwest and continued southeast at 19:23. Constant activity from soprano and common pipistrelles was recorded from 19:31 to 19:45.
Summary	No Emergences were recorded from any position across buildings B1 & B2.	

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 5.

Bats are protected under the Wildlife and Countryside Act and the Conservation of Habitats and Species Regulations 2017 (amended by the Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations 2019).

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence (EPSL) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust (BCT) publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

Bat Emergence and Re-entry Surveys

4.2 Evaluation

Taking the field survey results into account, Table 3 presents an evaluation of the value of the buildings for roosting bats in relation to the proposed development which will comprise the demolition and rebuild of two garden sheds and the existing cottage.

Table 3: Evaluation of buildings on site for roosting bats

Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation and planning policies.</i>	Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)</i>
Building B1	<p>From the results of the first survey, no bats have been observed emerging from buildings B1.</p> <p>Absence of roosting bats within the building cannot yet be established without carrying out a further BERS survey, which will be conducted</p>	<p>The impacts to roosting bats cannot be established without the survey data from the further BERS survey proposed to commence in the active bat season of 2023.</p> <p>As such, the proposed development that will result in the demolition to these buildings, could result in destruction of bat roosts and could cause disturbance, death or injury to bats.</p> <p>The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.</p>	<p>At least one further bat emergence or re-entry survey is required during the during the peak activity season mid-May-July to ensure a maternity roost is not missed to confirm presence or likely-absence of a bat roost in the building.</p> <p>The survey must make use of night vision aids. Four surveyors are required to provide full coverage of the building B1. The survey is likely to be required before planning permission can be granted.</p> <p>If bat roosts are confirmed in the building, one additional survey will be required to inform an EPSL application to Natural England. The EPSL application requires that all surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p> <p>A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures:</p> <ul style="list-style-type: none"> • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. 	<p>To be confirmed upon completion of the surveys.</p>

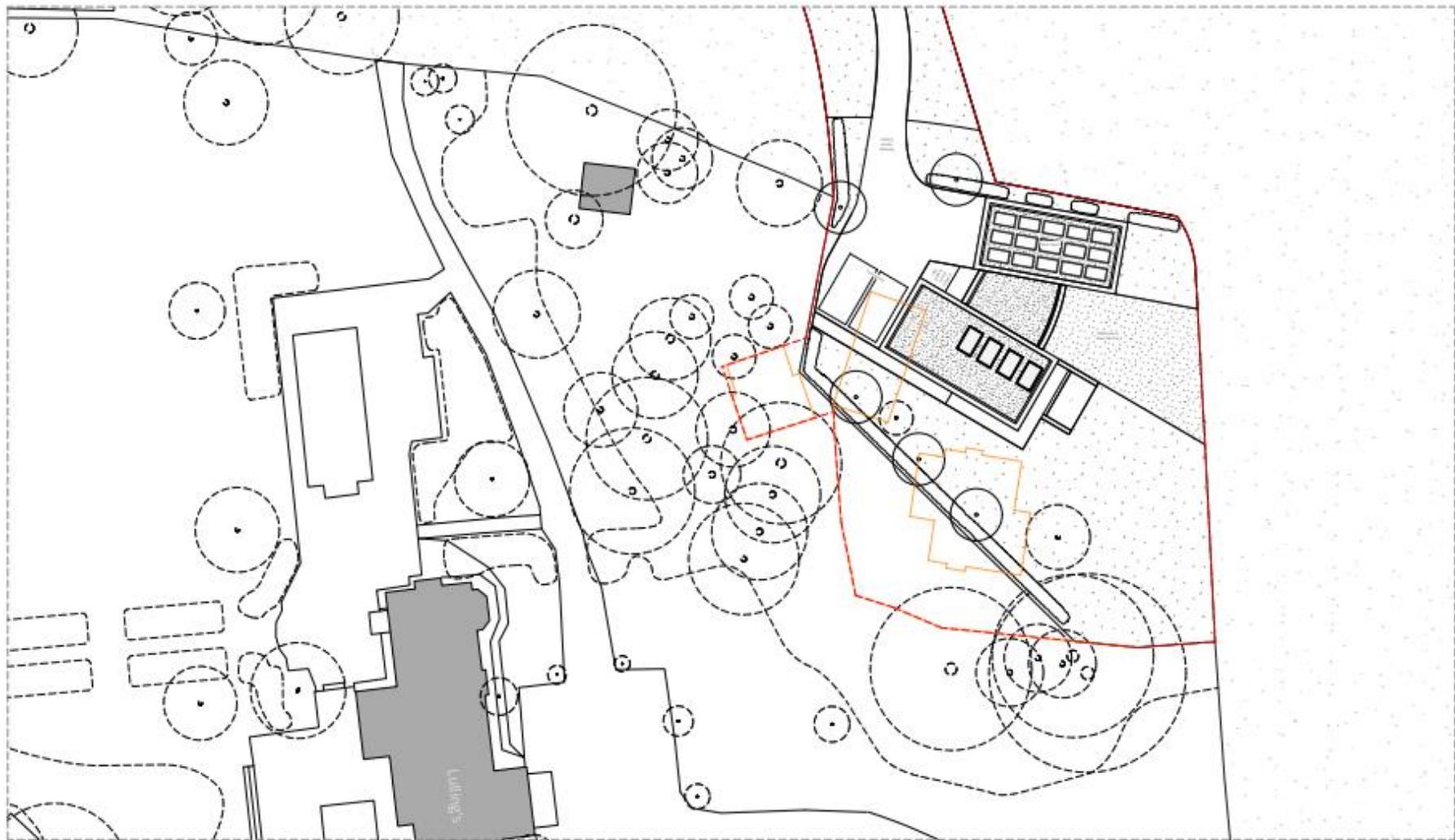
	<p>in the active bat season of 2023.</p>		<p>Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only.</p> <p>External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.</p> <p>Wall lights and security lights will be ‘dimnable’ and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.</p>	
<p>Building B2</p>	<p>A likely absence of roosting bats is confirmed from B2.</p> <p>No bats were recorded emerging from the building.</p>	<p>Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.</p> <p>However, bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time. Any bats that begin using the building during the intervening period between the surveys being undertaken and works commencing could be injured or killed and their roosts destroyed.</p>	<p>A precautionary working method will be implemented during and post-development. This will include the following measures:</p> <ul style="list-style-type: none"> • Works will be scheduled during the winter months (November to March) when bats are least likely to be present, insofar as is possible. • The potential roost features will be removed by hand (where a risk still remains following the pre-commencement inspection) prior to any mechanical demolition. • The building must be inspected internally and externally for any material changes or new evidence by a suitably qualified bat ecologist prior to the commencement of the second BERS survey of B1 in the active bat season of 2023. This may lead to the requirement of further surveys if there are any material changes or any new bat evidence. • In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. 	<p>The installation of a minimum of one bat boxes on a mature tree around the site boundaries will provide additional roosting habitat for bats e.g.</p> <ul style="list-style-type: none"> • Miramare Woodstone Bat Box x 1 <p>Or a similar alternative brand.</p> <p>Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.</p> <p>This will be beneficial to woodland bat species such as a Brown long-ear.</p>

5.0 Bibliography

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Appendix 1: Proposed Development Plan

Project: 241_Lullings Cottage

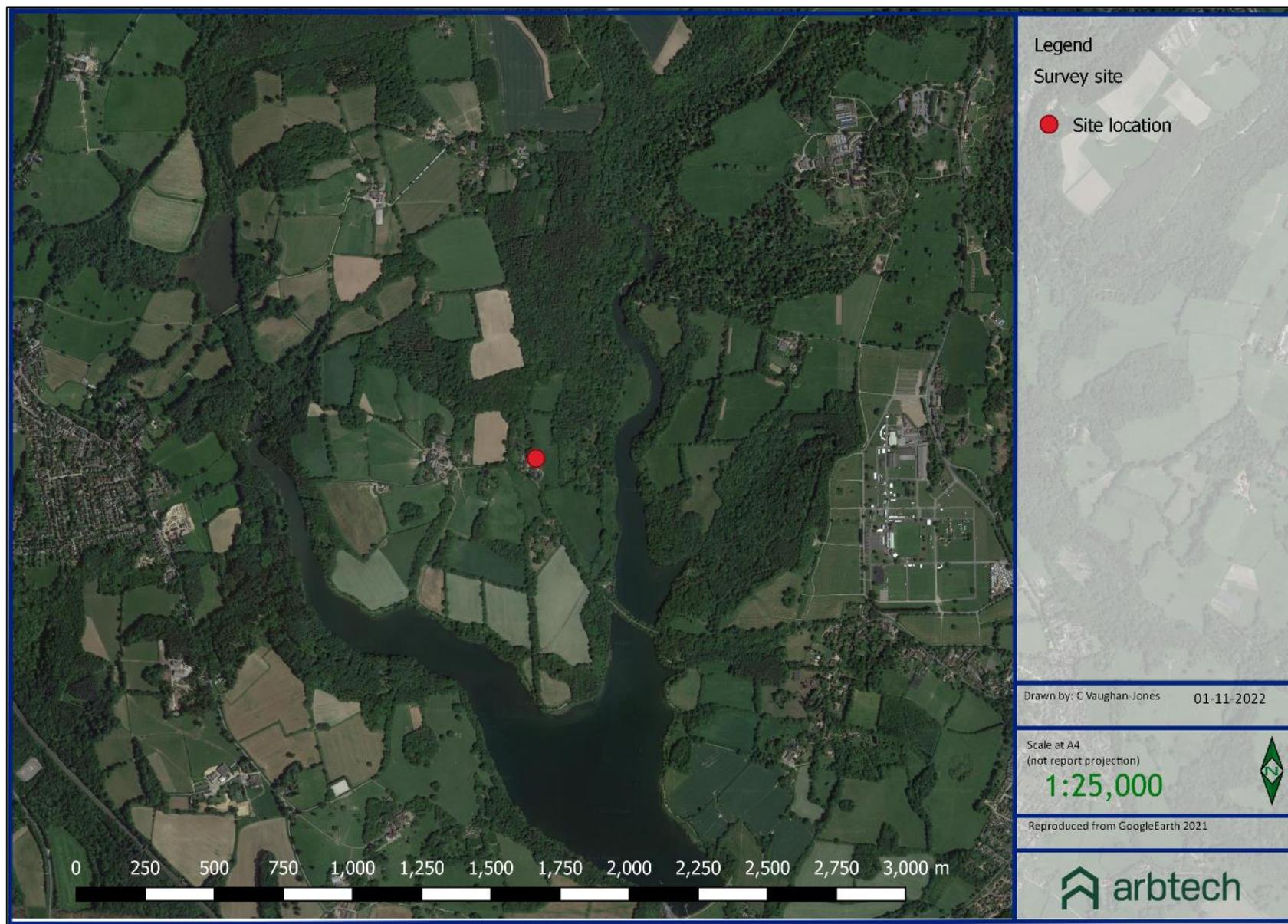


<p>Legend</p> <p>Existing Trees: Solid circle with dot</p> <p>Proposed Trees: Dashed circle with dot</p> <p>Proposed Hedges/Planting: Dashed line</p> <p>Proposed Walls: Solid line</p> <p>Existing Footprint: Solid grey area</p>	<p>Notes</p> <p>Application Boundary: Red dashed line</p> <p>Land in Applicant's Ownership (Not Part of Application): Blue dashed line</p> <p>Demolition: Yellow hatched area</p>
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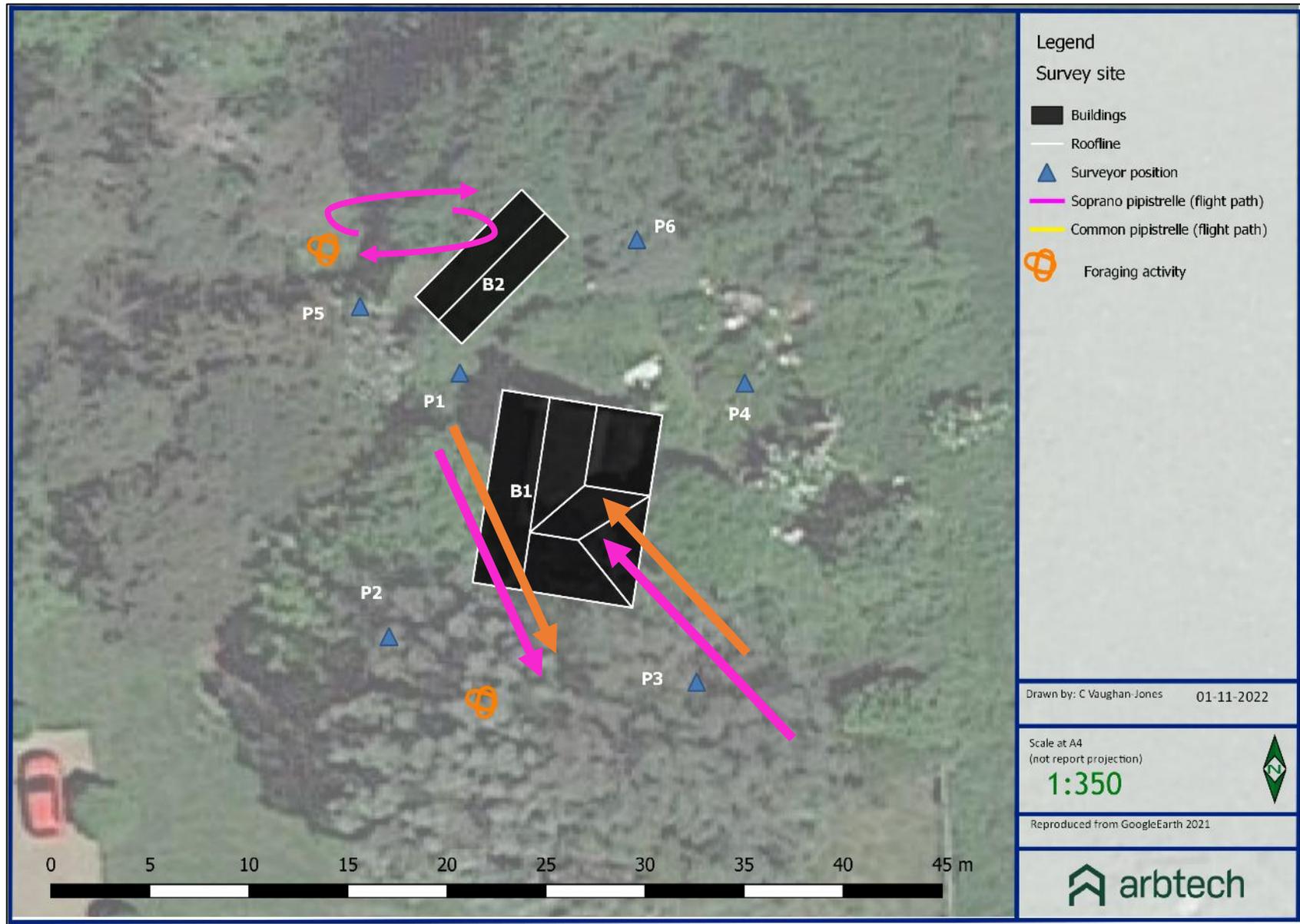
PLANNING	
Drawn:	WJG/ML/SL/SL
Project:	Lullings Cottage
Scale:	1:200 @ A3/DWG
Date:	04/11/2014
325-PR Site Plan	
© WJG/ML/SL/SL 2014	

WJG/ML/SL/SL/Architects

Appendix 2: Site Location Plan



Appendix 3: Bat Survey Plan



Appendix 5: Legislation and Planning Policy Related to Bats

LEGAL PROTECTION

All species of bat are fully protected under *The Conservation of Habitats and Species Regulations 2017* (as amended) through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

- (a) To impair their ability:
 - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

Bats are also protected under the *Wildlife and Countryside Act 1981* (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

- include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- scientific and educational purposes;
- ringing or marking; and,

- conserving wild animals.

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.