

Bat Report



Aston Rise

On behalf of Mr & Mrs Lewsey

September 2024

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1 Executive Summary

Report purpose	This report identifies the assemblage of bats within the main house (building B1) at Aston Rise, Aston, Oxfordshire, RG9 3DE (OS Grid Reference: SU 78271 84088), potential impacts of the proposals and mitigation, compensation and enhancement measures required.
Date and methods of survey	A Preliminary Roost Assessment and Daytime Bat Walkover of the main house (B1) was conducted in March 2024 which identified the need for further surveys for bats including: three night time roost surveys (conducted June – August 2024).
Key findings	The site, situated in rural south Oxfordshire, is 2.2 ha in extent and includes three buildings; the main house (B1), annex (B2) and workshop (B3). A large residential garden is also present, containing several mature and semi-mature trees. Deciduous woodland (a priority habitat) surrounds the site on two sides. During the night time roost surveys of the main house (B1), the following was recorded: • One soprano pipistrelle maternity roost; • One soprano pipistrelle satellite roost; • Six soprano pipistrelle and one common pipistrelle day/occasional roosts; • Four species of bat actively foraging and commuting within the site.
Potential impacts	The proposals include a Householder Application for a two-storey rear and side extension to the main house, alongside internal reconfiguration and some external repair works. In the absence of mitigation, development within the site may result in: • Permanent destruction of a soprano pipistrelle satellite roost; • Obstruction of access to two soprano pipistrelle/one common pipistrelle day/occasional roosts and one (of four) access point into the soprano pipistrelle maternity roost; and • Disturbance of all roosts within the building during the construction phase, including the soprano pipistrelle maternity roost which is proposed to be retained.
Licensing	A licence is required from Natural England to allow the works to legally proceed.
Measures to avoid and/or reduce impacts and deliver biodiversity enhancements	• Retention of roosts/access points where possible, including the retention of loft space L1 (location of soprano pipistrelle maternity roost) and enhancement of the loft space for bats, for example through the creation of crevice-boards and internal bat features; • Sensitive timing of works to avoid disturbance of the soprano pipistrelle maternity roost and avoidance of works to satellite roost within the maternity season (April – September, inclusive); • Installation of four bat boxes upon mature trees within the landholding prior to the works; • Ecologist to install one-way exclusion devices to roosts being removed and supervise hand-removal of features, moving any bats by hand to boxes.

2 Introduction

2.1 Background

- 2.1.1 Ecology by Design Ltd was commissioned by Mr & Mrs Lewsey to undertake Bat Night Time Roost Surveys of the main house at Aston Rise, Aston, Oxfordshire, RG9 3DE (central grid reference SU 78270 84092).

2.2 Site Description

- 2.2.1 The site is approximately 2.2 ha in extent. Buildings on site include the main house (B1), the annex (B2) and the workshop (B3). There is an area of deciduous woodland (Priority Habitat Inventory) in the east and west of the site, hardstanding in the northwest and centre of the site, residential garden in the north and the south of the site, and arable land in the south of the site.
- 2.2.2 The site is surrounded by arable field to the north, south and west, with Priority Habitat deciduous woodland to the west of the site. In the wider landscape, the hamlet of Aston lies to the north and east of the site, arable land in all directions, and the River Thames to the north, east and west.

2.3 Proposed Works

- 2.3.1 The proposals include a Householder Application for internal reconfiguration and a two-storey extension to the rear (south) and side (east) of the main dwelling (B1), repair/refurbishment works to some areas of the retained building (for example, re-pointing) and demolition of the existing Annex (see separate report).

2.4 Aims of Report

- 2.4.1 This report presents an appraisal of the potential impacts of the proposed development works of building B1 on bats. The report outlines recommendations for avoidance, mitigation, compensation and enhancement measures.

2.5 Personnel

- 2.5.1 This project is led by Senior Ecologist Oli Bulpitt BSc (Hons) MSc ACIEEM who has five years' experience in ecological consultancy. Oli is experienced in conducting habitat and protected species assessments of this size and nature. The Preliminary Roost Assessment survey was completed by Senior Ecologist Jo Sykes BSc (Hons) ACIEEM, who holds a Natural England Level 1 class licence for surveying bats (Licence number Level 1 - 2021-10092-CL17-BAT) and Assistant Ecologist Kat Hale BSc (Hons).

- 2.5.2 Project supervision and review of the report was provided by Principal Ecologist Karen Lunan, BSc (Hons), MSc, MCIEEM, who has been an ecological consultant for 18 years.

3 Methods

3.1 Desk Study

- 3.1.1 Records of bats were requested from Thames Valley Environmental Records Centre (TVERC) for within a 2km radius of central OS national grid reference SU 78270 84092. MAGIC (www.magic.gov.uk) was also used to identify presence of granted bat European Protected Species Mitigation licences within the local area.

3.2 Daytime Bat Walkover

- 3.2.1 A daytime bat walkover (DBW) survey was conducted by Jo Sykes (Natural England Level 1 - 2021-10092-CL17-BAT) and Kat Hale on 11th March 2024.
- 3.2.2 During the DBW the surveyors noted any habitats suitable for roosting, foraging or commuting bats within or adjacent to the site. This includes recording structures, habitat features and trees which could be suitable for bats.

Table 3.1: *Categorisation of Potential Suitability of Sites for Bats (Collins, 2023)*

Suitability	Description of Potential Flightpaths and Foraging Habitats
None	No suitable features for flightpaths and foraging.
Negligible	No obvious flightpath or foraging features but cannot be discounted.
Low	Habitats with limited connectivity suitable for use by low numbers of bats.
Moderate	High habitat connectivity including flightpath or foraging habitats features.
High	Well-connected habitats high quality habitats for foraging which is likely to be in regular use.

3.3 Preliminary Roost Assessment

- 3.3.1 An external and internal Preliminary Roost Assessment was conducted of the buildings on site, on the 11th March 2024.
- 3.3.2 The assessment was based on the guidance in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023) and government guidance (Gov.uk., 2015a).
- 3.3.3 The surveyors used a high-power torch and binoculars to inspect features of interest. All external areas of the building were inspected as well as internal areas, including all lofts.
- 3.3.4 Evidence searched for included the presence of free hanging bats and bats within gaps and crevices, bat droppings, urine stains, rub marks, scratch marks and feeding remains.

Table 3.2: *Description of potential roosting habitats in structures*

Suitability	Description of potential roosting habitats in structures
None	No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter).
Negligible	No obvious habitat features on site likely to be used by roosting bats but cannot be discounted.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However these do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. maternity or classic hibernation site).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, appropriate conditions and suitable surrounding habitat but unlikely to support a roost of high conservation status (i.e. maternity or classic hibernation site – roost type only, irrespective of species conservation status).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have potential to support high conservation status roosts (i.e. maternity or classic hibernation site).

3.4 Night Time Roost Surveys

- 3.4.1 Further survey was conducted to establish if bats are roosting within building as B1 which is assessed to be of moderate suitability for roosting bats during the PRA. Two emergence surveys are required for moderate roost suitability to confirm presence or likely absence, in line with best practice guidelines.
- 3.4.2 Bat emergences were recorded from the building during the first survey, therefore, one further survey was carried out in order to take the total number of emergence surveys to three and to enable characterisation of the roosts present within the building.
- 3.4.3 Surveys were completed between June and August, in the suitable surveying season (May to September) with surveyors located around the building focused on potential roosting features.
- 3.4.4 The surveys undertaken within the site are detailed in Table 3.3.

Table 3.3: *Night time roost survey details*

Date	Surveyors	Type of Survey
25/06/2024	Kat Hale, Jo Graham (Natural England Level 2 Class Licence 2018-36787-CLS-CLS), Emile Roulston and Stephen Ellwood (Natural England Level 2 Class Licence 2015-12249-CLS-CLS).	Dusk emergence
17/07/24	Kat Hale, Juliet Reid, Dave Parsons (Natural England Level 1 Class Licence 2019-40514-CLS-CLS) and Jo Graham (Natural England Level 2 Class Licence 2018-36787-CLS-CLS).	Dusk emergence
14/08/2024	Kat Hale, Dave Parsons (Natural England Level 1 Class Licence 2019-40514-CLS-CLS), Harry Eldon and Frank Lucas.	Dusk emergence

3.4.5 The surveys were based on the guidance included in the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023). Bat detectors utilized included Elekon Batlogger M2 detectors to record any bats emerging from or re-entering the buildings.

3.4.6 The emergence surveys commenced approximately 15 minutes before sunset and lasted until 1.5 hours after sunset.

3.4.7 Surveyors were located on each aspect of the building, focused on features identified during the preliminary roost assessment as being suitable for roosting bats. During the surveys emergence and/or re-entry points were mapped, species were identified (where possible) and flight lines were noted. The results of the survey are detailed in Figure 2 in Appendix 2.

Two infrared cameras (Canon XA40 IR and Canon XA50 IR) and one thermal imaging camera were utilised during these surveys to better capture emergences, situated on the northern, western and southern elevation for each survey (see locations on Figure 2, Appendix 2). Camera footage was watched back for any suspected emergences/re-entries and also to confirm emergences/re-entries the surveyors recorded, to pin-point the specific emergence/re-entry locations.

Table 3.4: *Dusk emergence survey methods*

Date	Start and end times and time of sunset	Structure reference / location	Equipment used	Weather
25/06/24	21:10-22:55; 21:25	B1	Batlogger M & M2, Canon XA40 IR and Canon XA50 IR	Start: 25°C, Cloud 5/8 ¹ , Wind 1 ² End: 20°C, Cloud 0/8, Wind 1
17/07/24	20:57-22:43; 21:13	B1	Batlogger M & M2, Canon XA40 IR and Canon XA50 IR	Start: 19°C, Cloud 7/8, Wind 0 End: 17°C, Cloud 4/8, Wind 1
14/08/24	20:12-21:57; 20:27	B1	Batlogger M & M2, Canon XA40 IR and Canon XA50 IR	Start: 19°C, Cloud 8/8, Wind 0 End: 16°C, Cloud 8/8, Wind 0

3.5 Limitations/Constraints

- 3.5.1 Surveyors were constrained by bright motion-sensor security lights on each elevation of the building, however, this is not considered to be significant constraint as there were prolonged periods of security lighting not being activated and the use of cameras allowed for later analysis of the times that surveyors sight was constrained by lighting.

¹ Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

² The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. . 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze, 6- Strong breeze, 7- Moderate gale, 8- Fresh gale, 9- Strong gale, 10- Whole gale, 11- Storm, 12- Hurricane force.

4 Results and Interpretation

4.1 Desk Study

- 4.1.1 163 records of at least ten bat species have been recorded within 2km of the site including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathuius' pipistrelle (*Pipistrellus nathusii*), brown long-eared (*Plecotus auritus*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*), greater horseshoe (*Rhinolophus ferrumequinum*) and barbastelle (*Barbastella barbastellus*). The closest of these records was of a common pipistrelle, soprano pipistrelle, serotine, noctule, and *myotis sp.* bats 0.04km NE of the site in June 2022.
- 4.1.2 12 European Protected Species Licence (EPSL) for bats have been returned within 2km, with the closest for the destruction of a common pipistrelle breeding place in 2016, approximately 0.7km northeast of the site.

4.2 Daytime Bat Walkover

- 4.2.1 Habitats with suitability for foraging or commuting bats within or adjacent to the site include:
- The woodland within the east of the site.
 - The woodland adjacent to the western boundary of the site.
 - The scattered trees in the south of the site.
- 4.2.2 Habitats with suitability for roosting bats are discussed within the Preliminary Roost Assessment section below.
- 4.2.3 Overall, the site is identified as being of high suitability for bats.

4.3 Preliminary Roost Assessment

- 4.3.1 Table 4.1 includes descriptions of the building B1 within the site, any evidence of roosting bats found and an assessment of their suitability to support roosting bats. Figure 1 in Appendix 2 shows the locations of the loft voids in B1.

Table 4.1: Suitability of buildings for roosting bats and summary of roosts found

Building Reference	Description	Assessment
B1 'Main House'	Externally, B1 is a three-story building constructed of brick with two pitched, gable ended roofs (one smaller running north to south and one larger running east to west) with clay tiles and five gable-fronted dormers (two on the	Moderate suitability for roosting bats



northern elevation, two on the southern elevation and one on the western elevation). There is a brick-built, single-storey extension on the eastern elevation which has no accessible loft void and a clay tiled, lean-to roof. There is also a small cellar under the front of the house. The cellar has no access points to the outside and is very warm, therefore there is no suitability for roosting bats. The tiles of the roof are in very good condition with no areas with visible lifted, broken or damaged tiles. On the northern elevation of B1, there are: a hole next to the chimney (PRF-4); and a gap next to a ventilation pipe (PRF-5). On the eastern elevation of B1 there is a hole near the chimney (PRF-6). On the southern elevation of B1, there are: gaps where the edges of the dormer windows meet the main roof (PRF-1); a hole in the brickwork where a pipe may have previously been (PRF-2); and lifted lead flashing (PRF-3 and PRF-7). Each of these features provide suitability for crevice dwelling species. There are no PRFs visible on the western elevation B1.

Internally, there is a loft conversion within the majority of the existing roof, with three different loft voids left within this space. A very large number of harlequin ladybirds (*Harmonia axyridis*), an introduced species, were observed hibernating on and around the timbers and the crevices within all the loft spaces. Loft L1 is accessed from four different wall hatches, and includes the western most pitched roof space, a small area running along the southern aspect of the house, and the length of the apex of the main roof. L1's loft space is timber framed and wooden boarded, with bitumen felt lining and fibreglass insulation. In the western area of L1, there is a loft space that is carpeted on top of the wooden boarding which has a king post roof truss and a raised platform which is boarded. There is a hole in the platform on the southwestern side of the space in which there is a large pile of bat and rodent (possibly rat or grey squirrel) droppings under the platform that have accumulated. Additionally, there are approximately 50 bat droppings scattered widely on the wooden boarding around this hole. There is a hole in the southern gable end wall of this space that has been packed with chicken wire that may have been previous entrance point for bats. A dead bird was recorded (possibly a great tit – *Parus major*) caught in the insulation at the joining between the internally western roof (L1) and the central roof (L2). This loft is used for storage and had no light ingress was identified in this loft space.

Loft L2 is accessed from a ceiling hatch in the eastern most bedroom and is timber-framed, and bitumen felt and fibreglass lined. No droppings were identified in this loft space and no light ingress was identified. This loft is used for storage.

Loft L3 is accessed through a wall hatch in the eastern most bedroom. It is timber framed with bitumen felt lining, some fibreglass insulation and wooden boarding. Rough 15 bat droppings that were not fresh but presumed to be a year or so old and characteristic of pipistrelle species, as well as a

small, dead pipistrelle (*Pipistrellus sp.*) were found within the space, to the right of the entrance. The pipistrelle found was not recently dead, and no obvious entry point was observable in the loft space. There was no light ingress in the loft space and it appeared well sealed.

4.4 Night Time Roost Surveys

4.4.1 Details of the night time roost surveys are given in Table 4.2 below. The locations of the surveyors and the roosts present is given in Figure 2 in Appendix 2.

4.4.2 The survey timings and weather conditions for the dusk emergence surveys are detailed in Table 4.4 below.

Table 4.2: Survey weather conditions

Date	Sunset/ Sunrise	Start	End	Weather
25 th June 2024	21:25	21:10	22:55	25°C to 20°C, Cloud 5/8 to 0/8, 2 Beaufort 1
17 th July 2024	21:13	20:57	22:43	19°C, Cloud 7/8, 0 Beaufort
14 th August 2024	20:27	20:12	21:57	19°C, Cloud 8/8, 0 Beaufort

Dusk emergence survey 25th June 2024

4.4.3 A net total (when taking into account re-entries) of 16 soprano pipistrelle bats were recorded exiting loft L1 (Roost location R1³) via four access points, including:

- Access Point A1 – Gap at the apex of the barge boards on the southern elevation of L1 – four bats emerged and one re-entered this location during the survey;
- Access Point A2 – Gap at eaves where dormer and wall join on western elevation of L1 – seven bats emerged and nine re-entered this location during the survey;
- Access Point A3 – Gap at the eaves on the western elevation of L1 – four bats emerged and one bat re-entered this location during the survey; and

³The specific location of the roost within the loft space is to be determined for the licence application following an internal inspection, however, the bats utilising different access points into/out of the loft are highly likely to be the same colony of soprano pipistrelles, therefore, loft space L1 has been labelled 'Roost R1' until this internal inspection and specific internal feature-determination has taken place.

- Access Point A4 – Gap at the eaves on the western elevation of L1 - one bat emerged and three bats re-entered this location during the survey.

4.4.4 In addition to roost R1, four external roost locations were identified during the survey, including:

- Roost location R2 – one soprano pipistrelle emerged and two soprano pipistrelle's re-entered a gap beneath lead flashing on the northern elevation of the chimney to the east of the dwelling;
- Roost location R3 – two common pipistrelle bats emerged from a tile on the southern elevation of the main roof (Roost R3a);
- Roost location R4 – one soprano pipistrelle emerged from a gap above the lintel of the main central dormer on the front (north) elevation of the house; and
- Roost location R5 – one soprano pipistrelle emerged from behind the eastern downpipe on the northern elevation of the building.

4.4.5 Common and soprano pipistrelles were also observed commuting through and foraging within the survey area throughout the survey, with several commuting passes of noctule also noted.

Dusk emergence survey 17th July 2024

4.4.6 A net total (when taking into account re-entries) of 22 soprano pipistrelle bats were recorded exiting Roost R1 via the same four access points as the previous survey (A1-A4), with the majority (18 emergences) from the gap at the apex of the gable end (Access Point A1).

4.4.7 Bats were also identified using the same following external roost locations as the previous survey:

- Roost location R2 – this survey a total of 15 soprano pipistrelle bats emerged (with three re-entries) from the chimney feature;
- Roost location R3 – this survey a common pipistrelle re-entered the same tile as identified during survey 1 (Roost R3a), additionally, two soprano pipistrelles emerged from the same location (Roost R3b).

4.4.8 Two new external roost locations were identified during the survey;

- Roost location R6 – one soprano pipistrelle emerged from tiles on the dormer on the southern elevation of the dwelling; and
- Roost location R7 – three soprano pipistrelle bats emerged from lifted tiles on the (east) small dormer on the northern elevation of the dwelling.

4.4.9 Common and soprano pipistrelles were again observed commuting through and foraging throughout the survey, with several commuting passes of noctule also noted. Five passes of serotine were observed during the later part of the survey (22:24).

Dusk emergence survey 14th August 2024

4.4.10 A net total (when taking into account re-entries) of 28 soprano pipistrelle bats were recorded exiting Roost R1, utilising the same four access points (A1-A4) identified in previous surveys. An additional access point (A5) was identified, which comprised a gap at the eaves on the eastern elevation of the loft space, from which two soprano pipistrelle bats emerged.

4.4.11 Bats were also identified using the same following external roost locations as the previous survey:

- Roost location R2 – one soprano pipistrelle emerged from this location
- Roost location R7 – one soprano pipistrelle emerged from this location

4.4.12 One new external roost location was identified during the survey:

- Roost location R8 – a gap at the eaves on the southern elevation of the dwelling – one soprano pipistrelle emerged from this location.

4.4.13 Common pipistrelle, soprano pipistrelle, noctule, and serotine bats were all observed commuting through and foraging within the site during the survey.

4.5 Site/ Species Valuation for Bats

4.5.1 Table 4.3 below summarises the roosts present on site and their relative geographical importance in line with criteria set out in Appendix 3 (Reason & Wray, 2023).

Table 4.3: Summary of Roosts on Site and their Geographic Importance

Roost Reference	Species	Roost Type	Peak Count	Geographic Importance
R1 (Access Points A1-A5)	Soprano pipistrelle	Maternity	28	District
R2	Soprano pipistrelle	Satellite ⁴	15	District ⁵

⁴This roost had low numbers of bats for the first and third surveys, with a high number (peak of 15) in the second survey, which was in the height of breeding season when bats utilising loft space L1 were likely to 'spill-over' into this roost location. It is not likely to be a maternity roost given the low numbers of bats in both the first and third surveys.

⁵The satellite roost is likely to be functionally linked to the maternity roost, therefore, it is assessed to be of District importance alongside the maternity roost in loft space L1.

Roost Reference	Species	Roost Type	Peak Count	Geographic Importance
R3a	Common pipistrelle	Day/occasional	2	Site
R3b	Soprano pipistrelle	Day/occasional	1	Site
R4	Soprano pipistrelle	Day/occasional	1	Site
R5	Soprano pipistrelle	Day/occasional	1	Site
R6	Soprano pipistrelle	Day/occasional	1	Site
R7	Soprano pipistrelle	Day/occasional	3	Site
R8	Soprano pipistrelle	Day/occasional	1	Site

4.5.2 The roosts on site mainly comprise soprano pipistrelle roosts and a single common pipistrelle, which are common and widespread species. The soprano pipistrelle maternity roost present within loft space L1 (Roost R1) and its associated satellite roost adjacent to the eastern chimney (Roost R2) are assessed to be of District importance. The remainder of common pipistrelle and soprano pipistrelle day roosts across the building (R3 – R8) are assessed to be of site importance due to the nature of the roosts and as the species present are widespread. The assemblage of species of site score 6, using table 3.3 from the Bat Mitigation Guidelines (2023) indicating that they are not of county, regional or national importance, as these species are widespread.

5 Potential Impacts and Recommendations

5.1 Bats

Potential Impacts – Side Extension

- 5.1.1 The proposed two-storey side extension to the eastern elevation will result in the loss of roost R2 (soprano pipistrelle satellite roost), as the extension will tie into the wall/gable adjacent to the chimney, which this roost is associated with. In the absence of mitigation, this may kill or injure bats present within the roost during the works and will result in the permanent destruction of this roost.

Potential Impacts – Rear Extension

- 5.1.2 The proposed two-storey rear extension to the southern elevation will not result in the direct loss of any roosts, however, the flightpath for bats in/out of the following roosts/access points will be obstructed by the new extension:

- Roost R6 (soprano pipistrelle day roost beneath tiles on the dormer window);
- Roosts R3a (common pipistrelle day roost) and R3b (soprano pipistrelle day roost) beneath tiles on the southern elevation, towards the eastern chimney; and
- Access point A5 (one of the access points for soprano pipistrelle bats into the maternity roost R1)

- 5.1.3 This is assessed as unlikely to be a significant impact for the maternity roost R1 as this is one of five other access points in/out of the loft, with access point A5 only being used by two individuals on one of the surveys (access points A1 and A4 were by far the most utilised across all three surveys). However, the flightpath in/out of roosts R3a, R3b and R6 will be a significant modification of the roosts as the new extension will be virtually up to the eaves beneath the dormer/existing tiles, which is likely to lead to the effective 'blocking' of the roost to bats and result in the abandonment of the day roosts.

Potential Impacts – Repair/Re-Pointing Works

- 5.1.4 In the absence of mitigation, repair works to the building (such as brick re-pointing, re-tiling and repair works to timbers/barge boards/soffit boxes) could result in the damage/destruction of all other roosts not lost as a result of the extensions. For example, the repair works at the eaves of loft space L1 would result in the permanent destruction of the maternity roost R1 and re-tiling work would result in the loss of roosts R3a, R3b, R4 and R6.

Potential Impacts – General Disturbance

- 5.1.5 There is also potential for bats within roosts on site to be disturbed during the working phase of the project, for example, noise and vibration of works within the building and/or temporary blockage of roost flightlines by scaffolding externally. The potential disturbance of Roost R1 (soprano pipistrelle maternity roost) would be of higher significance than the other roosts, as breeding bats are much more sensitive to disturbance during the maternity season.

Potential Impacts – Lighting

- 5.1.6 Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract, other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which emit UV light (such as mercury vapour); it can deter some bats from utilising the site and in some instances can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

Recommendation R1: Secure and Implement Bat licence

- 5.1.7 Once planning permission is secured a European Protected Species Mitigation licence for bats will be secured from Natural England via an Earned Recognition licence to enable works which will result in the destruction or disturbance of the roosts.
- 5.1.8 Consideration should be given to the likelihood of a Natural England licence being granted and in doing so consider the three tests. These are ‘imperative reasons of over-riding public interest’ (IROPI), the ‘no satisfactory alternative’ and the ‘favourable conservation status test’ (see Section 7). Any mitigation measures and compensation required should be detailed in order to satisfactorily demonstrate that *“the action will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”*.

Outline of Likely Licence Strategy:

- Timing of the works affecting roosts R1 and R2 to avoid the maternity period as outlined in Recommendation R3;
- As compensation for the loss of roosts, install four 2F Schwegler bat boxes (or similar) on mature trees on the boundaries of the site which can also be used to place any captured bats found during the inspection or works.

- Install exclusion devices on confirmed roost features (roosts R2, R3a/b, R6 and R8) and/or supervise the destructive search of roosts via soft-stripping;
 - Works to all known roosts impacted by the proposals will be supervised by the Named Ecologist or an Accredited Agent.
 - Prior to works commencing, all staff on site will be made aware of this mitigation, and of the level of legal protection afforded to bats through provision of an on-site 'Toolbox Talk';
 - The roosting sections of the buildings will be re-inspected immediately prior to works; and
 - Upon conclusion of the inspection the ecologist will provide a watching brief during works, relocating any bats found to the bat boxes installed on mature trees on site.
- Integrated roosting features in newly proposed fascia boards and soffit boxes, such as providing a minimum of 10 access points to the soffit boxes and incorporation of a minimum of 10 wooden crevice features within the soffit boxes.
- Inclusion of two bat access tiles on the southern elevation of the extension's new roof. Only bitumen 1F lining will be used in areas with bat access tile features.
- Sensitive lighting (see R4 below).

5.1.9 It is proposed the retained loft space L1 is enhanced for bats, through implementing the following:

- Locking the loft access to L1, avoidance of human use of L1 and clear signage on the door to indicate the presence of a maternity roost sensitive to disturbance.
- Wooden crevice features created in loft space.
- Creation of small cavities in bitumen 1F felt lining.

Recommendation R2: Retention of Roosts

5.1.10 Where possible, roosts and access points that are not being directly lost as a result of the extension works (Roosts R1, R4, R5 and R7) should be retained, for example, avoidance of repairs such as re-tiling in specific locations of roosts and/or access points. This is especially important for access points A1-A4 that lead into the soprano pipistrelle maternity roost (R1). Within the proposals, loft space L1 is to be retained as a loft space and not converted into inhabited space, therefore, the soprano pipistrelle maternity roost will be retained. The loft space provides opportunities for compensation and enhancement at the site for bats (see Section 5.1.12 below).

Recommendation R3: Timing of Work

- 5.1.11 To minimise disturbance to the soprano pipistrelle maternity roost R1, internal works within the room below the loft space must be timed to avoid the sensitive breeding season (April – September, inclusive). Additionally, scaffolding is not to be installed adjacent to the loft space during the breeding season, to avoid blocking the flight paths in/out of the maternity roost during the sensitive breeding season. The licensed exclusion/supervised hand-removal of roost 2 (soprano pipistrelle satellite roost) must also be timed to avoid the maternity season, as there is a possibility of pregnant bats or bats carrying young pups utilising this roost.
- 5.1.12 Licensed works to confirmed day roosts (such as exclusion or supervised hand-removal) should be timed to avoid the hibernation season (November – March, inclusive), given the possibility of pipistrelle bats hibernating within crevices.

Recommendation R4: Lighting

- 5.1.13 Any lighting for the development (if required) will need to be designed sensitively in accordance with industry standard guidance (BCT & ILP, 2023) and the following principles will need to be adopted:
- Maintaining dark corridors along the site boundaries;
 - Where lighting is required, ensuring:
 - Light levels are less than 3 Lux;
 - LED luminaires with a warm white spectrum ideally <2700 Kelvin (to avoid blue / UV elements);
 - Bollard or low-level downward directional luminaires are used and mounted on the horizontal (with no upward tilt); and
 - Security lighting, if required, is motion-activated with short (<1 minute) timers.

6 Relevant Legislation and Policy

6.1 Exit from European Union

- 6.1.1 The Conservation of Habitats and Species Regulations 2017 (as amended), referred to as the '2017 Regulations,' are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives). Changes to the 2017 Regulations have been made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (referred to as the '2019 Regulations') to transfer functions from the European Commission to the appropriate authorities in England and Wales.
- 6.1.2 The amendments prescribed by the 2019 Regulations allow existing protections afforded by current wildlife legislation and transposed EC Council Directives to be operable from 01 January 2021.
- 6.1.3 The 2019 Regulations protect rare and vulnerable birds and the habitats that they depend upon. This is achieved in part through the classification of Special Protection Areas (SPAs). The Habitats Directive aims to protect plants, habitats and animals other than birds. This is achieved in part through the creation of Special Areas of Conservation (SACs). SPAs and SACs are collectively referred to as the 'National Site Network'.
- 6.1.4 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the National Site Network, however, all Ramsar sites remain protected in the same way as SACs and SPAs.

6.2 National Planning Policy Framework

- 6.2.1 The National Planning Policy Framework (NPPF) was updated in December 2023 (DLUHC, 2023) thereby replacing the older version of September 2023. The new framework sets out in section 15 that planning policies and decisions should contribute to and enhance the natural and local environment by ... (d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures (Para 180).
- 6.2.2 To protect and enhance biodiversity and geodiversity (Para 185), plans should:
- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and

areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and

- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

6.2.3 When determining planning applications, local planning authorities should apply the following principles (Para 186):

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

6.2.4 The following should be given the same protection as habitats sites (Para 187):

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site (Para 188).

6.3 Protection of Bats

6.3.1 Bats and their roost sites are protected by UK legislation.

6.3.2 The Wildlife and Countryside Act (1981) (as amended) makes it an offence to:

- Intentionally kill, injure or take a bat;
- Possess or control any live or dead specimen or anything derived from a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat; and
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose.

6.3.3 Additionally, The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb¹ a bat;
- Damage or destroy a breeding site or a resting place of a bat; and
- Keep, transport, sell or exchange or offer for sale or exchange a live or dead bat or any part of a bat.

¹Disturbance 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.

6.4 Local Planning Policy

6.4.1 The Wokingham Borough Local Development Framework Adopted Core Strategy Development Plan Document was adopted in January 2010. The following policies may be of some relevance to this development.

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree

of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or

B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or

C) That compromises the implementation of the national, regional, county and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

i) Mitigation measures can be put in place to prevent damaging impacts; or

ii) Appropriate compensation measures to offset the scale and kind of losses are provided.

7 References

BCT & ILP (2023). *Guidance Note GN08/23 Bats and artificial lighting at night*. Bats and the Built Environment series

BSI Standards Limited (2013). BS42020:2013 Biodiversity: Code of practice for planning and development CIEEM (2017). *Guidelines for preliminary ecological appraisal, 2nd edition*. Chartered institute of Ecology and Environmental management, Winchester.

CIEEM (2017). *Guidelines for preliminary ecological appraisal, 2nd edition*. Chartered institute of Ecology and Environmental management, Winchester

CIEEM (2019). *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 Updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester

Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London.

Gov.uk (2015). *Guidance. Bats: surveys and mitigation for development projects*. Natural England and Department for Environment, Food & Rural Affairs, Worcester.

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.

Wokingham Borough Council (2010). Wokingham Borough Local Development Framework Adopted Core Strategy Development Plan Document. Adopted January 2010.

Appendix 1 - Photographs

Photograph 1: Northern elevation of dwelling



Photograph 2: Cellar



Photograph 3: L1's western space



Photograph 4: Harlequin Ladybirds hibernating in L1



Photograph 5: Dead pipistrelle located in L3



Photograph 6: Southern elevation of dwelling



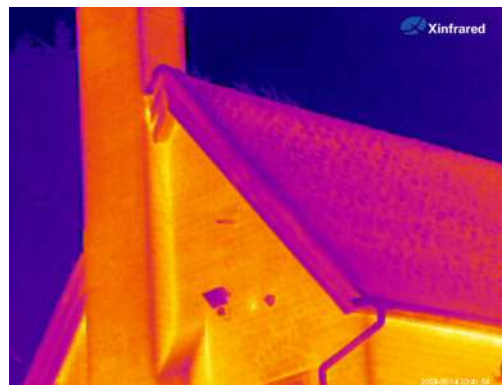
Photograph 7: Access Points into soprano pipistrelle maternity roost within loft space L1 (circled red) on western elevation



Photograph 8: Location of soprano pipistrelle satellite roost on eastern elevation (R1)



Photograph 9: Example of surveyor visibility through night vision aids at the darkest point of surveys



Appendix 2 - Figures

Next page:

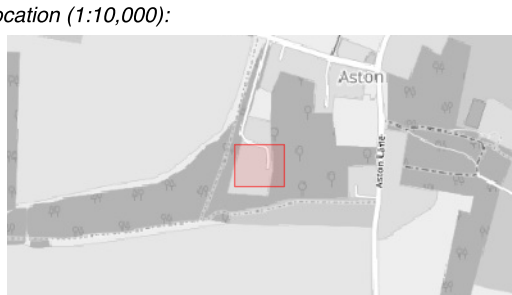
- Figure 1: Layout of Lofts
- Figure 2: Bat Survey Results



LEGEND

Lofts

Buildings



Project:
Aston Rise, Henley-on-Thames

Client:
Mr & Mrs Lewsey

Drawing Title:
Loft and Building map

Drawing No.:	Scale (@A3):
EBD_3725_DR001	1:200
Central Eastings, Northings:	Date Drawn:
478276, 184073	28/03/2024
Drawn by:	Approved by:
KH	BG

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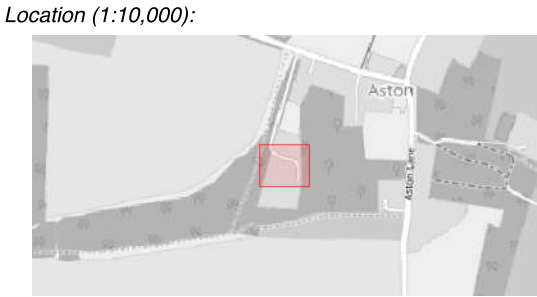


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- LEGEND
- Building Surveyed
 - surveyor locations
 - Surveyor
 - Intra-Red Camera
 - Thermal Imaging Camera
 - Loft L1 - Containing Soprano Pipistrelle Maternity Roost R1
 - Access Point into R1 - Soprano Pipistrelle Maternity Roost
 - Soprano Pipistrelle Satellite Roost
 - Soprano Pipistrelle Day Roost
 - Common Pipistrelle Day Roost



Project:
Aston Rise, Henley-on-Thames

Client:
Mr & Mrs Lewsey

Drawing Title:
Emergence Survey Results

Drawing No.:	Scale (@A3):
EBD_3725_DR005	1:200
Central Eastings, Northings:	Date Drawn:
478270, 184090	18/09/2024
Drawn by:	Approved by:
OB	BG

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Appendix 3 - Valuing Bat Roosts

The table below is a copy of Table 3.2 of the Bat Mitigation Guidelines (Reason and Wray, 2023) assessing the importance of roosts.

Roost category: note this table relates to VALUATION and does not mean that all such sites are 'places of shelter' as referenced in the W6CA or Habitats Regulations. Inclusion in this table does not indicate that a licence <u>would</u> be required; this would be driven by roost status, any impacts and the likelihood of an offence.							
Conservation status/ distribution	Feeding perches; night-roosts; Individual or very small occasional/ transitional/ opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites (excluding individual trees and larger swarming sites); small numbers of hibernating bats	Larger transitional roosts	Hibernation sites ^d	Autumn swarming sites [largely, vesper species which hibernate underground]	Maternity sites ^e
Widespread all geographies	Site	Site	Site	Site/Local	District/County [Larger hibernation sites rare in the UK]	District/County [Very large pipistrelle swarming sites as yet unknown in the UK91, but see Section 6.7]	Unlikely to exceed District importance unless colonies are atypically large; importance increased for assemblages.
Widespread in many geographies, but not as abundant in all	Site	Site	Site, dependent on local distribution [For <i>Myotis</i> , see swarming site column]	District	District/County importance dependent on size ^b and number of species	County/Regional importance dependent on size ^b ; importance increased for larger sites that serve larger numbers/species	Unlikely to exceed County importance unless colonies are atypically large; importance increased for assemblages.
Rarer or restricted distribution	Site (very well-used night roosts may be of District importance for some species)	Site/Local/District, dependent on local distribution	Site/Local/District, dependent on local distribution	District	District/County importance dependent on size ^b and local distribution; increased value for assemblages.	County/Regional importance on size ^b and local distribution; increased value for assemblages.	County/Regional importance on size ^b and local distribution; increased value for assemblages.
Rarest Annex II species and very rare	Site (very well-used night roosts may be of District importance for some species)	Site/Local/District, dependent on local distribution	Site/Local/District, dependent on local distribution	District	County/Regional importance on size ^b and local distribution; increased value for assemblages	County/Regional importance on size ^b and local distribution; increased value for assemblages.	County/Regional importance on size ^b and local distribution' increased value for assemblages.

Appendix 6 – Mitigation and/or Enhancement Measures

Products	Description
	Bat access tile set A tile shaped to provide an access point for bats under roofing tiles. These are of most benefit to crevice dwelling species but can also provide access to the roof void for free-hanging species. <u>Bitumen 1f type felt must be used in roofs fitted with these tiles and a hole should be cut into the felt beneath the tile to allow access to the roof cavity.</u> Available in a range of materials and colours. https://www.nhbs.com/bat-access-tile-set
	2F Schwegler Bat Box (or similar) A standard bat box for smaller bats to be placed on a mature tree. http://www.nhbs.com/2f-schwegler-bat-box-general-purpose