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Preliminary Bat Roost Assessment.
of
10 Edies Lane, Leavenheath, Suffolk, CO6 4PA.

Survey Commissioned by:	Mrs Yasmine Clarke
Project Number:	REP23004
Report issued:	17 th February 2023
Date of survey:	25 th January 2023
Surveyor:	Odette Robson BSc (Hons) PhD MCIEEM

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REP23004	Preliminary Bat Roost Assessment of 10 Edies Lane, Leavenheath, Suffolk, CO6 4PA	Final	17 th February 2023

Disclaimer

The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.

This report was instructed by Mrs Yasmine Clarke and following the brief agreed. Robson Ecology Ltd has made every effort to meet the client's brief.

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*Where roosting bats are recorded, a Protected Species Licence may be required: Natural England (the licensing authority in England) require data **from the most recent survey season**. Where a bat roost is not recorded, results are valid for a maximum of 18 months from survey date.*

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Summary

Site:	10 Edies Lane, Leavenheath, Suffolk, CO6 4PA
Grid Reference:	TL 95010 36140
Report Commissioned by:	Mrs Yasmine Clarke
Date of Survey:	25 th January 2023

	Impacts	Recommendations
Proposals	Planning Application	Demolition of existing garage, extension to house, and new-build car-port/garage.
Bats	Construction Phase Impact (roosting bats).	No evidence of bats having used the property (house or garage): Negligible risk of bats roosting due to lack of potential roosting features/opportunities internally and externally, and construction materials. <u>No further survey or precautions required.</u>
	Operational Phase Impact (commuting and foraging bats).	Negligible impact to commuting or foraging bats: No flight lines will be interrupted, by proposed works. No loss or other impacts to vegetation. <u>Sensitive external lighting to retain dark corridors around the property.</u>
Birds	Nesting bird potential	There were no potential nesting ledges, crevices, or access points for birds into the roof voids or externally. <u>No further surveys or precautions are required.</u>
Additional enhancement	Consider further enhancement of the property by locating bat and bird boxes on the new/extended garage/house.	

Contents

1	Introduction	5
1.1	Background.....	5
1.2	Legislation.....	5
1.3	Aims and Objectives.....	5
1.4	Site Context	5
1.5	Proposed Works.....	6
2	Survey Methodology.....	6
2.1	Site Survey.....	6
2.2	Desk Study.....	6
3	Results.....	7
3.1	Desk Study.....	7
3.2	Survey Results from 25 th January 2023.....	8
3.3	Suitability of 10 Edies Lane for Roosting Bats	9
3.4	Foraging and Commuting Bats.....	9
3.5	Nesting Birds.....	10
3.6	Limitations and Assumptions.....	10
3.7	Key Recommendations and Precautions.....	11
3.7.1	Further Surveys or Licence for Bats	11
3.7.2	Sensitive Lighting	11
4	Ecological Enhancement (Habitat Boxes).....	11
4.1	Bat Boxes.....	11
4.1.1	Building-Mounted Bat Boxes	11
4.1.2	House Sparrow Terrace	12
4.2	Ongoing Monitoring and Maintenance - Post-completion	13
5	Conclusion	14
6	References.....	14

1 Introduction

1.1 Background

Robson Ecology Ltd was commissioned to undertake a Bat Roost Assessment of a property at 10 Edies Lane, Leavenheath to inform a Planning Application and legal obligations in relation to demolition of the existing garage and extending the house.

1.2 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species are *Species of Principal Importance in England* (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP): Barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros* and Bechstein's bat *Myotis bechsteinii*.

Bats are a priority species under Section 41 of the NERC Act (2000) which is a consideration under the National Planning Policy Framework - NPPF (MHCLG, 2021), placing responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments.

1.3 Aims and Objectives

All UK species of bats are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to deliberately or recklessly capture, injure, disturb or kill a bat; damage or destroy a breeding site or resting place used by a bat; or obstruct access to any structure or place used for shelter or protection.

The survey was therefore required to:

- Identify the presence, or potential presence, of any bats or birds;
- assess the potential impact of the proposals on protected species within the zone of impact;
- make recommendations for further surveys to inform the planning application and/or a protected species licence application (if required);
- detail any precautions required to protect bats and birds from impact, and/or mitigation or compensation, where necessary.

1.4 Site Context

The property lies on the southern side of the village of Leavenheath, approximately 8km to the north-east of the outskirts of Colchester.

The property is within a residential part of the village with Edies drive to the east. A fully fenced garden, laid mainly to lawn, separates the site from other properties to the north, east, south and west. Adjacent to the southern boundary, in a neighbouring garden, is a line of trees, though no trees within the garden of Number 10.

The wider landscape is predominantly arable and horticultural land with pockets of woodland, paddock, and hedged field boundaries. A small reservoir on the eastern edge of Arger Fen and Spouse's Vale Nature Reserve, approximately 1km to the west, is the nearest large

waterbody to the site, though there are other smaller water bodies in the local landscape. Arger Fen is also the nearest large woodland, separated from the site by agricultural land.

1.5 Proposed Works

An application for planning permission is being made to Babergh and Mid-Suffolk District Council for extension of the house (part single and part-double storey), demolition of the existing garage, and a new-build car-port.

2 Survey Methodology

2.1 Site Survey

The site survey was undertaken by Odette Robson BSc (Hons) PhD MCIEEM, a full member of the Chartered Institute of Ecology & Environmental Management (MCIEEM), subject to the CIEEM Professional Code of Conduct and licensed by Natural England to survey for bats (WML-CL18; Level 2), and great crested newts (2015-16945-CLS-CLS – Class licence Level 2).

During the survey, on 25th January 2023, the temperature was 2°C; the wind at Beaufort Scale 2, 100% cloud cover and good visibility.

The survey was undertaken in accordance with *Bat Surveys for Professional Ecologists: Best Practice Guidelines* (Collins, 2016). All parts of the dwelling, and immediate surroundings were assessed externally and internally for potential bat roosting features using binoculars, high-powered torch, ladder and a borescope inspection camera (Ridgid CA300).

Aerial photographs, available maps and survey of the area outside the immediate zone of impact (where access was available) was used to identify any bat habitat in the wider landscape which could be impacted by proposals. The likely impact of the proposed works (operational phase) to bats using the surrounding area (foraging, roosting, and/or commuting) was also assessed.

2.2 Desk Study

A 2km radius search for statutory designated sites was conducted using “MAGIC”, the Multi-Agency Geographic Information system for the Countryside. The search radius was extended to the Zone of Influence (ZoI) for European designated sites: Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, where the potential risk of impact to the qualifying features (species or habitats) of these sites may extend over a wider area.

A datasearch was requested from Suffolk Biodiversity Information Service (SBIS). Records of all bat species within a 2km radius of the site were provided on 25th January 2023.

3 Results

3.1 Desk Study

The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ). However, consultation with Natural England is not required for works to residential properties, as proposed.

The nearest statutory designated wildlife site is Arger Fen and Spouse's Vale Nature Reserve, approximately 1.2km to the west (MAGIC, 2023).

Although the site lies within the Zone of Influence (Zol) of European designated sites (20km to Blackwater Estuary SPA and Ramsar, which has a Zol of 22km), there would be no direct or indirect effects, and a payment to the *Recreational disturbance Avoidance and Mitigation Strategy* (RAMS) is not required (no additional residential units).

The nearest European Protected Species (EPS) licence granted for bats is 560m to the south-east (EPSM2012-4276), for destruction of a soprano pipistrelle, common pipistrelle and brown long-eared resting place.

Suffolk Biodiversity Information Service (SBIS) provided a total of 67 records of bats within 2km of the site (SBIS, 2023), which included seven known species of bats. The nearest record was a Pipistrelle spp. (2005), 250m to the north-west of the site. Most records were from local Nature Reserves at Spouses Vale and Arger Fen (approximately 1km to the west), and Assington Mill (approximately 1.5km NW).

Records of the following species were provided:

- Barbastelle: Six records from Arger Fen (2005 - 2018)
- Brown long-eared: Eight records (2005 – 2018), including a maternity colony (2007) in Honey Tye Old Methodist Chapel approximately 650m to the south-east. Additionally, a known brown long-eared single bat day-roost 500m north-east (Robson Ecology, 2022).
- Four unspecified *Myotis* spp.: From Arger Fen (2009 – 2018)
- Noctule: Six records from Arger Fen (2006 and 2018).
- Common pipistrelle: Fifteen records (2005 to 2018), including Gedding Hall, approximately 1.2km to the north-west
- Three unspecified *Pipistrellus* spp.: Nearest 250m NW.
- Soprano pipistrelle: Sixteen records (2005 – 2021), including 375m N
- Daubenton's bat: Two records (2005 and 2018) from Assington Mill and Arger Fen.
- Serotine: Six records, all from Arger Fen and Assington (2005 – 2018)

3.2 Survey Results from 25th January 2023

Target Notes described in Table 3.1 refer to letters/locations shown in Figure 3.1 below:

Figure 3.1 – Target Note locations. **A** = two-storey dwelling; **B** = attached single-storey dwelling; **C** = detached, single-storey garage.

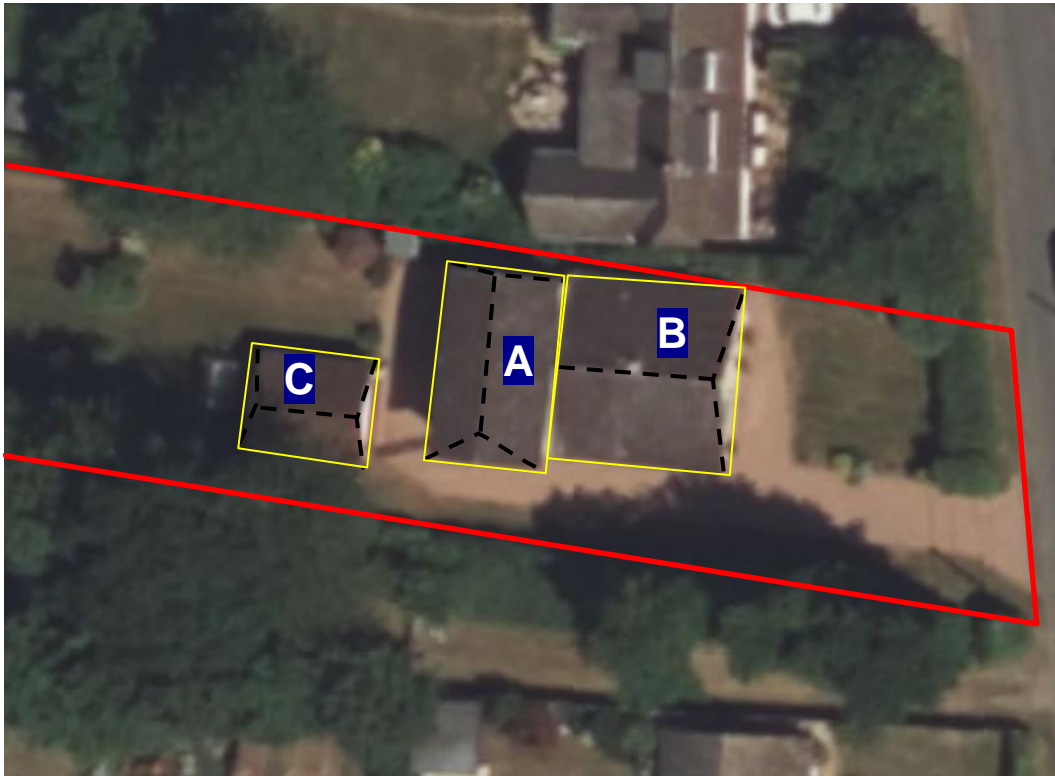


Table 3.1: Building assessment carried out on 25th January 2023.

Building Description	
Section A – Two-storey house	
External: The two-storey part of the house was brick-built with a shallow-pitched roof covered in tight-fitting, intact pan-tiles and ridge tiles. Boxed eaves (uPVC) were in very good condition and very well sealed to the brickwork with no crevices). North and south-facing gable ends were sealed and intact mortar sealing the end-tiles at both gables.	
Internal: The loft-void was narrow (approximately 1m height), and internally lined with bitumen roofing felt. Modern roof-timbers with no crevices. Loose insulation material throughout. No bat droppings were recorded.	

Section B - Single storey house.

External: The single-storey section (B) adjoins A below the eaves on the eastern elevation. Similar in build-materials and condition as A, with intact bricks/mortar and roof-tiles on the shallow double-pitched roof. Large uPVC soffits were well-sealed to the brickwork with no gaps or crevices beneath at the wall-join. All windows were well-sealed into brick surrounds and there were no gaps at the east-facing gable end. No access points for bats or birds into the roof/cavity.

Internal: The roof void was insulated with lagging. The roof tiles were internally lined with a paper-backed lagging insulation. Modern roof timbers and no crevices. Rendered chimney was cobwebbed. No droppings or other evidence of bats was recorded. Overall risk of presence of roosting bats or nesting birds was negligible.



Section C - Garage

The detached garage was of similar build-materials to the house and in similarly intact condition to Sections A and B: uPVC soffits and boarding on the eastern gable were well-sealed to brickwork. Roof-tiles were intact and sealed with no gaps or lifting/damaged tiles.

Internally, there was no roof-void: Roof timbers were cluttered and the roof was internally lined with bitumen roofing felt. High internal light levels due to a window on the western elevation.

Negligible potential for roosting bats or nesting birds due to lack of access and nesting/roosting opportunities.



3.3 Suitability of 10 Edies Lane for Roosting Bats

An assessment was made under the criteria detailed in current Best Practice Guidelines (Collins, 2016). The Property had negligible bat roosting potential due to construction materials and lack of crevices, access points, or other potential roost features.

No further surveys or licences are needed to inform the planning application, or to comply with wildlife legislation.

3.4 Foraging and Commuting Bats.

There is potential for foraging and commuting bats to move through the area, or around the site, due to good quality foraging habitat in the wider local landscape, and records of bats locally. Many of the properties in the village have large, managed gardens with mature trees and other native and wildlife friendly vegetation. Approximately 200m to the west of the property, a wooded green-lane (1km long) runs due south from the village, and there are a number of pockets of woodland and mature hedges surrounding the village. The garden

boundaries are mainly open. A line of mature trees adjacent to the southern garden boundary could provide a commuting corridor or foraging habitat, and lighting on the extended property and new bar-port should avoid light-spill to this boundary.

3.5 Nesting Birds

Nesting birds and their eggs are protected under the Wildlife & Countryside Act 1981.

There were no potential nesting ledges, or access points for birds into the roof.

No further surveys or precautions are required.

3.6 Limitations and Assumptions

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 25th of January 2023. A reasonable assessment of habitats can be made during a single survey; however, seasonal variations cannot be observed. The survey provides an overview of the likelihood of presence of roosting bats and birds, limited by the transient use of roosting opportunities by bats, and the short-lived nature of some signs (such as droppings). Where no evidence was found, this does not mean that bats do not use the building at some stage of the life-cycle. Further surveys are only recommended if there is a significant likelihood that bats may be present and impacted by the proposals, based on the suitability of the building, surrounding habitat, connectivity, and any direct evidence.

All parts of the property were accessible on the day of the survey, internally and externally. The survey was carried out during the bat hibernation season, limiting dropping evidence externally, which would be quickly impacted by weather, however, internal droppings persist for a number of years and would still be present (loft voids were minimally used by residents).

The historical records and data provided by SBIS depend on the availability of recorders and survey effort in the area, and do not list all species/roosts likely to be present. Data supplement the site visit, but absence of records does not confirm absence of species.

Constraints were within normal limits and have been taken into consideration when drawing conclusions from the survey and providing recommendations.

3.7 Key Recommendations and Precautions

3.7.1 Further Surveys or Licence for Bats

No further surveys or licences are recommended to inform the planning application or to comply with wildlife legislation. Lighting precautions should be implemented (Section 3.7.2) to ensure bat activity in the local area is not impacted.

3.7.2 Sensitive Lighting

Due to records of bats in the local area and the proximity to potential commuting and foraging habitat, lighting should be minimized to encourage bats to use the property, both during the roof-repair works, and on completion. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:

- No lighting should be directed towards the southern garden boundary which should be maintained as a dark corridor.
- LED luminaires should be used where possible (No UV elements: Metal halide, fluorescent sources should not be used).
- A warm white spectrum (ideally <2700Kelvin) should be used to reduce the blue light component.
- Peak wavelengths higher than 550nm should be used to avoid the component of light most disturbing to bats (Stone, 2012).
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (See ILP 2011).
- Any external security lighting should be set on motion-sensors sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting should be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres can be used to reduce light spill and direct it only to where needed.
- Lighting should be appropriately directed to avoid illuminating any mature trees, hedges, and any mitigation/enhancement habitat boxes.
- Construction/roof works should only be undertaken during daylight hours and task lighting should not be used during the construction or operational phases of the development.

4 Ecological Enhancement (Habitat Boxes)

These additional recommendations would enhance the value of the property for wildlife, as encouraged through the NPPF (MHCLG, 2021), and to help achieve Suffolk biodiversity targets.

4.1 Bat Boxes

4.1.1 Building-Mounted Bat Boxes

An integrated bat tube, or building-mounted box (see Table 4.1) could be mounted on the east-facing gable end of the house: e.g., low profile Chillon or Beaumaris externally

mounted boxes, or an integrated box under the vertical timber cladding (not above a window or door). Location is shown in Figure 4.1.

There must be unobstructed flight access enabling entry/exit for bats, but with suitable flight-lines in close proximity. The access hole is at the base so that the boxes are self-cleaning and do not require any maintenance.

Bat boxes should be left in perpetuity and must only be checked or moved by individuals licenced by Natural England to survey and handle bats.

4.1.2 House Sparrow Terrace

The BoCC red-listed house sparrow has been recorded locally and will readily use nesting boxes. With installation of artificial nesting opportunities, this species can be encouraged to breed on the site post-development. Sparrow terraces, such as the Schwegler 1SP, open fronted Vivara Pro WoodStone House Sparrow or WoodStone Build-in House Sparrow Nest Box, would be suitable for the new car-port. One of these house sparrow terraces (or three individual boxes, located close together for this colonial nesting species) could be installed just below the eaves on the eastern elevation of the new-build car-port/garage outbuilding.

Figure 4.1: Location of enhancement habitat boxes

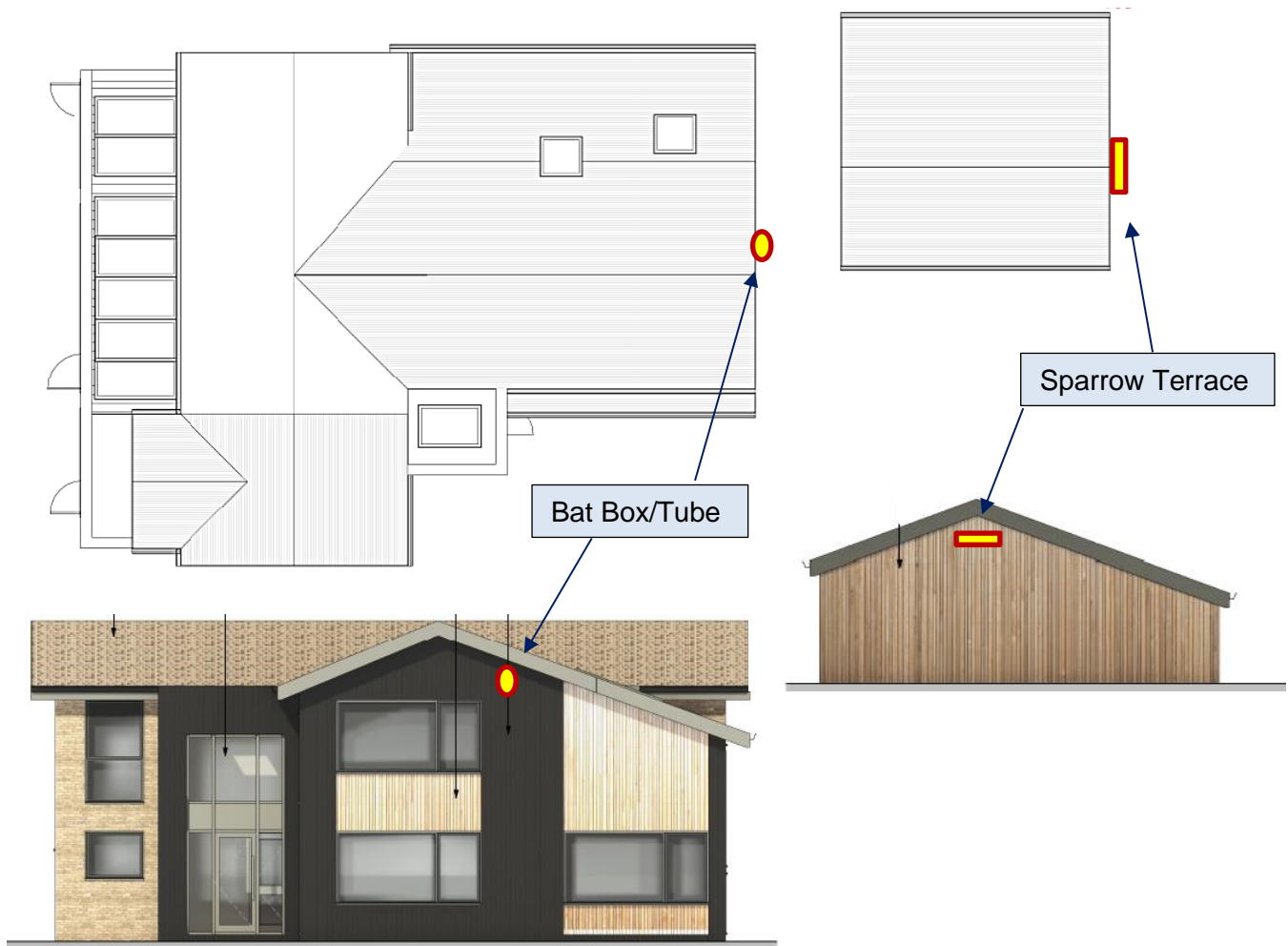





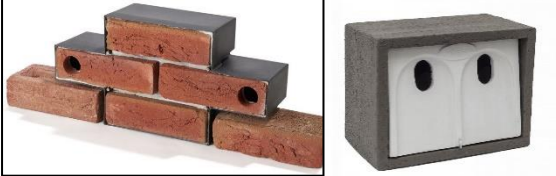


Table 4.1: Specification of bat and bird boxes.

 <p>Chillon Woodstone Bat Box A large crevice style bat box made from woodstone. The internal space can accommodate up to 15 pipistrelle bats.</p>	<p>Beaumaris Bat Box A woodstone box for crevice-dwelling bats. Can be sited on walls/buildings.</p> 
<p>Integrated Bat Tube Vivara Pro Build-in Woodstone Bat Tube or Schwegler 1FR. Designed to be built in to the masonry of external walls or beneath a rendered surface. Cavities are reached via the crawl-in entry slot in the front. Manufactured from hard-wearing Wood/concrete mix.</p> 	<p>The Habibat Bat Box (integrated) A large, solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any existing brick. Suitable for species found roosting in buildings (Pipistrelle, Natterer's, Whiskered, and Brandt's bats). Dimensions: 215mm (width) x 440mm (height) x 102mm (depth)</p> 
<p>Schwegler 1SP Sparrow Terrace This terrace provides nesting opportunities for three families. Made of wood-concrete mix, this terrace is durable, breathable and will last many decades. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. Place the terrace two metres or more above the ground or install directly into the wall (as high as possible – below eaves). Cleaning is advisable but not necessary. Alternatively, build-in, integral boxes (lower two pictures opposite) are less obtrusive.</p>  	

4.2 Ongoing Monitoring and Maintenance - Post-completion

Bat/bird box fixings must be inspected regularly to ensure that they are safely and securely fixed to the buildings. Maintenance/cleaning is not necessary for bat boxes. Only a bat-licensed ecologist can legally open/move a bat-roost box. The sparrow box should be cleaned out annually (see Table 4.2).

Table 4.2: Maintenance of habitat boxes (during and post-construction).

Feature	Action Required
Bird boxes	Check annually for presence and damage – replace if damaged/missing. Clean out bird boxes once a year (November to February) using boiling water.
Bat boxes	Check for presence and damage – replace if damaged/missing. Maintenance/cleaning is not required for bat boxes. Only a bat-licensed ecologist can legally open/move a bat box.

All boxes must be checked at least annually by a competent person to ensure that the fittings are safe, and the boxes securely fixed to the building. Adjust methods of securing the box if necessary.

5 Conclusion

It is likely that the extension/building works can proceed with negligible impact on bats, birds, or other protected species, if lighting precautions are implemented during both the building and operational phases.

There is scope to further enhance the site for bats through incorporation of the habitat boxes detailed in Section 4, in line with planning objectives for positive gain for biodiversity through development.

6 References

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