2 Emsworth Road, Havant, Hampshire, PO9 2SR

Bat Survey Report

November 2024

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Bat Survey Report

2 Emsworth Road, Havant, Hampshire, PO9 2SR

for

Ms Hutchinson

Reference: 2 Emsworth Road	
Revision	**Issue date:**
0	**08/10/24**
1	**11/11/24**
2	**15/11/24**
3	**18/11/24**

Prepared by:	**Rev 0**	**Rev 1**	**Rev 2**	**Rev 3**
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This report represents sound industry practice; reports and recommends correctly, truthfully and objectively; is appropriate given the local site conditions, scope of works proposed and resources allocated to us by the client; and avoids invalid, biased, and exaggerated statements.

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1 EXECUTIVE SUMMARY

1. This report provides details from bat surveys carried out by Hampshire Ecological Services Ltd for Ms Hutchinson in connection with a proposal to reinstate the building following the collapse of the roof on the coach house at 2, Emsworth Road, Havant, Hampshire, PO9 2SR (approximate Ordnance Survey Grid Reference SU721061). The site consists of a large house with a detached coach house and shed. There is also a small front garden and a large rear garden. The location of the site is shown in *Figures 1* and *2* and a plan of the site is shown in *Figure 3* in *Section 6*.

2. An internal and external inspection of the coach house was carried out prior to the first activity survey by bat licence accredited ecologist Adam Rye on the 13th August 2024.

3. The coach house is a single storey building with a pitched roof. Full details of the building are given in *Table 4.2.1*. in *Section 4.2*. The locations and details the potential access points and the potential external roost locations are illustrated in *Images 4.3.1.1 – 4.3.1.3*. No bats or evidence of bats was found during the survey. However, due to the presence of suitable roosting features on the building, and sheltered foraging habitat within close proximity, this building has moderate bat roost suitability.

4. The mature trees in the gardens provide some limited bat foraging habitat in the immediate vicinity of the buildings. The lines of mature trees along the boundaries connect a network of hedges, tree-lines, and woodland strips. These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as areas of woodland and water sources.

5. Three activity (dusk emergence) surveys were carried out. Details of the dates of the surveys, weather and personnel carrying out the surveys is given in *Sections 3.2.1* and *3.2.2*.

6. Bats were observed emerging from the coach house and the results are summarised in the table below. A plan summarising bat emergence locations is given in *Figure 4.6.1* in *Section 4.6*.

Date	**Species (& number)**	**Access points**
13/08/24	Common pipistrelle (1)	Emerged from between the brickwork and the tarpaulin in place of the tiles.
03/09/24	-	-
02/10/24	-	-

7. Common pipistrelles, soprano pipistrelles, noctules, serotines, and brown long-eared bats were observed flying in the vicinity of the building and foraging on the site, indicating the weather was suitable for bat activity on all occasions.

8. Based on the evidence from the internal/ external survey and the emergence surveys, the coach house is an occasional non-breeding day roost for low numbers of common pipistrelles.

9. The main impact to the roost will be roost disturbance, roost modification and roost loss.

10. As the coach house is a confirmed bat roost, a bat European Protected Species (EPS) licence, Bat Mitigation Class Licence (BMCL) or Bat Earned Recognition (BER) licence site registration from Natural England is required before any work can be undertaken on the building.

11. Changes in lighting can affect foraging and commuting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto planted vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats. Any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) onto the roost exits and any planted vegetation. Any new lighting should not increase the level currently experienced and, if at all possible, should reduce any light spill due to the type of lighting used and the use of protection such as hoods and cowls. The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

12. The trees and hedges around the site boundaries provide suitable nesting habitat for birds. The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). No vegetation is currently proposed to be removed. Should this change, any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (which is late February to August inclusive). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation. If any active nests are found prior to or during works, a 5m buffer zone should be established around them and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use).

13. It is a requirement under national planning policy to provide ecological enhancements to sites requiring planning permission in order to provide a net gain in biodiversity. Therefore, the following enhancement measures are proposed:

    Enhancement for bats will be in the form of one woodstone style bat box (*e.g.* Vivara Pro WoodStone Bat Box, Beaumaris Woodstone or similar). This bat box will be erected on a mature tree within the site boundary as high as possible (ideally between 2.5m and 5m, facing south or south-east) with a clear exit path. This bat box will remain on site permanently (and shall be repaired or replaced as necessary); and

    Two swift boxes, such as Ibstock Eco-habitat or similar, will be installed on the exterior of the house (as the coach house is a historically listed building). Swift boxes can be supplied and installed by Hampshire Swifts https://www.hampshireswifts.co.uk and a new soffit design is also available (this box is also suitable for sparrows which are also an IUCN Red List Bird of Conservation Concern and listed on Section 41 of the *Natural Environment & Rural Communities Act 2006*).

    The bird boxes to be erected within the site, with additional details on siting them to increase chances of occupancy, are summarised in *Table 5.6.4.1*.

14. The proposed measures are shown in *Figure 7* in *Section 6*.

15. Other enhancements for wildlife that the owner of the site may choose to employ are given in *Appendix D*. However, these are not proposed as enhancements for the purposes of the planning application, but only for information purposes.

16. This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites, therefore if more than 12 months elapse it may be advisable to conduct further survey work to obtain up-to-date information, thereby ensuring protected species compliance.

17. According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there are three internationally statutory designated sites within 5km of the site, and three nationally designated sites within 2km of the site. None of these areas should be affected by this small-scale development/works and all links will be maintained.

18. According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby (see *Table 4.1.1.1* in *Section 4.1.1*). None of these will be directly affected by this small-scale development and all links will be maintained.

19. The site is within 5km of Solent Maritime SPA & SAC (*c*.948m south) and the Solent & Isle of Wight Lagoons SPA & SAC (*c*.4472m south-west). As a result of its proximity to these designated sites, the impacts of this small-scale development on the SACs and SPAs must be considered. The works will cause no increase to the building size or to the number of people occupying the building, as the house is a residential property and is staying under the same ownership. Therefore, there will be no increase in the recreational pressure, or pollution, on the nearby internationally designated sites.

20. There have been one granted bat European Protected Species (EPS) licences within 2km of the site. It is unlikely that the current proposals will impact the same bat populations.

2 INTRODUCTION

2.1 General

This report provides information from bat surveys carried out by Hampshire Ecological Services Ltd for Ms Hutchinson in connection with a proposal to to reinstate the building following the collapse of the roof on the coach house on site at 2 Emsworth Road, Havant, Hampshire, PO9 2SR (approximate Ordnance Survey Grid Reference SU721061). The location of the site is shown in *Figures 1* and *2* in *Section 6*.

2.2 Site description

The site consists of a large house as well as a coach house and other outbuildings. There is also a small front garden consisting of ornamental planting and some mature trees. The rear garden is majority amenity grassland (lawns) with some ornamental planting as well as mature trees and hedges that border the property and connect the site to other gardens. The building surveyed is shown on the plan in *Figure 3* in *Section 6*.

The site is on the south side of Emsworth Road, on the southern side of Havant. The immediate surroundings consist of residential housing in all directions. Many of these properties are linked by tree-lines and hedges in the gardens. In the wider landscape the urban area extends to the north. Beyond Havant, to the east and west, there are extensive areas of arable fields and agricultural land as well as patches of woodland, varying in size. Bridge Lake is located to the south, this is a coastal, tidal lake which connects to the Solent, beyond Hayling Island.

2.3 Proposed activities

This survey was carried out in connection with a proposal to reinstate the building following the collapse of the roof on the coach house.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 Objectives of the surveys and report

The surveys by Hampshire Ecological Services Ltd included internal and external inspections of the building to identify bat roost suitability and to systematically search for bats and evidence of bats. Subsequently, three bat activity surveys were carried out. The aim was to identify if bats were present or likely to use the site for roosting.

The surveys and the report writing were carried out in accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition* (Collins, 2023). Any deviations from the guidelines are justified in the relevant sections.

Additionally, all ecological surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/advice.aspx), which states:

> Natural England will not comment on applications that are submitted without the relevant protected species surveys if there are no other issues (i.e. in relation to SSSIs or landscape).
>
> Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

2.6 Structure of this report

This report is structured as follows:

Section 1 contains the executive summary;

Section 2 contains an introduction;

Section 3 describes the survey methods;

Section 4 describes the results;

Section 5 evaluates the findings;

Section 6 contains the figures including:

- *Figure 1* gives aerial photographs showing the site location;
- *Figure 2* gives an Ordnance Survey map showing the location of the site;
- *Figure 3* gives a site plan showing the building surveyed;
- *Figures 4-6* illustrate the bat activity recorded during the bat activity surveys; and
- *Figure 7* gives a plan of proposed enhancement measures.

Section 7 gives photographs of the site;

Section 8 lists the references;

Appendix A gives information on relevant legislation;

Appendix B gives information on bat ecology;

Appendix C gives the data from the bat activity surveys; and

Appendix D lists other enhancements for wildlife (for information, not part of the planning application).

3 METHODS

3.1 Desk study

The *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for designated sites on or adjacent to the site including Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. The search area was 5km for SAC and SPA sites and 2km for LNRs, NNRs, Ramsar sites and SSSIs, as specified in Hampshire's *Biodiversity Checklist*. The search area is also 500m for Sites of Importance to Nature Conservation (SINCs) and ancient semi-natural and ancient replanted woodlands.

In addition, the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for granted European Protected Species (EPS) licences in relation to bats within 2km of the site.

A data search from the Hampshire Biodiversity Information Centre (HBIC) has not been commissioned by the client in relation to this site.

3.2 Field survey

3.2.1 *Dates, times, and weather*

An external and internal inspection of the building was conducted during the evening on the 13th of August 2024. The weather conditions during the survey were 20ºC and dry with 30% cloud cover and a light breeze (Beaufort scale 1).

Subsequently, three bat activity (dusk emergence) surveys were carried out. Details of the weather, dates and times of these surveys are given in *Table 3.2.1.1*.

Table 3.2.1.1. Dates, times and weather conditions during the bat activity surveys.

Date	**Start time**	**End time**	**Sunset/ sunrise**	**Temperature at start & end (ºC)**	**Wind (Beaufort scale)**	**Cloud Cover (%)**
13/08/24	20:13	21:53	20:27	19.0 – 17.0	1	35
03/09/24	19:29	21:14	19:44	19.0 – 17.0	1	40
02/10/24	18:23	20:08	18:38	14.0 – 12.0	2	80

The surveys commenced fifteen minutes before sunset and continued for an hour and a half after sunset (long after bats would have exited). The weather was suitable for bat emergence and foraging during all the surveys.

3.2.2 *Personnel*

The internal and external inspections were carried out by Adam Rye BSc (Hons) who is experienced in undertaking bat roost surveys and is accredited under Bat Class Licence Registration number 2015-11159-CLS-CLS.

Personnel carrying out the bat activity surveys are given in *Table 3.2.2.1*. All surveyors are experienced in carrying out bat surveys using detectors. Adam Rye BSc (Hons) is accredited under Bat Class Licence Registration number 2015-11159-CLS-CLS, as stated above, and Laura Hardy BSc (Hons) AMRSB is accredited under Bat Class Licence Registration number 2015-17894-CLS-CLS.

Table 3.2.2.1. Personnel carrying out the activity surveys.

Date	**Surveyor**	
13/08/24	Adam Rye BSc (Hons)	Alex Grainger BSc (Hons)
03/09/24	Adam Rye BSc (Hons)	Ross Raynor BSc (Hons)
03/10/24	Laura Hardy BSc (Hons) AMRSB	Tom Lock BSc (Hons)

This report was reviewed by John Poland CEnv MCIEEM CBiol MRSB, who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Environmentalist (CEnv), a Chartered Biologist (CBiol) and multi-species licence holder with 23 years of experience in ecological consultancy and Victoria Russell MCIEEM who is also a full member of the CIEEM and multi-species licence holder with over 25 years of experience in ecological consultancy.

All staff adhere to the Chartered Institute of Ecology and Environmental Management's (CIEEM) *Code of Professional Conduct*.

3.2.3 *Assessment of current bat roost suitability*

Because bats are crevice-dwelling mammals it is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally practical or acceptable. Examples are where bats roost between the roofing felt and tiles or slates, around window frames and behind bargeboards. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry. A pipistrelle bat is small enough to fit into a match box and can roost in gaps just 14-20mm wide.

The building was assessed for its **bat roost suitability** according to the following factors that influence the likelihood of bat roosting:

Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.

Construction detail: the type and construction of architectural features such as attics, bargeboards, soffit boxes, lead-flashing, cavity walls and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.

Building condition: whether the building has no roof or has a sound roof without any potential bat access points.

Internal conditions: bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration.

Potential bat access points: whether there is flight and crawl access.

Potential roosting locations: the presence of bat-accessible voids, cracks, and crevices.

The risk of bat roosts being present will be lower where structures have:

Urban setting with little greenspace.

Heavy disturbance.

Small, cluttered roof void (particularly for brown long-eared bats).

Modern construction with few gaps or crevices that bats can fly or crawl through (although pipistrelles may still be present).

Prefabricated steel or sheet materials.

Active industrial premises.

The above list provides generic criteria and there are exceptions to consider. For example, pipistrelle roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

Some information on bat ecology is included in *Appendix B*.

3.2.4 Systematic inspection for bats or evidence of bats

The building was assessed for its suitability to support roosting bats using the following access and inspection equipment: high-quality 10x42 binoculars; a 1,000,000 candlepower Clulite™ CB2 torch; an LED pen torch; and a 3.8m surveyors' ladder. Binoculars were employed to view higher areas such as potential access points on the outside of the building. A description of the building was recorded on a survey sheet and digital photographs were taken as a permanent record.

Visual, systematic examinations were made for bats and evidence of bats in the building, both internally and externally, of the following:

roof beams, especially the ridge beam;

cracks, crevices and sheltered voids;

external features such as cracks and holes in the walls;

wall and door surfaces;

wall bases.

Evidence of roosting bats includes droppings, feeding remains and dead bats, but also staining from urine and fur-oils, scratch marks, odour, the presence of bat-fly (Nycteribiid) pupal cases, and in some cases, the absence of cobwebs.

Bat droppings can prove beyond doubt that bats use a building and can help to identify roosting locations because piles often accumulate beneath roosting sites or entrance points. The location, size, shape, texture and colour of the droppings can be used to aid species identification. DNA analysis of

droppings is also possible and samples are taken where necessary. The number and condition (age) of droppings can indicate the size of the roost and when it was last used.

Following the internal and external inspections, the building was assigned a level of suitability for being used by roosting bats. This was based on the criteria in *Table 3.2.4.1* (Collins, 2023).

Table 3.2.4.1. Bat Roost Suitability.

Suitability	**Description of roosting habitats**	**Description of commuting and foraging habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year (*i.e.* a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).
Negligible*	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites 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.* unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, *i.e.* not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland) or a patch of scrub.

Suitability	Description of roosting habitats	Description of commuting and foraging habitats
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
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 the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
*Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).		

3.2.5 *Bat activity surveys*

The bat activity surveys followed standard survey protocol in *Bat Surveys – Good Practice Guidelines, 4th edition* (Collins, 2023).

The surveyors were located with good views of the potential bat access points identified during the initial site visit. The timing of the visits, from early evening until after dark, was aimed at detecting active bats in the vicinity. When it was too dark for visual observation, electronic bat detectors were used to listen for the ultrasonic sounds produced by bats either flying in the vicinity or emerging from the building. Surveyors were also equipped with a Pulsar Axion XQ38 thermal imager to supplement observations when light levels were too low for human eyesight. This detects heat and is more effective than standard night-vision equipment.

The surveyors recorded all bat activity encountered, but particular attention was focused on any bats emerging or re-entering. The results were documented by noting the time, bat species and behaviour (*e.g.* commuting, foraging, social interaction *etc.*). The surveyors were in constant contact via hand-held radios so that information could be easily exchanged regarding bat activity. The time between all surveyors' devices was synchronised so time data was recorded precisely.

Bat detectors are used so that surveyors can identify most bat species in the field, using the heterodyne output in combination with bat shape, flight pattern and behaviour. Surveyors were equipped with Echo Meter Touch™ detectors for real-time analysis and BatBox Duet™ detectors connected to solid-state recorders (Edirol Roland-05) to record bat calls for later sonogram analysis using BatSound™ computer software (should it be required). Frequency-division, whereby the ultrasound is divided by 10 into an audible range, has a considerable advantage over time-expansion for survey work as it allows recordings to be taken in real time. This ensures that all bat activity is recorded.

Queried recordings were later replayed and analysed through BatSound™ software to ensure that any activity accidentally missed during the survey was recorded and times and location calculated. The species of bat was confirmed at this stage where possible. Bat detector surveys provide one of the most effective methods of identifying bat species and activity patterns. However, it is not always possible to identify bats down to species level, even with subsequent sound analysis.

Sufficient survey effort has been gathered through activity surveys, which have given us a full appreciation of the bat species roosting at the site, and of the type and status of roosts they use on site and in the context of the immediate surrounding area. No further emergence surveys are considered necessary.

The latest *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition* (September 2023) removes the need for pre-dawn surveys and support the use of night-vision equipment as used above.

4 RESULTS

4.1 Desk study

4.1.1 Designated sites

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is not designated or immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby. These are listed in *Table 4.1.1.1*.

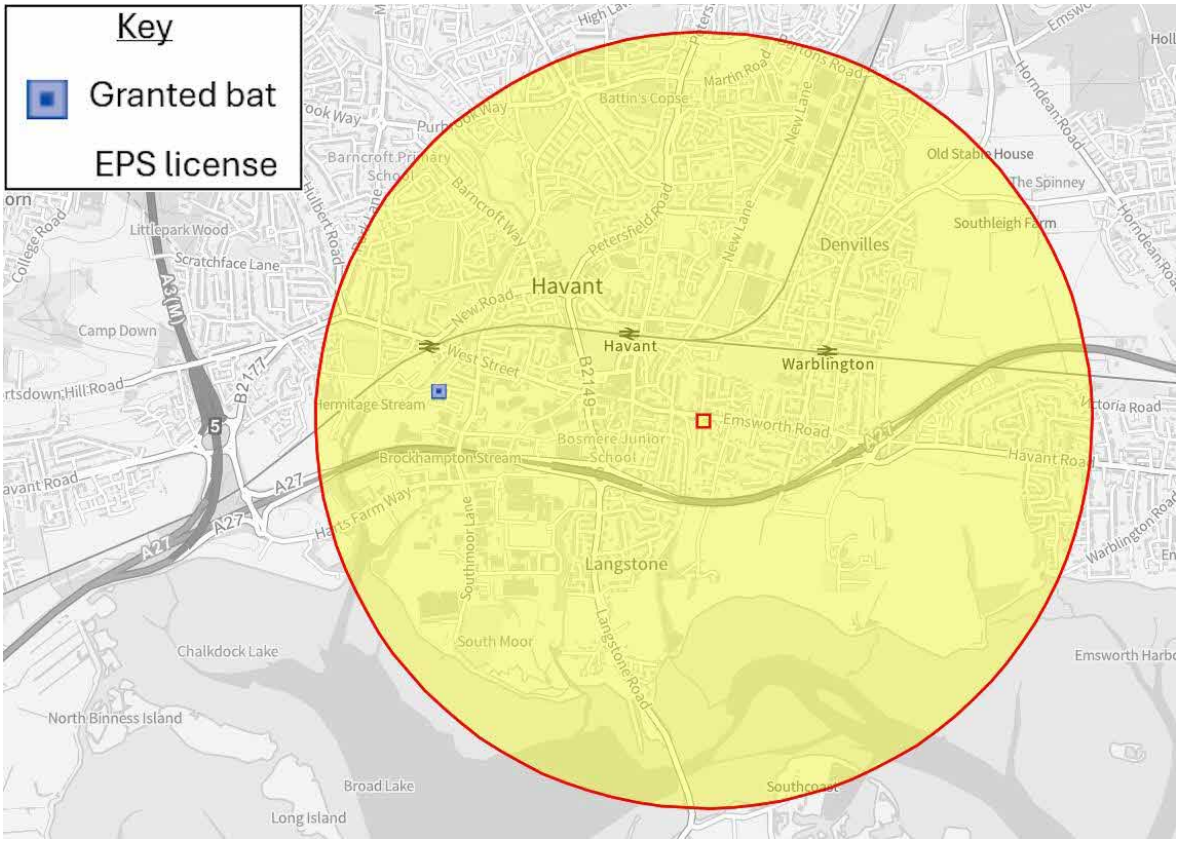
Table 4.1.1.1. Statutory designated sites; non-statutory designated sites and ancient semi-natural and ancient replanted woodlands within the designated search areas of the site.

Level of designation	**Designation**	**Name**	**Distance & direction from site**
International	SPA	Solent Maritime	*c*.948m south
		Solent & Isle of Wight Lagoons	*c*.4472m south-west
	Ramsar	Chichester and Langstone harbours	*c*.948m south
	SAC	Solent Maritime	*c*.948m south
		Solent & Isle of Wight Lagoons	*c*.4472m south-west
National	SSSI	Warblington Meadow	*c*.1179mm south-east
		Langstone harbour	*c*.1438m south-west
		Chichester harbour	*c*.948m south
	NNR	-	-
County	LNR	Hayling Billy	*c*.1940m south
		West Hayling	*c*.1978m south
Local	SINC	-	-
	Ancient woodland	-	-

4.1.2 Bats

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there has been one bat European Protected Species (EPS) licence granted within 2km of the site (*c*.1370m west). This is for a resting place for common pipistrelles. It was granted on the 20th of August 2014. Its location is shown in *Figure 4.1.2.1*.

Figure 4.1.2.1. Location of sites with granted bat EPS licences within 2km of the site (site location marked by a red square).



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4.2 *Survey of buildings*

The construction details and photographs of the building are summarised in *Table 4.2.1*. Additional photographs showing the garden are given in *Section 7*.

Table 4.2.1. Summary of the buildings' construction details.

Type/Name	**Coach House**
Description	A single-storey, brick building with a pitched roof. The tiles have been removed due to a roof collapse.
No. of storeys	1
Roof type	Pitched
Roof cladding	Tarpaulin (The tiles have already been removed due to a roof collapse)
Ridge	Tarpaulin
Wall type	Brick
Exterior	Missing mortar, fasciae, raised lead-flashing, row of edge tiles, door into the loft void

Photos	North elevation
	East elevation
	South elevation

	West elevation
Building dimensions	*c.*4.2m wide x *c.*14m long
Roof void description	Uncluttered and floor lined with wooden planks
Frame	Wooden rafters and ridge beam
Roof lining	Roofing felt
Roof void dimensions	Main roof void: *c.*4m wide x *c.*12m long
Roof void height	*c.*2.75m
Potential roosting locations	Against the ridge beam and between the roof tiles and the internal lining. The bitumen roof lining has ripped in places and could allow bats to access the roof void.

Bat evidence	None
Bat roost suitability	**Moderate**
Hibernation suitability	**Moderate**

4.3 Potential bat access points and potential external roost locations

4.3.1 Coach House

The majority of the roof has been stripped of tiles already, due to a roof collapse which was deemed unsafe to the public. This means there are many potential access points on all aspects of the roof. Therefore, the building is classed as having high suitability to be used by roosting bats, following the criteria in *Table 3.2.4.1*.

The locations and details of the potential bat access points and exterior roosting features are illustrated in *Images 4.3.1.1 – 4.3.1.4*.

Image 4.3.1.1. Location of potential bat access points and potential external roost locations on the south elevation of the coach house.

Image 4.3.1.2. Location of potential bat access points and potential external roost locations on the east elevation of the coach house.

Image 4.3.1.3. Location of potential bat access points and potential external roost locations on the north elevation of the coach house.

4.4 *Commuting and foraging habitat*

The mature trees in the gardens provide some limited bat foraging habitat in the immediate vicinity of the buildings. The lines of mature trees along the boundaries connect a network of hedges, tree-lines and gardens. These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as woodland and water sources. Therefore, the site has moderate commuting and foraging habitat, following the criteria in *Table 3.2.4.1*.

Bats follow linear landscape features such as lines of trees, hedges, buildings, and waterways in order to commute from their roost sites to their feeding grounds. Likewise, they use these features to navigate between feeding areas and alternative roosts.

4.5 *Evidence of bats*

No bats or evidence of bats was found.

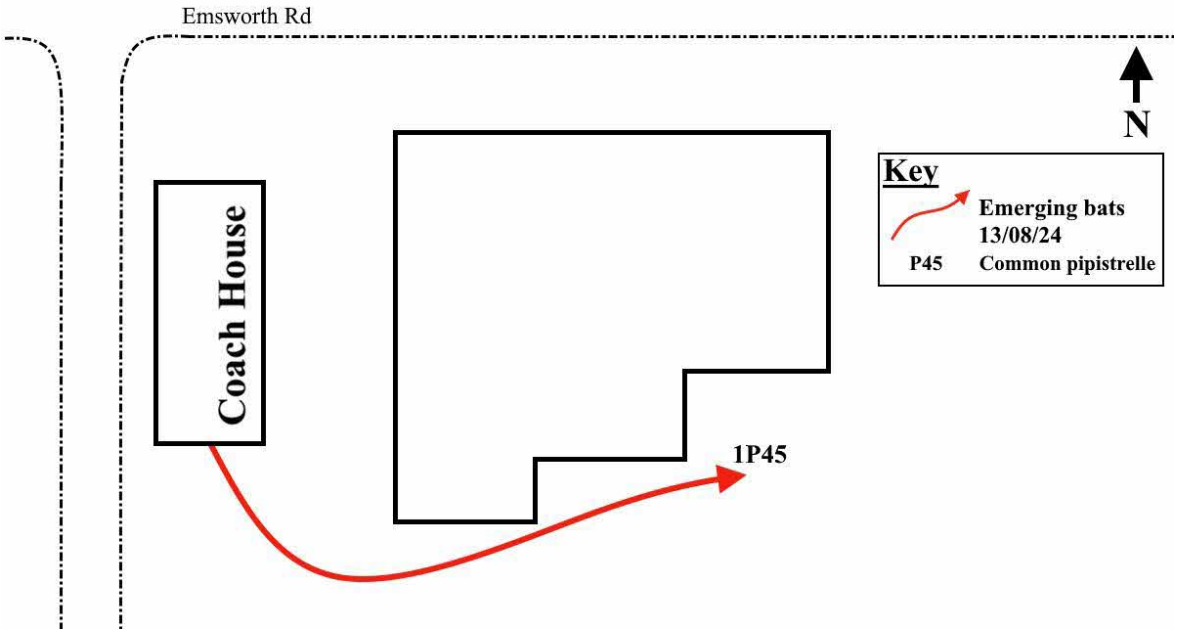
4.6 *Bat activity surveys*

Bats were observed emerging from the building during the bat activity surveys. The results are summarised in *Table 4.6.1* and *Figure 4.6.1*.

Table 4.6.1. Summary of bats emerging during the activity surveys.

Date	Species (& number)	Emergence/ re-entry	Roost location/ access point(s)
13/08/24	Common pipistrelle (1)	Emergence	Emerged from between the brickwork and the tarpaulin on the south elevation
03/09/24	-	-	-
02/10/24	-	-	-

Figure 4.6.1. Summary plan of bats emerging during the surveys.



Common pipistrelles, soprano pipistrelles, long-eared bats, noctules, serotines, and long-eared bats were recorded flying in the vicinity of the building and on the site indicating the weather was suitable for bat activity on all occasions. The full data from the bat activity surveys is given in *Appendix C* and plans illustrating the bat activity (observations only) during the survey are given in *Figures 4-6* in *Section 6*.

4.7 Other ecological constraints

4.7.1 Birds

The trees and hedges provide suitable nesting habitat for birds.

5 INTERPRETATION AND EVALUATION

5.1 Constraints

5.1.1 Constraints on survey data

Detailed searches often result in the discovery of evidence of bats. However, although such surveys can identify the presence of bats it is more difficult to prove absence due to the crevice-dwelling nature of these elusive mammals. Bat droppings may be missed where there is debris to obscure them (and also, very old droppings generally crumble away to dust).

Evidence of crevice-dwelling bats, such as pipistrelles, is often not discovered on preliminary roost appraisals.

It is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally legal, practical or acceptable.

The roof tiles were stripped prior to the bat activity surveys due to a roof collapse which made the building dangerous to the public.

The loft void had been swept (presumably after the tiles were stripped). This was evident due to the relative cleanliness of the loft as well as a small pile of sweepings in the north-east corner. This may have resulted in the loss of potential bat evidence such as droppings.

As the weather was unsuitable at the end of September, the final survey was carried out in early October. This is permissible under BCT guidelines and is not thought to significantly alter conclusions as one of the surveys was carried out in the optimum season of May to August (as required for moderate suitability buildings).

5.1.2 Constraints on the mitigation, compensation and enhancement measures

There is a limit to the amount of enhancement measures that are possible (and reasonable) on a small site. In addition, the Coach House is a historically listed building. Therefore, compensation or enhancement measures will not be installed on this building.

5.2 Potential impacts of the proposed development on bat roosts

5.2.1 Desk study

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby (see *Table 4.1.1.1* in *Section 4.1.1*). None of these will be directly affected by this small-scale development and all links will be maintained.

As a result of its proximity, the impacts of these small-scale works on the SPAs and SACs must be considered.

The site is within 5km Solent Maritime SAC & SPA (*c*.948m south). The SAC/SPA is designated for its marine and estuarine habitats (including sandbanks, estuaries, mudflats, coastal lagoons, drift lines, stoney banks, Salicornia and other annuals colonising mud, Spartina swards, Atlantic salt meadows, dunes and Desmoulin's whorl snail)

The site is also within 5km of Solent & Isle of Wight lagoons (*c*.4472m south-west). The SAC/SPA is designated for a series of coastal lagoons, including percolation, isolated and sluiced lagoons. The site includes a number of lagoons in the marshes in the Keyhaven – Pennington area, at Farlington Marshes in Chichester Harbour, behind the sea-wall at Bembridge Harbour and at Gilkicker, near Gosport. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort (*Lamprothamnium papulosum)*, the nationally scarce lagoon sand shrimp (*Gammarus insensibilis)*, and the nationally scarce starlet sea anemone (*Nematostella vectensis)*. The lagoons in Keyhaven – Pennington Marshes are part of a network of ditches and ponds within the saltmarsh behind a sea-wall. Farlington Marshes is an isolated lagoon in marsh pasture that, although separated from the sea by a sea-wall, receives sea water during spring tides. The lagoon holds a well-developed low-medium salinity insect-dominated fauna. Gilkicker Lagoon is a sluiced lagoon with marked seasonal salinity fluctuation and supports a high species diversity. The lagoons at Bembridge Harbour have formed in a depression behind the sea-wall and sea water enters by percolation. Species diversity in these lagoons is high and the fauna includes very high densities of *N. vectensis*.

The works will cause no increase to the building size or to the number of people occupying the building. Therefore, there will be no increase in the recreational pressure, or pollution, on the internationally designated sites.

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there has been one bat European Protected Species (EPS) licence granted *c*.1370m west of the site. It is unlikely that the current proposals will impact these bat populations.

5.2.2 Commuting and foraging bats

There is some good foraging habitat for emerging bats in the immediate vicinity of the buildings including mature trees and nearby water sources. The lines of mature trees along the boundaries connect a network of hedges, tree-lines and woodland strips. These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as woodland. Woodland and water sources provide high-quality foraging habitat for a number of different species of bat. These areas will be unaffected by the development and all links will be maintained. The connectivity around the edges of the site (the trees and hedges) will be retained and as such no impact to commuting and foraging bats (and hence bat populations in the local area) is anticipated.

Changes in lighting can affect foraging and commuting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto retained vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats.

Any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) onto any retained vegetation. This is because bats are very sensitive to light.

The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.2.3 Coach house

The majority of the roof has been stripped prior to the bat surveys due to a roof collapse which made the building unsafe to the public. Due to this there are many potential bat access points into the building, as well as some exterior features that also provide potential roosting locations for bats. As such, the building has moderate bat roost suitability. Therefore, in line with Gov.uk *Bats: surveys and mitigation for development projects* and BCT's *Bat Surveys for Professional Ecologists Good Practice Guidelines 4th edition*, further surveys were carried out to determine the presence or likely absence of bats using the building as a roost.

As the coach house is a confirmed bat roost, a European Protected Species (EPS) licence or Bat Mitigation Class Licence (BMCL), if qualifying, site registration from Natural England must be obtained before works commence. A detailed method statement, with a mitigation strategy aimed at maintaining the conservation status of bats, will be prepared as part of the bat licence from Natural England. A summary of the bat roost in the building, including impacts without mitigation and with mitigation and compensation measures is given in *Table 5.2.3.1*.

Enhancement measures will be required to be incorporated into the building and/ or wider site to comply with national and local planning policy that requires a net gain in biodiversity. The proposed enhancement measures are given in *Section 5.6*.

All proposed mitigation and compensation enhancement measures are subject to supplied plans.

Table 5.2.3.1. Summary of the bat roosts and the proposed impacts.

Building	Coach house
Species & Peak count	Common pipistrelle (1)
Roost type	Non-breeding day roost
Emergence location	From between the brickwork and the tarpaulin in place of the roof
Impacts without mitigation	Bats could be injured or killed when the soffits (and other features that could be used by bats) are removed.

	The bat access points on the coach house may be lost once the building is restored.
Mitigation/ compensation	The soffits and other features with bat roost suitability (such as lead-flashing and facias) will be removed carefully by hand (under strict ecological supervision) to mitigate the potential for individual bats to be injured or killed. This will ideally be completed in September/ October once maternity colonies have dispersed and before bats have begun to hibernate; or in March/ April before bats have returned to form maternity colonies. However, work at any time of year may be acceptable (subject to licensing from Natural England) providing the destructive search is carried out in mild spells (above 5ºC at night) in winter. One woodstone bat box (*e.g.* Vivara woodstone, Beaumaris Woodstone or similar) will be erected on a large nearby tree prior to the commencement of the works to provide a safe location to put any bats found during the destructive searches. Bats will be captured by hand by the ecologist and, after being checked for injuries, transported immediately in cotton holding bags. In the event that an injured bat is encountered during the destructive search, it will be taken to a veterinary surgeon so that the extent of its injuries can be assessed. If not life-threatening it will be taken to one of the local bat group's designated carers. Only timber treatments recommended by Natural England should be used in line with Natural England's *Remedial timber treatment products suitable for use in bat roosts (2013)* available at: https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them.

5.2.4 Birds

All tree and hedges provide suitable habitat for nesting birds. The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). Therefore, any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (which is late February to August inclusive). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation.

If any active nests are found prior to or during works, a 5m buffer zone should be established around them and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use). Any active nests on the building must be retained and work must be delayed in that area until the young have fledged and left the nest.

5.3 Alternative roosting potential

There are buildings nearby that could provide alternative roosting for bats (see *Figure 1* in *Section 6*). In addition, there are several mature trees in the vicinity that could provide bat roosting opportunities.

5.4 Survey report expiry

This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites, therefore if more than 12 months elapse it may be advisable to conduct further survey work to obtain up-to-date information to advise work, thereby ensuring protected species compliance.

Given the mobility of bats, it is recommended that a walkover of the site to update the survey information is undertaken prior to the development commencing if this does not occur before the end of October 2025.

5.5 Further survey

No further surveys are proposed.

5.6 Enhancement measures

5.6.1 General

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) except for small sites will have to deliver at least 10% biodiversity net gain (BNG) from January 2024. BNG will be required for small sites from April 2024. BNG will be measured using Defra's biodiversity metric and habitats will need to be secured for at least 30 years. This sits alongside:

- a strengthened legal duty for public bodies to conserve and enhance biodiversity,
- new biodiversity reporting requirements for local authorities, and mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

From the 20th July 2021, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021). The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in February 2019. It states: "*at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11).*"

It also states "*opportunities to incorporate biodiversity in and around developments should be encouraged*" as part of the consideration for "*presumption in favour of sustainable development*".

The updated National Planning Policy Framework (NPPF) also states (paragraph 170) that:
"*Planning Policies and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*"

The updated Planning Policy Guidance (PPG) for the Natural Environment, updated in July 2019 states (paragraph 020) that:
"*Net gain in planning describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand*."

The updated PPG provides examples of how biodiversity net gain can be achieved. Measures suggested include "creating new habitats" and "enhancing existing habitats".

It is proposed that the enhancements to provide biodiversity net gain will also be in the form of the following:

- new bat roost provision;
- sensitive lighting (for bats and other wildlife);
- new bird nesting provision; and

These enhancements are detailed in the following sections.

Other enhancements for wildlife that the owners of the site may choose to employ are given in *Appendix D*. However, these are not proposed as enhancements for the purposes of the planning application, but only for information purposes.

All proposed enhancement measures are subject to supplied plans.

5.6.2 Lighting

Changes in lighting can affect commuting, foraging and roosting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto the new or retained roost exit points (see *Section 5.6.3*) and retained or planted vegetation (particularly the trees) and any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) near to or directly onto the new or retained roost entrances and vegetation so that light disturbance is not a problem. This is because lighting can impact bat populations directly by disturbing roosts and reducing their foraging area, or indirectly by severing commuting routes from roosts. Therefore, the following (modified from *Bats and lighting in the UK* (ILP 2023)) should be undertaken:

Aim of light The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any retained vegetation. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats, as well as people and other wildlife.

For any security lighting, the following should also apply:

Power It is rarely necessary to use a lamp of greater than 2000 lumens (150W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.

Movement sensors Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor are able to be separately aimed.

Timers If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.

Alternatives The requirement for security lighting in each instance should be carefully considered and only used where absolutely necessary to deter crime.

The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.6.3 New bat roost location

Enhancement for bats will be in the form of one woodstone style bat box (*e.g.* Vivara Pro WoodStone Bat Box, Beaumaris Woodstone or similar). This bat box will be erected on a mature tree within the site boundary as high as possible (ideally between 2.5m and 5m, facing south or south-east) with a clear exit path. This bat box will remain on site permanently (and shall be repaired or replaced as necessary).

5.6.4 Birds

Two multi-use boxes (swifts and sparrows) will be attached to the exterior wall of the house (as the coach house is a historically listed building). Swift boxes can be supplied and installed by Hampshire Swifts https://www.hampshireswifts.co.uk and a new soffit design is also available (this box is also suitable for sparrows which are also an IUCN Red List Bird of Conservation Concern and listed on Section 41 of the *Natural Environment & Rural Communities Act 2006*). The proposed bird boxes are summarised in *Table 5.6.4.1*.

Table 5.6.4.1. Bird boxes to be erected within the site with additional details on siting them to increase chances of occupancy.

Type & quantity	**Typical species**	**No.**	**Height**	**Additional information**
Ibstock Eco-habitat or Swift boxes from Hampshire Swifts	Swifts	2	≥ 5m	Can either be incorporated into the build structure or mounted onto a building. Position out of direct sunlight (below eaves on the east elevation), away from windows and in a

				straight line. Should be in an open area so that it is less accessible to predators and birds are not obstructed as they leave the nest.

5.7 Requirement for Habitats Regulations licence

A bat European Protected Species (EPS) licence or Bat Mitigation Class Licence (formerly Bat Low Impact Class Licence, if qualifying) site registration from Natural England is necessary before work continues on the coach house. A licence from Natural England permits activities that may otherwise be offences under *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, such as the destruction of roost sites.

Evidence is required from bat activity surveys (emergence and/ or re-entry surveys) during the bat active season between May and September in order to gather enough information about bat populations (including species, numbers and status of roost sites) to support a bat licence application.

Survey data supporting licence applications must be up-to-date *i.e.* have been conducted within the current or most recent optimal survey season (May to September). Therefore, if surveys show bats are present and licensable work is delayed until, during or after the next survey season, updated survey(s) will be required to support an application.

Natural England takes a minimum of 30-60 working days to process licence applications following receipt of all the relevant documentation. This includes an application form and a Method Statement. This includes a detailed mitigation strategy to eliminate or reduce impacts on bats.

It is not possible to apply for a licence until full planning permission has been granted and any conditions relating to wildlife fulfilled, although Local Planning Authorities usually request the information prior to determining a planning application request. Additional time will be required where any revisions to a proposed mitigation strategy are necessary to obtain the licence.

6 FIGURES

Figure 1. Aerial photographs showing the location of the site.

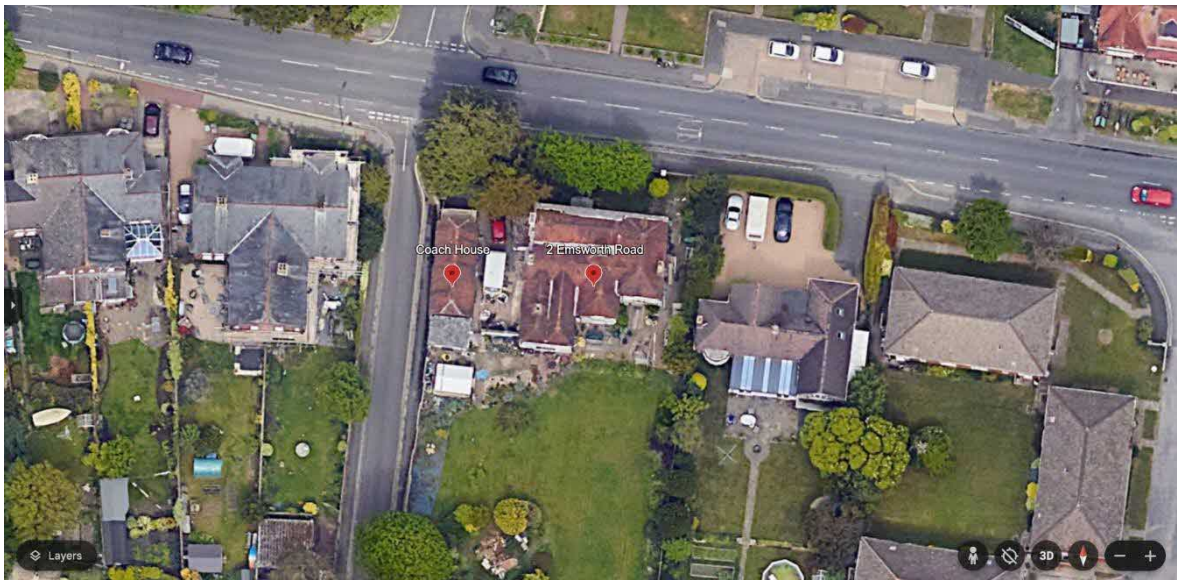


Figure 2. An Ordnance Survey map showing the site location, as indicated by the red arrow.

Reproduced with permission of Ordnance Survey under licence no. 100049977.

Figure 3. Plan of the site with the building surveyed highlighted in red.

Figure 4. Plan showing bat activity (observations only) for the bat activity survey carried out on the 13th August 2024. Arrows show direction of flight (where known).

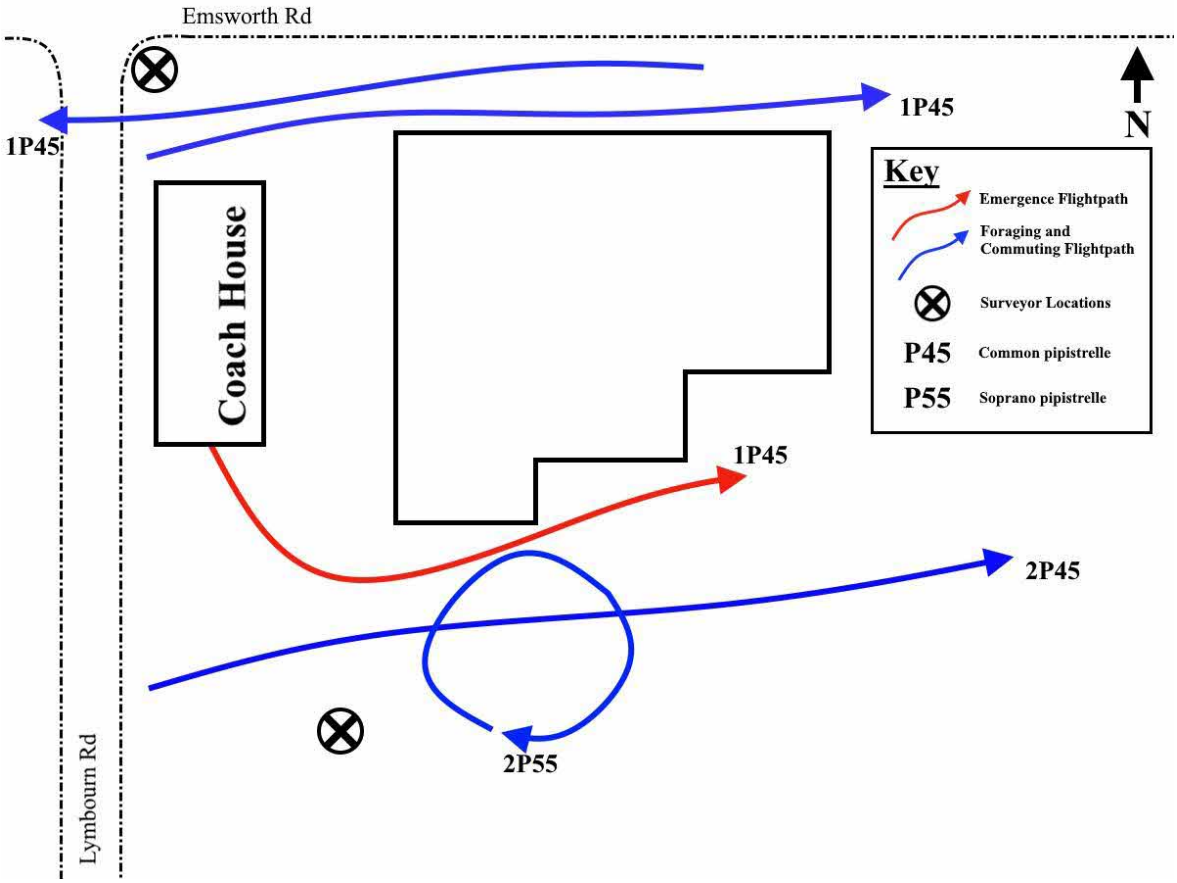


Figure 5. Plan showing bat activity (observations only) for the bat activity survey carried out on the 3rd September 2024. Arrows show direction of flight (where known).

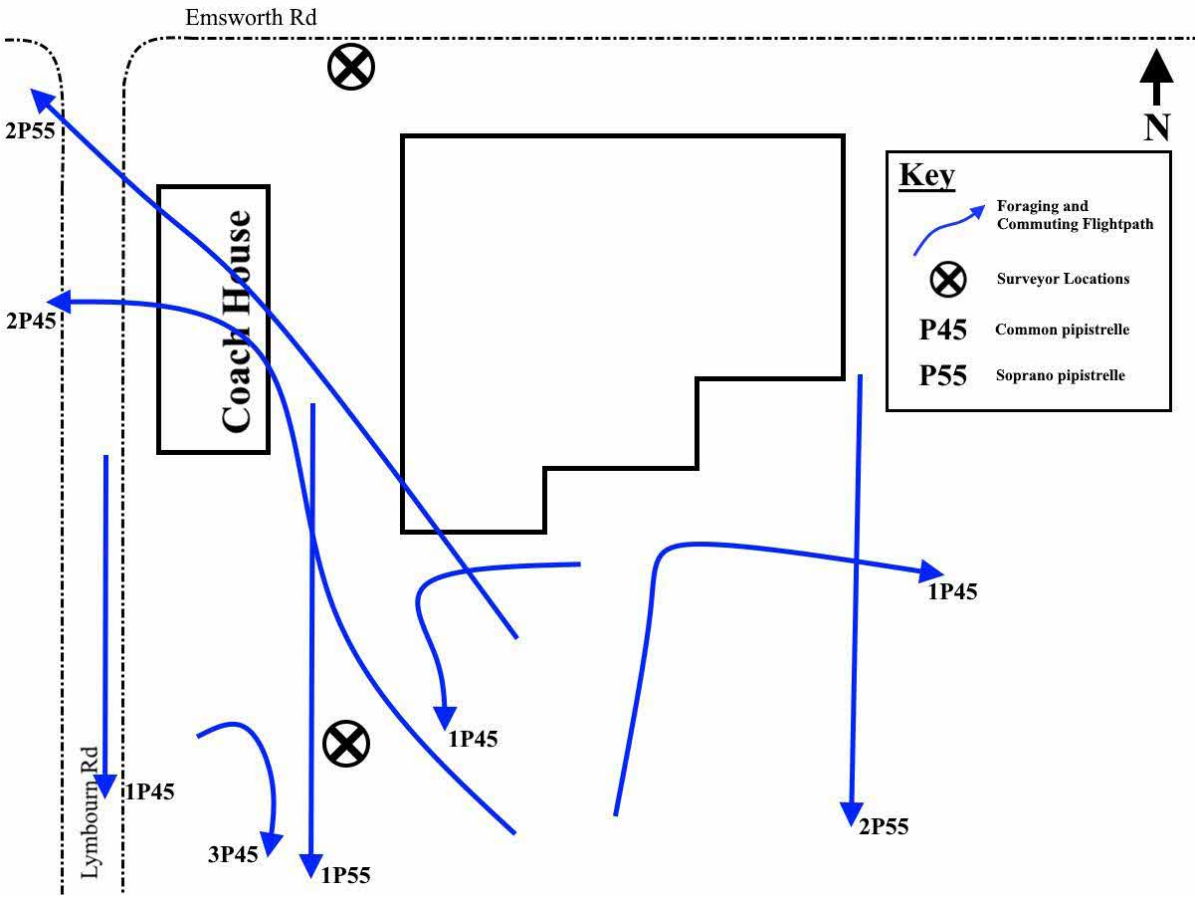


Figure 6. Plan showing bat activity (observations only) for the bat activity survey carried out on the 2nd October 2024. Arrows show direction of flight (where known).

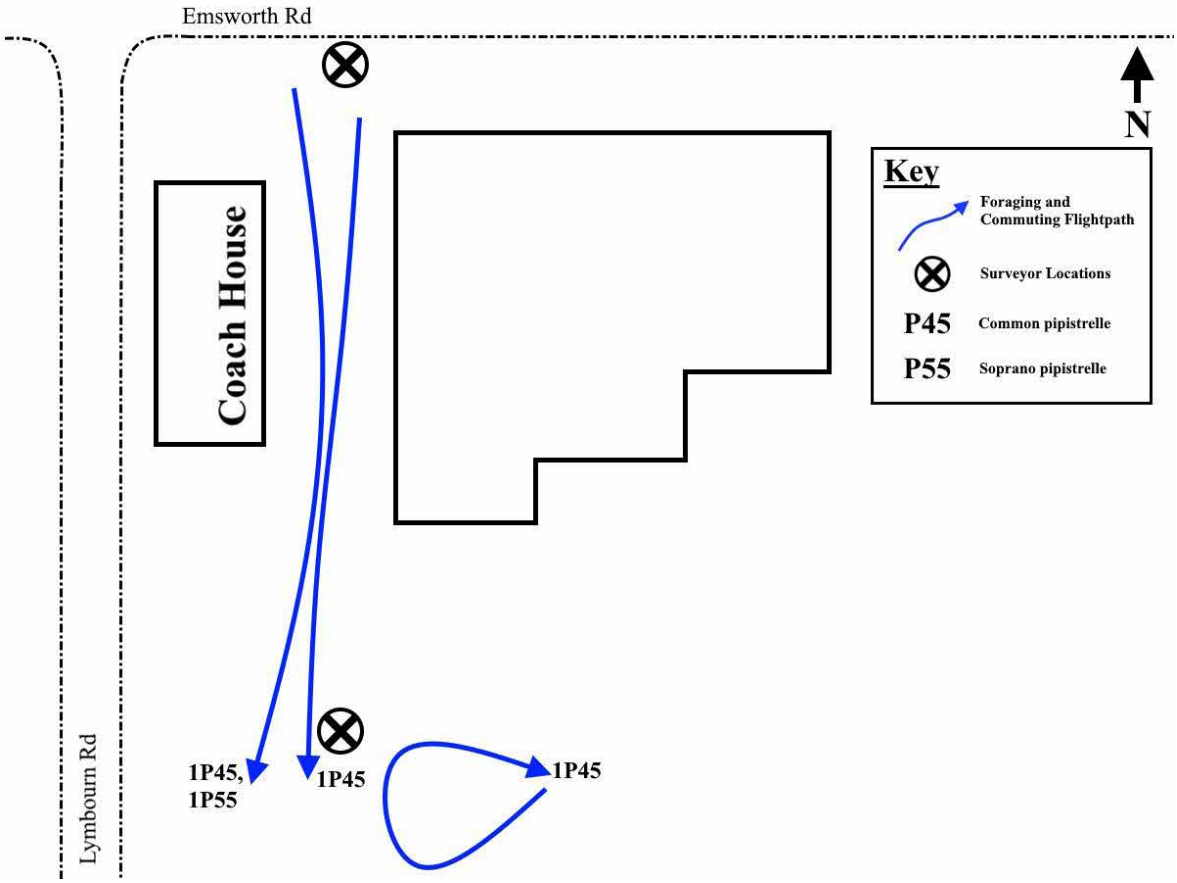
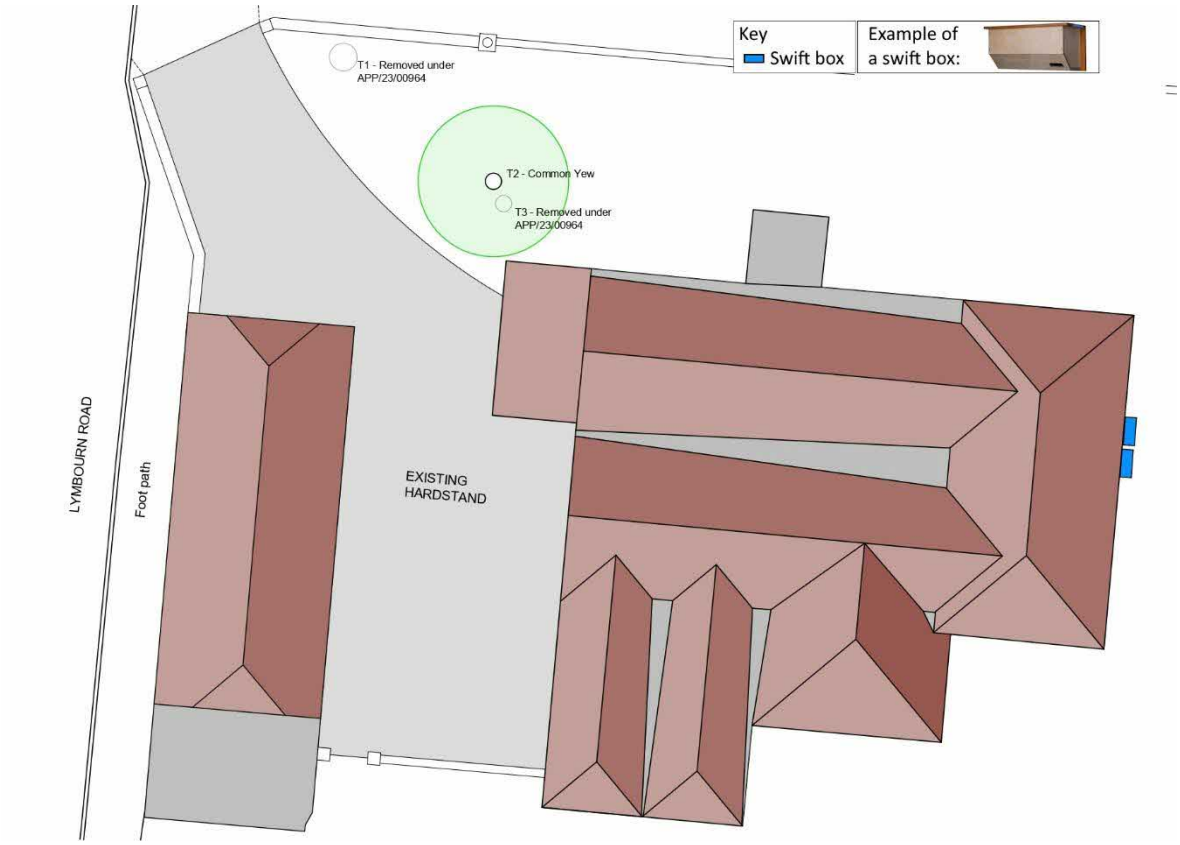


Figure 7. Plan showing the indicative locations of the proposed enhancement (not to scale).



7 PHOTOGRAPHS

Photo 1. Shrubs and hedges in the rear garden.

Photo 2. Hedges, shrubs, and buildings to the east of the site.

Photo 3. View of the coach house from the rear garden.

Photo 4. South boundary of the site.

8 REFERENCES

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9 APPENDIX A: LEGISLATION

9.1 Legal context

All species of British bat are protected by the *Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

intentionally kill, injure or take a bat;

possess or control a bat;

intentionally or recklessly damage, destroy or obstruct access to a bat roost; and

intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on the *Conservation of Habitats & Species Regulations 2017*. This legislation makes it an offence to:

deliberately capture, injure or kill a bat;

deliberately disturb a bat (in such a way as to be likely to significantly affect: (i) the ability of a significant group of bats to survive, breed or rear/nurture their young; or (ii) the local distribution or abundance of the species concerned);

damage or destroy a breeding site or resting place of a bat; and

possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present (bats tend to reuse the same roost).

Where it is necessary to carry out an action that could result in an offence under the *Conservation of Habitats & Species Regulations 2017* it is possible to apply for a European Protected Species (EPS) licence from Natural England. Licences are only issued where Natural England are satisfied that three derogation tests are met. These are: that the activity is for **imperative reasons of overriding public interest;** that there must be **no satisfactory alternative**; and that **favourable conservation status of the species must be maintained**.

Consideration of these three derogation tests was previously left to Natural England as part of their deliberations on whether to grant a licence for the development activity after a planning consent has been issued. However, the regulations now require that **all** public bodies, i.e. **Local Planning Authorities** (LPAs), have regard to the requirements of the European Habitats Directive when carrying out their functions. As a result, LPAs **must** address the three derogation tests when considering a planning application that could impact upon any European Protected Species (EPS).

9.2 National planning context

9.2.1 General

Surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/default.aspx), which states:

> Natural England will not comment on applications that are submitted without the relevant protected species surveys if there are no other issues (*i.e.* in relation to SSSIs or landscape).
>
> Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

In addition to the above, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a new duty on all public authorities to have regard for biodiversity.

9.2.2 Biodiversity Net Gain (BNG)

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) except for small sites will have to deliver at least 10% biodiversity net gain (BNG) from January 2024. BNG will be required for small sites from April 2024. BNG will be measured using Defra's biodiversity metric and habitats will need to be secured for at least 30 years. This sits alongside:

- a strengthened legal duty for public bodies to conserve and enhance biodiversity,
- new biodiversity reporting requirements for local authorities, and mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

From the 20th July 2021, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021). The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in June 2019. It states: "*at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11).*"

Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

- an economic objective;
- a social objective; and
- an environmental objective.

The environmental objective is to "*contribute to protecting and enhancing our natural, built and historic environment*; *including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy"*.

Planning policies and decisions should contribute to and enhance the natural and local environment by "*protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*" and "*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*".

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.

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.

It states that "*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*".

It should be noted that 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*".

The NPPF also encourages "*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*" and aims to "*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*". This applies to non-statutory designated sites including Sites of Importance for Nature Conservation (SINCs) and equivalent county wildlife sites.

Early engagement with all necessary stakeholders, including expert bodies, is encouraged by the NPPF.

10 APPENDIX B: BAT ECOLOGY

Bats use different roosting sites throughout the year according to their life cycle requirements.

Hibernation during the winter months requires roosting sites that are cool and humid. As conditions improve through the spring, bats become increasingly active and tend to use transitional roosting sites. During the summer months, females give birth in maternity roosts. Maternity roosts tend to be warm and temperature-stable, which aids rapid development of the young, which are weaned in late summer. In the autumn, adult bats congregate in mating roosts and also use transitional roosting sites. Autumn is the time when both adults and juveniles have to build up fat reserves in preparation for hibernation through the winter months.

Bats also use roosts during the night as feeding perches. Species that catch large prey items such as moths (*e.g.* brown long-eared bat) often enter buildings to hang up and eat their prey before emerging again to forage. Such feeding perches tend to be obvious from scatterings of bat droppings with moth wings, which the bats discard.

Bats are at their most vulnerable during the summer in their maternity roosts, when disturbance can jeopardise their breeding success. Bats give birth to only one pup per year and young do not breed until the second or third year after birth. This means that if maternity colonies are disturbed there can be serious implications for the conservation status of populations.

Bats are also vulnerable during the winter hibernation period, when disturbance can reduce their chance of survival through the winter at a time when food is in short supply.

This is why there are often only narrow timeframes for bat survey and mitigation work.

11 APPENDIX C: BAT ACTIVITY SURVEY DATA

Date	**13/08/2024**			
Temp at start (ºC)		**19**	**Temp at end (ºC)**	**18**
Weather	**Dry with bright spells prior to survey, 30% cloud cover, Beaufort Scale 1**			
Ecologists	**Adam Rye, Alex Grainger**			
Observer	**Time**	**No.**	**Species**	**Observation**
-	20:13	-	-	Ecologists commenced observations
-	20:27	-	-	Sunset
AG	20:47	1	Common pipistrelle	Commuting east past the south end of coach house
AG	20:49	1	Soprano pipistrelle	Foraging to the south of the house
AR	20:51	1	Noctule	Heard not seen
AG	**20:54**	**1**	**Common pipistrelle**	**Emerged from the south end of coach house from between the brickwork and the tarpaulin**
AG	20:55	1	Soprano pipistrelle	Heard not seen
AR	20:58	1	Noctule	Heard not seen
AG	21:00	1	Common pipistrelle	Commuting east past the south end of coach house
AG	21:06	1	Common pipistrelle	Heard not seen
AG	21:07	1	Soprano pipistrelle	Foraging to the south side of main building
AG	21:09	1	Common pipistrelle	Heard not seen
AR	21:12	1	Common pipistrelle	Heard not seen
AG	21:13	1	Common pipistrelle	Heard not seen
AR	21:15	1	Noctule	Heard not seen
AR	21:16	1	Common pipistrelle	Foraging, travelling east past the north end of coach house
AG	21:20	1	Common pipistrelle	Heard not seen
AR	21:30	1	Common pipistrelle	Commuting west past the north end of coach house
AG	21:31	1	Common pipistrelle	Heard not seen
AR	21:39	1	Common pipistrelle	Heard not seen
AR	21:48	1	Noctule	Heard not seen
-	21:53	-	-	Ecologists ceased observations
Date	**03/09/2024**			
Temp at start (ºC)		**19**	**Temp at end (ºC)**	**17**
Weather	**Cloudy (40%), Beaufort scale 1**			
Ecologists	**Adam Rye, Ross Raynor**			
Observer	**Time**	**No.**	**Species**	**Observation**
-	19:29	-	-	Ecologists commenced observations

AR	19:33	1	Common pipistrelle	Heard not seen
-	19:44	-	-	Sunset
AR	20:01	1	Soprano pipistrelle	Heard not seen
AR	20:04	1	Common pipistrelle	Foraging around mature tree in rear garden
AR	20:05	1	Common pipistrelle	Foraging over rear garden
AR	20:06	1	Common pipistrelle	Commuting south
AR	20:07	1	Common pipistrelle	Heard not seen
AR	20:08	1	Common pipistrelle	Heard not seen
AR	20:09	2	Common pipistrelle	Commuting north-west
RR	20:10	2	Soprano pipistrelle	Commuting north-west
AR	20:10	1	Common pipistrelle	Heard not seen
AR	20:12	1	Soprano pipistrelle	Commuting south above rear garden
AR	20:12	1	Common pipistrelle	Heard not seen
AR	20:13	1	Common pipistrelle	Foraging over rear garden
AR	20:15	1	Common pipistrelle	Heard not seen
AR	20:16	1	Common pipistrelle	Heard not seen
AR	20:17	1	Soprano pipistrelle	Commuting south above rear garden
AR	20:19	1	Common pipistrelle	Foraging around mature tree in rear garden
AR	20:21	1	Common pipistrelle	Heard not seen
AR	20:24	1	Common pipistrelle	Heard not seen
AR	20:25	1	Brown long-eared	Heard not seen
AR	20:26	1	Common pipistrelle	Heard not seen
AR	20:29	1	Common pipistrelle	Foraging around mature tree in rear garden
AR	20:30	1	Soprano pipistrelle	Commuting south above rear garden
RR	20:31	1	Common pipistrelle	Heard not seen
AR	20:32	1	Common pipistrelle	Heard not seen
AR	20:36	1	Common pipistrelle	Heard not seen
AR	20:40	1	Common pipistrelle	Heard not seen
AR	20:43	1	Common pipistrelle	Heard not seen
AR	20:46	1	Common pipistrelle	Heard not seen
AR	20:48	1	Common pipistrelle	Heard not seen
AR	20:52	1	Common pipistrelle	Heard not seen
AR	20:54	1	Common pipistrelle	Heard not seen
AR	20:57	1	Common pipistrelle	Heard not seen
AR	20:59	1	Common pipistrelle	Heard not seen
AR	21:01	1	Common pipistrelle	Heard not seen
-	21:14	-	-	Ecologists finished observations
Date	**02/10/2024**			
Temp at start (ºC)		**14**	**Temp at end (ºC)**	**12**
Weather	**Cloudy (80%), Beaufort scale 2**			

Ecologists	**Laura Hardy, Tom Lock**			
Observer	**Time**	**No.**	**Species**	**Observation**
-	18:23	-	-	Ecologists commenced observations
LH	18:25	1	Noctule	Heard not seen
-	18:38	-	-	Sunset
TL	18:52	1	Noctule	Heard not seen
LH	18:57	1	Noctule	Heard not seen
LH	19:10	1	Soprano pipistrelle	Foraging around rear garden
LH	19:11	1	Common pipistrelle	Heard not seen
TL	19:12	1	Noctule	Heard not seen
TL, LH	19:12	1	Soprano pipistrelle	Commuting south between buildings
LH	19:14	1	Common pipistrelle	Heard not seen
LH	19:14	1	Common pipistrelle	Foraging around rear garden
LH	19:15	1	Common pipistrelle	Heard not seen
TL	19:16	1	Common pipistrelle	Commuting south between buildings
LH	19:23	1	Common pipistrelle	Commuting south
TL	19:24	1	Noctule	Heard not seen
LH	19:33	1	Common pipistrelle	Heard not seen
LH	19:34	1	Common pipistrelle	Heard not seen
LH	19:40	1	Common pipistrelle	Heard not seen
LH	19:40	1	Brown long-eared	Heard not seen
LH	19:41	1	Common pipistrelle	Heard not seen
TL	19:42	1	Common pipistrelle	Heard not seen
LH	19:48	1	Common pipistrelle	Heard not seen
LH	19:49	1	Common pipistrelle	Heard not seen
LH	19:53	1	Common pipistrelle	Heard not seen
LH	20:00	1	Common pipistrelle	Heard not seen
LH	20:01	1	Common pipistrelle	Heard not seen
LH	20:02	1	Noctule	Heard not seen
-	20:08	-	-	Ecologists finished observations

12 APPENDIX D: OTHER ENHANCEMENTS FOR WILDLIFE

These are not proposed as enhancements for the purposes of the planning application, but only for information purposes.

12.1 Seed mix composition

The seed mixes in *Table 12.1.1.* are from Emorsgate Seeds and are suitable for lawns. Emorsgate are only given as an example and a local supplier is preferable. The mixes contain slow growing grasses with a selection of wildflowers that respond well to regular short mowing. The EG9 grass mixture for hedges and woodland contains a selection of grasses that are tolerant of a degree of shade.

Table 12.1.1. Emorsgate seed mix species composition.

EL1	
Species	**Common Name**
Flowering Species	
Galium verum	Lady's Bedstraw
Leontodon hispidus	Rough Hawkbit
Leucanthemum vulgare	Oxeye Daisy
Lotus corniculatus	Birdsfoot Trefoil
Primula veris	Cowslip
Prunella vulgaris	Selfheal
Ranunculus acris	Meadow Buttercup
Trifolium pratense	Wild Red Clover
Grasses	
Agrostis capillaris	Common Bent
Cynosurus cristatus	Crested Dogtail
Festuca rubra	Slender-creeping Red-fescue
Phleum bertolonii	Smaller Cat's-tail
EG1	
Species	**Common Name**
Agrostis capillaris	Common Bent
Cynosurus cristatus	Crested Dogtail
Festuca rubra	Slender-creeping Red-fescue
Phleum bertolonii	Smaller Cat's-tail
Poa pratensis	Smooth-stalked Meadow-grass
EG9	
Species	**Common Name**
Agrostis capillaris	Common Bent
Anthoxanthum odoratum	Sweet Vernal-grass
Brachypodium sylvaticum	False Brome
Cynosurus cristatus	Crested Dogtail

Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Red Fescue
Poa nemoralis	Wood Meadow-grass

12.2 Planting to attract wildlife

Plants that attract insects are generally helpful and trees, shrubs and flowering plants can provide cover for wildlife. Therefore, to enhance the ecological value of the site, any replacement landscaping in the gardens should incorporate a mixture of native and non-native species of value to wildlife. This mixture will be planted to encourage a diversity of insects, which in turn will attract different species. Flowers that bloom throughout the year, including both annuals and herbaceous perennials, are beneficial. Night-flowering blossoms attract night-flying insects, which in turn provide prey for bats. Examples of suitable plant species that could be planted to encourage wildlife include those in *Tables 12.2.1.* and *12.2.2.* Approximate flowering periods are listed in the tables.

Table 12.2.1. Native and non-native species that could be incorporated into the landscaping.

Species	**Common Name**	**Approximate flowering period**
Achillea millefolium	Yarrow	Early summer
Aubretia species	Aubretia	Spring to early summer
Berberis darwinii	Darwin's Barberry	Spring
Iberis sempervirens	Candytuft	Summer to autumn
Centaurea montana	Cornflower	Spring to summer
Centaurea scabiosa	Knapweed	Summer to autumn
Centranthus ruber	Red valerian	Summer to autumn
Cornus sanguinea	Dogwood	Summer
Dianthus barbatus	Sweet William	Summer
Echinacea species	Echinacea	Summer to autumn
Erysimum species	Wallflowers	Spring to early summer
Glebionis segetum	Corn marigold	Spring to summer
Hebe species	Hebes	Summer to autumn
Hedera helix	Ivy	Autumn
Hesperis matronalis	Dame's-violet	Spring to summer
Hyacinthoides non-scripta	English Bluebell	Spring
Hylotelephium spectabile	Ice plant 'Pink lady'	Early autumn
Hypericum species	St John's wort	Spring
Ilex aquifolium	Holly	Spring to summer
Jasminum officinale	Common White Jasmine	Summer to autumn
Lavandula angustifolia	Garden Lavender	Summer
Leucanthemum vulgare	Ox-eye daisy	Summer
Limnanthes douglasii	Poached egg plant	Summer
Lonicera caprifolium	Perfoliate Honeysuckle	Summer
Lonicera etrusca	Italian Honeysuckle	Summer to autumn
Lonicera japonica	Japanese Honeysuckle	Spring

Lonicera periclymenum	Honeysuckle	Summer to autumn
Lunaria annua	Honesty	Spring
Malus domestica	Apple	Spring
Malus sylvestris	Crab Apple	Spring
Malva species	Mallow	Summer to autumn
Matthiola longipetala	Night-scented stock	Summer
Myosotis sylvatica	Wood forget-me-not	Spring
Nicotiana species	Tobacco plant	Summer
Oenothera species	Evening primroses	Summer to autumn
Papaver rhoeas	Corn poppy	Summer
Phacelia species	Phacelia	Summer to autumn
Primula vulgaris	Primrose	Spring
Rosa species	Rose	Summer
Rubus fruticosus agg.	Bramble	Spring to summer
Saponaria officinalis	Soapwort	Summer
Saxifraga fortunei	Cherry pie	Summer to autumn
Scabiosa species	Scabious	Summer
Silene dioica	Red campion	Spring
Silene noctiflora	Night-scented Catchfly	Summer to autumn
Silene vulgaris	Bladder Campion	Summer
Verbena species	Vervain	Summer to autumn
Viburnum lantana	Wayfaring-tree	Spring to summer
Viburnum opulus	Guelder-rose	Summer

Table 12.2.2. Examples of suitable garden herbs that could be planted in and around the site to encourage wildlife.

Species	**Common Name**	**Approximate flowering period**
Angelica species	Angelica	Summer to autumn
Borago officinalis	Borage	Spring to early autumn
Calendula officinalis	English marigolds	Summer to autumn
Foeniculum vulgare	Fennel	Summer to early autumn
Hesperis matronalis	Dame's-violet, often sold as Sweet Rocket	Spring to summer
Hyssopus officinalis	Hyssop	Summer to early autumn
Matthiola bicornis	Night-scented Stock	Spring to autumn
Melissa officinalis	Lemon balm	Summer
Monarda species	Bergamot	Summer to early autumn
Nicotiana species	Tobacco-plant	Spring to autumn
Oenothera species	Evening-primroses	Summer
Origanum vulgare	Marjoram	Summer
Rosmarinus officinalis	Rosemary	Spring

Saponaria officinalis	Soapwort	Summer to autumn
Silene noctiflora	Night-scented Catchfly	Summer to autumn
Silene vulgaris	Bladder Campion	Spring to summer
Tanacetum parthenium	Feverfew	Summer to early autumn
Thymus species	Thyme	Summer

New hedges could be planted around the edges of the site. These should consist of a mixture of native species such as *Acer campestre* (Field Maple), *Carpinus betulus* (Hornbeam), *Cornus sanguinea* (Dogwood), *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Fagus sylvatica* (Beech), *Fraxinus excelsior* (Ash), *Prunus spinosa* (Blackthorn), *Quercus robur* (Pedunculate Oak), *Viburnum lantana* (Wayfaring-tree) and *Viburnum opulus* (Guelder-rose). These species will provide a mixture of leaf shapes and colours through the seasons. In addition, the hedges will contain *Ilex aquifolium* (Holly) and *Taxus baccata* (Yew) to provide an evergreen component for the winter months, and to provide a contrast to the colours of the other plants during the spring, summer and autumn.

Under-sowing new hedges with Emorsgate seed mix EH1 Hedgerow mixture (or equivalent) provides cover for wildlife such as hedgehogs as well as providing an attractive feature while the new hedges become established. Seed mixes suitable for shade are given in *Table 12.2.3.*

Table 12.2.3. Seed mixes suitable for shaded areas.

EH1	
Species	**Common Name**
Wild Flowers	
Alliaria petiolate	Garlic Mustard
Arctium minus	Lesser Burdock
Cntaurea nigra	Common Knapweed
Chaerophyllum temulum	Rough Chervil
Galium album	Hedge Bedstraw
Geum urbanum	Wood Avens
Lathyrus sylvestris	Narrow-leaved Everlasting-pea
Leucanthemum vulgare	Oxeye Daisy
Primula veris	Cowslip
Prunella vulgaris	Selfheal
Saponaria officinalis	Soapwort
Silene dioica	Red Campion
Silene latifolia	White Campion
Silene vulgaris	Bladder Campion
Torilis japonica	Upright Hedge-parsley
Grasses	
Agrostis capillaris	Common Bent
Anthoxanthum odoratum	Sweet Vernal-grass

Brachypodium sylvaticum	False Brome
Cynosurus cristatus	Crested Dogtail
Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Slender-creeping Red-fescue
Poa nemoralis	Wood Meadow-grass
EW1	
Species	**Common name**
Alliaria petiolata	Garlic Mustard
Allium ursinum	Ramsons
Anthriscus sylvestris	Cow Parsley
Arctium minus	Lesser Burdock
Arum maculatum	Lords-and-Ladies
Chaerophyllum temulum	Rough Chervil
Cruciata laevipes	Crosswort
Digitalis purpurea	Foxglove
Filipendula ulmaria	Meadowsweet
Geum urbanum	Wood Avens
Hyacinthoides non-scripta	Bluebell
Iris foetidissima	Gladdon
Prunella vulgaris	Selfheal
Silene dioica	Red Campion
Teucrium scorodonia	Wood Sage
Torilis japonica	Upright Hedge-parsley
Grasses	
Agrostis capillaris	Common Bent
Anthoxanthum odoratum	Sweet Vernal-grass
Brachypodium sylvaticum	False Brome
Cynosurus cristatus	Crested Dogstail
Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Red Fescue
Poa nemoralis	Wood Meadow-grass

12.3 Bird boxes

It is not advisable to place many boxes with identical dimensions, because individuals of the same species may not tolerate each other's presence, especially in built-up areas with limited food resources.

Table 12.2.1. Bird boxes with additional details on siting them to increase chances of occupancy.

Type	**Typical species**	**Height**	**Additional information**
Ibstock Eco-habitat or Swift boxes from Hampshire Swifts	Swifts	≥ 5m	Can either be incorporated into the build structure or mounted onto a building. Position out of direct sunlight (below eaves on the east elevation), away from windows and in a straight line. Should be in an open area so that it is less accessible to predators and birds are not obstructed as they leave the nest.
Vivara Pro WoodStone House Sparrow Nest Box	House sparrows	≥ 2m	Can either be incorporated into the build structure or mounted onto a building. Should be fixed onto a sturdy building, not onto fences or garden sheds due to its weight. Position away from windows. Position out of direct sunlight (below eaves on the north elevation), especially if not built into the build structure.
Vivara Pro Seville 28mm Woodstone Nest Box	Blue tits, coal tits	2-4m	Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. Chances of occupation can be increased by positioning boxes near vegetation.
Vivara Pro Seville 32mm Woodstone Nest Box	Blue tits, great tits	2-4m	Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. Chances of occupation can be increased by positioning boxes near vegetation.
Vivara Pro Barcelona WoodStone Open Nest Box	Robins, wrens	≤ 2m	Mount on a tree or large shrub Conceal amongst foliage to keep well-hidden from predators.

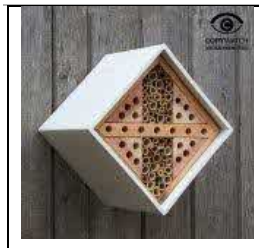
WoodStone Swallow Nest Bowl (Plywood board mounted)	Swallows	≥ 2m	Mount within a building with an open door or window ● Leave a distance of at least 6cm between the top of the nest and the ceiling.

12.4 *Insects*

Insect boxes (hotels or towers) should be installed in a sunny location close to vegetation. Bee-friendly and insect friendly plants should be located nearby so that the bees and insects using the boxes have food. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. The boxes suggested in *Table 12.4.1* (especially the BeePot planter) have been chosen so that they form an attractive feature as part of the landscaping. Solitary bees are non-aggressive and as such are suitable for gardens with pets and children.

Table 12.4.1. Examples of insect boxes that could be erected on site.

Type	**Species**	**Height**	**Additional information**
Bee Brick	Solitary bees	>1m from the ground	The Bee Brick should be positioned in a warm sunny spot, in a south-facing wall, with no vegetation in front of the holes
BeePot Bee Hotel	Solitary bees	>1m from the ground	The BeePot should be positioned in a warm sunny spot, preferably on a south-facing wall, with no vegetation in front of the holes
Insect Tower	Butterflies, solitary bees, lacewings and ladybirds	>1m from the ground	The different sections of the Insect Tower have been designed to provide a habitat for a variety of insect species. Suitable for mounting on buildings, tress or fences.
Urban Bee Nester	Solitary bees and a range of other insects	Between 0.75m and 1.5m above ground	The selected canes and the holes are the optimum size for solitary bees but other insects may overwinter in the nester.

			
Urban Insect Hotel	A wide range of insects	Between 0.75m and 1.5m above ground	Adding natural materials such as drilled canes, hollow stems or bark in the triangular spaces will encourage more insects to the hotel.
Bee and Bug Biome	A wide range of insects	>1m from the ground	Best placed near vegetation. Provides plenty of nooks and crannies for insects such as ladybirds, earwigs and lacewings.