Bat Survey Report

Duckpool Farm, Duckpool Lane, Beckington, BA11 6TX

Richard Cruszcz

Status	Issue	Name	Date
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Final	1.1	Jonathan Stuttard, Senior Consultant BSc (hons) MSc	30/08/2022

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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 Limited was instructed by Richard Cruszcz to undertake Bat Emergence and Re-entry Surveys (BERS) at Duckpool Farm, Duckpool Lane, Beckington, BA11 6TX (hereafter referred to as "the site"). The surveys were required to inform a planning application which details the renovation of an existing building which comprises an agricultural barn, workshop, potting shed, and garage to provide residential accommodation (hereafter referred to as "the proposed development").

The following bat roosts were identified within the workshop section of B1 as a result of surveys undertaken at the site:

- A common pipistrelle day roost (two emergence locations; max count 1 emerging bat).
- A lesser horseshoe night/ feeding roost (no emergence or re-entries; droppings and feeding remains located internally).

An EPSL application to Natural England will therefore be required to legally permit the proposed works. The EPSL application requires that surveys have been undertaken within the most recent active bat season (May to September) and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission. The EPSL will deal with any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level as to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. Further detail with regards to mitigation and compensation are included within **Table 5**.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Richard Cruszcz to undertake Bat Emergence and Re-entry Surveys (BERS) at Duckpool Farm, Duckpool Lane, Beckington, BA11 6TX (hereafter referred to as "the site"). The surveys were required to inform a planning application which details the renovation of an existing building which comprises an agricultural barn, workshop, potting shed and garage to provide residential accommodation (hereafter referred to as "the proposed development"). A proposed development plan 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 Limited on 30/06/22 (Arbtech Consulting Ltd. 2022). The survey results are summarised in **Table 1** below.

Table 1: Results of the PRA and subsequent survey requirements

Feature	***Survey conclusions***	***Foreseen impacts***	***Recommendations***
Roosting Bats	Evidence indicating the presence of roosting bats was recorded in the workshop within B1. As a result, the workshop is a **confirmed bat roost**. No evidence indicating the presence of roosting bats were recorded within the other buildings sections. Furthermore, the other building sections are considered unsuitable	The proposed development comprises the renovation of B1 including the workshop to provide residential accommodation. Renovation works will destroy a bat roost if present and could cause death or injury to bats.	Current guidance states that buildings assessed to represent a confirmed roost should be subject to further survey to characterise the roost type to inform both the planning application and a Natural England European Protected Species Licence. In line with current guidelines, it is recommended that two dusk emergence surveys and a separate dawn re-entry survey are completed for the workshop section of B1 to characterise the roost present. The dusk/ dawn surveys must be undertaken during the active bat season between May and September where at least two of the surveys are completed during the optimal survey period between mid-May and August. The surveys should be separated by a minimum of two weeks. Two surveyors are recommended to provide full coverage of the workshop section of B1. An EPSL application to Natural England will be required. 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. Please note that a Material Changes Check will be required within three months of the EPSL submission, if no survey work has been undertaken within that period to inform the EPSL application. Furthermore, bat droppings collected during the PRA will need to be sent for DNA analysis to confirm the bat species present to inform the EPSL application.

	to support roosting bats due to internal exposure to external conditions or a lack of access opportunities.		

1.2 Site Context

The site is located at National Grid Reference ST 82137 52731 and has an area of under 0.1ha. The site is characterised by a building which comprises an agricultural barn, workshop, potting shed, and garage located on a farm. The site is enclosed by farm infrastructure and open agricultural land on all aspects. 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

Three BERS comprising two dusk emergence surveys and a separate dawn re-entry survey were undertaken of the workshop within building B1, as per the recommendations from the Preliminary Roost Assessment. The surveys involved surveyors positioned around the workshop section of the building 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.

Infrared video recording equipment was also set up to monitor the building during one dusk emergence survey of B1. This comprised the use of "*Night fox Red Goggles"* set up on a tripod with two separate high-powered infrared lamps to provide enhanced illumination of surveyed building features. Analysis of the footage was subsequently undertaken to double check bat activity recorded during the site survey during hours of darkness when visibility is significantly reduced. A photograph showing the building aspect covered by the IR camera during the survey is shown in **Appendix 3**.

The Dusk emergence surveys commenced 15 minutes before sunset and continued for 1.5 - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commenced 1.5 - 2 hours before sunrise and continued until 15 minutes after sunrise.

Surveys were completed during optimal weather conditions i.e., when temperatures were above 7^{o}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 Jonathan Stuttard (**JS**) (Natural England Bat Licence Number: **2022-10409-CL17-BAT**). **JS** was assisted by Nicky Hunt (**NH**). **NH** has completed numerous professional surveys and has undertaken Bat Emergence and Dawn Re-entry Survey Training. The designated position of each surveyor is shown on the plan in **Appendix 4**.

2.2 DNA analysis

Bat droppings collected from within the workshop section of B1 were sent off to Warwick University School of Life Sciences for DNA analysis and species identification. Species identification is based on a DNA sequence taken from a single dropping as to provide a definitive identification.

2.3 Limitations

The Bat Emergence Survey was completed in accordance with 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 as a whole by bats at all times cannot be established based on this information. Bats are highly mobile and are able to 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 BERS Survey Results

The results of the BERS are provided in **Table 2**, **Table 3,** and **Table 4** below. The results are illustrated on the plan provided in **Appendix 4**.

Table 2: First Dusk Emergence Survey Results

Date		26/07/22	
Start and end times		20.51 – 22:36 Sunset: 21:06	
Weather conditions		**Start:** Temp: 17°C Relative Humidity: 58% Cloud Cover: 10% Wind (BF): 1/8 Rain: None	**End**: Temp: 14°C Relative Humidity: 67% Cloud Cover: 10% Wind (BF): 1/8 Rain: None
Surveyor (position) **As shown in Appendix 3**		**JS –** Position 1: Observing the southwest aspect of the workshop within B1. **NH –** Position 2: Observing the northwest aspect of the workshop within B1.	
Building reference	**Surveyor Position**	**Notes/observations:**	
B1	**1**	**Two common pipistrelles *Pipistrellus pipistrellus* emerged during the survey. The first common pipistrelle emerged from underneath the west facing fascia board near the roof apex at 21.29 and the second common pipistrelle emerged from within a gap at the southwest corner of the fascia board, as shown on Figure 1 below. A review of the IR video revealed no additional emergences.** The first activity recorded comprised the first emerging common pipistrelle at 21.29. Bat activity recorded throughout the survey was dominated by common pipistrelles foraging over the pond adjacent to the southwest of B1; regular foraging activity was recorded between 21.39 and 22.18. A single soprano pipistrelle *Pipistrellus pygmaeus* and two whiskered bats *Myotis mystacinus* were also recorded foraging over the pond at 22.09, 22.23, and 22.24 respectively. Common pipistrelles were also recorded commuting adjacent to the site, predominantly travelling around or over B1 from north to the south and east between 21.39 and 22.18.	

Figure 1: The southwest aspect of the workshop within B1. The red arrows highlight the emergence locations of the two common pipistrelles.

B1	2	**No bats were recorded emerging from B1 on this building aspect.** The first activity recorded comprised the emerging common pipistrelle flying over the roof of the adjacent potting shed at 21.29. A high level of common pipistrelle foraging activity was recorded within the residential garden adjacent to the north of B1 associated with the residential house on site; regular foraging activity was recorded between 21.39 and 22.17. Common pipistrelles were also recorded commuting adjacent to the site, predominantly travelling around or over B1 from north to the south and east between 21.39 and 22.18. No other bat species were recorded from this position.

Table 3: Dawn Re-entry Survey Results

Date		09/08/22	
Start and end times		04.00 – 06.01 Sunrise: 05:46	
Weather conditions		**Start:** Temp: 14°C Relative Humidity: 78% Cloud Cover: 0% Wind (BF): 0/8 Rain: None	**End**: Temp: 14°C Relative Humidity: 82% Cloud Cover: 0% Wind (BF): 0/8 Rain: None
Surveyor (position) **As shown in Appendix 3**		**JS –** Position 1: Observing the southwest aspect of the workshop within B1. **NH –** Position 2: Observing the northwest aspect of the workshop within B1.	
Building reference	**Surveyor position**	**Notes/observations:**	
B1	1	**No bats were recorded re-entering B1. A review of the IR video revealed no additional re-entries.** The first activity recorded comprised a common pipistrelle foraging over the pond adjacent to the southwest at 04.10. Regular common pipistrelle foraging activity was subsequently recorded over the pond between 04.12 and 04.59. Three brown long-eared bats *Plecotus auritis* were also recorded at 04.12 and 05.15 (x2). The first brown long-eared bat as recorded but not seen; the two bats recorded at 05.15 were commuting from west to east over B1.	
B1	2	**No bats were recorded re-entering B1** The first activity comprised a common pipistrelle that was recorded but not seen at 04.14. Regular common pipistrelle foraging activity was subsequently recorded within the garden to the north of NH between 04.35 and 05.17. two soprano pipistrelles were also recorded but not seen at 04.55 and 05.07.	

Table 4: Second Dusk Emergence Survey results

Date		23/08/22	
Start and end times		20.00 – 21.45 Sunset: 20:15	
Weather conditions		**Start:** Temp: 20°C Relative Humidity: 84% Cloud Cover: 40% Wind (BF): 2/8 Rain: None	**End**: Temp: 20°C Relative Humidity: 81% Cloud Cover: 30% Wind (BF): 1/8 Rain: None
Surveyor (position) **As shown in Appendix 3**		**JS –** Position 1: Observing the southwest aspect of the workshop within B1. **NH –** Position 2: Observing the northwest aspect of the workshop within B1.	
Building reference	**Surveyor position**	**Notes/observations:**	
B1	1	**A single common pipistrelle emerged from underneath the west facing fascia board near the roof apex at 20.35, as shown on Figure 2 below. A review of the IR video revealed no additional emergences.** The first activity recorded comprised the emerging common pipistrelle at 20.35. Bat activity recorded throughout the survey was dominated by common pipistrelles foraging over the pond adjacent to the southwest of B1; regular foraging activity was recorded between 21.06 and 21.34. A daubenton's bat *Myotis daubentonii* and a brown long-eared bat were also recorded foraging over the pond at 21.12 and 22.22 respectively. A serotine was recorded but not seen at 21.13.	

Figure 1: The southwest aspect of the workshop within B1. The red arrow highlights the emergence location of a single common pipistrelle emergence.

B1	2	**No bats were recorded emerging from B1 on this building aspect.** The first activity recorded comprised the emerging common pipistrelle flying over the roof of the adjacent potting shed at 20.35. A high level of common pipistrelle foraging activity was recorded within the residential garden adjacent to the north of B1 associated with the residential house on site; regular foraging activity was recorded between 20.39 and 21.05. A single greater horseshoe *Rhinolophus ferrumequinum* was recorded but not seen at 21.25.

3.2 DNA Analysis Results

The DNA analysis confirmed the droppings from the workshop within B1 were deposited by lesser horseshoe bats *Rhinolophus hipposideros.* Full results of the DNA analysis are provided in **Appendix 5.**

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in **Appendix 7**.

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.

An EPSL **will be required** to enable the proposed development of B1 to be lawfully undertaken, whilst ensuring the favourable conservation status of the species concerned in their natural range. Appropriate justification for this assessment is provided in **Table 5** of this report. 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.

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:

1. ***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;***
2. scientific and educational purposes,
3. ringing or marking
4. conserving wild animals

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

4.2 Evaluation

Considering the results of surveys undertaken at the site, **Table 5** presents an evaluation of the value of buildings B1 and B4 for roosting bats in relation to the proposed development.

Table 5: Evaluation of the buildings surveyed on site for roosting bats

Feature	***Survey conclusions (with justification)***	***Foreseen impacts***	***Recommendations*** *Measures required to adhere to guidance, legislation and planning policies.*	***Enhancements*** *The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021) and local planning policy*
Building B1	As a result of the BERS, a total of three common pipistrelles were recorded emerging from two features. A max count of one bat was recorded emerging from each feature. B1 is therefore assessed to represent **a day roost for common pipistrelles**. Furthermore, a small number of bat droppings (<90) and feeding remains were recorded internally during the PRA of B1. DNA analysis of these droppings confirms they were deposited by lesser	Building B1 is proposed to be fully renovated. Renovation works will destroy the bat roosts present.	An EPSL application to Natural England will be required to legally permit the proposed works to B1. The EPSL application requires that surveys have been undertaken within the most recent active bat season (May to September) and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission. A Material Changes Check will be required within three months of the EPSL submission, if no survey work has been undertaken within that period. The EPSL will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level as to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. The EPSL will include the following measures: • Timing of works to be undertaken during the winter months (November to March) when bats are least likely to be present. • The installation of compensatory roosting measures in the form of two bat boxes suitable to support a common pipistrelle day roost and a separate roosting feature suitable to support a lesser horseshoe night/ feeding roost. Such measures must be installed prior to works commencing to form a receptor site for any bats found during the works. These features must be installed within an undisturbed location and will need to be maintained in this	**For common pipistrelle day roost provision:** The installation of a two bat boxes. Suitable bat boxes for installation include: • An Eco Cavity Bat Box (https://www.nhbs.com/eco-bat-box?bkfno=232524) • An Improved cavity bat box (https://www.nhbs.com/improved-cavity-bat-box) • Vivara Pro WoodStone Bat Box (https://www.nhbs.com/vivara-pro-woodstone-bat-box?bkfno=210820) **For Lesser Horseshoe night/ feeding roost provision:** The installation of a single night/ feeding roost box constructed in accordance with (or similar) the Cathedine Night Roost Design published by the Vincent Wildlife Trust (VWT)(VWT 2022). A schematic representation of this box design is provided in **Appendix 6.**

	horseshoe bats. Given that no lesser horseshoe activity was recorded during the BERS, B1 is assessed to represent **a feeding/ night roost for lesser horseshoe Bats.** It is noted that these roost types are considered to have low conservation value in line with the Bat Mitigation Guidelines (English Nature, 2004).		location post-development. Bat boxes for common pipistrelle bats 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. Bat boxes for lesser horseshoe bats will comprise a freestanding box at ground level. • The provision of a toolbox talk to contractors, by the Named Ecologist or an Accredited Agent, to inform them of the presence of bat roosts. • A pre-commencement inspection of any roost features by the Named Ecologist or an Accredited Agent using a torch and an endoscope (this may be via ladders, scaffolding or a mobile elevated platform). • The removal of bat roost features by hand under the supervision of the Named Ecologist or an Accredited Agent (where it is not possible conclude absence of bats during the pre-commencement inspection). • Avoiding the use of unnecessary lighting, particularly at night, or implementing a low impact lighting strategy to avoid illumination of retained or newly created roosts or roost features. • Avoiding excessive noise or vibration disturbance e.g. from power tools or radios, within close proximity of retained or newly created roosts or roost features. • Post-development monitoring of the lesser horseshoe night roost compensation comprising a single dusk emergence survey during the optimal season for survey (mid-May to August). Monitoring must take place within the first year following installation. You must include a certificate that proves any roofing membrane has passed a ‘snagging propensity test’ if you’re using a non-bitumen coated roofing membrane. A snagging propensity test checks that the membrane can stand the repeated snagging actions of roosting bats. To pass, a membrane must show no change in the average number of loops per cm2 as rotations are increased from 0 to 1000. You do not need a certificate for bitumen 1F felt that has a non-woven, short fibre construction.	

Foraging and commuting bats	Extensive foraging activity was recorded over the pond adjacent to the southwest of B1 and the residential garden adjacent to the north.	The proposed development is limited to the existing building curtilage and hardstanding only. No habitats of value to foraging and commuting bats will be removed to facilitate the development. However, there is potential for indirect disturbance to foraging and commuting bats through an increase in artificial light pollution resulting from external lighting installation.	It is recommended that no new external lighting is installed, and all construction works are completed during daylight hours. Should external lighting need to be installed, a low impact lighting strategy should be adopted for the site, which should include the following measures as to comply with current guidelines with regards to the impacts or artificial lighting on bats (Bat Conservation Trust and the Institute of Lighting Professionals 2018): • Use of narrow spectrum light sources to lower the range of species affected by lighting. • Use of light sources that emit minimal ultra-violet light. • Avoidance of 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. • Absence of bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. Light spill should 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 should 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.	n/a

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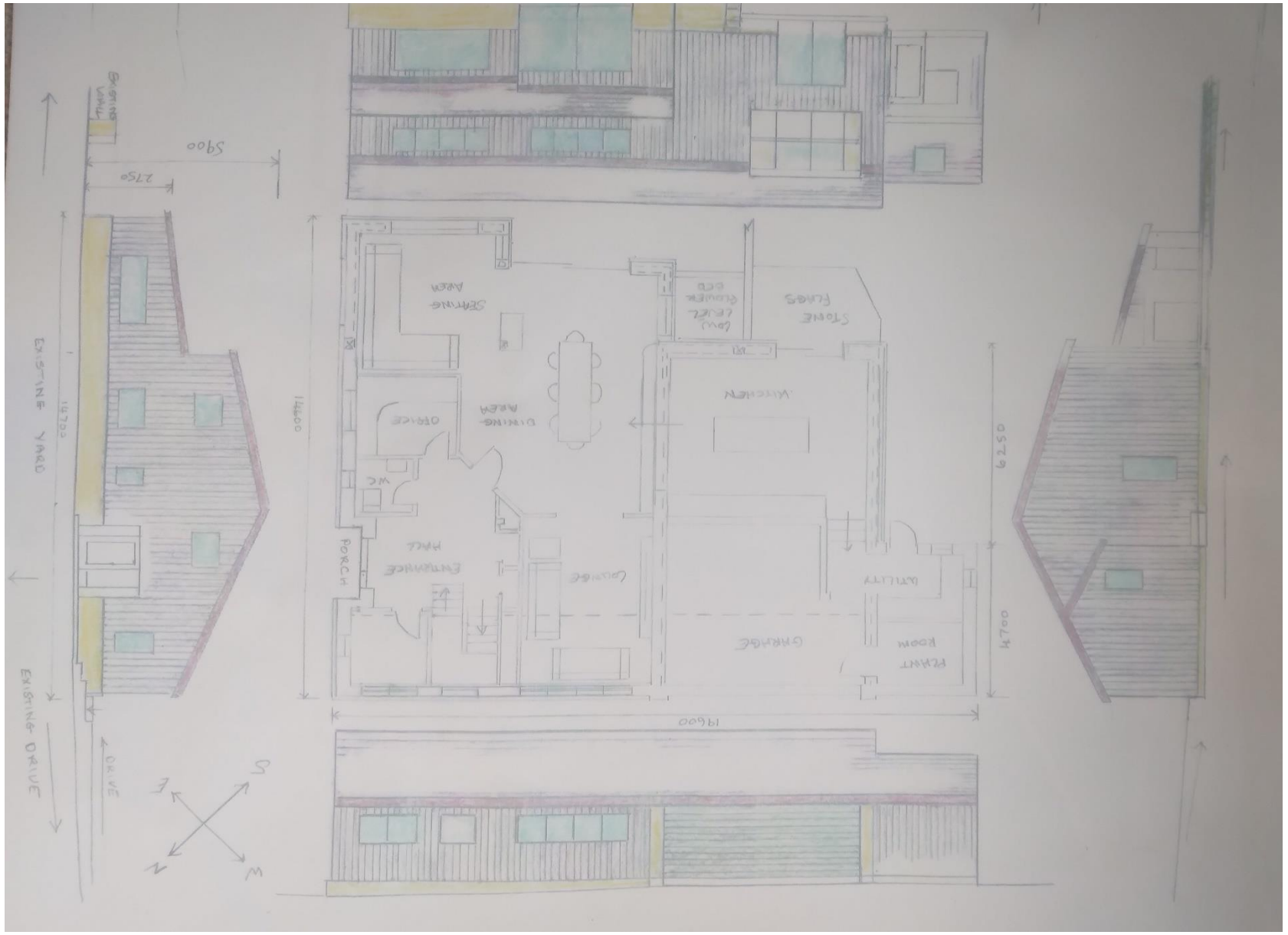
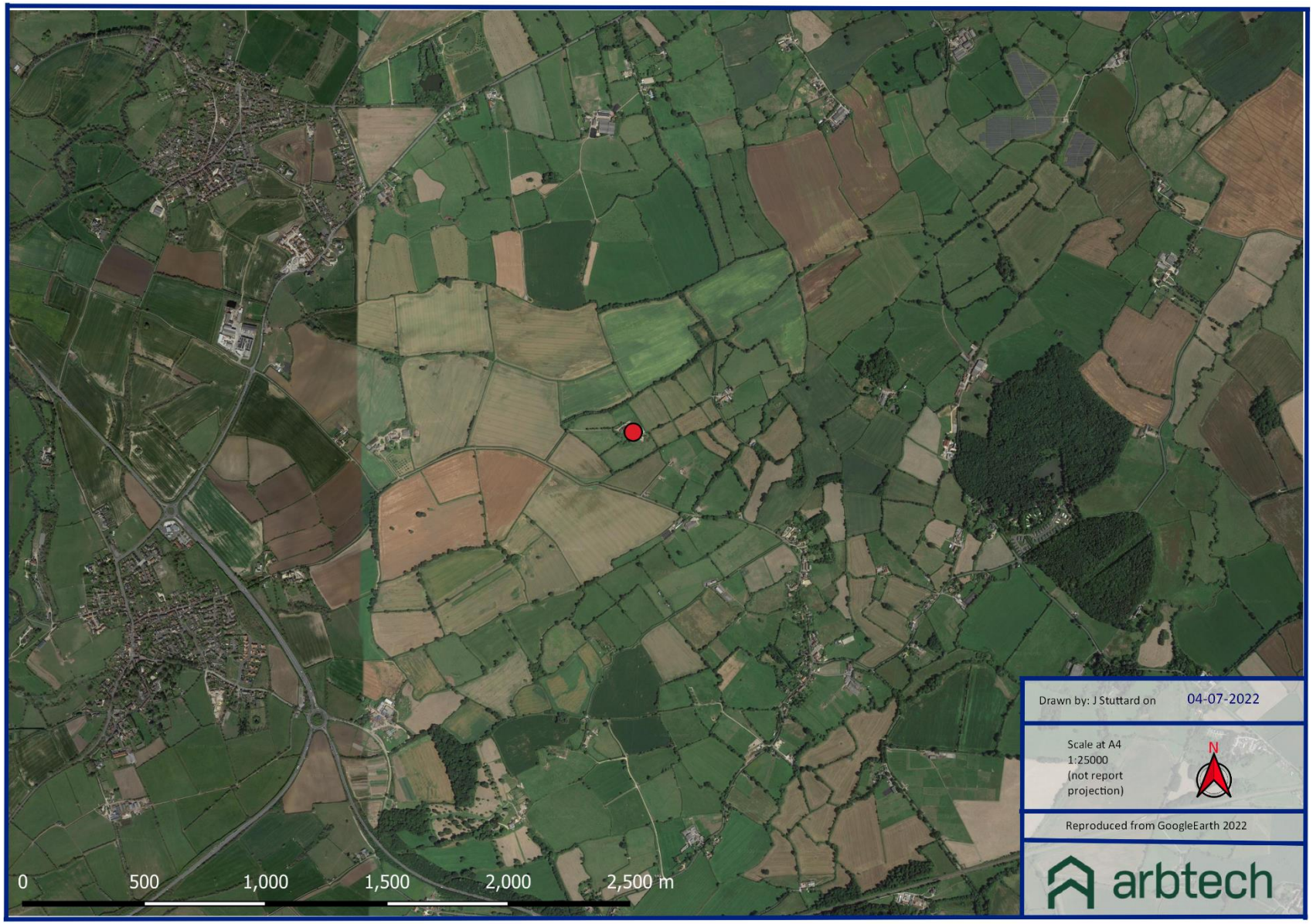
Appendix 1: Proposed Development Plan

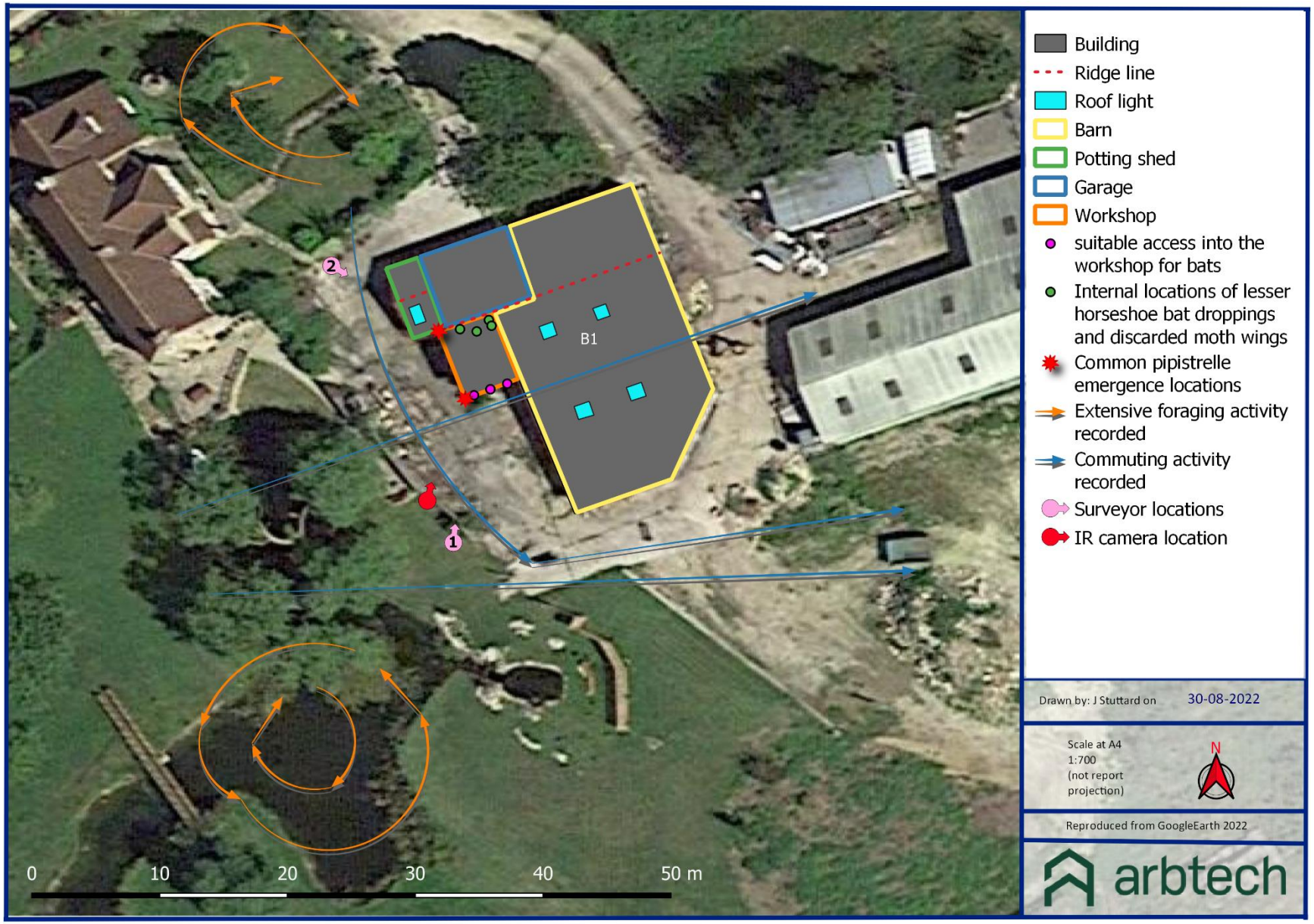


Appendix 2: Site Location Plan



Appendix 3: Screenshot of Infrared Video Recording

Appendix 4: Bat Survey Plan



Appendix 5: DNA Analysis Results

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

18 July 22

Re: Identification Results for Jonathan Stuttard, Arbtech Consulting Ltd

Job number 18390, received 06 July 2022
Sample labelled: Duckpool Farm, BA11 6TX
PCR amplification successful. DNA sequence:
ATGACCAACATTCGCAAGTCCCACCCACTATTTAAAATTATCAATGACTCATTCATTG
ATCTACCTGCCCCATCAAGTATTTCCTCCTGATGAAACTTTGGATCC
Phylogenetic analysis identification: *Rhinolophus hipposideros*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

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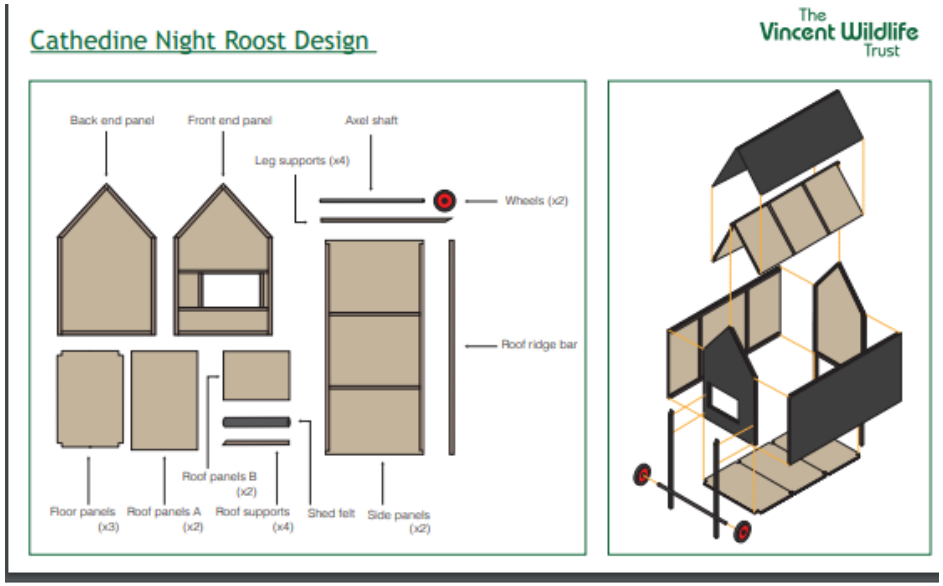
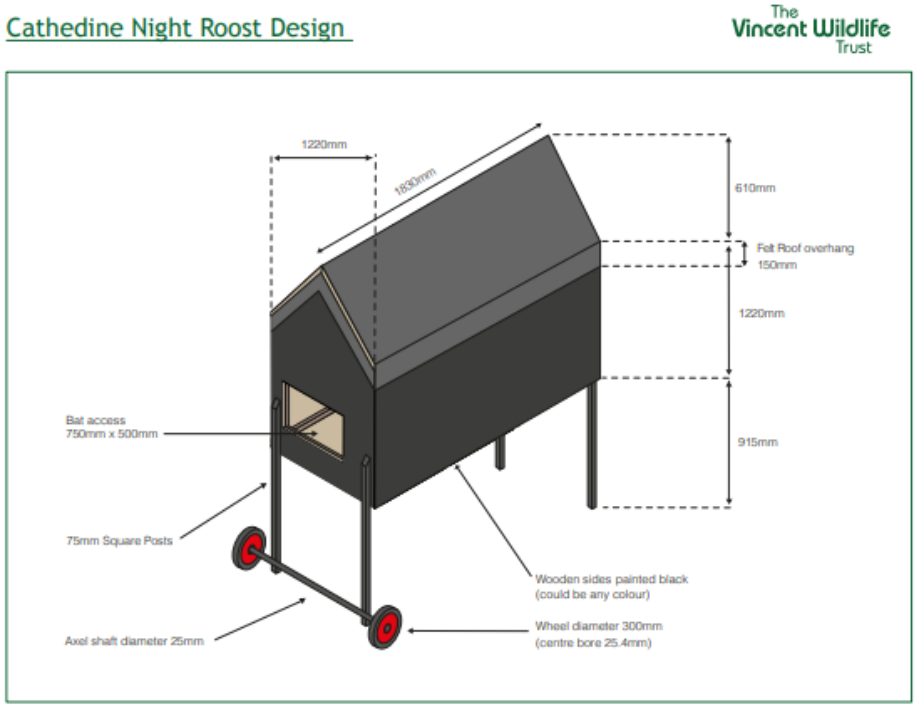
Appendix 6: VWT Cathedine Lesser Horseshoe Night Roost Box Design





Appendix 7: 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.

LOCAL PLANNING POLICY

Mendip District Local Plan Part I

The Mendip District Local Plan Pat I is the key document outlining the long-term spatial vision for the district. The document includes policies which relate to biodiversity and nature conservation which are relevant to this report. Such policies are detailed below:

Part I Policy DP5: "*Biodiversity and Ecological Networks*" states:

"The Council will use the local planning process to protect, enhance and restore Somerset's Ecological Network within Mendip.

1. *All development proposals must ensure the protection, conservation and, where possible, enhancement of internationally, nationally or locally designated natural habitat areas and species.*
2. *Proposals with the potential to cause adverse impacts on protected and/or priority sites, species or habitats are unlikely to be sustainable and will be resisted. Exceptions will only be made where:*
    a. *the impacts cannot be reasonably avoided.*
    b. *offsetting/compensation for the impacts can be secured.*
    c. *other considerations of public interest clearly outweigh the impacts, in line with relevant legislation.*

Offsets as mitigation or compensation required under criterion b) will be calculated using Somerset County Council's Biodiversity Offsetting methodology."

Part I Policy DP6: "*Bat Protection*" states:

"Planning Applications for development on sites within the Bat Consultation Zone will require a 'test of significance' under the Habitats Regulations to be carried out. Applicants must provide, with their application, all necessary information to enable compliance with the Habitats Regulations (or their successor), including any necessary survey work, reports and avoidance / mitigation measures."

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.