



Bat Emergence and Re-entry Surveys

85 Hamilton Road, Earley, Reading RG1 5RB

JETArch Design Limited

Status	Issue	Name	Date
Draft	1	Georgia Chapman BSc (Hons), Graduate Ecologist	26/05/2022
Reviewed	1.1	Jonathan Stuttard, Senior Consultant BSc (hons) MSc	27/05/2022
Final	2	Georgia Chapman BSc (Hons), Graduate Ecologist	27/05/2022

Arbtech Consultant's Contact Details:

Georgia Chapman BSc Hons
Graduate Ecologist
Tel: 07706 320243 Email: georgiachapman@arbtech.co.uk
<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

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 JETArch Design Ltd to undertake Bat Emergence and Re-entry Surveys (BERS) at 85 Hamilton Road, Earley, Reading RG1 5RB (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing garage and replacement with a new single storey garage and three storey rear extension with basement extension following the demolition of the rear outhouse extension and removal of the single pier to front boundary and insertion of new ironwork gate (hereafter referred to as “the proposed development”).

No bat roosts were identified at the site. However, bats are highly mobile animal 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. Therefore, a precautionary working method will be implemented, as detailed in Table 3 of this report. Requirements for a sensitive lighting strategy and opportunities for enhancement are also outlined in Table 3.

Contents

1.0 Introduction and Context	6
1.1 Background	6
1.2 Site Context	7
1.3 Scope of the Report	7
2.0 Methodology.....	8
2.1 BERS	8
2.2 Surveyors	8
2.3 Limitations	8
3.0 Results and Evaluation	10
3.1 Survey Results.....	10
4.0 Conclusions, Impacts and Recommendations	13
4.1 Informative Guidelines	13
4.2 Evaluation	14
5.0 Bibliography.....	16
Appendix 1: Proposed Development Plan.....	17
Appendix 2: Site Location Plan	18
Appendix 3: Bat Survey Plan	19
Appendix 4: Legislation and Planning Policy Related to Bats	20

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by JETArch Design Ltd to undertake Bat Emergence and Re-entry Surveys (BERS) at 85 Hamilton Road, Earley, Reading RG1 5RB (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing garage and replacement with a new single storey garage in addition to a three-storey rear extension including basement level following the demolition of an existing extension (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 Arbtech Consulting Ltd on 24th January 2022. The 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
Roosting Bats (B1)	B1 has low habitat value for roosting bats. A gap on the northeast elevation between the brickwork and the soffit box would allow access for roosting bats into the eaves space. This feature is present on all elevations where there is a gap between the soffit box and brickwork. No evidence of roosting bats was found, although limitations were encountered during the internal inspection. Additionally, raised tiles on the single storey pitched roof could provide roosting habitat for crevice-dwelling bats such as common pipistrelles.	The proposed development will result in the renovation to this building. This could result in damage or destruction of any bat roosts present and could cause disturbance, death, or injury to bats.	One bat emergence or re-entry survey is required during the optimal bat season (mid-May – August) to confirm presence or likely-absence of a bat roost in the building. The survey can be either a dusk emergence or dawn re-entry survey. Three surveyors are required to provide full coverage of the building. The survey is likely to be required before planning permission can be granted. If bat roosts are confirmed in the building two additional surveys 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.
--	--	--	--

1.2 Site Context

The site is located at National Grid Reference SU 7360 7255 and has an area of approximately 0.1ha comprising one main building and garage. The site is located southeast of Reading town centre in Berkshire. The immediate landscape comprises mostly of urban buildings with the river Kennet 1,300km northwest, the river Thames is located approximately 1,350m north, and Caversham lakes is approximately 1,500m north of the site. The surrounding habitats include amenity gardens and tree lines as well as parkland, woodland, and residential infrastructure.

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 a dusk emergence survey was undertaken of B1, as per the recommendations from the Preliminary Roost Assessment. The survey involved surveyors positioned around the building ensuring that all elevations and roof sections including those 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.

An infrared recording kit was set up to monitor the building during the BERS. This comprised Nightfox Red Goggles set up on a tripod with two separate infrared lamps on a second tripod to provide additional illumination. Analysis of the footage was subsequently undertaken to detect roosting activity (see photograph 4).

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 Richard Twining who was assisted by two 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 building, and the site 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.

Bat Emergence and Re-entry Surveys

JETArch Design Ltd

85 Hamilton Road, RG1 5RB

There were no specific limitations to the survey.

3.0 Results and Evaluation

3.1 Survey Results

The results of the survey are provided in the table below. No emergences or re-entries were observed.

Table 2: Survey results.

Date		25/05/2022	
Start and end times		20:45 – 22:34 Sunset: 21:04	
Weather conditions		Start: Temp: 14°C Relative Humidity: 67% Cloud Cover: 10% Wind: 8mph Rain: None	End: Temp: 10°C Relative Humidity: 78% Cloud Cover: 5% Wind: 7mph Rain: None
Surveyor (position) As shown in Appendix 3		James Stuart-Wigley – (Position 1 – observing the southeast and southwest elevations and roof structures of B1) Shane Williams – (Position 2 – observing the northwest and southwest elevations and roof structures) Richard Twining – (Position 3 – observing the northeast elevation and roof structure of B1 & the southeast and northeast elevations of B2)	
Building	Surveyor position	Notes/observations:	Photographs
B1	1	21:24 (20 minutes after sunset) → 21:26 (22 minutes after sunset) – Myotis heard not seen. 21:27 (23 minutes after sunset) – Noctule heard not seen. 21:31 (27 minutes after sunset) – Soprano pipistrelle heard not seen. 21:42 (38 minutes after sunset) → 21:51 (48 minutes after sunset) Noctule heard not seen. 21:55 (51 minutes after sunset) – Common pipistrelle heard not seen. 21:55 (51 minutes after sunset) → 21:57 (53 minutes after sunset) – Noctule heard not seen (seen at 21:57 passing). 22:00 (56 Minutes after sunset) → 22:02 (58 minutes after sunset) – Soprano pipistrelle heard not seen.	 Photograph 1: Southeast and southwest elevations of B1.

B1	2	• 21:32 (28 minutes after sunset) – Soprano pipistrelle pass from southeast → southwest. • 21:51 (47 minutes after sunset) → 22:05 (51 minutes after sunset) – Soprano pipistrelle heard not seen.	 Photograph 2: Northwest and southwest elevations of B1.
B1	3	• 21:32 (28 minutes after sunset) – Soprano pipistrelle heard not seen. • 21:35 (31 minutes after sunset) → 21:40 (36 minutes after sunset) – Soprano pipistrelle foraging around the garden at the rear of the house. • 21:45 (41 minutes after sunset) – Soprano pipistrelle heard not seen. • 21:50 (46 minutes after sunset) → 22:02 (48 minutes after sunset) – Soprano pipistrelle foraging southeast → northwest in the tree line at the rear of the garden. • 22:15 (1hr 11 minutes after sunset) – Common pipistrelle heard not seen.	 Photograph 3: Northeast elevation of B1.

B1	IR Camera	• No emergences or re-entries recorded.	 Photograph 4: IR image of the northeast elevation of B1.
----	--------------	---	--

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

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 near 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

An EPSL **will not be required** to enable the proposed works to be lawfully undertaken. Appropriate justification for this assessment is provided in Table 3 of this report.

4.2 Evaluation

Taking the field survey results into account, Table 3 presents an evaluation of the value of the building for roosting bats in relation to the proposed development which will comprise the demolition of the existing garage and replacement with a new single storey garage in addition to a three-storey rear extension including basement level following the demolition of an existing extension.

Table 3: Evaluation of buildings on site for roosting bats.

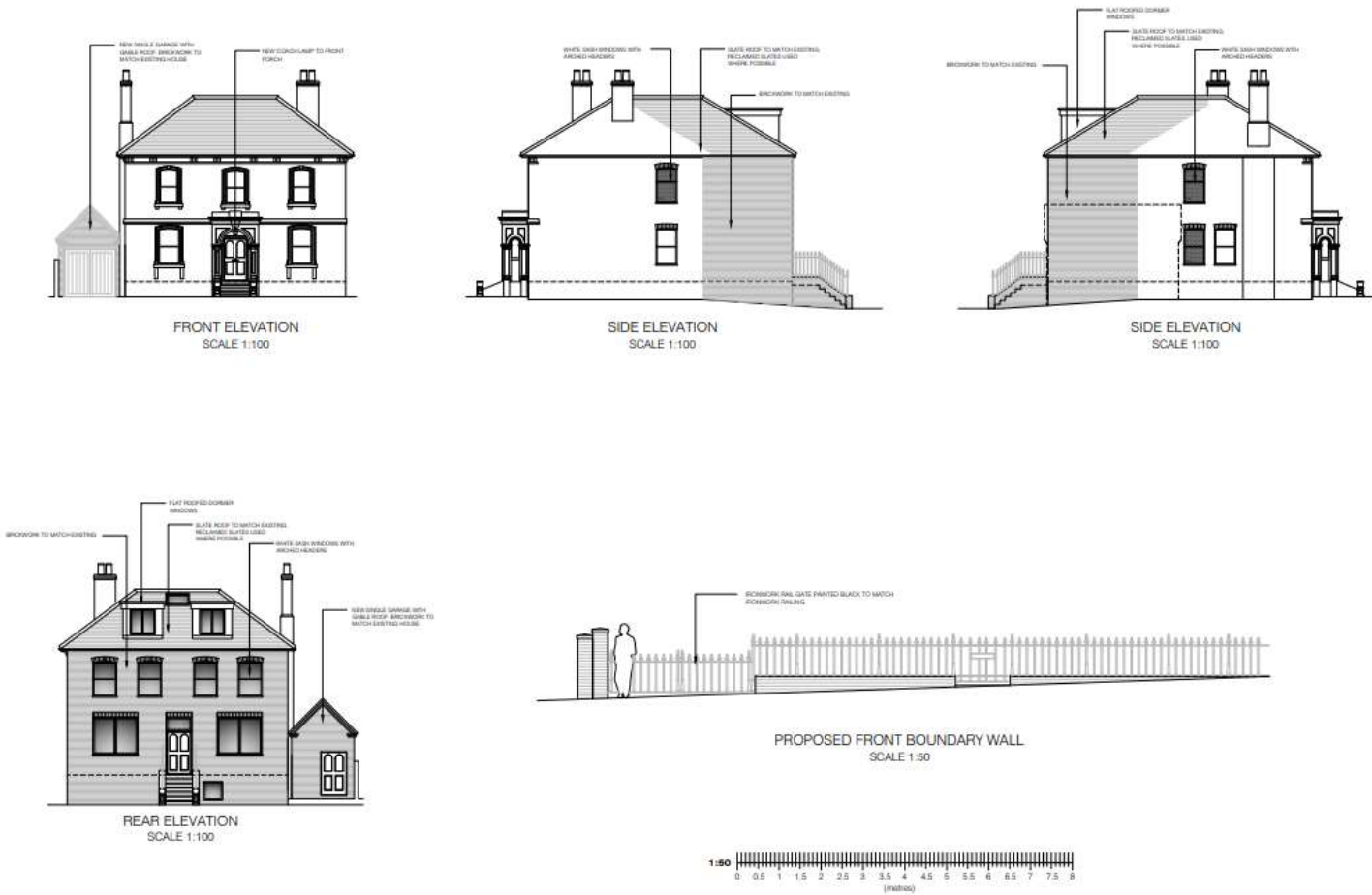
Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>	Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).</i>
B1	The survey confirms a likely absence of roosting bats within B1.	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. However, bats are highly mobile animals 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.	A precautionary working method will be implemented during and post-development. This will include the following measures: - The potential roost features will be removed by hand including roof tiles and the soffit box on the northwest elevation (where a risk remains following the pre-commencement inspection) prior to any mechanical demolition. - 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. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: - Use narrow spectrum light sources to lower the range of species affected by lighting.	The installation of a minimum of two bat boxes on mature trees around the site boundaries or on retained buildings will provide additional roosting habitat for bats e.g. 2F Schwegler Bat Box (trees) 1FF Schwegler Bat Box (trees) Build-in WoodStone Bat Access Panel Beaumaris Bat Box (buildings) Vivara Pro Woodstone Bat Box (buildings) Habitat Bat Access Slate tile Or a similar alternative brand. 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.

		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.	• 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 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. 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. 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. Wall lights and security lights will be 'dimmable' 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.	Alternatively, bat boxes could be incorporated into new buildings on the site e.g. Habibat Bat Box Schwegler 1FR Bat Tubes Bat tubes should be inserted into the fabric of the building during construction, positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance and facing landscapes areas, away from artificial light.
--	--	---	--	--

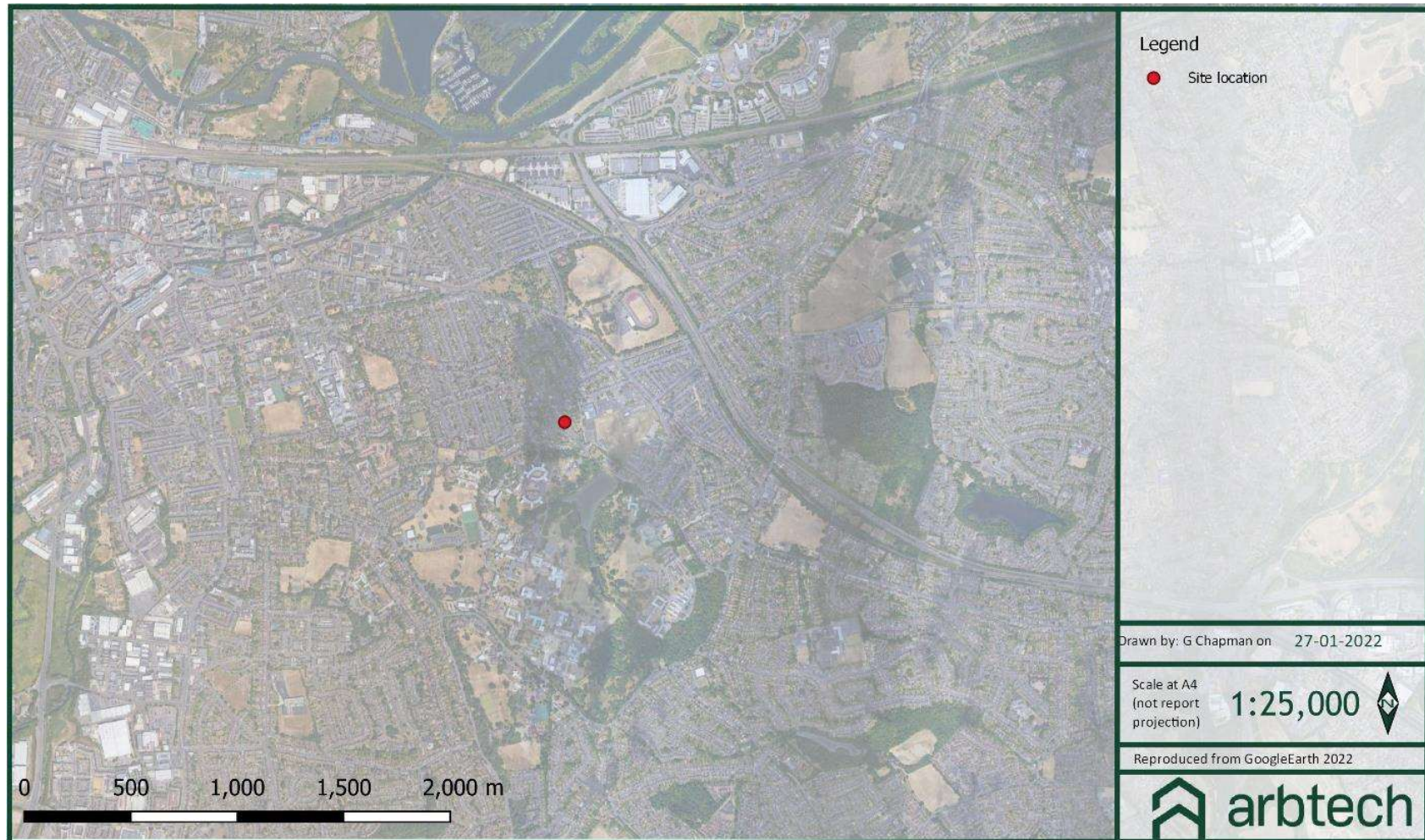
5.0 Bibliography

- 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.
- 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 (2017). Guidelines on Ecological Report Writing. 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 (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected? <http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf>
- Google Earth. Accessed on 25/05/2022.
- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- Magic database. <http://www.magic.gov.uk/MagicMap.aspx> Accessed on 25/05/2022.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2021) <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England Designated Sites View. <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx> Accessed on 25/05/2022.
- Wray, S., Wells, D., Long, E., Mitchell-Jones, T (2010) Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

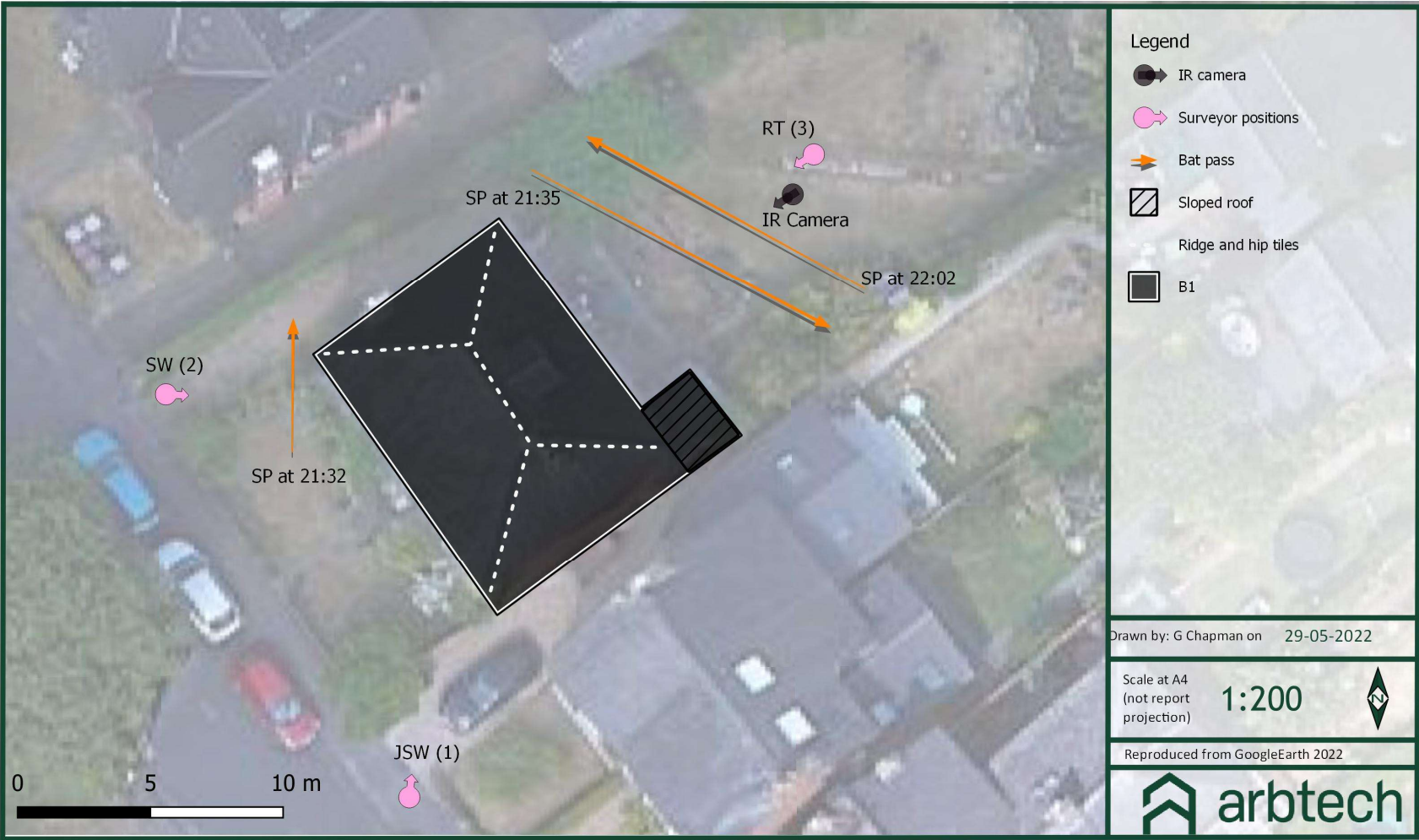
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Bat Survey Plan



Appendix 4: 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 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 significantly affect 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.

Local Planning Policy

Wokingham Borough Local Development Framework (January 2010)

The Adopted Core Strategy can be viewed here: <https://www.wokingham.gov.uk/planning-policy/planning-policy-information/local-plan-and-planning-policies/>
CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly.
- Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly.
- That compromises the implementation of the national, regional, county, and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need.
- Mitigation measures can be put in place to prevent damaging impacts.
- Appropriate compensation measures to offset the scale and kind of losses are provided.

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.
- 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.
- 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.