



Bat and Bird Survey Report

Easing Villa, Stile Howe Lane, Thorncliffe, Leek, ST13 8TG

Prepared for Rob Duncan Planning Consultancy Limited

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Methods used to prepare this report, including those carried out in the field followed The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

Site Name:	The Folly
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National Grid Reference:	SK 00197 57275

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SUMMARY

- A preliminary roost assessment (PRA) and three nocturnal bat surveys were carried out during 2024.
- Bat droppings and a small cluster of brown long-eared bats were found in the building during site inspection by the ecologist.
- During the nocturnal surveys, a maternity roost of brown long-eared bats was found to use the building.
- Mitigation and compensation is required to ensure there is no impact on the favourable conservation status (FCS) of bats utilising the site and local area.
- Mitigation is required to ensure bats and birds are not affected by habitat loss, by retaining trees where feasible and shielding habitats from inappropriate use of artificial lighting at night.
- Mitigation is required to ensure nesting birds are not affected by the works.
- Enhancements are recommended to aid bird conservation at site and local level.

1 INTRODUCTION

- 1.1 This report presents details of bat and bird surveys carried out by Fauna Forest Ecology Limited at Easing Villa, Stile Howe Lane, Thorncliffe, Leek, ST13 8TG (the site) (grid reference SK 00197 57275) on behalf of Rob Duncan Planning Consultancy Limited.
- 1.2 Surveys included a preliminary roost assessment (PRA) and three subsequent nocturnal bat surveys of a garage (the building) at the site.
- 1.3 Proposals are to convert the building for residential use.
- 1.4 Survey objectives were to:
 - assess the building for its potential to support roosting bats and nesting birds.
 - search for evidence of roosting bats and nesting birds.
 - confirm presence or absence of roosting bats.
 - assess the survey area for its relative ecological importance to bats and birds.
- 1.5 The aim of this report is to:
 - present survey findings.
 - highlight any ecological constraints relating to roosting bats, nesting birds and the proposed development.
 - make recommendations for mitigation, compensation and enhancements where necessary.
- 1.6 The site is located approximately 3km northeast of Leek on the southern edge of the Peak District National Park.
- 1.7 All survey and assessment work was completed in accordance with official assessment guidelines¹ and largely followed that recommended by the Chartered Institute for Ecology and Environmental Management (CIEEM) ² and follows the British Standard Code of Practice³.

¹ Collins J (2024) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.

² CIEEM (2017) Guidelines for Ecological Report Writing. CIEEM, Winchester.

³ British Standards Institution (2013) BS 42020:2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

2 METHODOLOGY

Desk Study

- 2.1 A search was undertaken using desktop resources including the Multi-Agency Geographic Information for the Countryside⁴ (MAGIC) resource. MAGIC was used to search for records of designated sites and ecologically important habitats within a 1km radius of the site. Google Earth⁵ was also used to study the nearby landscape.

Preliminary Roost Assessment

- 2.2 Ecological consultant David Nixon MSc MCIEEM MRSB (bat licence number 2015-18322-CLS-CLS) undertook the PRA on 13th May 2024 and follow-up site checks on 3rd June and 23rd September 2024.
- 2.3 During the survey, where possible, all areas of the building were internally and externally examined for evidence of bats and birds. The building survey included an assessment using a powerful torch and an endoscope. All holes and crevices considered by the surveyor as likely to be used as a bat roost or provide a suitable bird nesting environment were examined. Visual ground inspections were undertaken using binoculars. Photographs were taken to capture likely features of ecological value to bats and birds.
- 2.4 Following a detailed assessment of the building in association with roosting bats, it was then classified according to its suitability based on the presence of features within the structure and/or surrounding landscape (Table 1).

Table 1: Guidelines summary for assessing potential bat roost suitability

Suitability	Description of building or structure
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.
Confirmed roost	Evidence of bats or use by bats found.

⁴ Multi-Agency Geographical Information for the Countryside (MAGIC). Crown Copyright and database rights [2015]. Ordnance Survey 100022861. Available at: <http://www.magic.gov.uk/>

⁵ https://www.google.co.uk/intl/en_uk/earth/

Nocturnal Bat Surveys

- 2.5 Three nocturnal bat surveys were carried out on the following dates using a combination of surveyors (x2) and night vision aids (NVAs) (see Figure 2).
- survey 1: 13th May 2024 - surveyors included: David Nixon MSc MCIEEM MRSB (bat licence number 2015-18322-CLS-CLS) and Beav Binet.
 - survey 2: 3rd June 2024 – surveyors included: David Nixon and Beav Binet.
 - survey 3: 26th June 2024 - Beav Binet and Dan Cliffe.
- 2.6 Surveyors deployed NVAs then took up separate positions surrounding the building for 15 minutes prior to and for two hours after sunset. The decision made to survey for two hours rather than 1.5 hours was based on the theory that the building provided suitable roosting opportunities for late-emerging species such as brown long-eared bat *Plecotus auritus* and Natterer's *Myotis nattereri*.
- 2.7 At any one time between surveyors, aspects deemed to hold risk of bat emergence were being observed. Visual observations of bat activity were noted and bat species were identified using bat detectors. Information recorded included weather, timings, whether bats emerged from or entered the building, direction of travel, species and activity (e.g. foraging or commuting). Equipment used during nocturnal surveys included EM Touch 2 Pro devices coupled to Android and Apple tablets and NVAs (Canon XA range along with a Pixfra thermal scope).
- 2.8 Use of NVAs is vital for nocturnal surveys to give confidence in results. During the surveys, a photograph of the darkest part of the survey was taken to show the field of view and that appropriate illumination by infrared or thermal imaging was used. A bat detector was also placed by the side of each NVA so emergence could be cross-referenced against calls. All footage was watched back the following day in “real time”.
- 2.9 All hand-held bat detectors are calibrated annually as per industry guidelines and in accordance with the manufacturer's instructions to ensure they remain accurate and fully functional.

3 RESULTS

Desk Study Results

- 3.1 There are no statutory designated sites within a 1km radius of the site.

Description of Local Habitats

- 3.2 The site is located approximately 3km northeast of Leek on the southern edge of the Peak District National Park, surrounded by a landscape dominated by pasture fields edged by tree lines, hedgerow networks and narrow woodland corridors that provide connectivity to the wider landscape and beyond. There is a narrow belt of woodland leading from the northern extent of the site boundary, in a northerly direction towards Tittesworth Reservoir.
- 3.3 The site itself included a residential dwelling, a stable building and the survey building.

PRA Results

General description

- 3.4 The building was a brick-built garage with a timber-framed pitched roof that was clad with slate and underlined with traditional bitumen felt. It featured a single ridge line that was covered with concrete overlapping tiles. There were two gable walls which faced northeast and southwest and built within the southeast facing roof pitch was a dormer-style feature at the centre of the roof, with a clock fitted to the brickwork. The building was two storeys in height, with three relatively large timber doors at ground floor level on the southeast facing side aspect, and steps leading to the first floor at the side gable on the northeast aspect. Internally from first floor level, the roof was open to the apex allowing clear views of the roof timbers.

Suitability to support roosting bats and nesting birds

- 3.5 Many of the slates and ridge tiles were raised and over time had become dislodged, and it was apparent bedding mortar had broken away in areas along the ridge line, providing roosting opportunity for bats and a means of access inside the roof area of the first floor. Additionally, along the ridge was small vent holes which were also suitable for roosting and access, as were the vents along the sides which had been created by leaving bricks out of the walls.
- 3.6 Small numbers of bat droppings of various ages were found scattered across the floor of the upstairs first floor region. No bats were seen during the PRA, however, prior to a nocturnal survey on 3rd June 2024, four brown long-eared were observed perched on the roof timbers of the building close to the ridge area. Following this, an additional inspection was carried out on 23rd September 2024, during which time the ecologist observed five bats near the ridge area.

- 3.7 In addition to bats, the building provided nesting opportunity for common bird species, which could utilise the same features bats could, such as the roof where slates were raised or areas beneath the ridge tiles. Should birds gain entry inside, they could also build nests amongst the roof timbers within the roof space.
- 3.8 No evidence of nesting birds was discovered during the surveys.

Nocturnal Bat Survey Results

Table 2: Nocturnal survey weather conditions

Date	Start	Finish	Sunset	Temp °C	Wind 0-5	Cloud %	Rain Yes/No/Note
13/05/2024	20:45	23:00	20:58	13	1	100	No
03/06/2024	21:10	23:30	21:27	12	2	100	No
26/06/2024	21:15	23:40	21:39	21	1	70	No

Dusk Survey – 13th May 2024

- 3.9 Bat activity was moderate during the survey. Species recorded included common pipistrelle *Pipistrellus pipistrellus*, brown long-eared bat, noctule *Nyctalus noctula* and *Myotis*. Noctule was the first species recorded during the survey as a single individual was observed commuting high above the site at 21:02 in a westerly direction. Following this at 21:37, a brown long-eared bat emerged from a small gap in the brickwork on the northeast facing gable wall at the apex, followed by two others at 21:37 and 21:38. Additionally, a brown long-eared was seen entering the building via ventilation gaps at the southwest corner at 21:56. Other activity onsite was that of common pipistrelles which periodically commuted over the site and along the peripherals throughout the survey and furthermore, distant *Myotis* were recorded at 21:32, 22:09 and 22:22, all of which were not visually seen by the surveyors.

Dusk Survey – 3rd June 2024

- 3.10 Bat activity was high during the survey. Species recorded included common pipistrelle, brown long-eared bat and noctule. Common pipistrelle foraging and commuting activity was recorded from 21:28 and remained fairly constant during much of the survey. Noctules were also occasionally recorded as they flew over in various directions, always high above the site in their commute further afield. A brown long-eared bat emerged from the gap in the northeast facing gable wall at 21:50, then at 21:54, a brown long-eared emerged from beneath the raised ridge tile vent at the southwestern part of the roof. Following this at 21:58, another brown long-eared emerged from the gable wall gap and moments later one emerged from beneath the raised ridge tile again. Two more bats emerged (one from each access point) at 22:05 and 22:09.

Dusk Survey – 26th June 2024

- 3.11 Bat activity was moderate during the survey. Species recorded included common pipistrelle, brown long-eared bat, noctule and *Myotis*. Common pipistrelle was the first species recorded as a single bat flew over the northerly part of the site near the main dwelling house at 21:52. Two noctules were then recorded at 22:00, both of which were commuting high above the site in a northeasterly direction. From 22:11, brown long-eared bats began emerging again. This time, a higher number emerged in comparison with the last survey, with one initially leaving the roost from beneath the raised ridge tile at the southwest part of the roof at 22:11, followed by two emerging from the gap in the northeast facing gable at 22:13, then a further three emerging from the raised ridge at the southwest part of the roof moments later. At 22:17, another five emerged from beneath the gable wall opening and six emerged from beneath the ridge tile. From then on, activity by all species was reduced until the end of the survey, with occasional common pipistrelle commuting and foraging recorded nearby.

Limitations

- 3.12 Bat droppings deposited in or around the exterior can often degrade quickly due to weather. The presence of bats or their roost must not be disregarded in the absence of droppings.
- 3.13 For Health and Safety purposes, ladders were not used to gain close views of the external roof structure. All external aspects of the survey building were assessed from ground level.

4 DISCUSSION & RECOMMENDATIONS

- 4.1 The proposals will involve significant repair and renovation works to the building in preparation for residential use.
- 4.2 A search for local biological records was recommended however the client gave no instruction to order them. It should however be noted that although it is best practice to obtain local biological records when compiling an ecological report, in this instance, records would unlikely influence any mitigation measures and recommendations for follow-up surveys already included in this report and therefore the absence of such records is not considered a limitation at this stage.
- 4.3 Most ecological data remain valid for only short periods of time due to the inherently transient nature of many protected fauna species. Where the species or group being surveyed for is present within the site, data are typically considered accurate for 12-18 months⁶.
- 4.4 No statutory designated sites exist within 1km of the site and given the proposals are considered relatively small scale, impacts to habitats beyond the site boundaries are not anticipated.

⁶ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

- 4.5 The building was found to provide bats with high roosting value due to the presence of gaps beneath the slates and within the brickwork and additionally, evidence of bats was discovered inside the building, which included low numbers of bat droppings and a maximum count of five bats observed during inspections of the building on 3rd June and 23rd September 2024. (four in June and five in September).
- 4.6 Although the number of droppings was low and did not represent the numbers typically associated with a maternity roost, the number of bats observed within the building and those counted emerging from it suggests the roost is used by breeding bats and most probably, the majority of individuals are located in summer beneath the ridge tiles which is why there were few droppings scattered across the floor space.
- 4.7 All species of bat recorded during the nocturnal surveys were considered common and widespread throughout much of the UK at the time of the surveys. On the whole, activity during the nocturnal surveys was moderate, ranging between common pipistrelle, brown long-eared bats, noctule and *Myotis*.
- 4.8 The building was assessed as holding low non-classic hibernation potential based on its brick construction that provided little in the way of access between the brickwork for cool, constant and damp conditions bats require when in hibernation. Also, the roof inside was always warm during site visits which is why it was better suited for breeding rather than hibernation.
- 4.9 Because an ecological constraint in relation to roosting bats and the proposed development has been identified, a bat mitigation licence must be acquired before works commence.
- 4.10 Bats are protected by law. If a bat roost exists in a building, a tree or another structure/feature that is to be affected by proposed works, it would be a criminal offence to impact the roost without a bat mitigation licence which would be issued by Natural England prior to works commencing and after planning permission and/or other relevant consents have been granted.
- 4.11 All survey work must be complete before a licence application can be made. The licence application is usually supported by a method statement that includes mitigation measures aimed to safeguard bats and their Favourable Conservation Status (FCS). Natural England expect three tests to be satisfied before a bat mitigation licence can be issued. These tests are as follows:
- there is no satisfactory alternative.
 - 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.
 - the action authorised preserved public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

4.12 Specific details relating to mitigation and compensation will be provided in the bat mitigation licence application documents. Outline mitigation will include the following:

- initial design of appropriate roost mitigation or compensation for the known brown long-eared roost, to ensure continued use of the site, which will then need to be approved by Natural England upon receipt of the licence application. As the brown long-eared bat is a void-dwelling species, consideration will need to be made to provide the roost with an alternative, appropriate loft void.
- ahead of works commencing, bat boxes will be fitted onsite to either trees or the side of a building, ideally 4-5m above ground level. Importantly, bat boxes must be sited away from artificial nocturnal light spill and they must not be sited above windows or other building aspects that may lead to bats being disturbed. Schwegler 1FF bat boxes are recommended because they are known to be used by a number of species and roost types including maternity roosts, largely because they retain ideal thermal properties because they are built using a mix of wood and concrete (Woodcrete).
- breathable membranes such as Tyvec (among other brands) must not be used if there is risk bats will come into contact with the product.
- There will be timing constraints associated with the work schedule. If work is carried out in 2025, all mitigation and compensation must be completed and fit for purpose by late April 2025 to allow breeding bats continued use of the building. Otherwise, works that will impact the roost cannot start until October 2025, a period when pups will have gained full independence and the roost will have disbanded.
- prior to the commencement of the works and once the licence has been granted, the named ecologist or accredited agent must carry out a final inspection to check for the presence of bats. If any are found, they will be carefully removed and placed in the bat boxes which will serve as a receptor site.
- all contractors associated with the works must be briefed regarding the legal protection afforded to bats and their places of shelter and on how to proceed if a bat is discovered during the course of the work in the event an ecologist is not present. Either the named ecologist or accredited agent will then carry out a watching brief while tiles and other key roofing components are removed, refitted etc. The client will provide secure scaffolding or a cherry picker so the ecologist is able to safely inspect the roof while works are carried out.
- the supervising ecologist will continue the watching brief until the building (or areas affected by the proposed works) is declared free of bats. Any bats found during this period will be safely removed by the ecologist and placed in the bat boxes. If in the unlikely event a bat is discovered after the ecologist is no longer supervising, works should halt immediately and Fauna Forest Ecology Limited should be contacted for advice.

4.13 It is clear from the nocturnal survey results that bats utilise the site and its surroundings for commuting and foraging. The margins and trees surrounding the site were frequently utilised by bats, presumably as navigational reference and for foraging. In view of this, every attempt must be made to retain trees

and it must be noted that inappropriate use of nocturnal lighting (i.e. fitting security lighting that casts light over the trees) may cause bats to seek alternative flight routes.

4.14 Taking the above into account, lighting mitigation must be considered during and post-development and should involve shielding semi-natural habitats onsite or nearby from artificial nocturnal light spill. Where feasible, nearby trees and other vegetative habitats should be retained for continued use by bats. General good practice regarding use of nocturnal lighting is as follows:

- if external artificial lighting is required during or after the construction phase, a low-level/low lux lighting scheme should be implemented to avoid indirect disturbance to nocturnal animals that may utilise local habitats.
- during the construction phase, works will ideally not be carried out after dusk and should not commence until after dawn (it is also recommended that generators and machinery that emit significant noise levels are not left to run through the night).
- light spill should be controlled and if lighting is required at night, hooded shields should be fitted to prevent inappropriate light spill.

4.15 As the building provided opportunity for nesting birds, best practice would be for the works to be undertaken outside of the bird nesting period. Birds typically nest between February through to September. If the works must be undertaken during the bird nesting period, work must not commence until a suitably qualified ecologist has confirmed there is no evidence of bird nesting within the area to be impacted by the proposed works.

4.16 If an active nest is discovered, an exclusion zone should be established, and works must be halted in that area until the nest is no longer active. Works should not commence without confirmation from a suitably qualified ecologist that no nesting birds exist within the area of impact. An area surrounding the nest site will be protected from disturbance with a suitable fence (not HERAs fencing) that would include an appropriate buffer zone, as determined by the suitably qualified supervising ecologist. Work will then be avoided in this area until the nest is no longer in use. Buffer zones in this respect will normally be 5m in diameter and will be delineated by canes, cordon tape and signage.

4.17 Ways to provide birds with additional nesting opportunity would be to install nest boxes on mature trees in the local area. Options would be to fit a number of close and open-fronted boxes to benefit a range of species. Boxes should be sited away from prevailing wind and may be fitted at various heights, ranging between 2 and 4m above ground level. Other options would be to fit sparrow terraces to the side aspects of the building in locations away from open windows, artificial light spill and prevailing winds.

APPENDIX A: LEGISLATION SUMMARY

Bats

In England and Wales, bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), and the Wildlife & Countryside Act 1981 (as amended). Taken together, this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat
- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not
- Damage or destroy the breeding or resting place of a bat
- Possess a bat (alive or dead) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost
- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built
- Take or destroy the egg of any wild bird
- Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

APPENDIX B: MAPS

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© Google Earth Pro 2024

Figure 1: Location Map

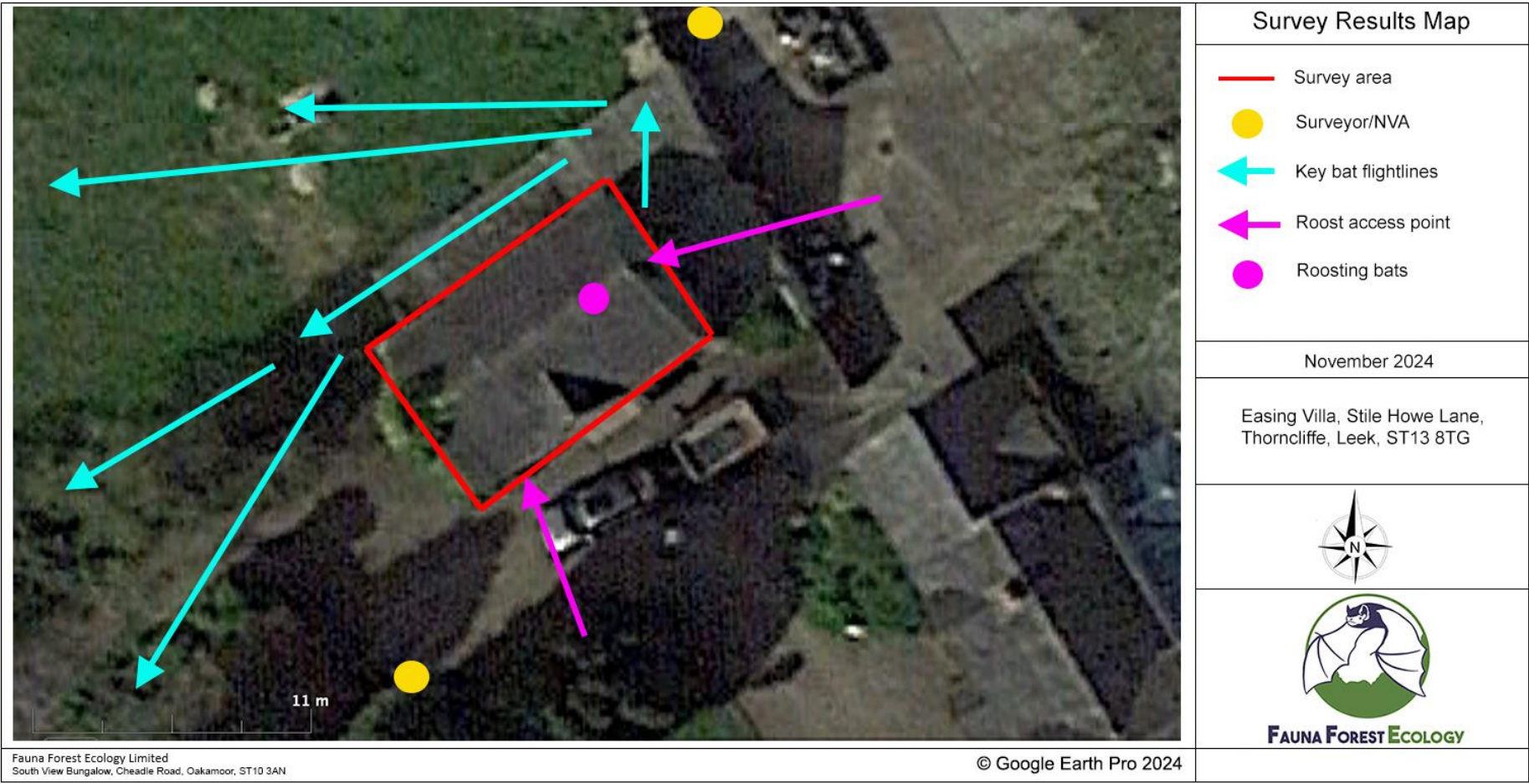


Figure 2: Survey Results Map



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APPENDIX C: SITE IMAGES



Image 1: southeast facing side aspect of building. Red circle highlights roost access point via ventilation bricks



Image 2: NVA screen shot of northwest facing side aspect of building



Image 3: red arrows point to roost access points via northeast facing gable wall and end ridge tile access