Bat Emergence Activity Survey Report

13271 Box House Steyning

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Miranda Rijks

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Non-technical Summary

Phlorum was commissioned by Miranda Rijks to carry out a single bat activity (emergence/re-entry) survey, which was carried out at Box House, 75 High Street, Steyning, BN44 3RE, on the 22nd August 2024, prior to development. The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the PEA report (Phlorum 2024).

Current proposals are for replacement of the roof on the main building and the demolishment of the existing garden house and construction of a new building. The survey area extended over approximately 0.05 hectares (ha).

The main findings of the survey are as follows:

- There were three buildings located on the site the main building (B1) was located to the east of the site, the garden house (B2) was located in the centre of the site and the garage (B3) was located to the west of the site. The main building and garden house were found to have low potential for roosting bats due to lifted and missing tiles and a gap around the base of the roof.
- No bats were seen emerging from the building.
- Overall, there was no bat activity at the site. No bats were seen commuting or foraging at the site.
- Therefore, it was determined that no bats were utilising the onsite buildings or habitats and therefore a precautionary approach to the start of works is recommended to minimise disturbance should any bats utilise the potential roosting feature in the interim before developments start.

Further information regarding mitigation and site enhancement is provided in the recommendations section of the report.

1. Introduction

Background

1.1 Phlorum Limited was commissioned by Miranda Rijks to carry out a bat activity (emergence/re-entry) survey in relation to Box House, 75 High Street, Steyning, BN44 3RE (hereafter referred to as "the site") prior to development.

1.2 The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the previous PEA report (Phlorum 2024).

1.3 It is understood that current proposals are for the replacement of the roof on the main building and the demolition of the existing garden house and construction of a new building.

1.4 During the initial preliminary roost assessment, the main building and garden house were classified as having low potential for roosting bats. It was therefore recommended that a single activity survey be undertaken to assess whether or not bats are using the structures.

1.5 This report provides an assessment of the status of bats within the site, providing information on their presence/likely absence and distribution. Potential impacts of the proposed development are identified and measures to mitigate the effects of the proposed development on bats are discussed in outline.

Site Description

1.6 The site is located at Box House, 75 High Street, Steyning, BN44 3REThe site is located within the town of Steyning, the A283 is located approximately 650m to the east of the site. There is a bowling green located approximately 80m to the west of the site and there are agricultural fields located approximately 200m to the northwest. The site is bound to the residential properties and gardens to the north, south and west to the east of the property lies Steyning high street.

1.7 The site contained, buildings, hardstanding, vegetated garden, scattered trees and ponds.

1.8 The National Grid Reference for the centre of the site is TQ 17504 11332. The survey area extended over approximately 0.05 hectares (ha).

2. Methodology

Data Search

2.1 Records for bats within a 2km radius of the site were obtained from the Local Records Centre (Sussex Biodiversity Records Centre, 2024) as part of the Preliminary Ecological Appraisal.

Review of Bat Building Inspection (Preliminary Roost Assessment)

2.2 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum 2024). A review of this document was carried out to guide the activity surveys and ensure appropriate coverage.

Personnel

2.3 The survey was led by Richard Schofield, an ecological consultant with over 20 years' survey experience in leading surveys including bat activity surveys and transect surveys. He also holds a Bat Class Licence Level 1 CL17 (Ref: 2021-51095-CLS-CLS). The survey results and assessment was reviewed by Paul Carter (BSc (Hons), MBA, MCIEEM), an ecologist with over 20 years of experience of managing ecological and landscaping projects and holder of a Bat Class Licence Level 1 CL17 (Ref: 2020-44978-CLS-CLS).

Dusk Emergence Survey

2.4 An activity survey was carried out on the 22nd August 2024. Four surveyors were used to assess the site for roosting, foraging and commuting activity. Echo Meter Touch 2 Pro frequency division detectors and night vision aids (Sony FDR-AX53 4K camcorders and infrared LED lights) were used. It is considered that this method would allow any roosts present to be identified and located with high accuracy (Bat Conservation Trust, 2024).

2.5 During the survey the lead surveyor was positioned to the to the west of the main building with a view of loose and lifted tiles. The first assistant surveyor was positioned to the south of the garden house with views of the lifted and loose tiles. The second assistant surveyor was positioned to the east of the garden house with a view of loose and lifted tiles and the third assistant surveyor was positioned to the east of building one with a view of the front of the building and any loose and lifted tiles.

2.6 The evening surveys commenced at least 15 minutes before sunset and lasted for at least two hours after sunset.

2.7 All surveys followed standard protocols and accepted standards (Mitchell-Jones and McLeish, 2004; Collins, 2023 and Reason, 2023).

Roost Characterisation

2.8 Where a potential bat roosting feature or confirmed roost was identified, the surveyor assessed how these could be used by bats throughout the year, in accordance with Natural England (2015):

- day roost - where individual bats, or small groups of males, rest or shelter in the day, but rarely on summer nights;
- night roost - where bats rest or shelter at night, but rarely during the day;
- feeding roost - where bats rest at night between feeding sessions, but rarely during the day;
- hibernation roost - where bats are found during winter;
- transitional or occasional roost - where bats gather at a temporary site before and after hibernation;
- mating site - where males and females gather from late summer to early winter;
- maternity roost - where babies are born and raised until they're independent;
- satellite roost - where breeding females roost close to the main nursery colony in the breeding season; and
- swarming site - where bats gather in large numbers from late summer to autumn.

Constraints

Data Search Constraints

2.9 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Bat Survey Constraints

2.10 Bats are mobile animals which can move roost sites both within and between years. It is possible that surveys carried out in August may miss roosts occupied earlier in the year.

3. Results

Data Search

3.1 The data search returned records (post 2004) for at least 10 different species of bat within 2km of the site, including common pipistrelle (*Pipistrellus pipistrellus*), serotine (*Eptesicus serotinus*), Daubentons (*Myotis daubentoniid*) and brown long eared (*Plecotus auratus*). The closest records for bats were for soprano pipistrelle (*Pipistrellus pygmaeus*) located approximately 316m to the southwest of the site in 2019.

Review of Bat Building Inspection (Preliminary Roost Assessment)

3.2 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum 2024). This discovered the following potential roost features:

- Lifted and missing tiles; and
- A gap around the base of the roof on the main building.

Survey Overview

3.3 The survey concentrated on the loose and lifted tiles on the main building and garden house.

3.4 No bats were seen to emerge from any of the onsite buildings.

3.5 Overall, there was a no bat activity recorded at the site. No bats were observed commuting or foraging around the site.

3.6 The area surveyed is illustrated in the Map in Appendix A.

Dusk Emergence Survey

22nd August 2024

3.7 Sunset was at 20:09hrs and the temperature at the start of the survey was 18°C, falling to 17°C at the end of the survey. The weather was dry and cloudy, with light wind. Although there was ten minute period of very light mist like rain.

3.8 No bat species were recorded during the survey.

3.9 No bats were seen to emerge from any features for the duration of the survey.

3.10 No bats were observed commuting or foraging for the duration of the survey.

3.11 The full survey data can be found in Appendix C.

4. Discussion and Recommendations

Discussion

4.1 Overall, there was a **no** bat activity recorded at the site. No bats were seen commuting or foraging at the site. No emergences were recorded. Despite the lack of bat activity recorded, and despite the short period of very light rain, it is considered that this was a reliable survey of the site.

4.2 Based on the findings of this survey a European Protected Species Mitigation (EPSM) licence **will not be required**.

4.3 A precautionary approach to the removal of any potential bat roost features is recommended. A suitably experienced ecologist should oversee the start of the works and discuss the stages of the proposed works with the on-site contractors. The ecologist may then return to the site to oversee certain stages of the works as considered necessary. If during the precautionary works a bat is found, then the ecologist needs to be informed and all work stopped until it has been assessed. If a roost is confirmed, then a bat EPSM licence may be required before the work commences.

Recommendations

Construction Phase

4.4 A precautionary approach to works should be adopted in order to safeguard any bats that have utilised the potential roosting features after this survey as undertaken.

4.5 It is recommended that any works to demolish/renovate the onsite buildings commence outside of the hibernation period, when bats are considered least vulnerable. The hibernation period is taken to run between mid to late November and mid-March, weather dependant.

4.6 A suitably experienced ecologist should oversee the start of the building works. On arrival to the site the ecologist will re-inspect *the mezzanine area in the southern extent of the building* to look for evidence of roosting bats. An on-site assessment can then be made by the ecologist regarding the status of any roosts present.

4.7 The ecologist will then discuss the different stages of the proposed works with the on-site contractors. The ecologist may need to return to the site to oversee certain stages of the works.

4.8 If considered necessary following consultation with the on-site contractors, the ecologist will guide the start of the works.

4.9 The ecologist should be kept informed throughout the construction phase and an ecological watching brief may be required to oversee certain phases of the re-development for example, the ecologist may need to oversee any ground excavation works to ensure noise levels will not impact the off-site roost etc.

4.1 If bats are subsequently found to be present during the remainder of the work, activities should cease immediately, and advice sought from a suitably experienced ecologist.

Habitat Enhancement/Retention

4.2 Trees within the site should be retained. The onsite trees provide suitable foraging habitat for bats.

4.3 Additional roosting opportunities could be incorporated into the final design to enhance the site for roosting bats post works. This could include the installation of at least two bat boxes such as the Schwegler 1FF bat box located on surrounding mature trees within the site. These should be orientated with a southeast or southwest aspect and located at least 3m from ground level.

Bats and Lighting

4.4 Different species of bat have been found to react differently to night-time lighting however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).

4.5 The current site is not well lit at night, although there was a security light on the back wall with a movement sensor, and therefore the development should serve to maintain the site's value for foraging bats and to minimise indirect impacts from lighting associated with the new building. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018, 2023, and Bat Conservation Trust, 2014):

- The level of any artificial lighting including flood lighting should be kept to a minimum, particularly around the site boundaries;
- LED lights are a preferred option to low pressure sodium lights or high pressure sodium or mercury lamps. LED lights do not emit UV radiation, towards which some insects are attracted, drawing them away from bat foraging areas in the surrounding landscape;
- all lights should be directed at a low angle with minimal light spillage wherever possible;
- ideally the site boundaries should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise);
- Artificial lighting should not directly illuminate any potential bat commuting areas such as boundary features. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit; and

- If security lights are required, then they will be set on a Passive Infrared (PIR) sensor and timer so that the light is only emitted for the short time period required.

5. Conclusions

Conclusions

5.1 The site is located at 75 High Street, Steyning, BN44 3RE. The site is located within the urban town centre of Steyning with residential properties to the north, south and west and Steyning high street to the east. There is a network of gardens with potential roosting, foraging and commuting opportunities for bats in the wider landscape.

5.2 The site comprises areas of vegetated garden, building, hardstanding, and scattered trees. It is understood that current proposals are for the replacement of the roof on the main building and the demolition of the existing garden house and construction of a new building. The survey area extended over approximately 0.05 hectares (ha).

5.3 During the initial preliminary roost assessment undertaken on 16th August 2024 (Phlorum 2024) the roof on the main building was assessed as having low potential for roosting bats due to loose and lifted tiles and a gap around the base of the roof. Additionally, the garden house in the rear garden was also assessed as having low potential for bats due to loose and lifted tiles.

5.4 Overall, there was a no bat activity observed at the site. No bat species were recorded foraging and commuting.

5.5 The site is not currently being utilised by bats. There remains potential for bats to roost in the main building and garden house and therefore a precautionary approach to the start of works is recommended to minimise disturbance to any bats that have utilised these buildings in the interim. Providing a precautionary approach is followed, a European Protected Species Mitigation licence in will not be required.

6. References

- Bat Conservation Trust (2014). *Interim Guidance: Artificial lighting and* wildlife - *Recommendations to help minimise the impact of artificial lighting*
- Bat Tree Habitat Key (2020) *Bat Roosts in Trees – A guide to identification and assessment for tree-care and ecology professional*. Pelagic Publishing.
- BCT and ILP. (2018). *Bats and Artificial Lighting in the UK, Bats and the Built Environment Series*. Guidance Note 8/18. Institute of Lighting Professionals and the Bat Conservation Trust
- BCT and ILP. (2023). *Bats and artificial lighting at night*. Guidance Note 08/23. Institute of Lighting Professionals and the Bat Conservation Trust.
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.
- Fure, A. (2006) *Bats and lighting*. The London Naturalist, No. 85.
- IEEM - Institute of Ecology and Environmental Management (2006). *Bats and Lighting*. Winchester: IEEM.
- Jones, J. (2000). *Impact of Lighting on Bats*. Bat Conservation Trust.
- Mitchell-Jones, T. & McLeish, A.P (2004). *The Bat Workers' Manual* (3rd Ed). Joint Nature Conservation Committee, Peterborough, UK.
- Natural England (2015). *Standing advice for local planning authorities to assess impacts of development on bats: Survey and Mitigation for development projects.*
- Phlorum (2024). *Preliminary Ecological Appraisal for land at 75 High Street, Steyning*. [Unpublished].
- Reason, P.F and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management (CIEEM), Ampfield.
- Schwegler (2024). *Bats Conservation Products* [on-line]. Available from http://www.schwegler-natur.de
- Sussex Biodiversity Records Centre (2024). *Ecological data search for land at 75 High Street, Steyning.*

Appendix A
Bat Survey Map

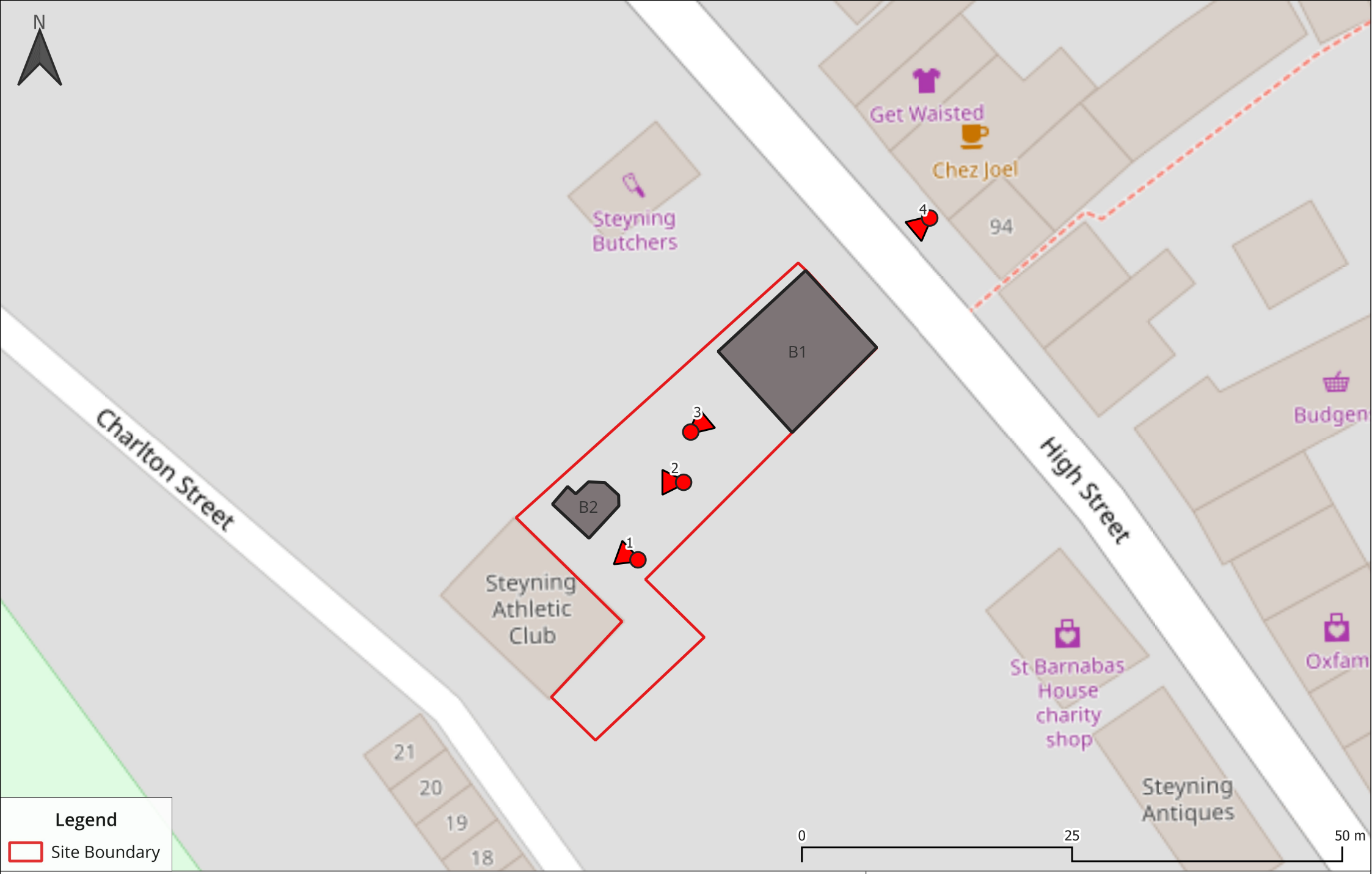

Figure 1: 75 Box House, Steyning Bat Survey Map

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Appendix B
Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive1 is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

- Countryside and Rights of Way (CRoW) Act 2000;
- Deer Act 1991;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale

[1] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:

  (i) to survive, breed, or reproduce, or to rear or nurture young; and

  (ii) to hibernate or migrate.
- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Appendix C
Bat Survey Data

Bat Survey Data

First Dusk Emergence Survey on 22nd August 2024

Number of Surveyors	Site and Job no:	Start Time	Sunset Time	Finish Time	Temperature (°C) at start	Temperature (°C) at end	Cloud Cover (Oktas 1-8)	Windspeed (Beauforts 1-12)	Rain
3	**75 High Street, Steyning, 13271**	**19:54**	**20:09**	**22:09**	**18**	**17**	**6**	**3**	**None** (ten minutes of very light rain)

Surveyor 1: RS	**Bat Detector Used: Echo Meter Touch 2 Pro**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
No species recorded.			

Surveyor 2: BM	**Bat Detector Used: Echo Meter Touch 2 Pro**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
No species recorded.			

Surveyor 3: IG	**Bat Detector Used: Echo Meter Touch 2 Pro**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
No species recorded.			

Surveyor 4: LD	Bat Detector Used: Echo Meter Touch 2 Pro		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
No species recorded.			



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