BAT EMERGENCE SURVEY
SUMMARY
at
Land at Fleece Farm
Midway
Huddersfield
West Yorkshire
HD4 7DA

Client:
Orange Design Studio Ltd

Client Address:
The Studio
59A Huddersfield Road
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Client Contact:
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JCA Ref:
22849a/RPS

Date of Report:
19/09/2025

JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

Desktop Survey Completed:		**Site Surveyed:**		**Summary Completed:**		**Reviewed:**	
Date	Name	Date	Name	Date	Name	Date	Name
16/05/25	Rebecca Petch-Smith	19/08/25	James Foster	17/09/25	Rebecca Petch-Smith	18/09/25	James Foster

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct.*

Summary

JCA Ltd was commissioned by **Orange Design Studio Ltd** to provide ecological advice to inform works at **Land at Fleece Farm**, hereafter referred to as 'the site'. The site is located at **Midway, Huddersfield, West Yorkshire, HD4 7DA.** Ordnance Survey (OS) National Grid Reference **SE114126**. The Preliminary Ecological Appraisal (PEA) survey undertaken on 16/05/2025 identified 3 buildings with moderate Bat Roost Potential (BRP) which would be impacted by the development. Further surveys were recommended on the buildings to determine the presence/likely absence of a roost.

The purpose of this summary is to present the findings of the survey, an interpretation of the findings and to provide recommendations for undertaking the further surveys required.

Bats and their roosts are protected under UK law. Development works that are likely to affect bats or their roost sites must be completed under licence from the statutory conservation body, in this case Natural England (NE).

The field survey was undertaken on 19/08/2025 to identify any bat use of the 3 buildings.

One bat was observed emerging from and a second re-entering building 1. The emergence was recorded at 21:07 and the re-entrance was recorded at 20:57. The number of commuting passes/foraging activity recorded during the survey suggests a moderate activity level in this area of the site.

There were two locations of a suspected emergence prior to the start of the survey from an alternative location on buildings 1 and 2 (**Appendix 1**).

A further two surveys are required, one to be completed between May and August when bats are most active, prior to ascertaining a Mitigation License.

An evaluation of the site likely impacts of the scheme upon bats and recommendations for proceeding with works in compliance with legislation are presented in Chapters 4, 5 and 6 of this report.

Contents

1. Introduction

1.1 Background

1.1.1 In July 2025, JCA Ltd was commissioned by **Orange Design Studio Ltd** to undertake a Bat Emergence Survey Report of a site located at **Land at Fleece Farm, Midway, Huddersfield, West Yorkshire, HD4 7DA** hereafter referred to as 'the site'. The PEA survey identified 3 buildings on site with bat roost potential that would likely be disturbed as part of the proposed work.

1.2 Details of Proposed Development

1.2.1 The development proposed on this site is the demolition of agricultural sheds and renovation of buildings on site into residential dwellings.

1.3 Site Location

1.3.1 The site is situated to the southwest of Huddersfield, at grid reference: **SE114126.**

1.3.2 The site is a cattle farm with two residential dwellings. The site is bordered on all sides by agricultural fields with associated residential dwellings with the town of Netherton to the east.

1.4 Previous Studies

1.4.1 JCA Ltd. – Preliminary Ecological Appraisal (PEA), June 2025 (JCA Ref: 22849/RPS)

1.5 Scope of Works

1.5.1 The following elements of work were included in the bat survey programme:

- Desktop study – a review of historical records of bats in the surrounding area, including the results of recent ecological surveys in the area.
- Field surveys – one dusk surveys, on separate days, during the summer to assess whether bats are using the buildings/trees to roost in.
- Ecological report – detailing the survey results, implications for the disturbance of the buildings/trees and recommendations.

1.6 Survey and Report Aims

1.6.1 The main aim of the dusk emergence and dawn re-entry bat surveys was to determine the presence/likely absence of roosting bats that will be impacted by the proposed development.

1.6.2 If roosting bats are present, to:

- Identify the species and numbers of bats present.
- Determine the type of roost (e.g. maternity roost, transitional roost, hibernation site, etc).
- Gain sufficient information to allow the potential impacts on bats of the proposed works to be assessed and for appropriate avoidance, mitigation and/or compensation measures to be designed.

1.6.3 The aims of the report presented are to:

- Outline the legislative protection given to bats.
- Report on the findings of a desk-based study undertaken to identify any existing records for bats which are relevant to the site.
- Summarise the findings of the bat surveys and provide an assessment of the potential ecological constraints to the proposed works at the site.
- Provide recommendations for further survey, avoidance, mitigation and/or enhancement where appropriate.

1.7 Legislative Context

1.7.1 In the UK all species of bat and their roosts are fully protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, with additional protection offered under Schedule 5 of the Wildlife and Countryside (WCA) Act 1981 (as amended). This makes it an offence to:

- Deliberately or recklessly capture, injure or kill a bat;
- Deliberately or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Damage or destroy a bat roost (this is an 'absolute' offence);
- Intentionally or recklessly obstruct access to a bat roost; and/or
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

1.7.2 Under this legislation a roost is determined as any structure or place used for shelter. As bats tend to re-use the same roosts, the roost is protected whether the bats are present at the time or not.

1.7.3 Please see **Appendix 1** for a more detailed overview of the UK legislation protecting bats.

2. Methodology

2.1 Desktop Study

2.1.1 A desktop study was carried out as part of the PEA undertaken by JCA in May 2025. The local biological records centre, West Yorkshire Ecological Services and West Yorkshire Bat Group was commissioned to provide details of historical protected and notable species records within a 2km radius of the site.

2.1.2 Ordnance Surveys maps (1:25000 scale), MAGIC maps and aerial imagery (Google Earth) were used to assess habitat availability and connectivity in the wider area around the site.

2.2 Field Surveys

2.2.1 The field surveys were planned and conducted with reference to Bat Surveys: Good Practice Guidelines 4th Edition (Collins, 2024). The survey was conducted in August 2025.

2.2.2 The surveys were led by James Foster (Assistant Ecologist) and assisted by the following seasonal surveyors Lorraine Spink, Shannon Spink, Steph Radmore, Phil Scarf, Jackie Scarf, Jordan Greenwood-England, Haidar Malik, Neve Westwood, Kathy Westwood, Jared Watt.

2.3 Emergence Surveys

2.3.1 Dusk emergence surveys are used to determine the presence or likely absence of bat roosts in buildings or features when the preliminary roost assessment cannot reasonably rule out the presence of roosting bats. They are also used to identify the type of roost where a known roost is present. They can only be completed in the season when bats are most active (May to September, with optimum bat activity between June and August).

2.3.2 During the PEA conducted on 16/05/2025 by JCA Ltd. all structures/trees/buildings on site were subject to an external survey to establish the suitability of the structure to support roosting bats in accordance with Collins (2023) (4th edition) and Bats in Tree Roosts (Andrews, H. 2018). Dusk emergence and survey effort is dictated by the category of bat roost potential assigned to a structure or tree during the preliminary bat roost potential assessment. **Table 1** (taken from Collins, J. 2023) summarises the survey effort required for structures to give confidence in a negative result.

Table 1. Recommended minimum number of survey visits for presence/likely absence surveys *(taken from Collins, 2023)*.

Negligible roost suitability	Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M

No futher survey required	One survey visit. One dusk emergence survey, May to August (structures). No further surveys required (trees).	Two separate dusk emergence survey visits. May to September, with at least one survey between May and August.	Three separate dusk emergence survey visits. May to September, with at least two surveys between May and August
September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. September surveys are likely to miss maternity roosts due to dispersal before this time but may pick up mating roosts. Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced out at **least three weeks apart**, preferably more. Survey timings **should consider the prevailing conditions in the year of survey, which will vary geographically**. In years with a cold spring, the surveys should not be started in early May, or all completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the **optimum coverage includes the pre-parturition, post-parturition, and mating periods**. Structures that have been categorised as low potential can be problematic, and the number of surveys required should be judged on a case-by-case basis. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.			

2.3.3 JCA assigned the following categories to structures that required further survey.

Table 2 Categories of Structures Surveyed

Structure/tree to be surveyed	Assigned category	Number of surveys required
Building 1	Moderate	2
Building 2	Moderate	2
Building 3	Moderate	2

2.3.4 Dusk emergence surveys commence 15 minutes before sunset and end 1.5 hrs after sunset, depending on activity levels recorded during the survey.

2.3.5 During the survey, the building was monitored using Nightfox Whisker night vision binoculars.

2.3.6 Bat calls were monitored using Anabat Scout bat detectors and notes were made on the times of bat calls and any bat activity seen or heard (commuting, foraging, roosting or social calls) to determine the following information:

- Time and species of first and last bat call.
- Location of bats/proximity to the buildings.
- Number and species of bats present (where identification is possible).
- Bat activity levels (foraging, commuting, social calls).
- Number of bats recorded entering/exiting the structures/trees/buildings.

2.3.7 Bat calls were subsequently analysed using Anabat Insight software.

2.4 Survey Constraints

2.4.1 The comprehensiveness of any ecological assessment will be limited by the season in which surveys are undertaken. To determine presence or likely absence of a protected species and their status (i.e. the number of individuals present) usually requires multiple visits at suitable times of the year. The survey conditions and timings were suitable for surveying bats and therefore are not considered to be a limitation to the effectiveness of the surveys.

2.4.2 The weather conditions during the survey are given in **Table 3** below:

Table 3 Weather Conditions during the survey

Date	Sunset time	Start & finish time	Temp - Start and Finish (°C)		Wind speed (mph)	Cloud cover (%)	Precipitation
19/08/2025	20:25	20:13 21:58	15	14	10 NE	100	0mm

2.4.3 The details of this report will remain valid for 18 months. Beyond this period, if the proposed works have not commenced, a new review of the ecological conditions must be undertaken.

3. Results

3.1 Field Survey

3.1.1 Dusk emergence survey

The results of the surveys are detailed in **Table 4**.

One emergence and **one** re-entry of common pipistrelle bat was observed by a surveyor at location 1.

Table 5. Summary of the surveys.

Location	Number of observations	Species identified and number of recordings	Time of first detection	Time before/after sunset	Activity recorded	Emergence location
1	8	24 common pipistrelle 1 myotis 1 noctule	20:50	35 minutes after	Foraging and emerging/ re-entering	One emergence from under the northeast guttering. One re-entrance from the northeast of building one.
2	26	45 common pipistrelle 4 noctule 3 myotis spp.	20:14	11 minutes before	Commuting and foraging	N/A
3	15	15 common pipistrelle No Anabat	20:45	20 minutes after	Commuting	N/A
4	13	23 common pipistrelle 2 noctule	20:44	19 minutes after	Commuting	N/A
5	3	25 common pipistrelle 1 noctule 3 myotis spp.	20:49	24 minutes after	Commuting and foraging	N/A
6	6	43 common pipistrelle 1 noctule 3 myotis spp.	20:44	19 minutes after	Foraging	N/A
7	13	13 common pipistrelle No Anabat	20:45	20 minutes after	Commuting	N/A
8	10	24 common pipistrelle 3 noctule 2 myotis spp.	20:50	25 minutes after	Commuting and foraging	N/A

9	8	8 common pipistrelle No Anabat	21:01	36 minutes after	Commuting	N/A
10	10	9 common pipistrelle 1 noctule No Anabat	20:45	20 minutes after	Commuting	N/A
11	7	8 common pipistrelle 1 noctule	20:36	11 minutes after	Commuting	N/A

4. Interpretation of Survey Results

4.1.1 One bat was observed emerging from and a second re-entering building 1. The emergence was recorded at 21:07 and the re-entrance was recorded at 20:57. The number of commuting passes/foraging activity recorded during the survey suggests a **moderate** activity level in this area of the site.

4.1.2 There were two locations of a suspected emergence prior to the start of the survey from an alternative location on buildings 1 and 2 (**Appendix 1**).

5. Impacts of the Scheme

5.1.1 Due to the presence of emergences, **two** further surveys are required prior to applying for a mitigation license. At least one survey must be completed between May and August, when bats are most active.

5.1.2 The proposed development will have an impact on biodiversity for wildlife by reducing roosting opportunities for bats within the buildings on site.

5.1.3 It is considered likely that without the proper licence, the scheme will result in an offence under relevant legislation.

5.1.4 The proposed works have the potential to disturb foraging and commuting bats on and around the site. Obtrusive light from the scheme would have negative impacts on the value of the site for commuting and foraging bats.

6. References

JCA Ltd. – Preliminary Ecological Appraisal (PEA), June 2025 (JCA Ref: 22849/RPS)

Bat Conservation Trust and Institute of Lighting Professionals (2018) *Guidance Note 08/18: Bats and artificial lighting in the UK*. ILP, Rugby

Collins (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition, Bat Conservation Trust, written 2023

Mitchell-Jones, A.J. & McLeish, A.P. (2012) *The Bat Workers' Manual.* Pelagic Publishing, Exeter.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines.* English Nature, Peterborough

Relevant Legislation:

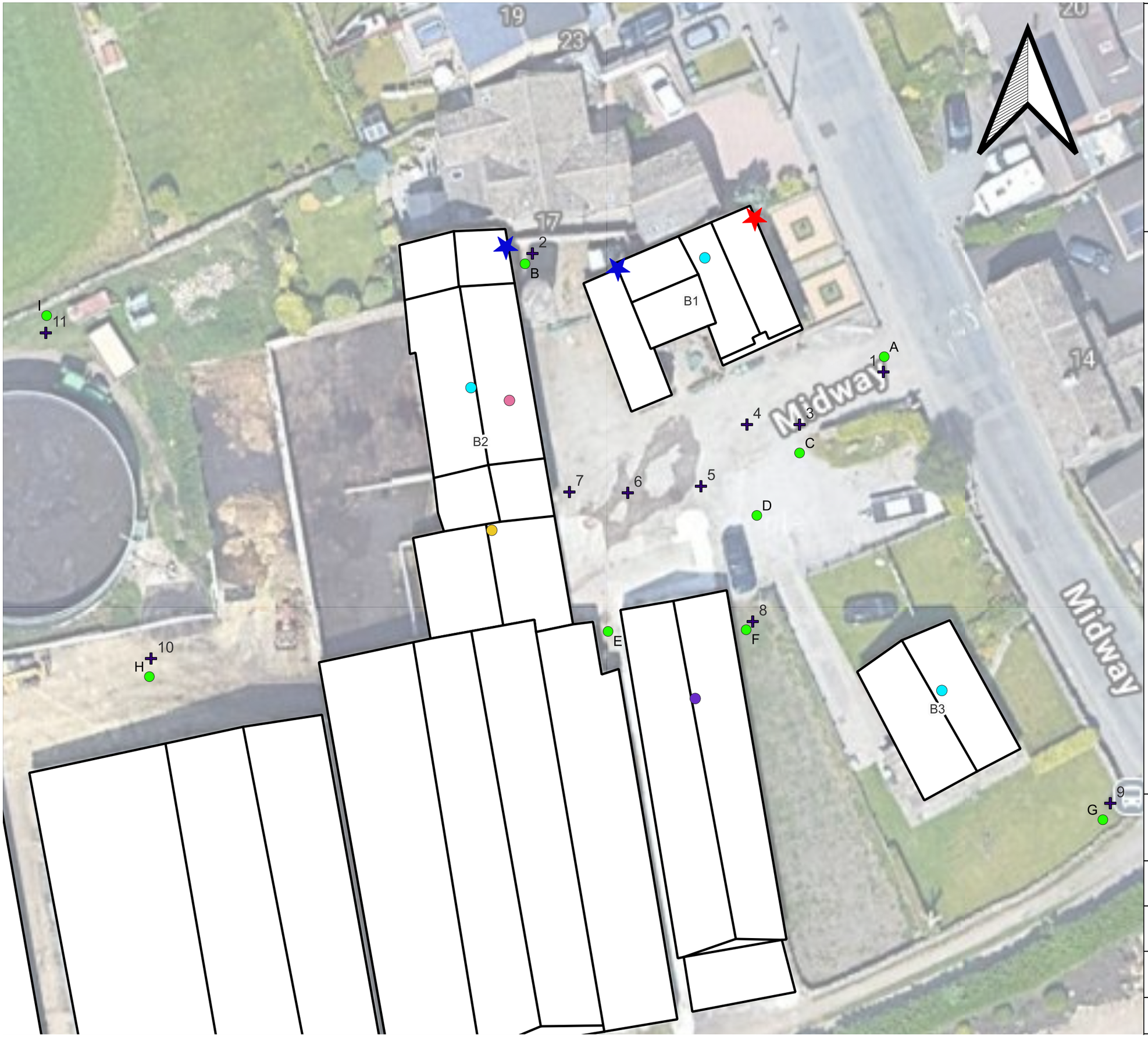
Wildlife and Countryside Act 1981 http://jncc.defra.gov.uk/page-3614

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. https://www.legislation.gov.uk/ukdsi/2019/9780111176573

Countryside and Rights of Way Act 2000 http://www.legislation.gov.uk/ukpga/2000/37/pdfs/ukpga_20000037_en.pdf?view=interweave

Appendices

Appendix 1: Site Plan and Surveyor Locations



Site name & address
Land at Fleece Farm
Midway
South Crossland
Huddersfield
HD4 7DA

Key

Potential Roosting Features -

- Lifted tiles across the roof
- Membrane roof inside
- Wooden beams inside of the building
- Wooden panelling on inside roof

- Nightfox Locations
- Surveyor Locations

Important Locations -

- Emergence/ Re-entry Location
- Suspected Emergence Location
- Buildings

Scale
0 7.5 15 m

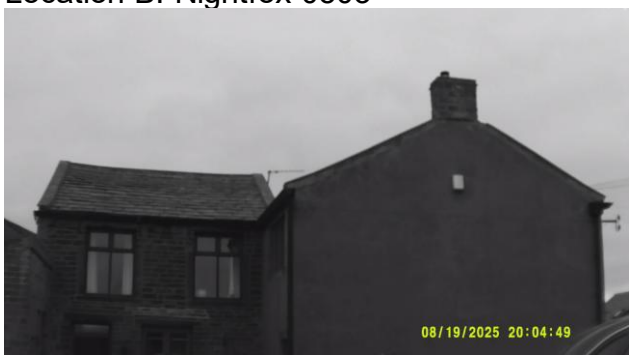
Site	Client
Land at Fleece Farm	Orange Design Studio Ltd
Project	**Author**
22849a/RPS	Rebecca Petch-Smith
Plan ref	**Revision**
22849a/RPS	1

Appendix 2: View from Nightfox Locations

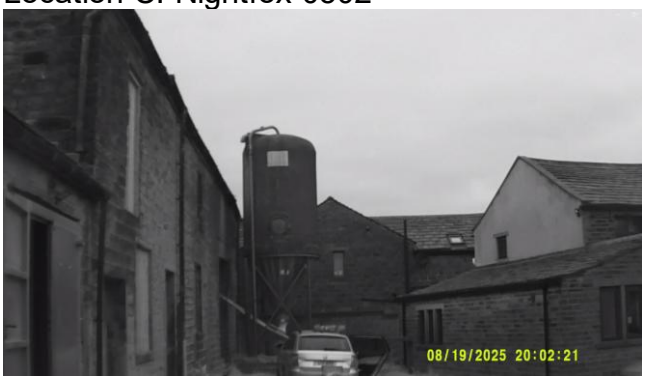
Location A: Nightfox 0497

Location B: Nightfox 0503

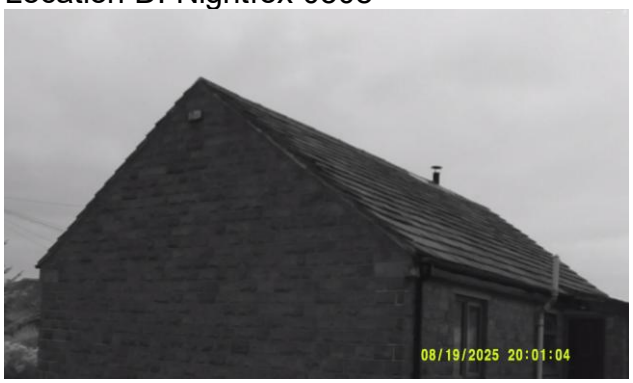
Location C: Nightfox 0502



Location D: Nightfox 0508



Location E: Nightfox 0499



Location F: Nightfox 0498

Location G: Nightfox 0507

Location H: Nightfox 0500

Location I: Nightfox 0506

Appendix 3: Glossary

Activity surveys - are used to assess the level of bat activity at a site. This can be done either by using equipment such as an AnaBat device, or manually walking around a site with a heterodyne detector, documenting the number of bat passes and interceptions.

Dawn surveys - begin around 2 hours before and up to sunrise when bats are returning to their roosts from foraging, and swarming behaviour can be seen close to roost entrances.

Dusk surveys - begin around 30 minutes before sunset and up to 2 hours afterwards. These are done in order to see bats emerging from their roost sites at night.

Echolocation – is a system similar to sonar that allows bats to travel and forage even in total darkness. Bats make a call and then listen to the returning echoes in order to build up a map of their surrounding area. This allows bats to gauge the identity and distance of an object by how long the echo takes to return to them.

Habitat - the ecological or environmental area that is inhabited by a particular species of animal, plant or other type of organism.

Hibernation - is a state of inactivity and metabolic depression characterized by lower body temperature, slower breathing, and lower metabolic rate. Hibernating animals conserve energy, especially during winter when food is short, tapping energy reserves, i.e. body fat, at a slow rate.

Hibernacula - typically consist of underground sites, such as caves and cellars, which remain relatively cold and humid. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. These will typically be colonised around November to around March.

Insectivorous – is when an organism feeds exclusively on insects.

Nocturnal - a behaviour characterized by being active during the night and sleeping during the day.

Maternity roosts – colonised around late May early June and consist of mature females and their young. These roosts need to be warm and quiet, and are used up until around August, with females typically leaving first and then the young.

Mating roosts – mating begins around late October to November. Males of most species use special mating calls to attract females. These can include purrs, clicks and buzzing.

Roost – a site where bats live during the day, rear young and hibernate. These can be in man made structures, such as buildings, bridges, tunnels, cellars and mines, or natural features such as mature trees and caves.

Roosts in buildings – many types of buildings will be used by bats. The most likely sites are agricultural buildings (e.g. farmhouses and barns), buildings with exposed wooden beams (greater than 20cm thick), buildings with weather boarding and/or hanging tiles, and buildings close to woodland and/or water.

Roosts in trees – these are typically in mature trees with deep sheltered cracks, under loose sections of bark, or in woodpecker holes.

Species – a group of organisms in which all members can interbreed and produce viable offspring.

Summer roosts (non-breeding) - these are generally occupied by groups of males and immature females during the summer, and are usually only occupied for a short period before the group moves to another location.

Swarming – a behaviour exhibited by bats returning to their roost sites at dawn. Bats can be seen repeatedly flying to and from the roost entrance, making it much easier for consultants to identify where roosts are on a building or structure.

Temporary/Transitory roosts – These are used after hibernation (March – April) before mature females disperse to maternity roosts and male/immature females colonise summer (non-breeding) roosts. Similarly, temporary roosts form before hibernation (August -October).

Underground Roosts – these are typically used during the winter and can be mines, caves, tunnels or cellars.

Appendix 4: Author Qualifications

Adam West, Principal Ecologist

BSc (Hons) Animal and Wildlife Management, ACIEEM.

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Batchelor's degree in Animal and Wildlife Management, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence and a Natural England Level 2 bat survey class licence.

Rebecca Petch-Smith, Graduate Ecologist

MBiol (Hons) Zoology

Rebecca joined JCA in 2025 after spending 18 months in the teaching industry. Prior to this she graduated from the University of Leeds with a 2:1 Honours Integrated Master's degree in Zoology. As part of her degree programme, Rebecca spent time in Kenya conducting surveys on African ungulates. Rebecca began assisting on bat emergence surveys in 2024, after which, she gained employment as a Graduate Ecologist at JCA Ltd. She is currently conducting Preliminary Ecological Appraisals, Bat Scope Surveys and Biodiversity Net Gain Assessments and working towards her protected species licence.

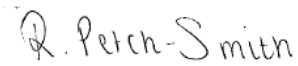
James Foster, Assistant Ecologist

BSc (Hons) Biology.

James gained his undergraduate degree in biology in 2012 from University of Leeds. James has plenty of experience in ecology, having worked countless projects of different scales all over the north and midlands. James has 11 years of experience surveying anything from reptiles to hedgerows and holds a Great crested newt licence level 1 and is working towards his bat licence and barn owl licence.

The information and advice which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



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Rebecca Petch-Smith *MBIOL BSc (Hons)*

17/09/2025

Reviewed by

.....

James Foster *BSc (Hons)*

18/09/2025

For and on behalf of ***JCA Ltd***

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

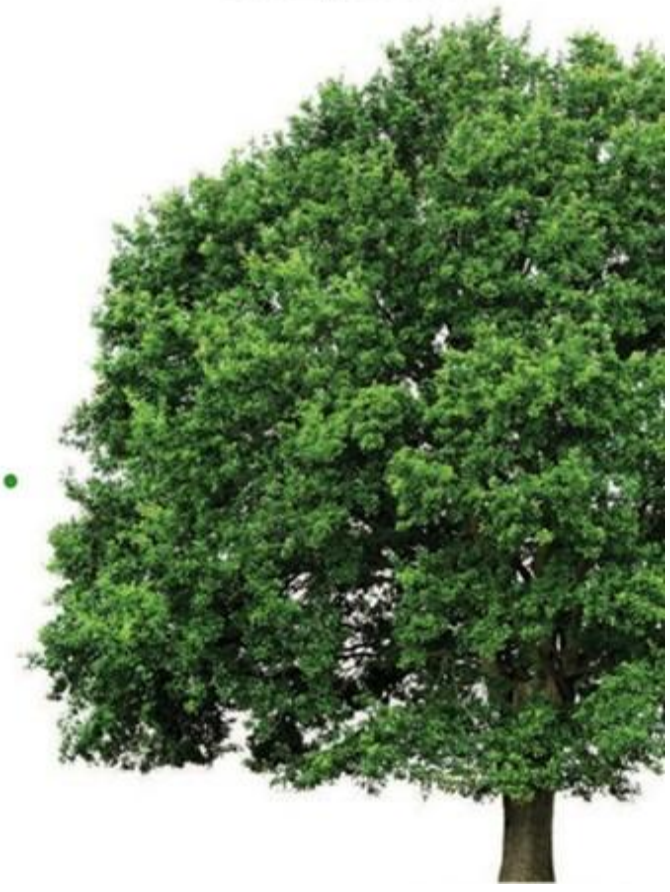
- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

JCA Limited

Arboricultural & Ecological Consultants



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