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Report prepared for: David White

For the Site of: The White House, Valley Rise, Royston, SG8 9GH

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Draft	Anne Williams 03/07/2024		
Final	Elijah Bird 21/08/2024	Martin O'Connor 21/08/2024	Elijah Bird 23/08/2024

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, e.g. May 2024 to May 2025 for bats. 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 the survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

Elijah Bird BSc (Hons)
elijah@cherryfieldecology.co.uk
07307 611304

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Emergence and Activity Bat Survey (EBS)

0.0 Non-Technical Summary

0.1 Background

This report follows national guidelines Collins (2023) 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 The White House, Valley Rise, Royston, SG8 9GH.

The client commissioned Cherryfield Ecology to undertake an EBS as the proposals include for demolition of the existing garage, extension and shed and construction of three new dwellings.

0.2 Results and Findings

Following a Stage 1 Ecological Assessment undertaken on 04/01/2024 (Cherryfield Ecology, 2024), further surveys were recommended. This included for two dusk emergence surveys.

The surveys have shown no emergences observed.

All the surveys show that the surrounding grounds are being used for foraging and commuting bats.

0.3 Impact Assessment and Recommendations

Bat droppings were found within the loft void above the main section of B1, this area of the roof is separate to the area of the roof proposed for development with no connected loft voids, and this area will not be impacted by the development.

No droppings were found within the garage and extension and the emergence surveys have shown a likely absence of bats from this area of the building.

Therefore, it is considered that proportionate approach to the works would be for an **unlicensed method statement** to be followed to reduce any potential disturbance to the roost within the eastern side of B1.

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, David White, has commissioned Cherryfield Ecology to undertake an EBS for the site of The White House, Valley Rise, Royston, SG8 9GH. Planning permission is being sought to demolish the existing garage, extension and shed and construct three new dwellings.

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 18/07/2024 and 08/08/2024.

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 surrounding area. 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.

1.3 Roost definitions

Roost definitions from Natural England’s licensing documents (NE, 2024).

Day roost - a place where individual bats, 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 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 in the 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 late 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.

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 - roosts not meeting the above definitions.

2.0 Methods

The survey follows the national guidelines Collins (2023) 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 or Nightfox whisker.

Night Vision Aids (NVAs) are used to cover the building alongside surveyors. These are not designed to replace surveyors, rather provide night vision, allowing for more accurate survey effort and when found, roost locations. **The cameras may not always capture bats entering/exiting roosts due to the size of the building, terrain, narrower field of view and other factors.** Video is processed in a 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 emerging or 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

There was no available view points for the northern elevation of the building, due to vegetation cover.

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: Roosting features (likelihood) of bat presence assessed against Collins (2023) guidelines *Source: Adapted from Collins (2023, pp44, table 4.1).*

Likelihood of bat presence (Habitat Value)	Features that bats can 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 obvious features suitable for roosting, minor foraging or commuting.
None	No features suitable 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 - TL 36543 40780 and Postcode - SG8 9GH.

3.2 MAGIC

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

Table 2: Magic search results

Receptor	Distance and Direction to Nearest (m/km)	Description
Statutory sites	~1367m southwest	Therfield Heath (LNR)
	~1367m southwest	Therfield Heath (SSSI)
	~1620m northwest	Holland Hall (Melbourn) Railway Cutting (SSSI)
Granted protected species licenses	~1332m northwest	Great Crested Newt <i>Triturus cristatus</i> (licence 2014-1854)
Priority habitat	~1367m southwest	Lowland Calcareous Grassland
	~940m southeast	Lowland Meadows
	~114m east	Deciduous Woodland
	~1633m southwest	Traditional Orchards

MAGiC

Magic Map

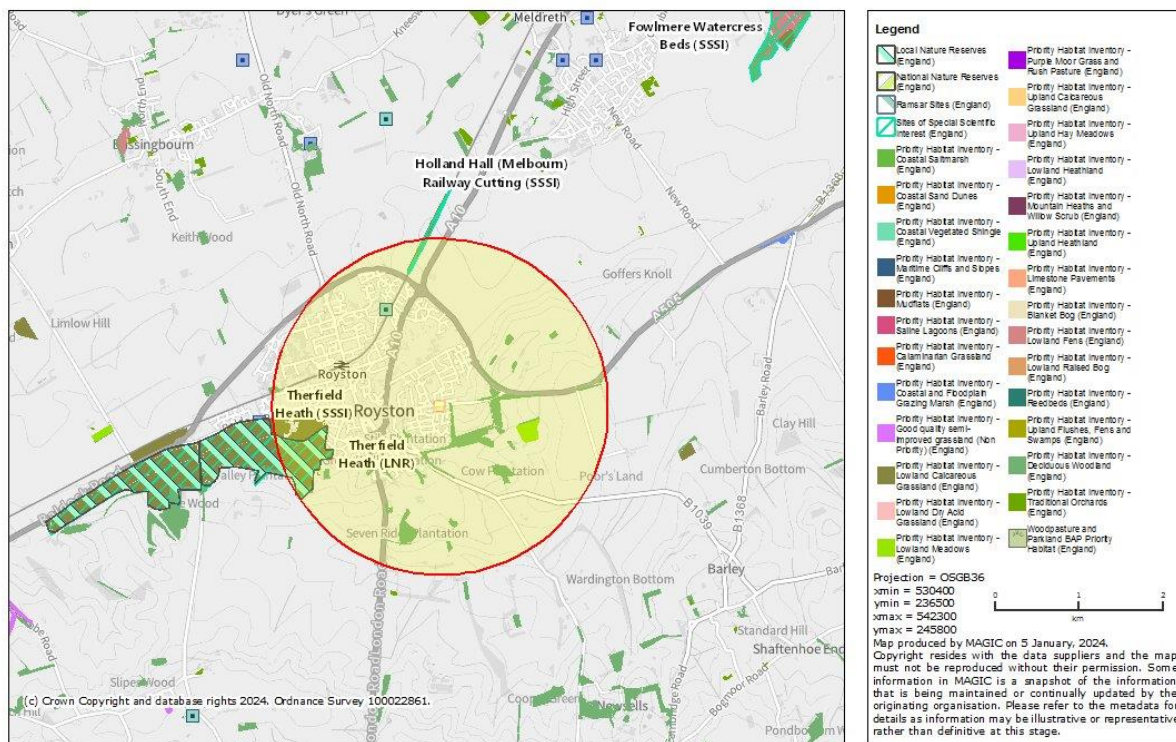


Figure 1: Magic Map Search

3.3 Biological Records Data

A standard 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 Cambridgeshire & Peterborough Environmental Records Centre (2023) and Herts Environmental Records Centre (2023).

Table 3: Biological Records

Species	Number of Records	Closest record (accuracy)	Most recent record (year)
Barbastelle <i>Barbastella barbastellus</i>	6	~750m (1km)	2018
Brown Long-Eared <i>Plecotus auritus</i>	4	~0m (1km)	2016
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	3	~750m (1km)	2019
Daubenton's <i>Myotis daubentonii</i>	7	~0km (1km)	2016

Leisler's <i>Nyctalus leisleri</i>	-	-	-
Nathusius' Pipistrelle <i>Pipistrellus nathusii</i>	-	-	-
Natterer's <i>Myotis nattereri</i>	9	~0m (1km)	2016
Noctule <i>Nyctalus noctula</i>	-	-	-
Serotine <i>Eptesicus serotinus</i>	-	-	-
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	-	-	-
Unidentified Bat <i>Chiroptera</i>	18	~1270m (10m)	2020
Unidentified Long-Eared <i>Plecotus sp.</i>	2	~550m (1km)	2013
Unidentified <i>Myotis Myotis sp.</i>	-	-	-
Unidentified Pipistrelle <i>Pipistrellus sp.</i>	-	-	-
Unidentified Vesper <i>Vespertilionidae</i>	-	-	-
Whiskered <i>Myotis mystacinus</i>	-	-	-
Whiskered/Brandt's <i>Myotis mystacinus/brandtii</i>	-	-	-

3.4 Site Location and Surrounds

The site is located in Royston, Hertfordshire and is surrounded by high-density housing in the immediate local area. Table 4 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 4: Habitat features suitable for bat use.

Feature	Description
Watercourses	There are no significant watercourses within the search area.
Waterbodies	There are no significant waterbodies within the search area.
Woodland	Patches of woodland are found throughout the search area. The site borders an area of woodland to the east which connects the site to a larger area of woodland ~390m southeast.
Linear e.g. hedgerows	Field margin and garden hedgerows are found throughout the search area.
Pasture/arable/grassland	Arable fields dominate the eastern, outer northeastern and outer southern sections of the search area. Amenity grassland is also found throughout the search area in the form of parks, gardens, sports pitches and playing fields. The closest notable example is a park ~238m northeast of the site.
Other	Royston Cemetery East is located ~701m northwest of the site.

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 2 for Site Plan).

Building/tree/structure reference - B1 (Main Building)

Table 5: Weather Records

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
18/07/2024	Dusk	20:55 to 22:55 SS: 21:10	Temp: 20°C Humidity: 80% Cloud: 50% Wind: 0/12 Precip: None	Temp: 18°C Humidity: 72% Cloud: 10% Wind: 0/12 Precip: None
08/08/2024	Dusk	20:22 to 22:22 SS: 20:38	Temp: 18°C Humidity: 92% Cloud: 100% Wind: 1/12 Precip: None	Temp: 19°C Humidity: 97% Cloud: 100% Wind: 1/12 Precip: None

3.6 Observations

Table 6: Results and observations of the building, tree or structure.

Surveyor	Building, Tree or Structure	Dates, Times and Survey Type	Bat Activity Observed
EB	B1	18/07/2024 20:55 to 22:55 SS: 21:10	Common Pipistrelle: Distant passes occurred at 21:29, 21:36, 21:37, 21:54, 21:55 22:00, 22:08, 22:20, 22:24 and at 22:28.
PH	B1	As above	Common Pipistrelle: Passes occurred at 21:37, 21:40, 21:44, 22:06, 22:17, 22:21 and at 22:29.
SD	B1	08/08/2024	Common Pipistrelle:

		20:22 to 22:22 SS: 20:38	Foraging occurred at 20:50, 20:53, 20:54, 20:59, 21:00, 21:02, 21:05, 21:21, 21:24, 21:27, 21:29 and at 21:31.
EVL	B1	As above	Common Pipistrelle: Passes occurred at 20:58, 21:33 and at 21:40.

Summary of surveys and supplementary observations:

18/07/2024 - No bat emergences

08/08/2024 - No bat emergences

IR at the darkest point:



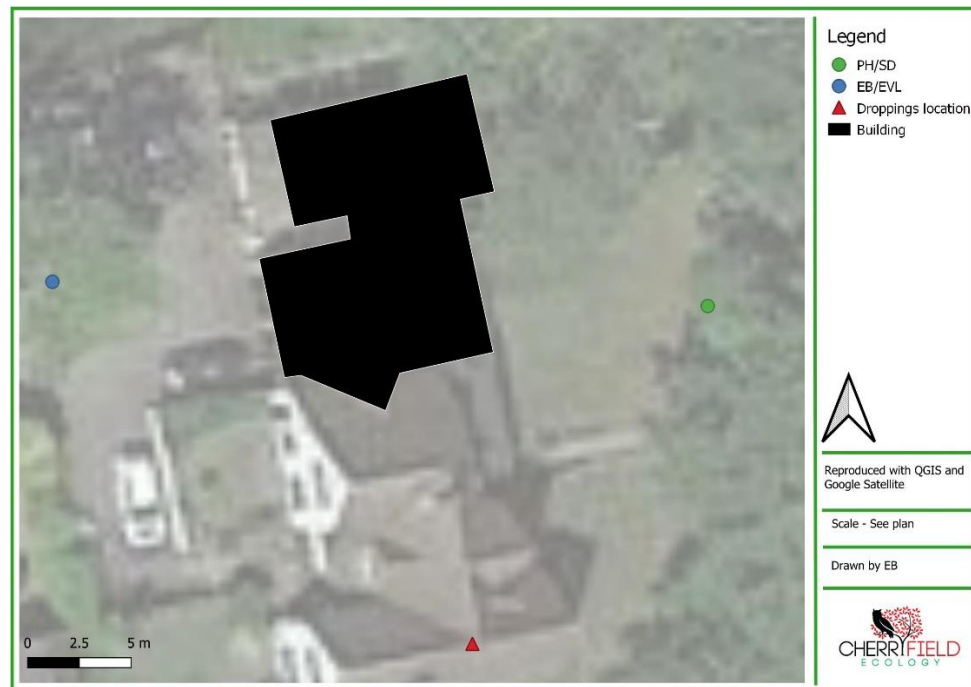
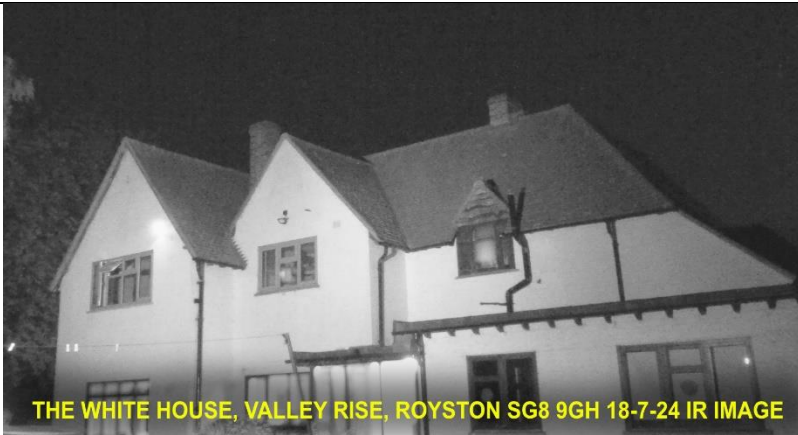


Figure 2: Site Plan

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)

4.1 Conclusion and Discussion

The proposals include for demolition of the existing garage, extension and shed and construction of three new dwellings.

no emergencies observed.

All the surveys show that the surrounding grounds are being used for foraging and commuting bats.

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 7: Impact Assessment.

Impact	A bat roost may be disturbed in the development
Characterisation of unmitigated impact on the feature	A bat roost could be disturbed during works to the adjacent roof, resulting in a low-level impact at a local level.
Effect without mitigation	Without mitigation there could be low-level disturbance to the roost
Mitigation and or enhancement	See Table 8 and 9
Significance of effects of residual impacts (after mitigation)	No residual impacts.

4.3 Recommendations

The following table details the recommended mitigation and compensation required; **it also recommends for an unlicensed method statement to be followed.**

Bat droppings were found within the loft void above the main section of B1, this area of the roof is separate to the area of the roof proposed for development with no connected loft voids, and this area will not be impacted by the development.

No droppings were found within the garage and extension and the emergence surveys have shown a likely absence of bats from this area of the building.

Therefore, it is considered that proportionate approach to the works would be for an **unlicensed method statement** to be followed to reduce any potential disturbance to the roost within the eastern side of B1.

License type required: Unlicensed Method Statement

Roost type: Day

Table 8: Mitigation and Compensation

Work	Specification
Unlicensed Method Statement	It is recommended that a supervised roof strip be carried out with a licenced ecologist on site to supervise the removal of the roof tiles. This must be undertaken either between the end of September to November OR late March to April, as these are considered to be the least active months for bats. If at any time bats are found during works, works must stop, and further advice sought from a licensed bat worker. Prior to works, a bat box will be hung on the trees, or the areas of the building unimpacted by the works, at a minimum of 3m from ground level and face south/southwesterly. This will allow for the safe relocation of any bats in immediate danger by the licenced bat ecologist. Commuting bats were using the grounds and surrounds, therefore, any tree, hedges or linear feature should be retained where possible.

Lighting	Any lighting near or shining onto any trees, 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, 2023) https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/ This lighting, where 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 are maintained.
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The local planning authority has a duty to impose enhancements. The following table details the affordable and simple enhancements suitable for the site (Table 9).

Table 9: Enhancements to allow a net gain for protected species.

Work	Specification
Enhancements to provide a net gain as per the LPA's duty.	A minimum of one Chillon Woodstone bat boxes or similar boxes (Figure 3) will be hung on the trees at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by crevice and void-dwelling species.  Figure 3: Chillon Woodstone Bat Box (British-made) Bat tubes can also be built into the buildings (Figure 4); these require no maintenance and can be hidden by facing the tube with the cladding/brick etc. for aesthetics.



Figure 4: Example of bat tube

5.0 References

Cherryfield Ecology (2024), Ecological Appraisal Report 2024

CIEEM (2018), Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, September 2018. Chartered Institute of Ecology and Environmental Management, Winchester, online at <https://www.cieem.net/data/files/ECIA%20Guidelines.pdf>

Collins, J. (ed.) (2023), Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition, BCT, London

Essah *et al.* (2020), Method for evaluating the snagging propensity of roofing membranes in buildings by roosting bats, online at tandfonline

Google Earth (2024), Located on site postcode, online

MAGIC (2024): Magic maps, NEPS licences and designated sites, online <http://www.magic.gov.uk/Login.aspx?ReturnUrl=%2fMagicMap.aspx>, accessed at report date.

Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield

National Planning Policy Framework, 2023
<http://www.communities.gov.uk/publications/planningandbuilding/nppf>

Office of the Deputy Prime Minister (2005), Circular 06/2005: Biodiversity and Geological Conservation. Para.99
<http://www.communities.gov.uk/documents/planningandbuilding/pdf/147570.pdf>

Records: Cambridgeshire & Peterborough Environmental Records Centre (2023) and Herts Environmental Records Centre (2023).