



# The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU.

Tel: 01798 861 800 - E-Mail: [info@ecologyco-op.co.uk](mailto:info@ecologyco-op.co.uk) - Web: [www.ecologyco-op.co.uk](http://www.ecologyco-op.co.uk)

## Bat Emergence Survey Report

### Site Name

Stonehurst – Main House

### Client

Ian Adam Smith  
Architects

### Issue Date

29<sup>th</sup> August 2025

### Author

Joshua Harwood

**Project No: 10042**

The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

Company number: 8905527





## Document Control

| Issue No | Author                                     | Reviewer                            | Issue Date | Additions/alterations | Notes |
|----------|--------------------------------------------|-------------------------------------|------------|-----------------------|-------|
| Original | <b>Joshua Harwood</b><br>BSc (Hons) ACIEEM | <b>Paul Whitby</b><br>MCIEEM, CEcol | 29.08.25   | N/A                   | N/A   |

## Conditions of use

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client, and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

## About the Author

This report has been prepared by Joshua Harwood, a Project Ecologist at The Ecology Co-op, with 9 years experience. He has a Level 1 bat survey licence. As a member of the Chartered Institute for Ecology and Environmental Management (CIEEM) he is bound by their code of professional conduct.

## About the Reviewer

This report has been reviewed by Paul Whitby, who is a Principal ecologist with 19 years experience. He has a Level 2 bat survey license and has prepared several European Protected Species licenses for bats. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM) and as a Chartered Ecologist (CEcol), he is bound by their code of professional conduct.



## Report Summary

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose         | The Ecology Co-op was commissioned by Ian Adam Smith Architects to undertake a Bat Emergence survey at Stonehurst, Main house further to a proposal to reinstate the tower to the property and install a conservatory extension to the southern aspect of the building.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Context         | The site comprises a single three storey dwelling with a cellar currently being rented as a residential property. The property is located in a rural setting north of Haywards Heath and located opposite Wakehurst botanical garden. A previous survey of the site identified high bat potential associated with the roof tiles, hanging tiles and void spaces with a number of brown long eared bat droppings identified within a loft void to the northern end of the dwelling. Based on the above assessment and in line with Bat Conservation Trust Guidelines three bat emergence survey visits were carried out between May and July 2025 to determine the presence of roosting bats and evaluate the conservation importance of the site for bats. The purpose of this survey work was to provide advice to inform a planning application/European Protected Species (EPS) licence application for the works associated with the development. |
| Key findings    | A total of 16 bats were identified emerging across the three surveys from a total of 12 different bat roost locations. All roosts were confirmed to be day roosts and associated with generally common and widespread species (brown long eared bat, common pipistrelle, soprano pipistrelle and whiskered bat).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Interpretation  | It has been concluded that to accommodate the proposed works, a total of five bat roosts would be destroyed, one would be modified and up to three would be subject to disturbance. Roosts impacted relate to all species identified on site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Recommendations | As the proposed development involves the instillation of the clocktower and the southern extension, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. Therefore, a European Protected Species (EPS) licence will be required for the development to legally proceed. Based on the results of the survey and predicted scale of impact, this development would be eligible for licensing under 'earned recognition' (accreditation level 2 issued by Natural England and held by certain qualified bat ecologists).                                                                                                                                                                                                                                                                                                                    |



## **CONTENTS PAGE**

|                                                                        |           |
|------------------------------------------------------------------------|-----------|
| <b>1 INTRODUCTION .....</b>                                            | <b>5</b>  |
| 1.1 Background.....                                                    | 5         |
| 1.2 Purpose of the Report .....                                        | 5         |
| <b>2 LEGAL PROTECTION .....</b>                                        | <b>10</b> |
| <b>3 METHODOLOGY .....</b>                                             | <b>10</b> |
| 3.1 Limitations to Emergence Surveys.....                              | 14        |
| <b>4 RESULTS .....</b>                                                 | <b>15</b> |
| 4.1 Bat Emergence Surveys.....                                         | 15        |
| 4.1.1 Survey Conditions.....                                           | 15        |
| 4.1.2 Bat Emergence Results .....                                      | 15        |
| • 20 <sup>th</sup> May 2025.....                                       | 15        |
| • 16 <sup>th</sup> June 2025 .....                                     | 17        |
| • 22 <sup>nd</sup> July 2025.....                                      | 19        |
| <b>5 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS.....</b>         | <b>22</b> |
| 5.1 Interpretation of Findings.....                                    | 22        |
| 5.2 Potential Impacts .....                                            | 23        |
| 5.3 Outline Mitigation Measures .....                                  | 24        |
| 5.4 Conclusions .....                                                  | 25        |
| <b>APPENDIX 1 – LEGISLATION AND POLICY .....</b>                       | <b>26</b> |
| <b>APPENDIX 2 – EXAMPLES OF REPLACEMENT BAT ROOSTING FEATURES.....</b> | <b>27</b> |
| <b>APPENDIX 3 – REDUCING IMPACTS OF ARTIFICIAL LIGHT.....</b>          | <b>28</b> |
| <b>APPENDIX 4 – DARKEST POINT IMAGES .....</b>                         | <b>31</b> |
| <b>APPENDIX 5 – EMERGENCE LOCATIONS .....</b>                          | <b>37</b> |



# 1 INTRODUCTION

## 1.1 Background

The owners of Stonehurst Main house intend to submit a planning application for a proposed development that seeks to reinstate the tower to the property and install a conservatory extension to the southern aspect of the building.

The full address for the site is Stonehurst House, Selsfield Road, Haywards Heath, RH17 6TN. The central National Grid Reference for this site is TQ 34352 31621. The location of the study building is based on a site plan provided by Ian Adam Smith Architects and is illustrated in Figure 1, with the existing floor plans shown in Figure 2.

The proposed development/project seeks to re-instate the main house's iconic tower and renovate sections of the building to restore the overall building to match its historic features and renovate and repair sections. A view of the building with its former tower block is shown in Figure 3 and sections proposed for works in Figure 4.

The Ecology Co-op undertook a bat scoping assessment of the existing building in August 2024, during which several features were identified that were suitable to support roosting bats<sup>1</sup>.

Overall, the building was assessed as having high potential to support roosting bats with evidence of roosting bats (droppings) found (**Figure 5**). In accordance with current best practice guidelines<sup>2</sup>, a minimum of three emergence surveys were recommended to determine the presence of roosting bats and evaluate the conservation importance of the site for bats.

## 1.2 Purpose of the Report

In accordance with recommendations, bat emergence surveys were carried out by The Ecology Co-op between 20<sup>th</sup> May and 22<sup>nd</sup> July 2025. Surveys were led by Joshua Harwood an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) and class 1 licensed bat surveyor (class license number available upon request).

The purpose of this survey work was to determine presence of roosting bats and where necessary prescribe further surveys where necessary and/or appropriate mitigation advice to inform the planning application for the proposed development at the site.

This survey and report was carried out at the request of Ian Adam Smith Architects.

---

<sup>1</sup> The Ecology Co-op (2024) Bat Scoping Report- P6718 Stonehurst – Main House.

<sup>2</sup> Collins, J.(ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.



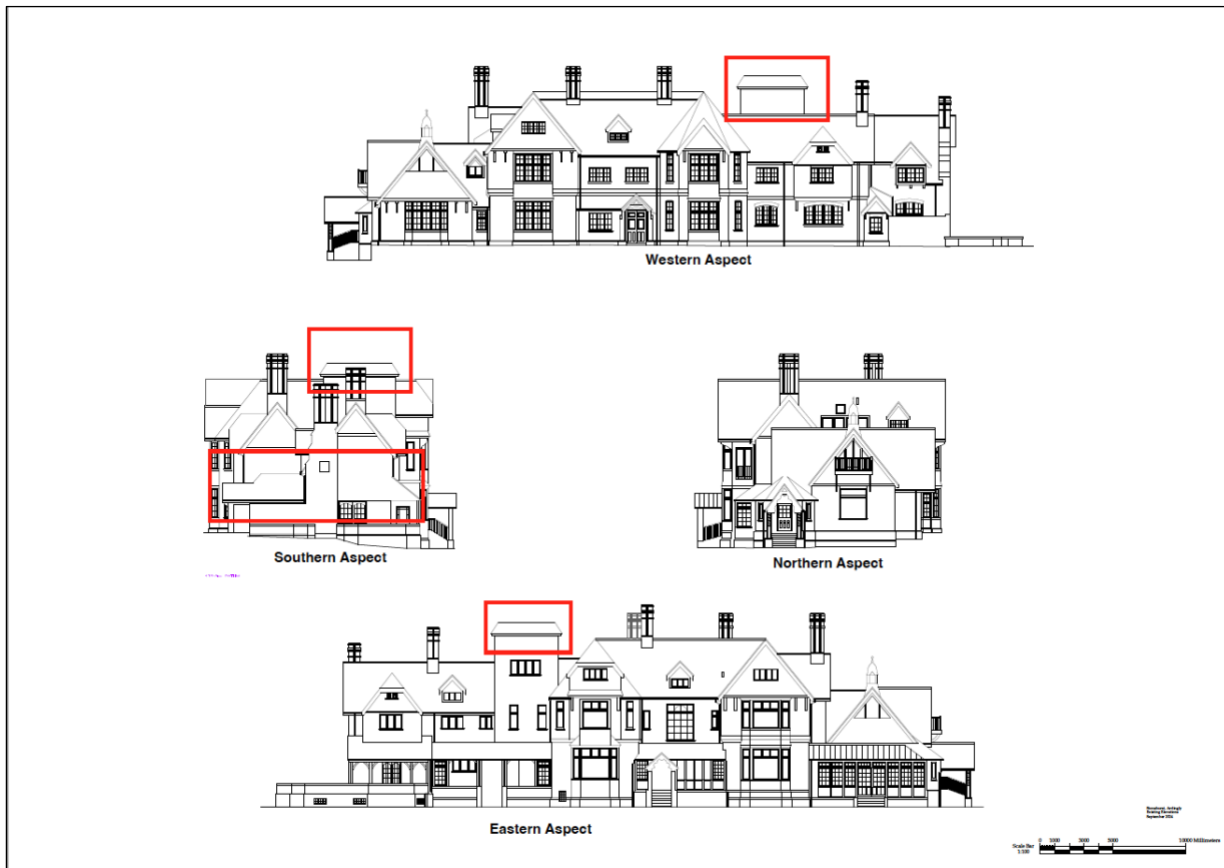
Figure 1. Aerial image showing the location of Stonehurst grounds illustrated with a red line boundary, the main house is illustrated with a red dashed boundary. Image produced courtesy of Ian Adam Smith Architects.



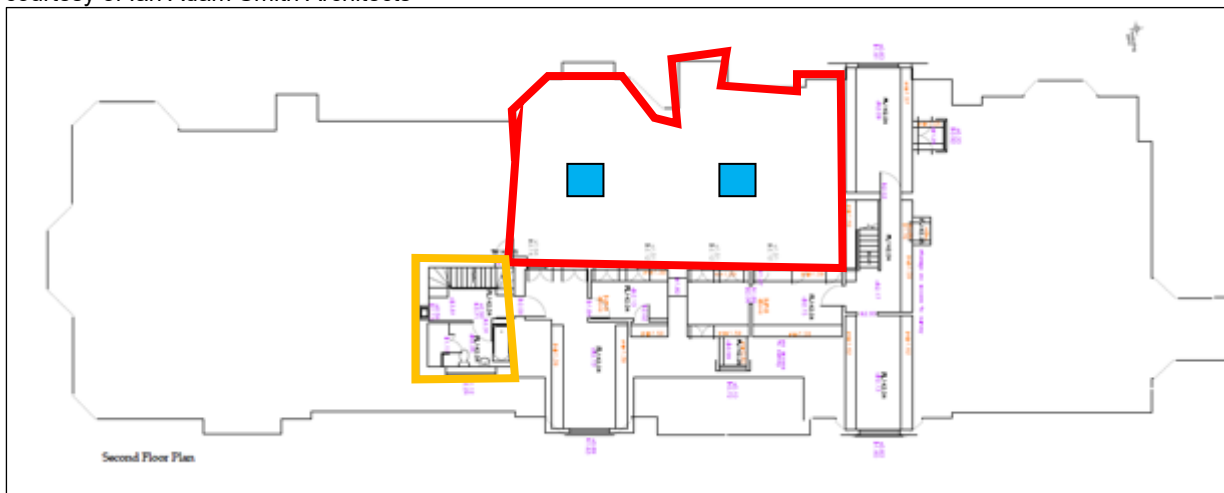
**Figure 2.** Existing floor plan of Stonehurst Main house. Image produced courtesy of Ian Adam Smith Architects



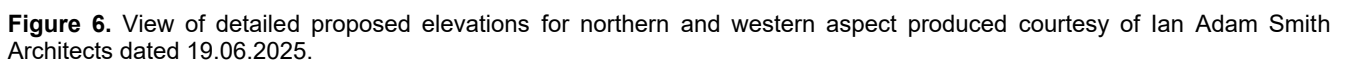
**Figure 3.** Historic view of Stonehurst Main house with view of the tower. Image produced courtesy of Ian Adam Smith Architects.



**Figure 4.** Elevation plans of proposed work areas of Stonehurst Main house (indicated with red boxes). Image produced courtesy of Ian Adam Smith Architects



**Figure 5.** View of the existing second floor plan of the main house, the approximate location of the loft void access is outlined in red, with chimney shown as a blue square and approximate location of the clock tower outlined in orange.





**Figure 7.** View of detailed proposed elevations for southern and eastern aspect produced courtesy of Ian Adam Smith Architects dated 19.06.2025.

## 2 LEGAL PROTECTION

Details of legislation and legal protection afforded to all species of British bats are given in Appendix 1.

The results of this survey will be used to determine the need for an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.

## 3 METHODOLOGY

Three emergence surveys were undertaken on the 20<sup>th</sup> May, 16<sup>th</sup> June and the 22<sup>nd</sup> July 2025, using the methodology set out in the best practice guidelines prepared by the Bat Conservation Trust.

The surveys focused upon the hanging tiles covering the southern elevation of the property and roof tiles located to all aspects surrounding the clock tower feature. Surveys were undertaken using four surveyors and four night vision aids positioned according to Figure 1. From these positions, surveyors could see all features potentially suitable for roosting bats proposed to be impacted that were identified during the initial bat scoping survey.

The surveyors recorded any bat activity on or around the potential roosting entry/exit features identified during the scoping survey, using full spectrum handheld bat detectors to identify species through call frequencies. The bat calls were logged and recorded as sonograms for later confirmation of species where necessary.



The following equipment was used to support the first survey:

- 4 x Echometer Touch 2 Pro detectors with Apple recording devices.
- 2 x Nightfox Whisker night vision cameras
- 1 x Canon XA 10 Night vision camera
- 2 x infra-red torches with focussed beams
- 1 x Flir A70 Thermal camera

The following equipment was used to support the second survey:

- 4 x Echometer Touch 2 Pro detectors with Apple recording devices.
- 2 x Nightfox Whisker night vision cameras
- 1 x Canon XA 10 Night vision camera
- 2 x infra-red torches with focussed beams
- 1 x Flir A70 Thermal camera

The following equipment was used to support the third survey:

- 4 x Echometer Touch 2 Pro detectors with Apple recording devices.
- 2 x Nightfox Whisker night vision cameras
- 1 x Canon XA 10 Night vision camera
- 2 x infra-red torches with focussed beams
- 1 x Flir A700 Thermal camera



**Figure 8.** An aerial image of Stonehurst main house (indicated with a red border) and the approximate locations of proposed



works. A blue square indicates the clock tower location and pink square indicating the southern extension. Image produced using QGIS version 3.36 - Maidenhead.



**Figure 9.** An aerial image showing the survey positions during survey 1 (20.05.2025). Surveyors (blue triangles), night-vision cameras (red diamonds) and a thermal camera (green diamond) overlaid upon Figure 8. Approximate fields of view are indicated by dashed lines associated with the corresponding surveyor or camera colours. Image produced using QGIS version 3.36 - Maidenhead.



**Figure 10.** An aerial image showing the survey positions during survey 2 (16.06.2025). Surveyors (blue triangles), night-vision cameras (red diamonds) and a thermal camera (green diamond) overlaid upon Figure 6. Approximate fields of view are indicated by dashed lines associated with the corresponding surveyor or camera colours. Image produced using QGIS version 3.36 - Maidenhead.



**Figure 11.** An aerial image showing the survey positions during survey 3 (22.07.2025). Surveyors (blue triangles), night-vision cameras (red diamonds) and a thermal camera (green diamond) overlaid upon Figure 6. Approximate fields of view are indicated by dashed lines associated with the corresponding surveyor or camera colours. Image produced using QGIS version 3.36 - Maidenhead.

### 3.1 Limitations to Emergence Surveys

In accordance with best practice guidelines, each survey visit was undertaken during the peak period in bat activity and during good weather conditions. The results presented here are therefore considered to be an accurate representation of the general use of the property by roosting bats.

Nevertheless, bats can use roosting features intermittently throughout the year and may be present in larger or smaller numbers depending on their breeding cycle, weather conditions, and in response to disturbance. These surveys record the emergence of bats at the time of the survey visits and therefore only provide a snapshot of bat roosting activity at the site at that time. Bats may be present at other times and the results should therefore be viewed with caution.

Due to the length, height and complexity of the building in combination with the close proximity to the roadside and site boundary to the western and southern aspects view points were restricted. The strategic positioning of surveyors and night vision cameras have been used to reduce the limitation as much as feasibly possible however this restriction could not be entirely mitigated for.

Survey specific limitations were encountered including Infra-red security lighting and cameras on the building being turned on, this restriction wasn't known until towards the end of the survey and limited the visibility of the



infrared camera located to the southern aspects of the property due to the infrared light facing the cameras. The lighting was turned off during the remaining surveys. During survey 3 a bat detector failed resulting in limited bat records, this constraint was mitigated for as best as possible using an alternative bat recording device attached to a wireless charger and altered to accompany the thermal camera where bat detection would be best. The surveyor was furthest from possible emergence points to reduce the limitation as much as possible. The above limitations are not considered significant enough to have altered the results of the surveys or the assessment of the building.

## 4 RESULTS

### 4.1 Bat Emergence Surveys

#### 4.1.1 Survey Conditions

The dates, times, weather conditions, temperatures and personnel for each survey visit are presented in Table 1 below:

**Table 1.** Details of surveys undertaken, timings weather conditions and personnel.

| Date                       | Survey start time/end time                            | Temp. degrees centigrade, weather conditions throughout survey                      | Surveyors                                                             |
|----------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 20 <sup>th</sup> May 2025  | Start time: 20:21<br>Sunset: 20:51<br>End time: 22:51 | Max/min temp: 19–17°C.<br>5% cloud cover and still (BF0), dry.                      | Joshua Harwood<br>Eleanor Curran<br>Mathew Stone<br>Eleanor Fitter    |
| 16 <sup>th</sup> June 2025 | Start time: 20:48<br>Sunset: 21:18<br>End time: 23:18 | Max/min temp: 18–13°C.<br>0% cloud cover and light breeze (BF2), dry.               | Joshua Harwood<br>Eleanor Curran<br>Julian Browning<br>Eleanor Fitter |
| 22 <sup>nd</sup> July 2025 | Start time: 20:31<br>Sunset: 21:01<br>End time: 23:01 | Max/min temp: 19–17°C.<br>65 to 75% cloud cover and light breeze (BF2 to BF3), dry. | Joshua Harwood<br>Eleanor Curran<br>Julian Browning<br>Andy Fry       |

#### 4.1.2 Bat Emergence Results

The following descriptions summarise bat activity and emergence from the building for each survey visit.

- **20<sup>th</sup> May 2025**

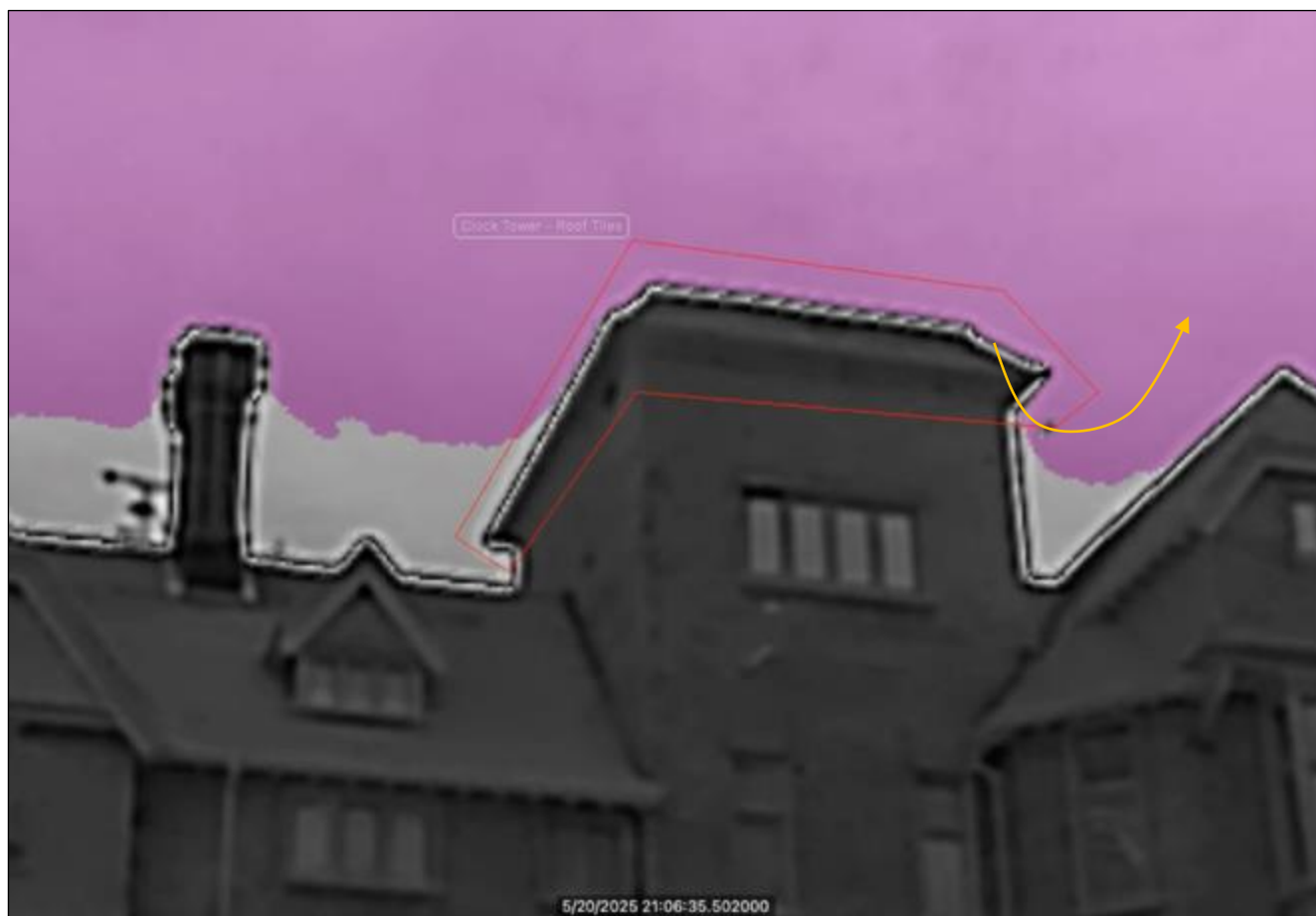
General bat activity was moderate. **Two bat emergences were seen from two roost locations.** The first bat detected was a soprano pipistrelle *Pipistellus pygmaeus* 18 minutes after sunset flying from the southern aspect of the building northerly past the surveyors on the western aspect. Other species recorded during the survey include common pipistrelle *P. pipistellus* and serotine *Eptesicus serotinus*. The two bats noted to emerge were detected during the night vision camera reviews the first recorded at 22:04 (74 minutes after sunset) located to the hanging tile on the southern aspect of the clock tower and the second at 22:10 (80 minutes post sunset) located to the northern roof tiles of the clock tower. Due to the distance of the emergence feature no bat calls were detected and accurate identification cannot be



determined using night vision cameras alone however the roosting location and timings would indicate a long eared bat species *Plecotus* sp. with the confirmed presence of brown long eared bats *Plecotus auritus* through DNA analysis of bat droppings in the adjacent loft void it is considered highly likely that the bats seen to emerge are brown long eared bats. Approximate emergence points and flight lines are shown in Figure 12 and Figure 13 below.



**Figure 12.** View of the eastern aspect of the site with the approximate emergence location and flight line of the survey 1 emergence at 22:04 (note that the Thermal camera uses an incorrect time zone and is ~ 1 hour behind GMT).



**Figure 13.** View of the eastern aspect of the site with the approximate emergence location and flight line of the survey 1 emergence at 22:10 (note that the Thermal camera uses an incorrect time zone and is ~ 1 hour behind GMT).

- **16<sup>th</sup> June 2025**

More bat activity was recorded during this survey visit, with **a total of seven emergences detected from five roost locations** (Table 2). The first bat detected was a common pipistrelle recorded emerging 11 minutes after sunset, the emergence was recorded from the dormer window north east of the clock tower feature (outside of the impact areas). Other species recorded during the survey include; serotine, *Myotis* species, soprano pipistrelle, noctule *Nyctalus noctule*, and suspected long eared bat.

**Table 2.** List of bat emergences recorded on survey 2 at Stonehurst main house

| Time  | Emergence time in relation to sunset time | Species                | Emergence location                                                                                   |
|-------|-------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------|
| 21:29 | +11 minutes                               | Common pipistrelle     | Roof tiles to the southern aspect of the dormer window north of the clocktower on the eastern aspect |
| 21:34 | +16 minutes                               | Soprano pipistrelle    | Rideg tile located south of the clock tower feature                                                  |
| 21:55 | +37 minutes                               | <i>Myotis</i> sp.      | Southern roof tiles of clock tower                                                                   |
| 22:13 | +55 minutes                               | 2* Common pipistrelle  | Hanging tiles to the eastern aspect of the building                                                  |
| 22:18 | + 60 minutes                              | 2* Soprano pipistrelle | Hanging tiles to the eastern aspect of the building                                                  |



**Figure 14.** View of the south eastern aspect of the site with the approximate emergence location and flight lines of the soprano pipistrelles (indicated in green), common pipistrelles (indicated in blue) and *Myotis* sp. (indicated in purple) during survey 2. Square emergence points are approximate as precise locations could not be determined during the survey.



**Figure 15.** View of the western aspect of the site with the approximate emergence location and flight line of the soprano pipistrelle recorded at 21:33 on survey 2.

- 22<sup>nd</sup> July 2025

A number of emergences were recorded during the final survey (see Table 2) although general activity was considered to be less abundant than previous surveys. The first two emergences were recorded at 21:17 (16 minutes after sunset) both emergences were recorded as common pipistrelle bats, one emergence located to the northern roof tiles of the clock tower and the other the western roof tiles of the clock tower. Additional emergences were recorded to the western and eastern hanging tiles of the building (Figure 16 and **Figure 17**). the bat species recorded during the survey were common and soprano pipistrelles and *Myotis* species. The surveyor positioned on the roof adjacent to the clock tower noted scratching within hanging tiles during the early period of the survey suspecting possible bats however no emergences were recorded from this area and as the surveyor was unlicensed, they could not inspect further.

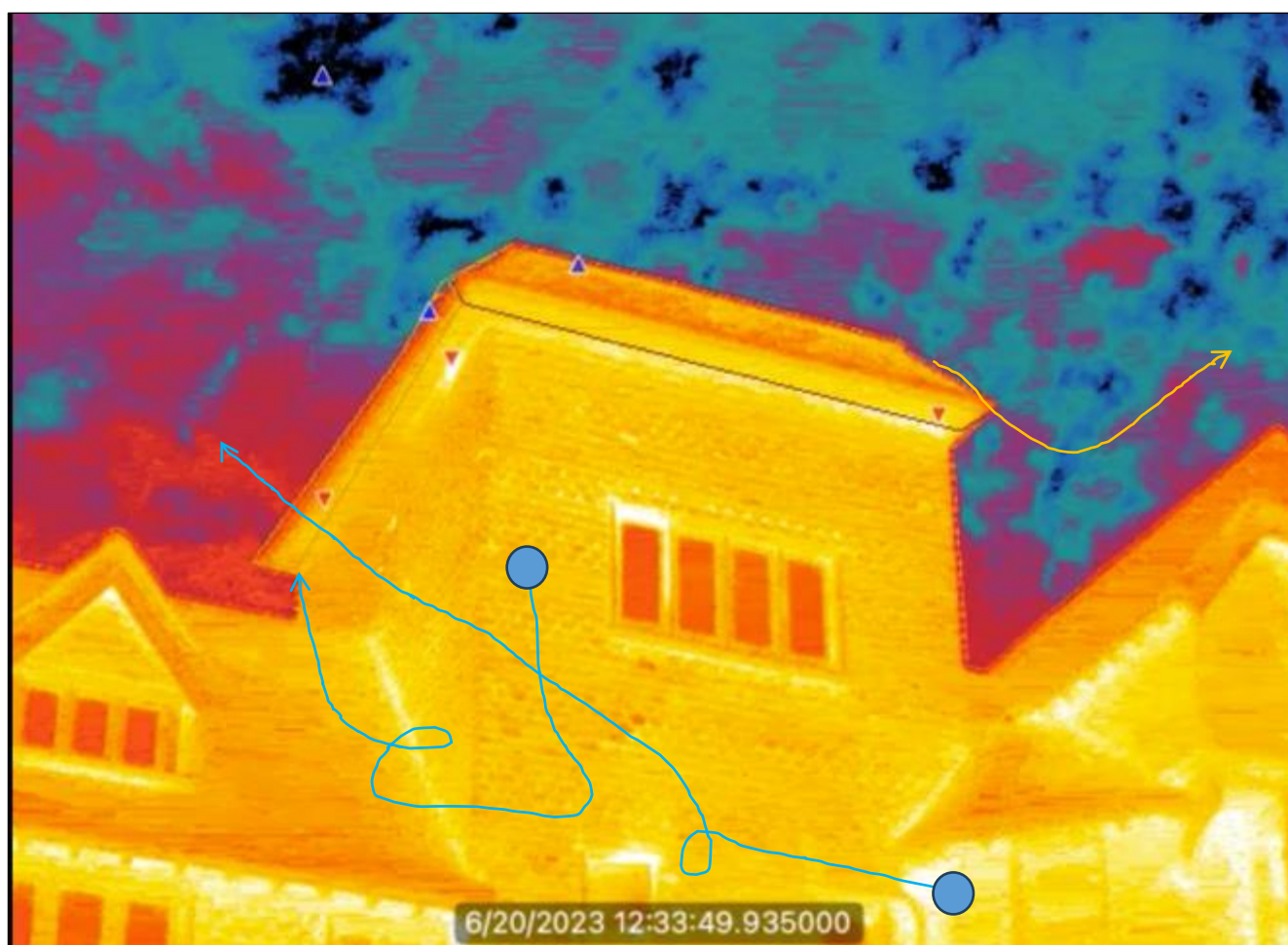
**Table 3.** List of bat emergences recorded on survey 3 at Stonehurst main house

| Time  | Emergence time in relation to sunset time | Species            | Emergence location                                  |
|-------|-------------------------------------------|--------------------|-----------------------------------------------------|
| 21:17 | +16 minutes                               | Common pipistrelle | Lower hanging tiles on eastern aspect               |
| 21:17 | +16 minutes                               | Common pipistrelle | Roof tiles to the western aspect of the clock tower |



## STONEHURST – MAIN HOUSE – BAT EMERGENCE SURVEY REPORT

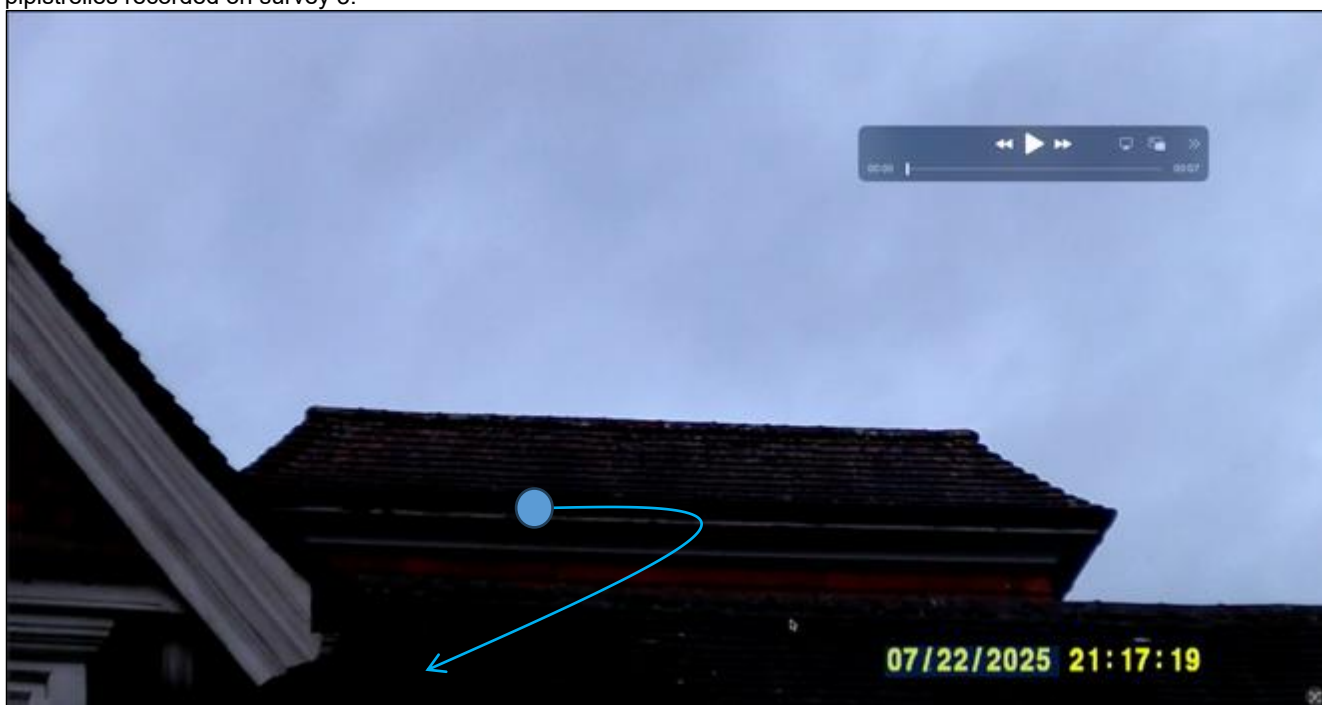
|       |              |                     |                                                                           |
|-------|--------------|---------------------|---------------------------------------------------------------------------|
| 21:19 | +18 minutes  | Common pipistrelle  | Under eaves on the western aspect of the building                         |
| 21:21 | +20 minutes  | Common pipistrelle  | Under eaves on western aspect of the building                             |
| 21:26 | +25 minutes  | Common pipistrelle  | Gaps on hanging tiles to the dormer on the western aspect of the building |
| 21:27 | +26 minutes  | Common pipistrelle  | Hanging tiles on southern aspect of the clock tower block                 |
| 21:37 | +36 minutes  | <i>Myotis</i> sp.   | Roof tiles to the southern aspect of the clock tower                      |
| 22:41 | +100 minutes | <i>Plecotus</i> sp. | Roof tiles to the northern aspect of the clock tower                      |



**Figure 16.** View of the eastern aspect of the site with the approximate emergence location and flight line of the common pipistrelles in blue and *Plecotus* sp. (in orange) from the northern roof tile, recorded on survey 3.



**Figure 17.** View of the western aspect of the site with the approximate emergence location and flight line of the common pipistrelles recorded on survey 3.



**Figure 18.** View of the western aspect of the clock tower with the approximate emergence location and flight line of the common pipistrelle recorded on survey 3.



## 5 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS

### 5.1 Interpretation of Findings

A total of 16 bats were confirmed emerging from 12 roosts on the surveyed section of the property over the three surveys. Roosts are described in **Table 4** and illustrated in Figure 33s, Figure 34 and Figure 35 below. The value attributed to each roost has been assigned using Tables 3.1 and 3.2 within the Bat Mitigation Guidelines 2023<sup>3</sup>.

**Table 4.** Roost types found at Stonehurst main house.

| Roost Number | Species             | Location                                                                              | Peak Count | Roost Type | Surveys found | Importance |
|--------------|---------------------|---------------------------------------------------------------------------------------|------------|------------|---------------|------------|
| 1            | <i>Plecotus</i> sp. | Northern roof tiles of clock tower                                                    | 1          | Day        | 1 & 3         | Site       |
| 2            | Common pipistrelle  | Hanging tiles on the southern aspect of the clock tower stack                         | 1          | Day        | 1 & 3         | Site       |
| 3            | Common pipistrelle  | Hanging tiles on the eastern aspect of the building                                   | 2          | Day        | 2             | Site       |
| 4            | Soprano pipistrelle | Hanging tiles on the eastern aspect of the building                                   | 2          | Day        | 2             | Site       |
| 5            | Soprano pipistrelle | Western facing ridge tile located immediately south of the clock tower                | 1          | Day        | 2             | Site       |
| 6            | Common pipistrelle  | Southern facing roof tile located just north of the clocktower on the eastern aspect. | 1          | Day        | 2             | Site       |
| 7            | Common pipistrelle  | western roof tiles of clock tower                                                     | 1          | Day        | 2             | Site       |
| 8            | <i>Myotis</i> sp.   | southern roof tiles of clock tower                                                    | 1          | Day        | 2             | Site       |
| 9            | Common pipistrelle  | Hanging tiles on the eastern aspect of the clock tower                                | 1          | Day        | 3             | Site       |
| 10           | Common pipistrelle  | Located under the eaves of the valley extension to the western aspect                 | 1          | Day        | 3             | Site       |
| 11           | Common pipistrelle  | Located under the eaves western aspect                                                | 1          | Day        | 3             | Site       |
| 12           | Common pipistrelle  | Located to the roof tiles on the western aspect                                       | 1          | Day        | 3             | Site       |

Both *Plecotus* and *Myotis* bat species are very difficult to distinguish from calls alone. As it was not possible to get accurate echolocation calls (due to distance between surveys and roosts 1 and 8) along with difficulty in obtaining bat droppings, visual sightings or using static hand nets due to the roost locations assumptions on species have been made based upon available information to best inform any licensable works for the *Myotis* bat recorded. Due to the confirmed presence of brown long eared bats in the adjacent loft void of the same building as confirmed by DNA analysis, it has been determined that the bats associated with roost 1 (**Table 4**) are highly

<sup>3</sup> Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.



likely to also be brown long eared bats. The *Myotis* bat recorded emerging from roost 8 (**Table 4**) was considered to be a “small *Myotis*” appearing visually similar in size to that of the *Pipistrellus* genus. This in combination with the local habitats (open grassland and woodland) and the roost location being that of a crevice dwelling species it is considered highly likely that the *Myotis* bat detected was a whiskered myotis *Myotis mystacinus*.

## 5.2 Potential Impacts

The proposed development would impact on a number of different bat roosts through disturbance, modification and/or destruction. The below lists the roosts to be impacted.

### **Disturbance**

Roosts considered to be impacted through disturbance as a direct result of construction practices (including but not limited to increased lighting or noise disturbance) but considered to be retained in whole include;

- Roost 2 – Common pipistrelle day roost, disturbance predicted through increase noise and vibration during the instillation of the clocktower feature
- Roost 5 - Soprano pipistrelle day roost, disturbance predicted through increase noise and vibration during the instillation of the clocktower feature
- Roost 6 - Common pipistrelle day roost, disturbance predicted through increase in noise during the instillation of the clocktower feature
- Roost 9 - Common pipistrelle day roost, disturbance predicted through increase noise and vibration during the instillation of the clocktower feature

### **Modification**

Roosts considered to be modified as a result (direct or indirect) impact of the proposed development are listed below.

- Roost 6 - Common pipistrelle day roost, modification predicted through change in sunlight availability upon roofing tiles altering thermal property's of roost feature.

### **Destruction**

Roosts predicted to be destroyed as a result of the development proposals.

- Roost 1 – Brown long eared bat day roost, destruction to accommodate the clocktower instillation.
- Roost 3 – Common pipistrelle day roost, destruction to accommodate the southern extension
- Roost 4 – Soprano pipistrelle day roost, destruction to accommodate the southern extension
- Roost 7 – Common pipistrelle day roost, destruction to accommodate the clocktower instillation.
- Roost 8 – Whiskered bat day roost, destruction to accommodate the clocktower instillation.



The proposed development requires destruction, modification and disturbance to a number of bat roosts to accommodate the clocktower instillation and southern extension. Since the surveys have demonstrated that the roost features support a number of day roosts of common bat species, this impact is not considered to be significant beyond local level.

### 5.3 Outline Mitigation Measures

As the proposed development involves the instillation of the clocktower and the southern extension, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. Therefore, a European Protected Species (EPS) licence will be required for the development to legally proceed. Based on the results of the survey and predicted scale of impact, this development would be eligible for licensing under 'earned recognition' (accreditation level 2) issued by Natural England and held by certain qualified bat ecologists.

The possible measures that would be required to safeguard bats and achieve this are outlined below:

- **Toolbox Talk**  
Prior to the commencement of the works, the named ecologist (or an accredited agent) on the EPS licence, will attend site to meet with contractors and provide a 'Tool-Box Talk'. The short training will cover bats and their legislation, where bats have been identified within the building, which species have been found and agreed working methods.

The ecologist's attendance to site will also be a good opportunity to install alternative roosting provisions as detailed below.

- **Alternative roost provisions**  
As a contingency measure, should the development result in the abandonment of roosts, suitable alternative roosting opportunities for common pipistrelle, soprano pipistrelle, brown long-eared bats and whiskered bats will be installed on the exterior of the Stonehurst main house or an adjacent building within the same ownership boundary. As six separate bat roosts were identified to be directly modified or destroyed a minimum of six bat boxes will be required. The brown long eared roost can be compensated for by an appropriately sized cavity bat box with the common and soprano pipistrelle bats along with the whiskered bats being compensated for with crevice bat boxes. These bat boxes must be appropriately installed and approved by a suitably qualified ecologist prior to any works on site being undertaken and can serve as rescue boxes if needed.
- **Preparatory works – 'soft strip'**  
All hanging/roof tiles should be carefully hand stripped one by one from the walls under the direct supervision of a licenced bat ecologist and under a site mitigation licence. Any bats found shall be gently captured and placed into bat boxes that have been secured to trees surrounding the site in advance.
- **Timing**  
The hand stripping of tiles should be undertaken in the period between mid-March the end of October to avoid disturbing bats that could be in hibernation. As no maternity roosts have been identified on site there is no requirement to avoid the maternity season (May to August inclusive). Works must be completed during appropriate weather conditions where the day of works is dry with no rain and overnight



temperatures exceed 8°C (at lowest recorded temperature) for a minimum of three consecutive nights prior to any works being undertaken). Any works to areas identified to support breeding birds must ensure that no active nests are present at the time of disturbance by a suitably qualified ecologist or undertaken outside of the bird nesting season (March to September inclusive).

- Artificial lighting

The use of artificial lighting inappropriately can result in significant disturbance to bats. Should lighting be required during or post development, detailed design should include a lighting scheme that minimises these impacts by following the Bat Conservation Trust's guidance on lighting, reproduced in Appendix 3 of this report.

- Roofing Membranes

Only Bitumen 1F roofing felt will be used in areas where bats could gain access to the new building, this is because Non-Bitumen Coated Roofing Membranes (NBCRM) can fray and entangle bats. This is not restricted to specific compensation measures described above, but could also extend to all unintentionally created opportunities, for example: naturally occurring gaps between new roof tiles.

Please note whilst recent developments in NBCRM permit the use of these provided they have passed a snagging propensity test.

- Retention of existing roosts and access points

The access points identified during the emergence surveys (hanging, roof and ridge tiles along with eaves to the western aspect) are to be retained in-situ during and post development to allow continued use of the bat roosts post development preventing destruction of additional bat roosts.

## 5.4 Conclusions

The proposed development will impact up to nine roosts and modify or destroy up to four bat roosts relating to common and widespread species (brown long eared bat, common pipistrelle and soprano pipistrelle) and a rarer or restricted distribution species (whiskered bat). In the absence of mitigation impacts are not considered significant to bat conservation beyond the local level. The proposed mitigation measures outlined above will ensure that individual bats will not be harmed during the construction, and that roosting opportunities remain after completion. The applicants are confident that the three tests under Regulation 53 (2) (e) can be satisfied and an EPS licence can be obtained. As such, the planning authority can be satisfied that securing this mitigation and EPS licence under reserved matters will ensure that its duty to comply with the Conservation of Habitats and Species Regulations (2017) as amended, will have been fully met.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



## APPENDIX 1 – LEGISLATION AND POLICY

All species of British bat are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2017 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive") which defines European protected species of animals.

Bat species are afforded further protection by the Natural Environment and Rural Communities Act 2006.

Under the above legislation it is an offence to:

- kill, injure or take an individual;
- possess any part of an individual either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by these species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberate disturbance in such a way as to be likely to impair their ability to:
  - survive, to breed or reproduce, or to rear or nurture their young; or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
  - to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring or killing bats (for example a trap or poison), or knowingly cause or permit such an action. In the case all species of British bat there is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of these species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. In England, Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- a licence can be granted for the purposes of "preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Regulation 53 (2) (e));
- a licence can only be granted if "there are no satisfactory alternatives" to the proposed action;
- a licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

A bat roost is defined as "any structure or place, which any wild bat uses for shelter or protection." Bats tend to re-use the same roosts; therefore, legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This can include all summer roosts, used for breeding, resting or sheltering and all winter roosts used for hibernating.



## APPENDIX 2 – EXAMPLES OF REPLACEMENT BAT ROOSTING FEATURES



Figure 19 Left to right, the 2F, 2FN and the 1FS bat boxes produced by Schwegler. These and other brands are available at many on-line wildlife stores. These are constructed of 'woodcrete' (a mixture of cement and woodchip) and are designed to be durable and replicate the stable thermal properties of trees and buildings. They may be attached to trees or buildings.



Figure 20 Examples of integral bespoke bat roosting features that may be incorporated into buildings during construction/renovation. From left to right: an example of bat access tile into loft space; the 2FR bat tube; and an example of 2FR bat tubes installed into a house wall in a series of three. Other brands and designs are available.



## APPENDIX 3 – REDUCING IMPACTS OF ARTIFICIAL LIGHT

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust<sup>4</sup> should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat's eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;
- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;

---

<sup>4</sup> Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features;
- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;
- dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

#### Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

#### Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control

#### Further reading:

Buglife (2011) A review of the impact of artificial light on invertebrates.

Royal Commission on Environmental Pollution (2009) Artificial light in the environment. HMSO, London. Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) Ecological Consequences of Artificial Night Lighting. Island Press. ISBN 9781559631297.

CPRE (2014) Shedding Light: A survey of local authority approaches to lighting in England. Available at:



<http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: <https://www.gov.uk/guidance/light-pollution>

Institution of Lighting Professionals (2021) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. Available at: <https://www.theilp.org.uk/resources/free-resources/>

Voigt, C.C., Azam, C., Dekker, J., Ferguson, J., Fritze, M., Gazaryan, S., Hölker, F., Jones, G., Leader, N., Lewanzik, D. and Limpens, H., 2018. *Guidelines for consideration of bats in lighting projects*. Unep/Eurobats. Available at: [https://cdn.bats.org.uk/uploads/pdf/Resources/EUROBATSGuidelines8\\_lightpollution.pdf?v=1542109376](https://cdn.bats.org.uk/uploads/pdf/Resources/EUROBATSGuidelines8_lightpollution.pdf?v=1542109376)



## APPENDIX 4 – DARKEST POINT IMAGES



Figure 21. Survey 1 (20.05.2025) Canon XA10



Figure 22. Survey 1 (20.05.2025) Nightfox Whisker



Figure 23. Survey 1 (20.05.2025) Nightfox Whisker



Figure 24. Survey 1 (20.05.2025) Flir A70

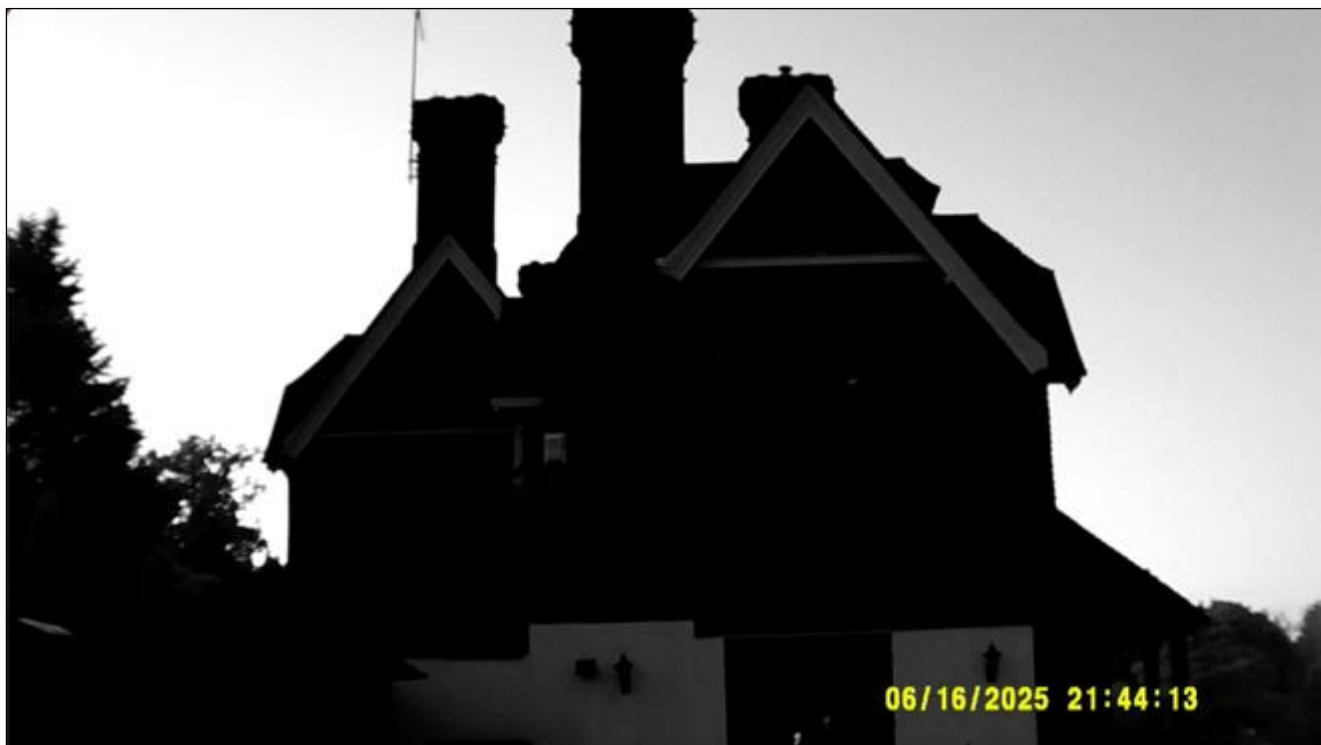


Figure 25. Survey 2 (16.06.2025) Nightfox Whisker

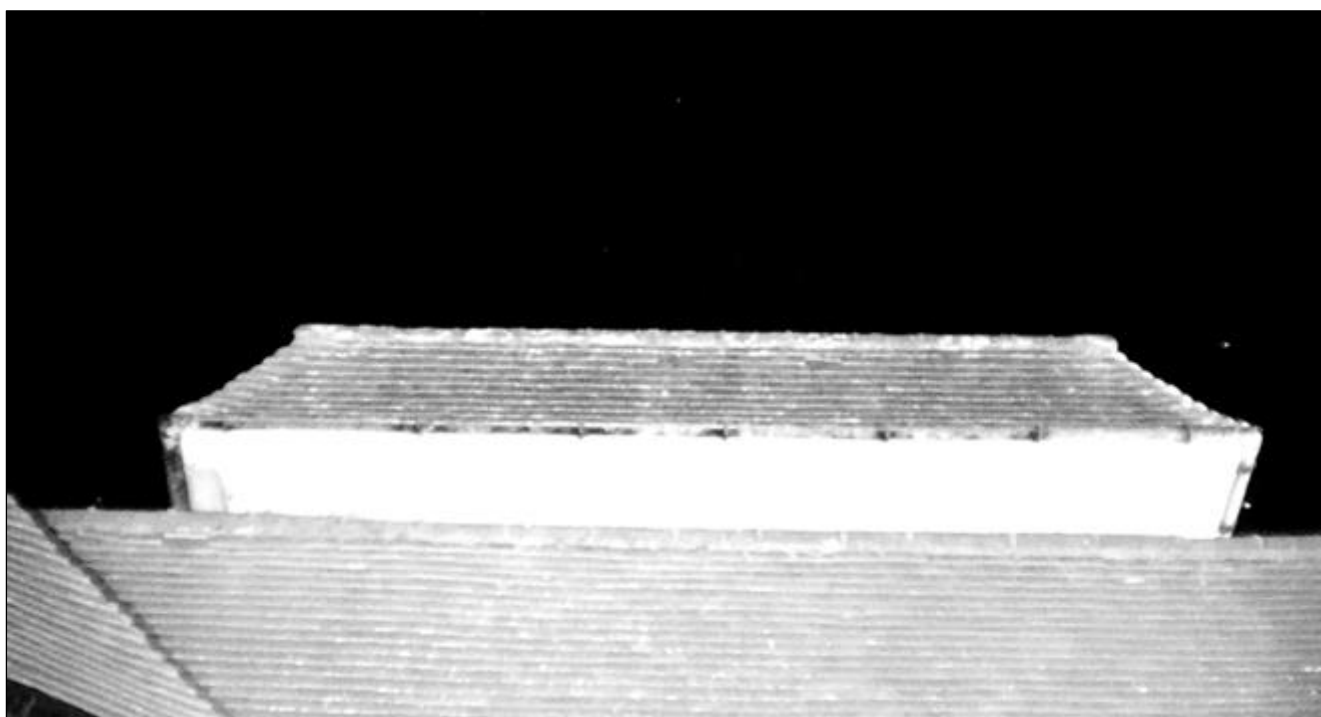


Figure 26. Survey 2 (16.06.2025) Nightfox Whisker



Figure 27. Survey 2 (16.06.2025) Canon XA10

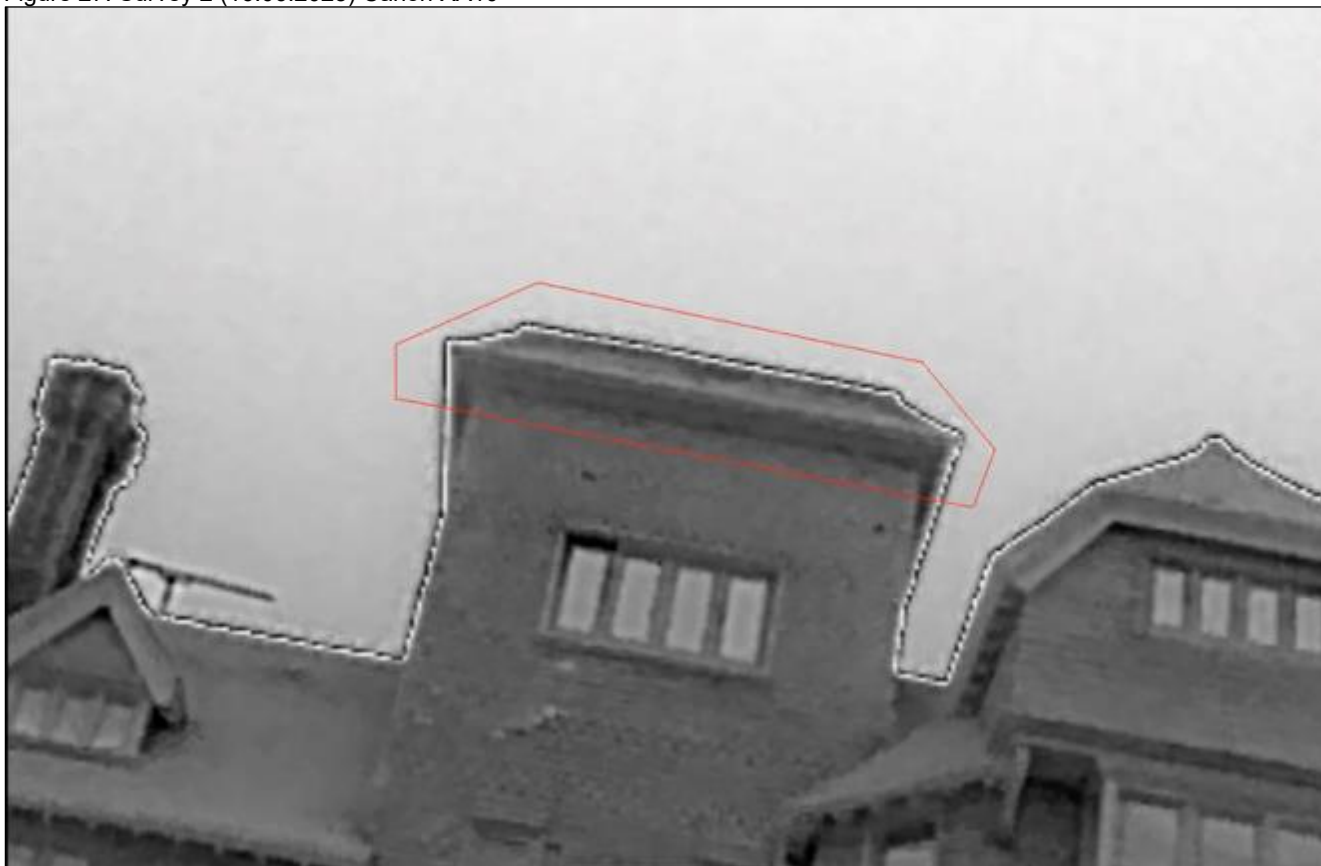


Figure 28. Survey 2 (16.06.2025) Flir A70

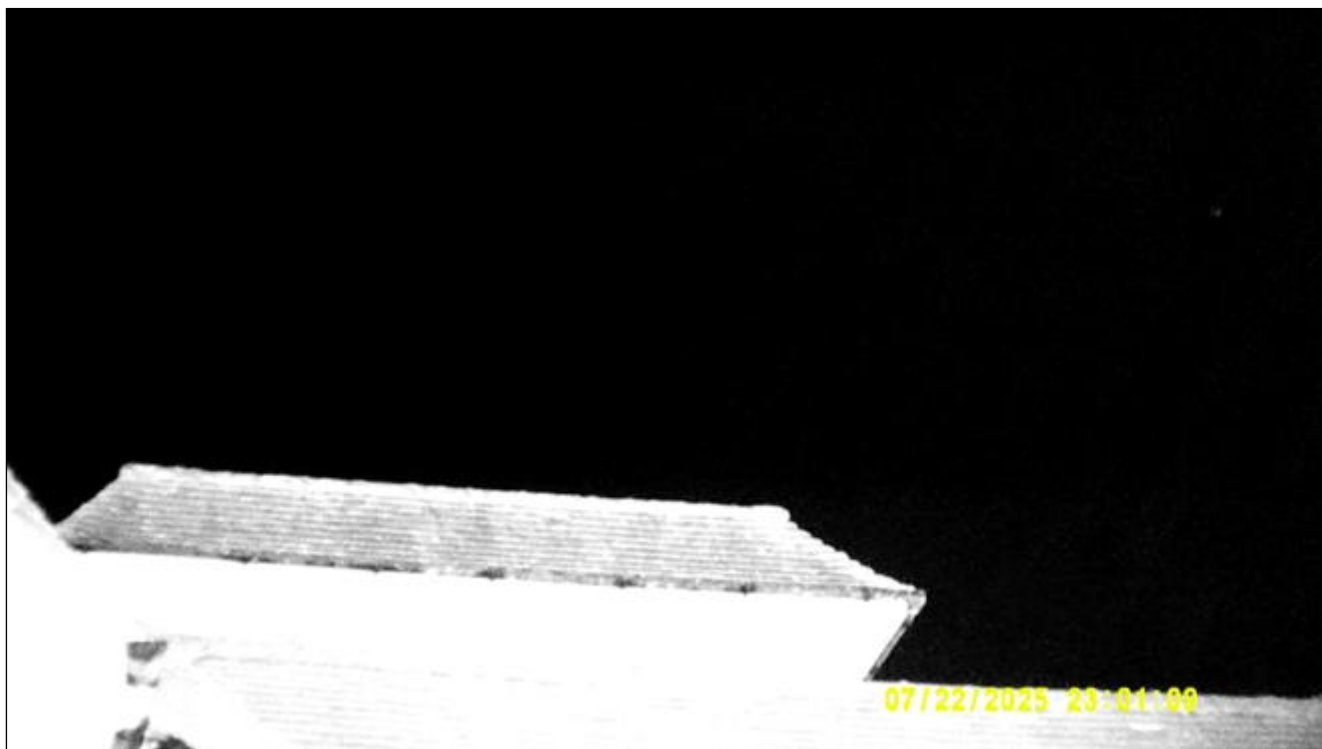


Figure 29. Survey 3 (22.07.2025) Nightfox Whisker



Figure 30. Survey 3 (22.07.2025) Nightfox Whisker

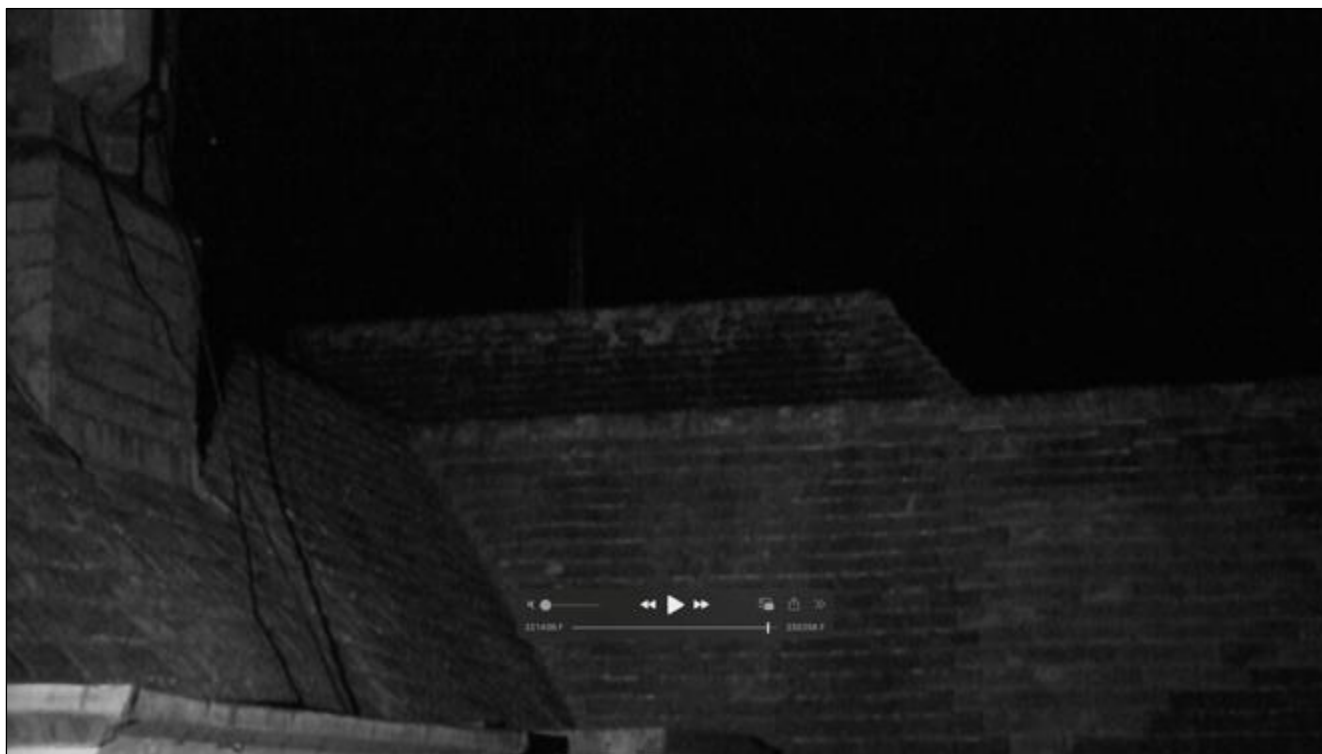


Figure 31. Survey 3 (22.07.2025) Canon XA10

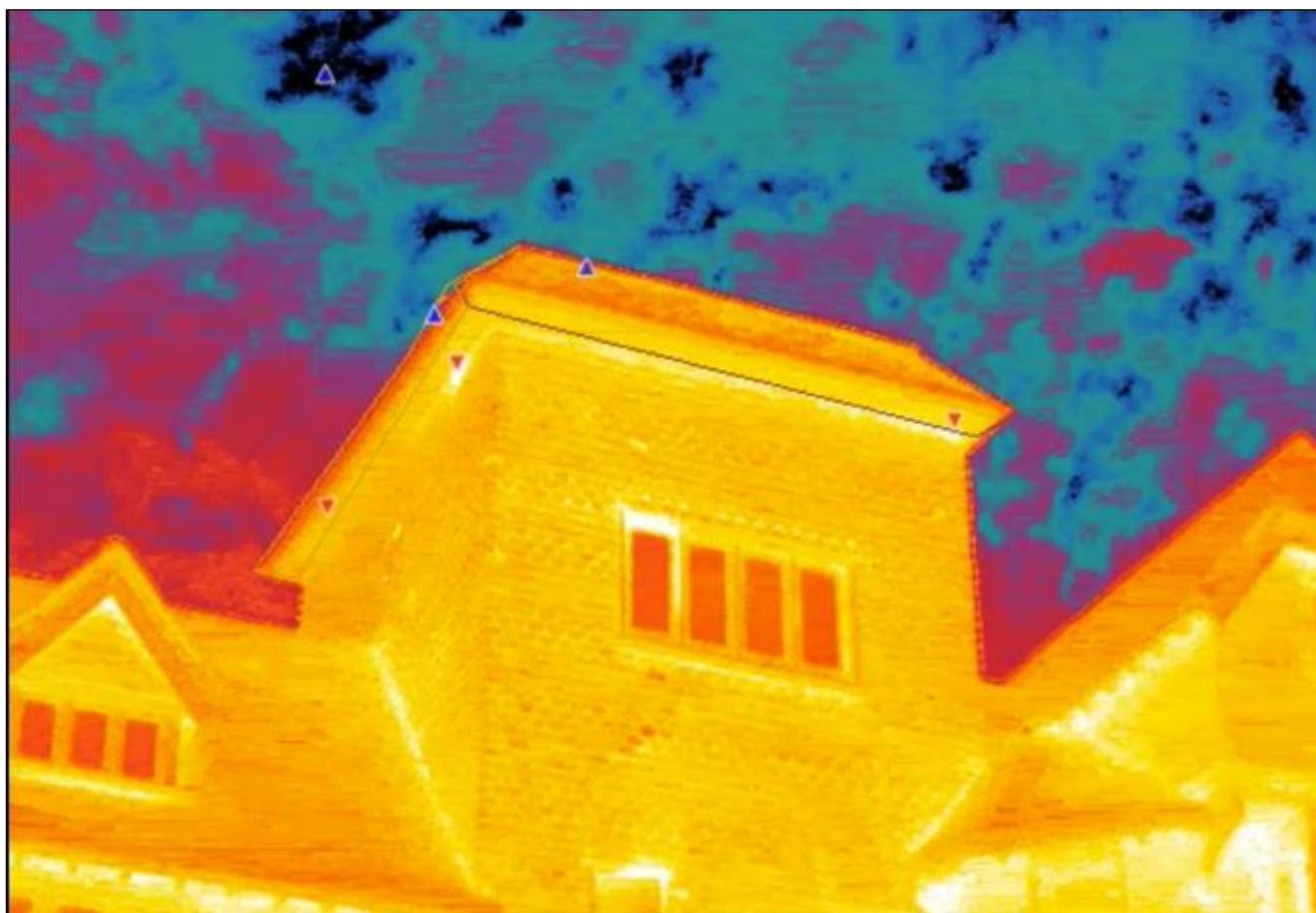


Figure 32. Survey 3 (22.07.2025) Flir A700



## APPENDIX 5 – EMERGENCE LOCATIONS



Figure 33. View of the approximate bat roost locations on the western aspect with the approximate areas of development indicated in red boxes. Numbered squares indicate roost locations and numbers (Table 4) blue indicating common pipistrelle and green indicating soprano pipistrelle. Image produced courtesy of Ian Adam Smith Architects.

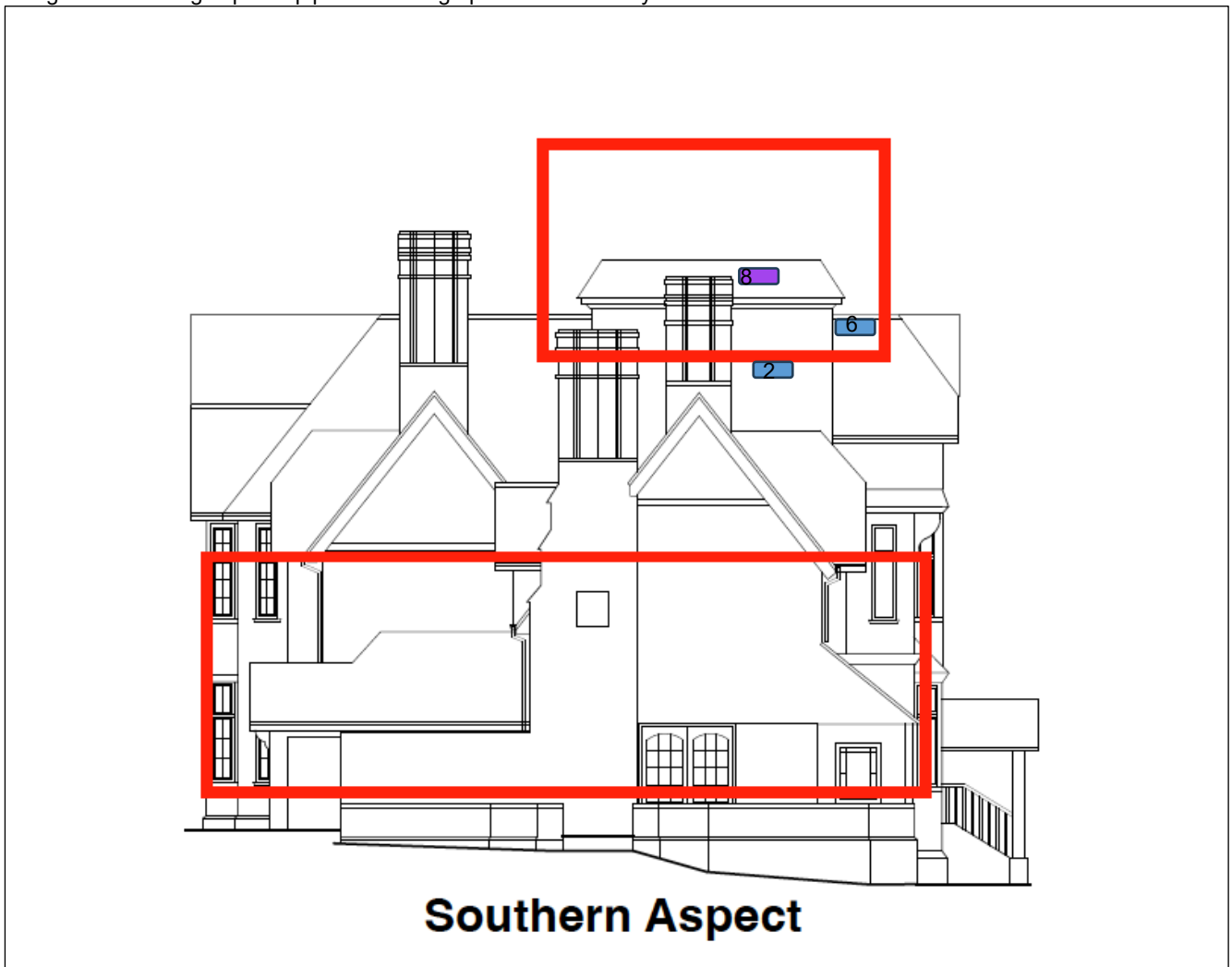


Figure 34. View of the approximate bat roost locations on the southern aspect with the approximate areas of development indicated in red boxes. Numbered squares indicate roost locations and numbers (Table 2) blue indicating common pipistrelle and purple indicating whiskered bat. Image produced courtesy of Ian Adam Smith Architects.



Figure 35. View of the approximate bat roost locations on the eastern aspect with the approximate areas of development indicated in red boxes. Numbered squares indicate roost locations and numbers (Table 2) blue indicating common pipistrelle, green indicating soprano pipistrelle and orange indicating brown long eared bat. Image produced courtesy of Ian Adam Smith Architects.