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Bat Activity Survey

Survey site:

The Old Quarry House, Steeple Aston, Oxfordshire, OX25 4SS

Client:

[redacted]

Report date:

21/10/2026, updated 04/11/2026

Project:

This report is prepared to inform a Section 62A application to the Planning Inspectorate. This proposal can be described as "The erection of up to 23 dwellings".

This report is supplementary to the Preliminary Ecological Appraisal report completed by Arbtech Consulting Ltd (2026).

Activity survey methodology and legislation can be found in the Arbtech Supplement: **BERS Methodology and Legislation - 2026.**

This report is an addendum to and must be read in conjunction with the Preliminary Ecological Appraisal completed by Arbtech Consulting Limited (2026) for the same site address.

This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent.

All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

Executive Summary

Background

PEA – Arbtech March 2026

Summary of PEA findings – The survey identified the western boundary hedgerows, the southern woodland and the scattered trees throughout the site as habitat for commuting and foraging bats. The proposed development will result in the loss of modified grassland and scattered trees. Modified grassland isn't optimal for bat foraging or commuting however, its loss may reduce the availability of resources in the locality and could also disrupt dispersal corridors for bats leaving or returning to roosts in the wider area. The loss of scattered trees could reduce foraging and commuting opportunities for bats. Construction works and external lighting fixtures on the proposed development could increase artificial light spill onto bat foraging and commuting habitat and could deter bats from using these areas.

As such, Bat activity surveys, comprising walked transects and static monitoring, were recommended to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. Due to the value of the habitats present on the site a total of three visits, one per season between spring and autumn, was recommended to gather sufficient information to enable a full assessment to be made.

Bat Activity Survey Results

Due to seasonal time constraints, only one activity survey was conducted in 2026, the autumn activity survey on 13/10/2026. This was conducted in optimal weather conditions.

The surveys confirmed that common pipistrelle, whiskered bats, and soprano pipistrelle regularly use the site for foraging or commuting, particularly along the western and southern edges. Additionally, Leisler's, brown long-eared, Natterer's, Daubenton's, noctule, and barbastelle bats were occasionally observed foraging or commuting on site.

Summary of Requirements:

All new lighting should be directed away from the woodland on the southern boundary and the western boundary treeline and hedges. This should remain a dark area for commuting and foraging bats.

A sensitive lighting strategy should be adopted for any lighting implemented elsewhere on the site.

The site surveys were designed and managed by Dr James Fielding, Bat licence level 2 - 2026-90338-SCI-CL18 and BCT Competency Level 3.

See surveyor locations in the **Activity Map in Appendix 1, Lighting Plan in Appendix 2.**

Limitations	Due to seasonal time constraints, only one activity survey was conducted in 2026, the autumn activity survey on 13/10/2026.

Static Survey 1 - Autumn	
Static Results	
Date	13/10/2026 – 19/10/2026
Position	3x Song meter mini bat static detector: Static 1 – Tree line on western boundary Grid reference SP 47170 26332 Static 2 –Tree in southern woodland - Grid reference SP 47056 26310 Static 3 - Boundary treeline/hedgeline on eastern boundary - Grid reference SP 47066 26413



Figure 1: Static 1

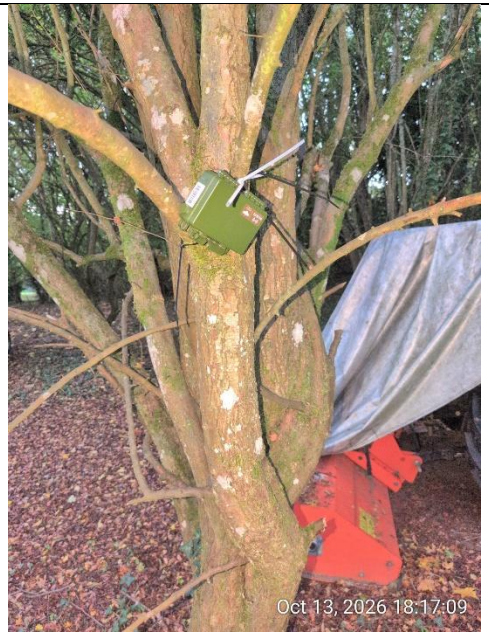


Figure 2: Static 2



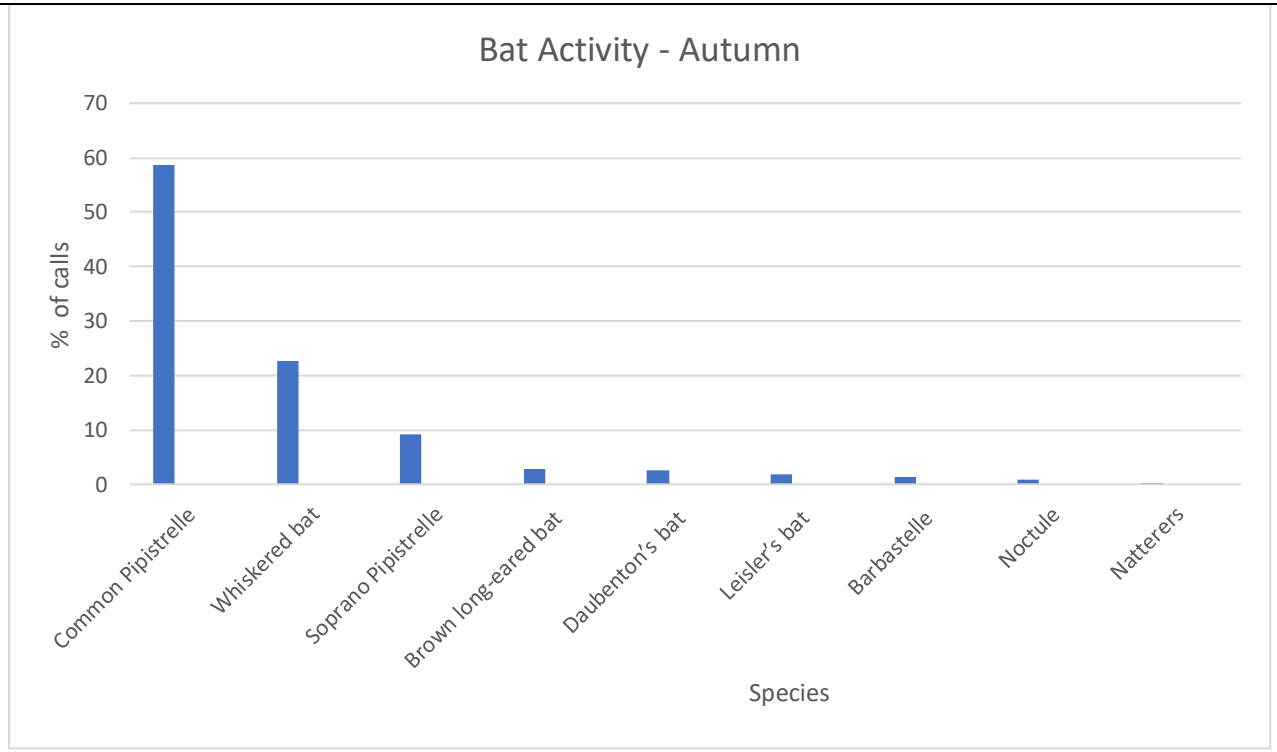
Figure 3: Static 3

Summary of Findings	The raw sound files were entered into the BTO pipeline for analysis. All non-bat or unidentified recordings, and those with low probability (below 0.5) were culled.

This left recordings. (569 static 1, 378 static 2, 42 static 3)

Of these, the following ratios were recorded:

Species	% of total calls	Recordings
Common Pipistrelle	58.1%	581
Whiskered bat	22.5%	223
Soprano Pipistrelle	9.1%	90
Brown long-eared bat	2.8%	28
Daubenton's bat	2.5%	25
Leisler's bat	1.85%	18
Barbastelle	1.4%	14
Noctule	0.9%	9
Natterers	0.2%	2



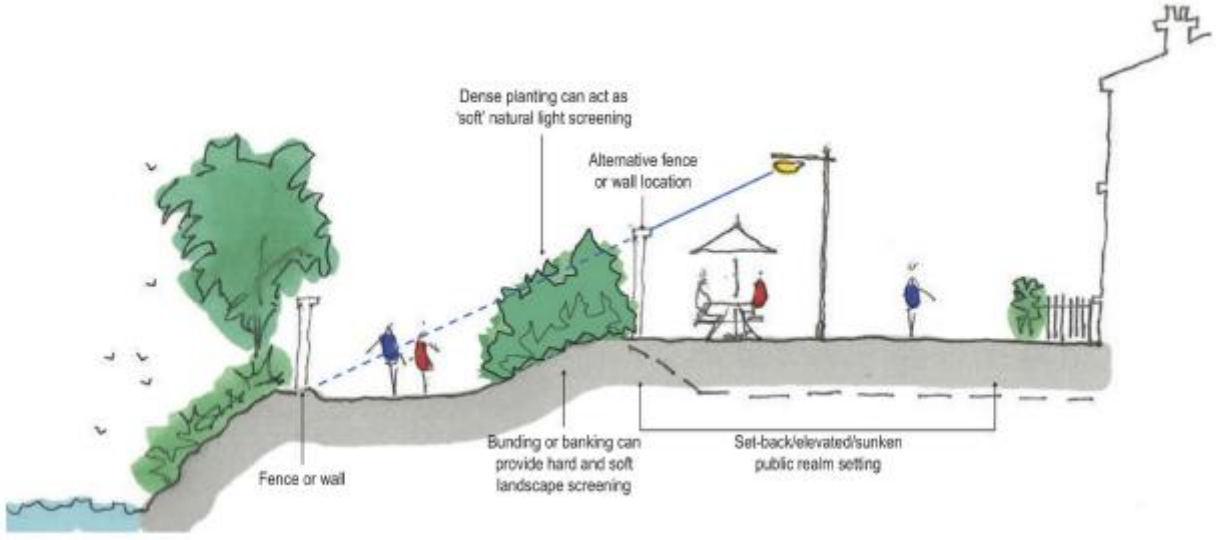
Proportion distribution per species

Activity/ Transect Survey 3 - Autumn		
Surveyors	**Lead Surveyor 1 –** James Fielding - Bat licence level 2 - 2026-90338-SCI-CL18, BCT Competency Level 3 **Surveyor 2 (Safety Second)** – Anneke Greenman – 3.5 years bat survey experience and accredited agent on 2023-11521-CL18-BAT	
Weather (start/end)	Temperature (°C): 15.7 Relative humidity (%): 60 Cloud cover (%): 70 Wind (m/s): 6	Temperature (°C): 13.2 Relative humidity (%): 70 Cloud cover (%): 70 Wind (m/s): 6

	Rain: None	Rain: None
Equipment used	Echometer Touch, Magenta, Headtorch.	
Date	13/10/2026	
Sunset, Start and End Times	18:03 – 19:48 Sunset – 18:18	
Surveyor observations		
Surveyor Observations	From sunset, a 30 minute stationary observation was conducted from the position of Static 3 and then a walking transect was conducted along the route shown in Appendix 3 until the end of the survey. A single common pipistrelle was observed at 18:31 foraging up and down the eastern treeline/hedgerow boundary, frequently looping over Static 3. This bat continued to forage continuously up and down the hedgerow from 18:31 to 18:46 when activity ceased. No further bat activity was observed during the survey.	

Conclusions, Impacts and Recommendations	
Survey Results Summary	The hedgerow and tree lines along the west and south of site were used by at least 9 species. From highest to lowest levels of activity, the following species were identified: Common pipistrelle, whiskered bat, soprano pipistrelle, brown long-eared bat, daubenton's bat, leisler's bat, barbastelle, noctule and natterer's bat. An overwhelming majority of the activity was represented by two bat species; common pipistrelle (58.1%) and whiskered bats (22.5%). Soprano pipistrelles made up ~half of the remaining (9.1% of total), with all other bats representing ~10% of the recorded activity in total. Notably, bat activity both during the transect survey and the activity survey was concentrated on the western boundary (static 1), whilst the static detectors also noted high levels of activity in the southern woodland. By contrast the eastern scattered treeline had relatively few calls (42 calls versus 569 recorded by static 1 and 378 calls recorded by static 2 during the survey period). Of note is that 14 barbastelle calls were detected by the static recorders, with 85% of these calls originating from the western boundary (static 1). 11 of these calls had a high probability of species identification (>0.95) and were manually reviewed by the author and confirmed as barbastelle calls. The low number of these calls suggests that, although a low number of Barbastelles are using the site, it does not represent a strategically significant commuting route or population. Barbastelle bats are an Annexe 2 species under the EU Habitats Directive, which requires providing Special Areas of Conservation for these species. No barbastelle-designated SAC is present within the local landscape (within 15km) however given the low-

	level of activity of barbastelles on site it is recommended that a dark corridor is established along the western boundary to protect their commuting and foraging activity. Only a single survey was conducted in autumn due to time constraints, however given the optimal weather conditions, number of calls and range of species detected it is thought that a good understanding of the use of the site's commuting features by bats has been reached. Additional visits or static detector deployments earlier in the year would likely just collect more of the same information gathered as this survey, and not change the conclusions that the boundaries are important commuting features. They would also not be proportionate to the size of the development or the impacts.
Impact Assessment	New lighting from the development could affect bat commuting and foraging routes for these species without mitigation. The proposed development will occur within the central area of the site, where far fewer bats were recorded. Moreover, it will largely retain the mature scattered trees within the site, retaining their foraging value. However the increased light spill is likely to reduce the suitability of the area for foraging. The western boundary hedgerow and the southern wooded area will be fully retained, and thus their commuting and foraging value will largely be retained. The development will not directly impact the wooded area, and the outskirts of the wooded area will protect the inner areas from light spill. However a low impact lighting plan and dark corridor should be put in place to protect this area. Based on this survey effort, the proposed plans have been altered to reduce the impact of the development on the western hedgerow. The updated plan in Appendix 3 relfects the recommended 5m dark corridor.

Recommendations	No lighting should be installed into the western and southern site boundaries, maintaining the known commuting routes along the western hedgerow and the southern wooded area. Dark corridors will be maintained around these areas, with a 5m buffer zone. Light screening via planting, fences and positioning can be used to minimize light spill onto the dark areas.  Figure 1: examples of physical light screening options Mature vegetation in the site of the site should be retained where possible. Where this is not possible, the provision of new native shrub and tree planting should be included to ensure commuting routes can be maintained during the operation phase. Other than areas on site where no lighting is permitted, a low impact lighting strategy will be adopted throughout the rest of 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. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • 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.
Enhancements	Woodcrete bat boxes could be installed on retained trees around the site to provide more roosting opportunity for local bats. These should be erected on the south or south-west side, 3-5m in height and with clear flight paths to the entrances away from direct lighting. 2 such crevice and 2 cavity boxes would be suitable. Native night scented wildflowers could be planted within retained or created areas of grassland to provide additional foraging opportunities.

	Native Species of local provenance including native shrubs, boundary hedgerows, and trees could be integrated into the landscape proposals across the site and the retained tree lines enhanced through diversification of ground flora and introduction of shrub layer species. These habitats will provide good microclimatic conditions for flying invertebrates that will in turn provide foraging opportunities for bats.

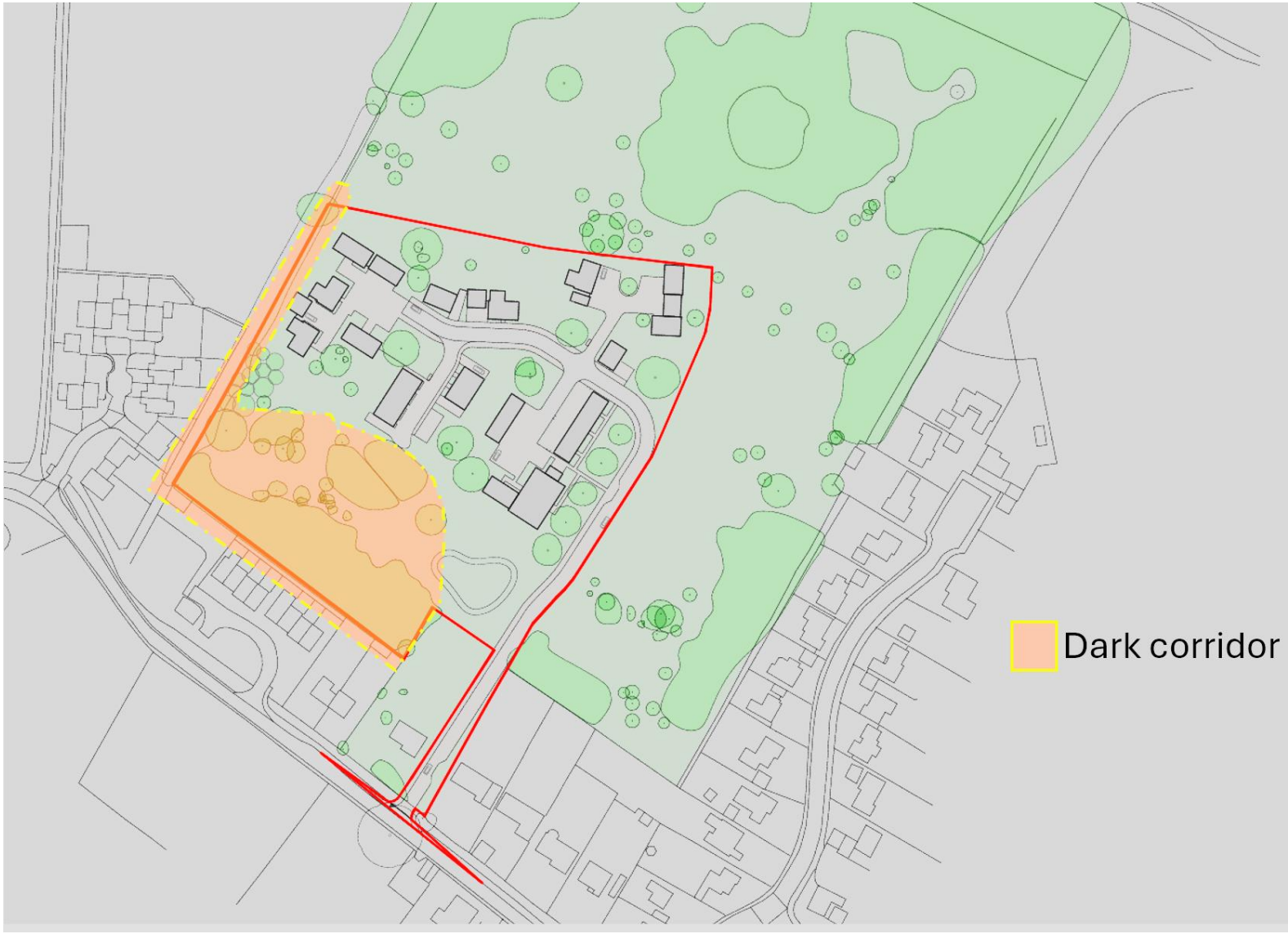
Appendix 1: Activity Map



Appendix 2: Lighting Plan



Appendix 3: Updated Proposed Plans



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Version control			
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