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Report prepared for: Brian Parker

For the Site of: Bricket Lodge Sport and Country Club, Lye Lane, Hertfordshire AL2 3TF

Version:	Written by:	Checked by:	Final:
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Final	Martin O'Connor 12/07/2022	Tanya O'Connor 13/07/2022	Martin O'Connor 14/07/2022

Cherryfield Ecology has prepared this report for the named clients use only.

Ecological reports are limited in shelf life, Natural England usually expect reports for licences to be from the most recent or current season. Therefore, should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Contents

Emergence and Activity Bat Survey (EBS)

0.0 Non-Technical Summary

0.1 Background

This report follows national guidelines Collins (2016) allowing for dusk and dawn surveys and recommends mitigation and compensation if considered necessary. If a deviation from the guidelines has been made, this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Bricket Lodge Sport and Country Club, Lye Lane, Hertfordshire AL2 3TF.

The client commissioned Cherryfield Ecology to undertake an EBS as the proposals include for the demolition of the existing buildings and replacement with new dwellings and associated landscaping.

0.2 Results and Findings

Following a Stage 1 Ecological Assessment undertaken on 05/01/2022. (Cherryfield Ecology, 2022), further surveys were recommended. This included for two dusk emergence surveys and one pre-dawn re-entry survey for B1. A dusk emergence survey and one pre-dawn re-entry survey for B3, a presence likely/absence survey for B2 and B8.

The surveys have shown that B3 is being used by a single common pipistrelle which entered the building on the dawn survey. No other bats were seen to enter any of the buildings. However, B1 had bat dropping evidence located within it and it is likely that a roost is present at a point outside of when the surveys have been undertaken. The small number of droppings would suggest a single bat and most likely a common pipistrelle as other than noctule no other species were heard.

All the surveys show that the surrounding garden are used by foraging and commuting bats.

0.3 Impact Assessment and Recommendations

A bat roost will be lost when works are carried out.

Alternate roosts will need to be provided before development on B1 commences. **A bat licence (Bat Mitigation Class or Standard) will be required** post-grant of planning in order to allow the demolition to proceed lawfully. (Please refer to **Section 4.3** of this report for further details).

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4.3 for further details).

1.0 Introduction

1.1 Aim

The aim of this survey is to gather additional information from the site to establish species, population and entry/exit points of bats to aid in the design of mitigation and compensation for bats in the development. The information is used to help inform a licence application (if required) and to inform the client and their architect/planner of necessary changes in the design that may be required to ensure bats are protected during works. It should be read in conjunction with any Stage 1 survey such as a Preliminary Roost Assessment (PRA) that may have been undertaken.

1.2 Background Information

The client, Brian Parker, has commissioned Cherryfield Ecology to undertake an EBS for the site of Bricket Lodge Sport and Country Club, Lye Lane, Hertfordshire AL2 3TF. Planning permission is being sought to demolish the existing buildings and replace with new dwellings and associated landscaping.

This survey has checked all buildings, trees (from ground level only) or structures due to be affected by the proposals for bats, signs of bats or habitat value e.g. crevices, gaps or holes that cannot be checked for a variety of reasons. In addition, surveyors have been positioned around the building, tree or structure to allow for emerging/re-entering bats to be watched for.

The inspections were conducted on the 13/06/2022, 27/06/2022 and 11/07/2022.

The survey can only ever provide a ‘snapshot’ of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find or see emergence, re-entry and/or evidence.

Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and, therefore, a synopsis is provided.

The survey can be conducted between May and September with the optimal season for surveying maternity colonies limited to mid-May to August inclusive, however it can also be limited due to bad weather, when bats are less active.

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule V of the Act. All bat species in the UK are also included in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("Habitats Directive") which defines United Kingdom protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

A bat roost is well-defined by the legislation as the 'resting place' of a bat. However, the word roost is used to describe this resting place and is generally accepted as the word describing where a bat or bats rest, feed or sleep.

2.0 Methods

The survey follows the national guidelines Collins (2016) and Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys (Bat Conservation Trust, May 2022) the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence.
- Echo Meter Touch, EM3, and Pettersson D240X.
- IR night vision HD Camcorder, 12v IR flood lights.
- FLIR one Thermal Imaging Camera (when required).

Night Vision Aids (NVA's) are used to cover the building alongside surveyors and provides night vision, allowing for more accurate survey effort and when found roost locations. Video is processed in Openshot video editor and checked in the office after the survey is completed, stills and snapshots are taken and used in reports, as per the guidelines.

Surveyors are positioned around the building(s), tree or structure in order to cover all elevations. The survey then observes for emerging or re-entering bats from suitable features such as holes, cracks and crevices. Notes on commuting and foraging bats are also made in the surrounds.

If a deviation from the guidelines has been made, the reason and justification will be explained below:

No deviation from the standard guidelines has been made for this survey set.

2.1 Limitations

This survey provides a snapshot of the site at the time of the survey(s) only. Bats are highly mobile and can turn up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of bat presence assessed against Collins (2016) guidelines *Source: Adapted from Collins (2016) pp 35, Table 4.1.*

Likelihood of bat presence (Habitat Value)	Features that bats can and will use, regardless of evidence being present.
Confirmed Bat Presence	Bats are found to be present during the survey. Evidence of bats is found to be present during the survey.
Higher likelihood of bat presence.	Pre-20th century or early 20th century construction. Agricultural buildings of traditional brick, stone or timber construction. Large and complicated roof void with unobstructed flying spaces. Large (>20 cm) roof timbers with mortice joints, cracks and holes. Entrances for bats to fly through. Poorly maintained fabric providing ready access points for bats into roofs, walls, bridges, but at the same time not too draughty and cool. Roof warmed by the sun, in particular south facing roofs. Weatherboarding and/or hanging tiles with gaps. Low level of disturbance by humans. Bridge structures, follies, aqueducts and viaducts over water and/or wet ground.
Moderate and Lower likelihood of bat presence.	Modern, well-maintained buildings or built structures that provide few opportunities for access by bats. Small, cluttered roof space. Buildings and built structures comprised primarily of prefabricated steel and sheet materials. Cool, shaded, light or draughty roof voids. Roof voids with a dense cover of cobwebs and no sections of clean ridge board. High level of regular disturbance. Highly urbanised location with few or no mature trees, parkland, woodland or wetland. High levels of external lighting.
Negligible likelihood of bat presence.	No features suitable for roosting, minor foraging or commuting.

Notes on using this table

1 The features listed here may not be indicative of use of the site by bats during winter or spring.

2 Pre-1914 buildings may present the greatest likelihood of providing roost space for bats due to their design, materials used and age. Pre-1990 buildings, especially when close to good foraging habitat, and with favoured features such as cavity walls and soffits, also have a high likelihood of providing roost sites for some bat species.

3 Post-1990 buildings are generally less likely than older buildings to house roosts; however, some modern designs provide access to suitable roosting spaces for bats. Pipistrelles in particular occupy modern buildings and built structures providing that there are suitable access gaps (> 8mm) and provided the structure has appropriate characteristics for roosting.

3.0 Results

The following section details the results of the desk study, inspection and survey; it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centred on Grid Reference – TL134028 and Postcode – AL2 3TF.

Table 2: Weather Records

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
13/06/2022	Dusk Emergence	21.05 to 23.05 SS: 21.20	Temp: 21℃ Humidity: 55% Cloudy: 5% Wind: 0/12 Rain: None	Temp: 14℃ Humidity: 80% Cloudy: 5% Wind: 0/12 Rain: None
27/06/2022	Pre-Dawn	03.15 to 05.00 SS: 04.45	Temp: 13℃ Humidity: 55% Cloudy: 10% Wind: 1/12 Rain: None	Temp: 11℃ Humidity: 94% Cloudy: 10% Wind: 1/12 Rain: None
11/07/2022	Dusk	21.02 to 23.02 SR: 21.17	Temp: 25℃ Humidity: 42% Cloudy: 60% Wind: 0/12 Rain: None	Temp: 22℃ Humidity: 47% Cloudy: 80% Wind: 0/12 Rain: None

3.2 MAGIC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1):

- There are 2 statutory sites located within the search area:
  - Bricket Wood Common (SSSI – unfavourable)
  - Moor Mill Quary West (SSSI – Unfavourable)
- There are 6 NEPS licences granted for bats within the search area:
  - Brown Long-Eared *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus*, approx. 1600m Southeast of the site (Licence 2011-2384).
  - Common Pipistrelle, approx. 1500m Southwest of the site (Licence 2010-1663, 2010-2620, 2017-29004).
  - Common Pipistrelle and Soprano Pipistrelle approx. 1600m to the Southeast (Licence 2014-3738)
  - Soprano Pipistrelle approx. 1700 Southeast of the site (Licence 2019-39750)

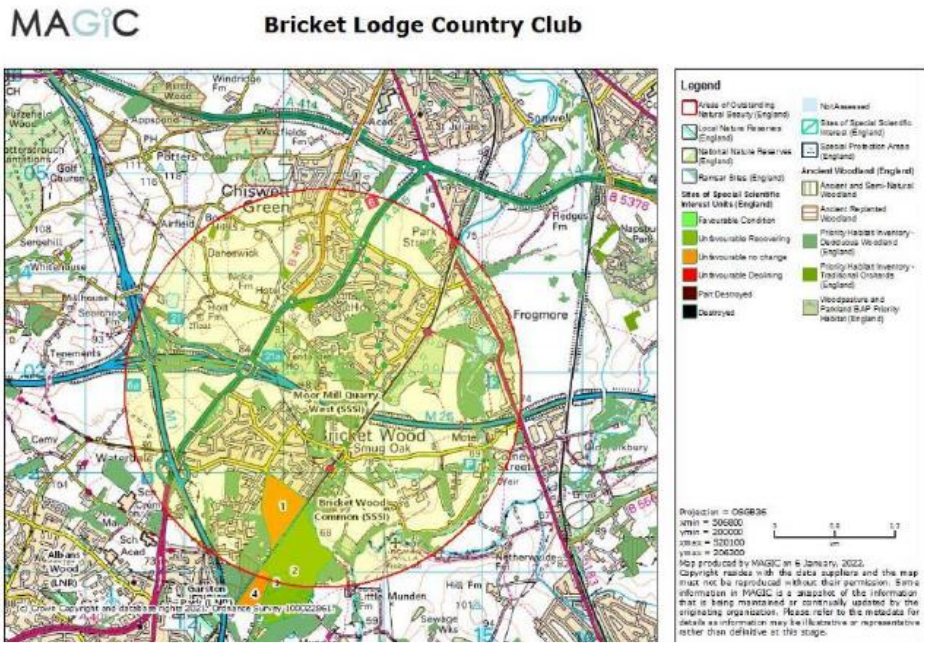

Figure 1: Magic Map Search

3.3 Biological Records Data

A 1km data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context.

Biological records were obtained from Herts Environmental Records Centre, (2021).

Table 3: Biological Records

Species	Number of Records	Closest record (accuracy)	Most recent record (year)
Bats			
Brown Long-Eared *Plecotus auratus*	2	Approx. 1.9km (4 fig. grid ref.)	Not provided
Common Pipistrelle *Pipistrellus pipistrellus*	19	Approx. 1.9km (4 fig. grid ref.)	2020
Daubenton's *Myotis daubentonii*	2	Approx. 600m (4 fig. grid ref.)	Not provided
Noctule *Nyctalus noctule*	7	Approx. 1.9km (4 fig. grid ref.)	2013
Soprano Pipistrelle *Pipistrellus pygmaeus*	7	Approx. 1.9km (4 fig. grid ref.)	2013
Unidentified Bat *Chiroptera sp.*	13	Approx. 600m (4 fig. grid ref.)	2020

3.4 Site Location and Surrounds

The site is in Bricket Wood, Hertfordshire and is surrounded by woodland and low-density urban sprawl in the immediate local. Table 4 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 4: Habitat features suitable for use by protected species

Feature	Description
Water course	The River Ver is located approx. 1.4km east of the survey site.

Water bodies	The closest water body is located approx. 750m south-east of the site. In addition, there are water bodies located 815m south-east, 825m south-east, 850m north, 920m north and 960m north of the site.
Woodland	Woodland is located on site to the south and in its immediate surrounds to the east and west. There is also woodland located approx. 500m north-east, 350m south and 675m south-west of the survey site.
Linear e.g., hedgerows	There are numerous hedgerows scattered throughout the search area. The closest is located approx. 500m north of the site.
Pasture/arable/grassland	There is scattered arable land within the north-west and south-east of the search area. The closest arable field is located 460m north of the survey site.
Other	There are no other significant features within the search area.

3.5 Building, Tree or Other Structure

The following section details the structure(s) reference, bats located, evidence located and observed emergence/re-entry (see Figure 3 for Site Plan).

Building/tree/structure reference – B1 (Main Building), B2 (Second Building), B3 (Third Building), B8 (Fourth Building).

3.6 Observations

Table 5: Results and observations of the building, tree or structure.

Surveyor	Building, Tree or Structure	Dates, Times and Survey Type	Bat Activity Observed
MOC	B3	13/06/2022 21.05 to 23.05 SS: 21.20	Noctule (Nyc) *Nyctalus noctula* herd and seen from 21.20 until 21.31 passing overhead, several individuals were seen. Common pipistrelle (CP) *Pipistrellus pipistrellus* heard from 21.31 until 22.07 passing through.
AM	B3	As above	Nyc heard from 21.20 until 21.29 passing overhead. CP heard and seen from 21.43 until 22.04.
LL	B3	As above	CP heard twice at 22.02 and 22.07 passing by.

GG	B3	As above	Nyc heard from 21.20unitl 21.30. CP heard from 21.42, until 22.38 passing around the grounds.
SD	B2	As above	Nyc heard from 21.20 until 21.30 flying overheard. CP heard from 21.43 until 22.42 passing through.
PH	B2	As above	Nyc heard at 21.29. CP heard from 21.41 until 22.13 passing through.
DR	B8	As above	Nyc heard from 21.21 until 21.29.
LB	B8	As above	Nyc heard from 21.21 until 21.29.
AP	B1	As above	Nyc heard from 21.21 until 21.29. CP heard from 21.41 until 22.40.
TOC	B1	As above	Nyc from 21.20 until 21.29 passing overhead.
MOC	B3	27/06/2022 03.15 to 05.00 SS: 04.45	Three Nyc passes at 03.34, 04.03 and 04.04.
TOC	B3	As above	Nyc heard three times at 03.34, 04.03 and 04.04,
HS	B3	As above	Nyc heard on three occasions passing overhead.
SD	B3	As above	Nyc heard at 04.03 passing over. **CP heard and seen at 04.12, it dawn swarmed up to the building three occasions and enter under a tile at 04.12** (see Figure 2)  Figure 2: Entry location
LB	B3	As above	Three Nyc passes heard at 03.34, 04.03 and 04.04.
PH	B3	As above	Nyc heard on three occasions passing overhead.
AP	B1	As above	CP and Nyc heard between 03.42 and 04.12 passing through.

JOC	B1	As above	Nyc and CP heard on three occasions between 04.03 and 04.22.
AP	B1	11/07/2022 21.02 to 23.02 SR: 21.17	Nyc passes between 21.27 and 21.38. CP heard from 21.56 until the end of the survey, with passes around the building and around the grounds.
DB	B1	As above	CP passes heard from 21.55 until the end of the survey.
PH	B1	As above	CP heard and seen from 21.46 until the end of the survey, passing through the site and around the buildings.
LB	B1	As above	Nyc heard and seen overhead form 21.27 until 21.37. CP heard from 21.48 until the end of the survey. Bats were seen early on and then thereafter on the IR camera passing through.

Summary of surveys and supplementary observations:

13/06/2022 – General activity of bats in the area, with noctule coming from the woodland nearby.

27/06/2022 – A single common pipistrelle entered B3 on the dawn.

11/07/2022 – General activity of bats.

Any other protected species that would be affected by the development:

N/A

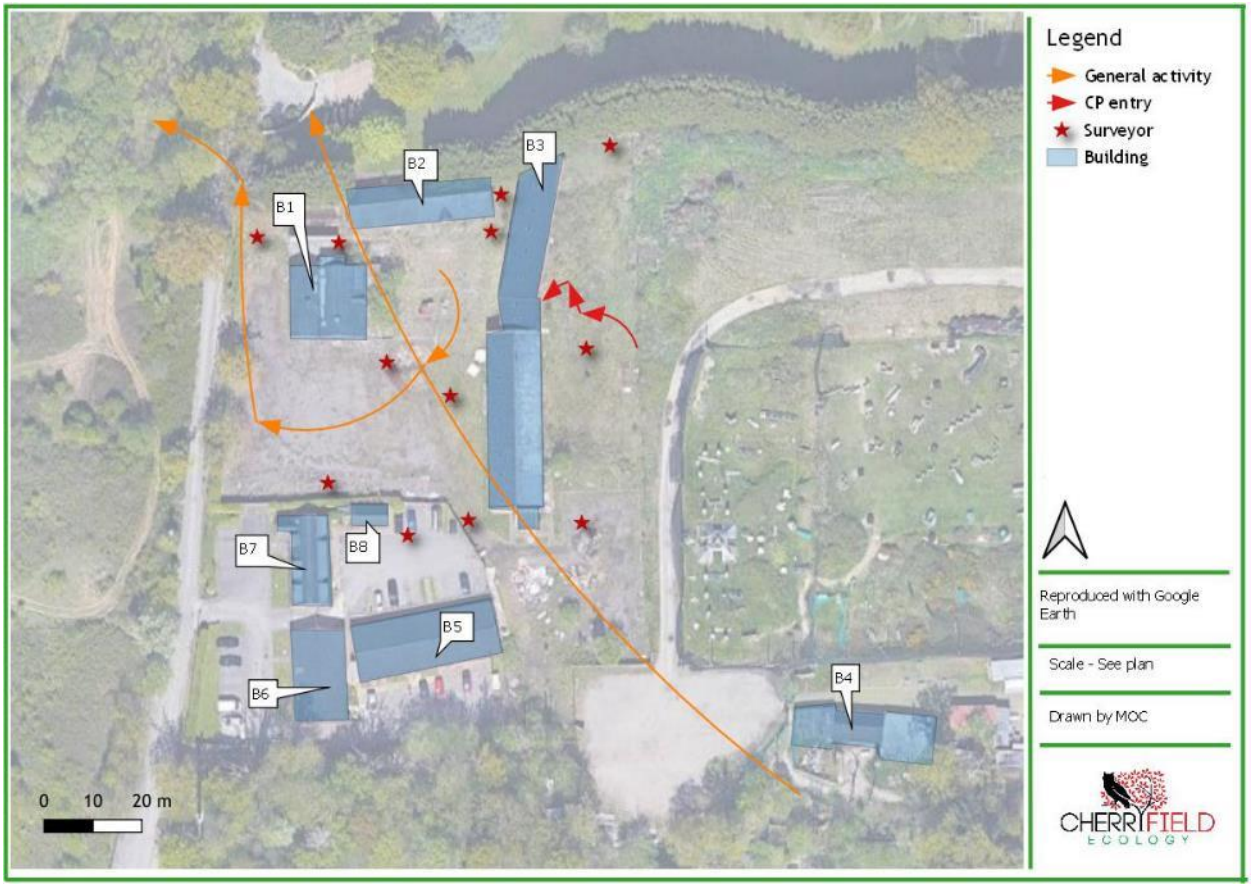

Figure 3: Site Plan

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion and recommendations in the context of the proposed works.

Building/tree/structure reference – B1 (Main Building), B2 (Second Building), B3 (Third Building), B8 (Fourth Building) etc.

4.1 Conclusion and Discussion

The proposals include for the demolition of the existing buildings and replacement with new dwellings and associated landscaping.

The surveys have shown that B3 is being used by a single common pipistrelle which entered the building on the dawn survey. No other bats were seen to enter any of the buildings. However, B1 had bat dropping evidence located within it and it is likely that a roost is present at a point outside of when the surveys have been undertaken. The small number of droppings would suggest a single bat and most likely a common pipistrelle as other than noctule no other species were heard.

All the surveys show that the surrounding garden are used by foraging and commuting bats.

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4.2 Potential Impact

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and the following details a proportionate impact assessment based on current information.

Table 6: Impact Assessment.

Impact	A day bat roost will be lost in the development.
Characterisation of unmitigated impact on the feature	A bat roost will be destroyed when works are carried out resulting in a low-level loss/impact at a local level.

Effect without mitigation	Without mitigation individual bats could be killed, injured or trapped during the works.
Mitigation	See Table 7
Significance of effects of residual impacts (after mitigation)	If lost roosts are replaced by bat boxes, the effects would be negligible.

4.3 Recommendations

The following table details the recommended mitigation and compensation required; **it also recommends for a Natural England Protected Species Licence (NEPSL) to be applied for.**

License type required: Bat Mitigation Class

Roost type: Day

Table 7: Mitigation and Compensation.

Work	Specification
General Information	**A Natural England Protected Species Licence must be applied for in order to allow the works to proceed, post-grant of planning.** The Three Tests to be answered before planning can be granted (NE, 2017): *Test 1:* Regulation 53(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment". Test 1 can be achieved via the 'imperative reasons of overriding public interest'. Although not for the ecologist to determine the planning officer will on grant of consent. *Test 2*: Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative". Test 2 would be achieved on the grant of consent as no other sites have been considered for the development. *Test 3:* Regulation 53(9) (b) states: the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be

	detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range." Test 3 will be achieved once full mitigation appropriate to species and population has been designed and implemented via an NEPS licence issued from the statutory authority (Natural England).
Roof and tile linings	When a bat roost is present and being mitigated/compensated the only type of linear for the tiles/roof covering allowed is a bitumen type 1 traditional felt. The reasoning for this is twofold; firstly, bats can damage the Modern Roofing Membrane (MRM), meaning that the MRM will become useless allowing water to pass through from above and, secondly, bats will become trapped in the fibres and die from dehydration and starvation. Under no circumstances can a modern breathable membrane (MRM) be used. The licensing authority will not issue a bat licence (when required) if it is proposed to be used in a bat roost. There is no reason that building regulations will not allow a traditional 'cold roof' and, therefore, this must be designed into any project where bats will be able to access the roof/loft or hung tile/weather boarding etc. etc.
Mitigation and compensation to be installed via a Bat Mitigation Class or Standard Licence application	The following is recommended: Bat droppings location in B1 will need DNA analysis to confirm species prior to the license application. **Bat Mitigation Class Licence:** Works can occur at any time under a Bat Mitigation Class Licence (BMCL) once granted from Natural England. Any demolition will require the supervision of a bat licensed ecologist. The suitable roosting features will be stripped by hand only. All areas within the roof/wall tops etc. will be checked for bats i.e. endoscope (were possible). If bats are found, these will be removed by hand and placed in bat boxes that will be in place before works begin.

	Bat boxes will be installed on retained trees or buildings; it is currently understood that there are trees to the rear of the dwelling (within the garden of the main house) that can be used for this purpose.  Figure 4: Chillon Woodstone Bat Box (British-made) A minimum of two Chillon Woodstone bat boxes will be hung on the trees or the building at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by Brown Long-Eared bats (BLEB) and crevice-dwelling species. No further mitigation or compensation is required under this licence. Commuting bats were using the grounds and surrounds; therefore, any tree, hedges or linear feature should be retained if possible.
Lighting	Any lighting near or shining onto any trees, especially those with bat boxes in or commuting routes shown to be present at further survey stage, will be designed to minimise the impact it has on potential bat roosting and commuting. Lighting will be in line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat Conservation Trust, 2018) *https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/* This lighting were possible will be of low level, be on downward deflectors and be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the habitat. No up-lighting should be used. Light spill must be minimized to 0.5lux. This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.

5.0 References

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