

Bat Survey Report

Hodder Court, Clitheroe, Lancashire, BB7 9PP

Prepared for

Julie Booth

31st October 2022

Version 01

Report prepared by Miranda Cowan Ecology Ltd. (MCIEEM & Tech cert ArborA)

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Project Details:

Report title	Bat Survey Report
Revision version	01
Site address	Flat 3, Hodder Court, Clitheroe, Lancashire, BB7 9PP
Grid reference	SD 702 389
Report composed by	Miranda Cowan Ecology Ltd. (MCIEEM, Tech ArbA)
Client	Julie Booth
Date	31 st October 2022

This document has been issued and amended as follows:

Version	Date	Description	Created By	Reviewed By	Approved By
01	31 st October 2022	Draft for client	Miranda Cowan (MCIEEM, Tech ArbA)	David Watts (MICFor MArborA, MCIEEM)	

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1. Introduction

1.1. Background

Miranda Cowan Ecology Ltd. was instructed by Julie Booth ('the client') in June 2022 to undertake a Preliminary Bat Roost Assessment (PRA) and follow up bat activity surveys for Flat 3, Hodder Court, in Stoneyhurst, Lancashire. **Figure 1.1** illustrates the location of the property, which is a top floor Flat within the residential building complex. The property is centred on Ordnance Survey National Grid Reference (OSNGR) SD 702 398 and positioned at an elevation of 85m.

The client seeks to renovate the loft space (second floor) into a bedroom, bathroom ensuite and small storeroom. Access to the loft space will be via a set of new stairs from the Flats existing bedroom on the ground floor. The proposal will retain the most upper section of the loft space and an existing isolated loft void section above the main buildings shared staircase will also be retained.

The PRA was completed on the 14th of July 2022, which confirmed Flat 3 at Hodder Court to have high bat roost potential. As such, three follow up bat activity surveys were completed between July and September 2022. The PRA and bat activity surveys were completed by Miranda Cowan Ecology Ltd, BSc (Hons), PGCert FdSc, MCIEEM (Bat Class licence WML – CL17-2021-52426).

The PRA and subsequent bat activity surveys also included recording any nesting bird activity.

Figure 1.1: Location of Flat 3, Hodder Court



1.2. Survey Aims

The aims of the PRA and bat activity surveys were to:

- Determine the potential of the property for roosting bats, by identifying and describing PRF and any access / egress points into the building.
- According to standard assessment criteria the property were graded as Negligible, Low, Medium or High potential for roosting bats.
- Complete follow up dusk emergence / dawn re-entry surveys, according to the results of the PRA.
- Estimate the size and status of the roost, for where bats were found to be present.
- Recommend further surveys, mitigation measures (including avoidance of ecological impact), compensation and biodiversity enhancement, where required.

1.3. Legislative Context

Bats

All bats are protected in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). In summary, in the UK, it is an offence to:

- Deliberately capture, injure or kill a bat.
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young, hibernate or migrate or significantly affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an absolute offence).
- Intentionally or recklessly disturb a bat at a roost.
- Intentionally or recklessly obstruct access to a roost.

The legislation also applies to sites that are not currently occupied, as bats can return to roosts year after year.

Some UK bats species are also included in the list of habitats and species, which are of Principle Importance for the conservation of biodiversity in England as required under Section 41 (S41) of the Natural Environmental and Rural Communities (NERC) Act. The S41 list is used to guide decision-makers, including local planning authorities, in implementing their duty under Section 40 of the Act, to have regards to the conservation of biodiversity in England, when carrying out their normal functions.

Natural England is the Government body responsible for nature conservation in England. Local planning authorities must consult them before granting planning permission for any work that would be likely to result in harm to bats or their habitat. Natural England consults with the BCT to provide advice.

“Development” licences for European Protected Species (EPS) are issued by Natural England for any actions that may compromise the protection of bats, under the Conservation of Habitats and Species Regulations 2017 (as amended).

Breeding Birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and it is an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy the egg of any wild bird; and,
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird.

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for species such as barn owl, a species that typically nests in barns / agricultural buildings. If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. That person shall be guilty of an offence.

2. Methods

2.1. Desk Study

Bat roost records, for up to 2 km from the sites central grid reference: SD 702 389, were requested from Lancashire Environment Record Network (LERN) in August 2022. This data was reviewed together with analysis of Google Pro Aerial imagery to determine the presence of connectivity between the property and habitats that could be used for commuting and foraging.

Email consultation was also initiated with South Lancashire Bat Group (SLBG) in October 2022, as client noted a small local group observing / recording bats emerging in May – June 2022. The email consultation was to request any additional bat records and knowledge of any roost types associated with Hodder Court.

Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) interactive map was used to identify any Special Areas of Conservation (SAC) or Sites of Special Scientific Interest (SSSI) within 10 km of the cottage which were relevant to bats. MAGIC was also used to determine the presence of any bat European Protected species licencing within 2 km.

2.2. Preliminary Bat Roost Assessment

The PRA adhered to methodology detailed in *Bat Surveys for Professional Ecologists - Good Practice Guidelines, 3rd Edition* (2016). This involved a ground level external and internal inspection of the Flat. External features were assessed using close-focusing binoculars and a high-powered torch to identify PRF, such as gaps under tiles / fascia boarding, eaves, gaps above doors and between the brickwork. The internal inspection comprised of a search for roosting bats by torchlight, inspections for bat droppings / feeding remains and an assessment of potential egress points.

Hodder's Court (Flat 3) was assigned a level of roost suitability in accordance with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), see **Table 2.1**.

Table 2.1: Bat roost suitability and descriptions (PRF Potential Roost Features)

Bat Roost Suitability	Description of Features
Confirmed presence	This category is where positive evidence of bats has been recorded. For example, bats are found; bat droppings may be present at a suitable location for roosting bats; existing bat records may be associated with the structure.
High	A building structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions* and surrounding habitat.
Moderate	A structure or tree considered to have one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions* and surrounding habitat but are unlikely to support a roost of high conservation status (With regard to roost type only – assessments are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. The feature and surrounding habitat do not provide enough shelter, conditions* space for larger roost types such as a maternity or hibernation roost.

Bat Roost Suitability	Description of Features
	A tree of sufficient size and age to support roosting bats, but with no features observed from the ground, or the features only have a limited potential to support roosting bats.
Negligible	Buildings which appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids and/or absence of suitable access points.

(* in this context conditions refers to the level of disturbance, light, height above ground, temperature, and humidity etc.)

2.3. Bats Foraging & Commuting

Habitat features within the local site context were assessed for their suitability to support foraging and commuting bat populations. This assessment was independent from the suitability of the site to support roosting bats and provides information on the likeliness of bat foraging activity within the local environment, and the dependence of individuals on these features for commuting to alternative roosting sites, foraging and migration. The suitability of the sites bat commuting and foraging habitat was evaluated professional judgement and against criteria within **Table 2.2**.

Table 2.2 - Suitability of foraging and commuting bat habitat, adapted from Collins (2016)

Category	Description of commuting and foraging habitat
Negligible Suitability	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low Suitability	Habitat which could be used by low numbers of commuting bats such as an isolated hedgerow (with gaps), or an unvegetated stream unconnected to suitable habitat in the wider environment. Suitable, yet isolated habitat that could be used by foraging bats such as individual trees, or a patch of scrub.
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats, notably tree lines, hedgerows or linked back gardens. Habitat that is connected to the wider landscape which could be used by bats for foraging such as trees, open water, scrub or grassland.
High Suitability	Continuous, High-quality habitat that is well connected to the wider landscape which is considered to be highly conducive to commuting bats including river valleys, stream, hedgerows, and woodland edge High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses, and grazed parkland. Site is close to and connected to known roosts.

2.4. Bat Emergence Survey

Table 2.3 shows the dates and timings of three dusk emergence surveys, which commenced 15 minutes before sunset and continued until 90 minutes after sunset. Surveyors recorded the time of any bat emergence, the point from which they emerged and the direction of flight (if seen). Species and call type (social, commuting, foraging) were also recorded. Echo Meter Touch 2 PRO devices were used by surveyors to listen to, record and identify bats in real-time. Surveyors were positioned at the front and rear of the flat to ensure all PRF features of Flat 3 were incorporated. Aspect of adjoining flats were also included, as shown as Plate 1 and 2.

The survey was led by Miranda Cowan Ecology Ltd, BSc (Hons), PGCert FdSc, MCIEEM (Bat Class licence WML – CL17-2021-52426) and supported Laura Able, who is working towards attaining a Class 1 bat licence.

Table 2.2: Dates, timings, and weather conditions of bat activity survey

Survey Type	Date	Sunset/ Sunrise	Start time	End time	Weather
Dusk	14/07/2022	21.33	21.15	22.59	15° Dry and clear sky, Beaufont scale 1, Okta 0
Dusk	11/08/2022	20.47	20.30	22.15	21°, Dry and clear sky, Beaufont scale 2, Okta 1
Dusk	15/09/2022	19.23	19.05	20.45	13°, Dry and clear sky, Beaufont scale 1, Okta 1



2.5. Breeding birds

An inspection was made for any active birds' nest, including observation of nests being built and by identifying any bird species entering the cottage between gaps of tiles or brickwork.

3. Results

3.1. Data Search

Review of MAGIC shows there to be an European Protected Species (EPS) Licence associated with Hodder Court. The case reference is 2019-42670-EPS-MIT, relating to common pipistrelle *Pipistrellus pipistrellus* and allowing damage to a breeding site, dated from 15/09/2019 to 21/10/2029.

Appendix A includes a figure for bat records from LERN, showing there to be no records associated with Hodder Court. The nearest records being are between the 1-2km buffer search area, relating to Stoneyhurst College (Clitheroe) and Lancaster University, dated from 1988 to 20018.

Species recorded in the desk study data include Brandt's bat *Myotis brandtii*, daubenton's bat *Myotis daubentonii*, natterer's *Myotis nattereri*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auratus*.

3.2. Bat Foraging and Commuting Potential

The River Hodder and Over Hacking Wood are riparian and terrestrial habitats that are functionally linked to Hodder Court on its north and west aspect. The structural diversity and the wider presence of vegetated field boundaries within a rural context are valued to be highly conducive to commuting and foraging bats. The courtyard at the front of the building also offers a sheltered location for bat foraging and the known presence of an EPSL supports the assessment of high value.

Immediately to the north a length of the River Hodder is designated as a Site of Special Scientific Interest (SSSI), named as 'Hodder River Section SSSI'. The citation for the SSSI does not reference bats. The section of woodland immediate north of Hodder Court is also registered as semi-natural ancient woodland.

3.3. Preliminary Bat Roost Assessment

Appendix C details full findings from the PRA with the data summarised below. The overall key finding from the PRA related to the presence of two roosting common pipistrelle bats, both located on the main roof wooden ridge beam. Multiple common pipistrelle droppings were also located on boarding throughout the floor of the loft. The droppings were small (2mm wide x 8mm length) and disintegrated to dust upon touch.

<i>Plate 1:</i> Roosting common pipistrelle on main ridge beam.	<i>Plate 2:</i> Accumulations of common pipistrelle bat droppings
	

Building Description

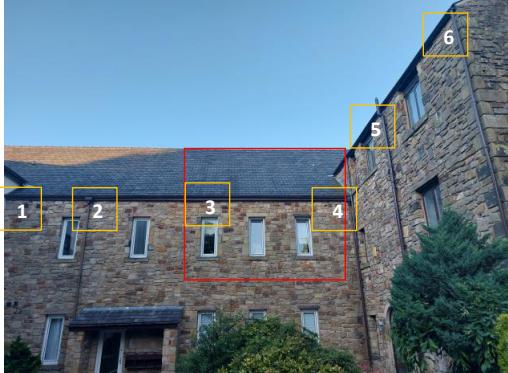
Hodder Court is a complex for flats, with the front of Flat 3 being west facing and the rear of Flat 3 facing east. The front of Flat 3 joins onto a courtyard, with the building forming a 'U' shape. The property to the right of Plate 3 below was subject to an EPSL, as identified from the desk study. The property to the left is not shown in the image had negligible bat roost potential (newly rendered).

Flat 3 and the immediate adjoining Flats retain traditional local stone, which is neatly pointed throughout the external walls and all stone window surrounds sit flush and are well-maintained with no gaps. The entirety of Hodder Court has a slate roof, with all individual tiles sitting flush, having the overall appearance of a new roof, with the building as a whole being well-maintained. Wooden fascia boarding is the only feature that display degradation, with a number of visible gaps behind the fascia, see description and location of PRF below.

The loft void is a used space for storage and has lighting throughout. The floor is lined with insulation and is partially boarded. Internal fire walls are built from breeze blocks, with gaps in the brickwork where the central ridge beam traverses through to other loft voids above separate flats. Breeze blocks are also built around the lower section of the sloping roof, behind which area gaps to facilitate bat migrating towards openings beneath the roof overhang and fascia boarding.

Potential Roost Features

Plates 1 and 2 highlight the locations for where there are gaps beneath the fascia boarding, with PRF 3 being associated with Flat 3. PRF 2 is behind a drainpipe, above the communal staircase and PRF 7 and 8 are to the rear of the building. The gaps under the fascia boarding were circa. 5cm and there from ground level there were gaps in the brick within PRF 2 and 3.

Plate 3: Front view of Hodder's Court, extent of Flat 2.	Plate 4: Rear view of Hodder's Court, extent of Flat 2
	

3.4. Bat Activity Findings

Findings from the bat activity surveys are shown as **Table 3.1**. Echo Meter Touch 2 PRO devices consistently identified common pipistrelle, with these recordings consistent with visual observations of common pipistrelle emerging from the PRF's. Bats observed emerging from PRF 7 and 8 (rear of property) remained within the garden as continual foraging for a period of 30 minutes post emergence.

During all survey visits common pipistrelle bats emerging from PRF's at the front of the property directly commuted west, towards Over Hacking Wood and the River Hodder. Foraging was then subsequently recorded as intermittent post emergence. During survey visit 3 a single common pipistrelle was recorded on the detector and visually observed to be continually foraging around the extents of the courtyard.

No other bat species were observed to be emerging from the PRF's. A single recording of distance foraging was documented during visit 1 and 2 of a Noctule *Nyctalus noctula*, which as a tree dwelling bat was likely to be associated to the extents of Over Hacking Wood and the River Hodder. The distance foraging was detected circa. 20m after sunset, and not exceeding 3 seconds.

Table 3.1: Bat survey findings, 2022

Sv Date	PRF 1	PRF 2	PRF 3	PRF 4	PRF 5	PRF 6	PRF 7	PRF 8	Totals	Comments
14/07/2022	3	2	2	1	3	2	0	0	13	
Emergence	21.43 21.50 21.55	21.45 21.46	21.45 21.51	21.46	21.55 21.55 21.58	21.55 21.58	-	-		Emergence and commuting west toward woodland. Intermittent foraging within courtyard.
11/08/2022	2	3	0	1	2	1	2	0	11	
Emergence	21.09 21.12	21.10 21.13 21.14	-	21.13	21.14 21.15	21.20	21.09	-		Emergence and commuting west toward woodland. Intermittent foraging within courtyard.
15/09/2022	1	7	0	0	1	2	4	0	15	
Emergence	19.40	19.33 to 8.10	-	-	19.48	19.45 19.46	19.45 to 20.00	-		Single bat continually foraging within courtyard.

3.5. Breeding Birds

No evidence of breeding bird activity was observed throughout the PRA or during the follow on bat activity surveys.

4. Evaluation and Outline Mitigations

4.1. Evaluation

The PRA completed on the 14th July 2022 confirmed two individual common pipistrelle bats to be roosting within the loft void of Flat 3, Hodder Court. Abundant common pipistrelle bat droppings were also located across the floor of the attic space, reflecting a long-term established roost, indicative of a breeding site.

The EPSL (15/09/2019 to 21/10/2029) shown on magic relates to 'allowing damage to a breeding site', and therefore confirms a previous assessment of a bat breeding site. No further information is currently available relating to the consultant who completed the surveys or if the works under the licence have been fully completed.

Given that common pipistrelle was observed emerging from all PRF's, it is concluded that the bat roost spans throughout the full extents of loft avoids above different occupied flats. Internal bat passage between each loft void is likely to be via notable gaps in the upper sections of the fire walls, where the central ridge beam spans through. These gaps equate to the size of a single breeze block.

Where there is a low wall along the length of the lower sloping roof section (Plate 4, **Appendix C**), close to the overhang, there is potential for bats to be roosting behind the wall, which extends down to the fascia boarding for where bats can access and egress.

In the absence of mitigation, the proposed loft conversion will result in high negative impact on the common pipistrelle maternity roost at a local level. The impacts are defined as follows:

- Individual bats will be exposed to killing, disturbing or injury from destruction of a maternity roost.
- There will be damage and reduction of a bat resting and breeding site.
- There will be obstruction for bats being able to access their resting and breeding site. This is likely to occur from potential sealing of gaps between the firewalls and loss of accessibility via the fascia boarding.

Based on the above, an EPSL would need to be obtained from Natural England prior to the commencement of any works affecting the roost. The EPSL will need to include a method statement to demonstrate measures that avoid, mitigate and compensate potential impacts on bats, and how to maintain the favourable conservation status of the local bat population through satisfying the three derogation tests defined under the Conservation of Habitats and Species Regulations 2017.

- Test 1 - There is an overriding public interest, such as providing housing in an area where there is a shortfall.
- Test 2 - There is no satisfactory alternative.
- Test 3 – The favourable conservation status of the bats will be maintained.

4.2. Outline Mitigation

In preparation of an EPLS, the following key elements should be completed.

Collection of supplementary data

To understand the full use of the attic space at Flat 3 Hodder Court, and particularly for the potential presence of hibernating bats, it is recommended that an Anabat Static Recorder is placed in the attic for a period of 2 weeks during January 2023. The Anabat will record audible sounds which bats generate in order to echolocate. This information will then be used to inform the EPSL.

Where the EPSL licence is delayed, supplementary bat activity surveys are likely to be required in 2013.

Outline Mitigation Measures

Prior to the preparation of an EPSL, it is recommended that the appointed ecologist and design architect discuss and confirm opportunities for safeguarding and integrating new features for bats. Based on the current design, there is opportunity integrate the following bat features:

- 1) To retain the top section of the loft void for bats, which includes the main support beam that common pipistrelle was recorded as roosting on.
- 2) To compensate for loss of PRF (fascia boarding), the proposal should include four bat tiles in the top roof void section. Two should be on the west side of the roof and two on the east.
- 3) Access should be maintained for bats throughout the entirety of the Hodder Court's loft voids, although the method for achieving this will need to balance with fire safety risks.
- 4) The loft void section above the communal stairs should be retained specifically for bats, as PRF 2 appears linked to this section of the attic. The design should ensure that bats can move between this loft void section and the top section of the loft space where the ridge beam is located.
- 5) Alternative roost locations, in the form of bat boxes should be positioned on trees to compensate for loss and reduction of roosting opportunities during and post works. The bat boxes are to be installed prior to the start of the works, with their number and location informed by the ecologist and agreed under Hodder Court ownership. The provision of bat boxes will need to be illustrated on the design plan.

Preparation of the Licence

The EPSL should be completed by a competent bat licenced specialist, who is familiar with mitigating for bats and has previously held an EPSL. Once the mitigation outlined above has been agreed, which may require further refinement following collection of supplementary data, the approach for safeguarding bats will need to be included in the EPSL

Any demolition works, modifications to the loft structure will need to be completed under the approach of 'soft demolition', meaning progressive removal of bricks, timber and wooden boarding in the presence of the appointed bat ecologist. This enables for the bat ecologist to safely capture and safeguard bats by placing them into a secure box and then releasing bats during dusk or transferring the bats to bat boxes installed on trees. The licence will also need to demonstrate the approach for dealing with any injured bats.

Once the soft demolitions works are complete and all bats are safely removed, the PRF's linked to Flat 3, including gaps between adjoining loft voids will need to be temporarily closed off to prevent bats re-entering the loft void as the works commence. Bats will still have access to other loft sections of Hodder Court and there will be provision of external bat boxes.

4.3. Licence Timings

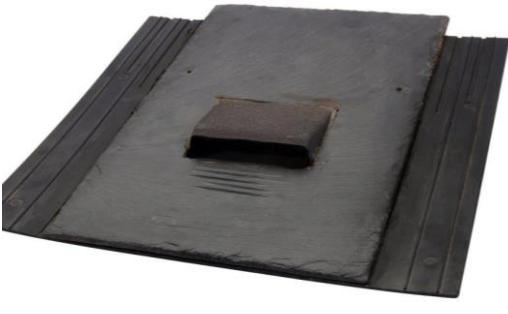
The outline timings for the EPSL to be prepared and submitted in 2023 are shown as **Table 4.1**. The design for mitigation however should be drawn up as preliminary during the winter of 2022. Natural England require 30 days to process licences.

Table 4.1: Timetable for EPSL preparation, 2023 to 2024

Activity	2023					2023 to 2024			
	Jan	May	June	July	Oct	October 2023 to April 2024			
Anabat Recording	■								
Preparation of licence		■	■						
Submission of licence to Natural England				■					
Licence period for excluding bats.					■				
Progression of works						■			

4.4. Example Bat Roost Features

Bat access tiles and bat boxes can be sourced from <https://www.nhbs.com/>, where there is a selection of specifications to meet with the requirement of construction.

Bat access slate	1FF Schwegler Bat Box
	

5. References

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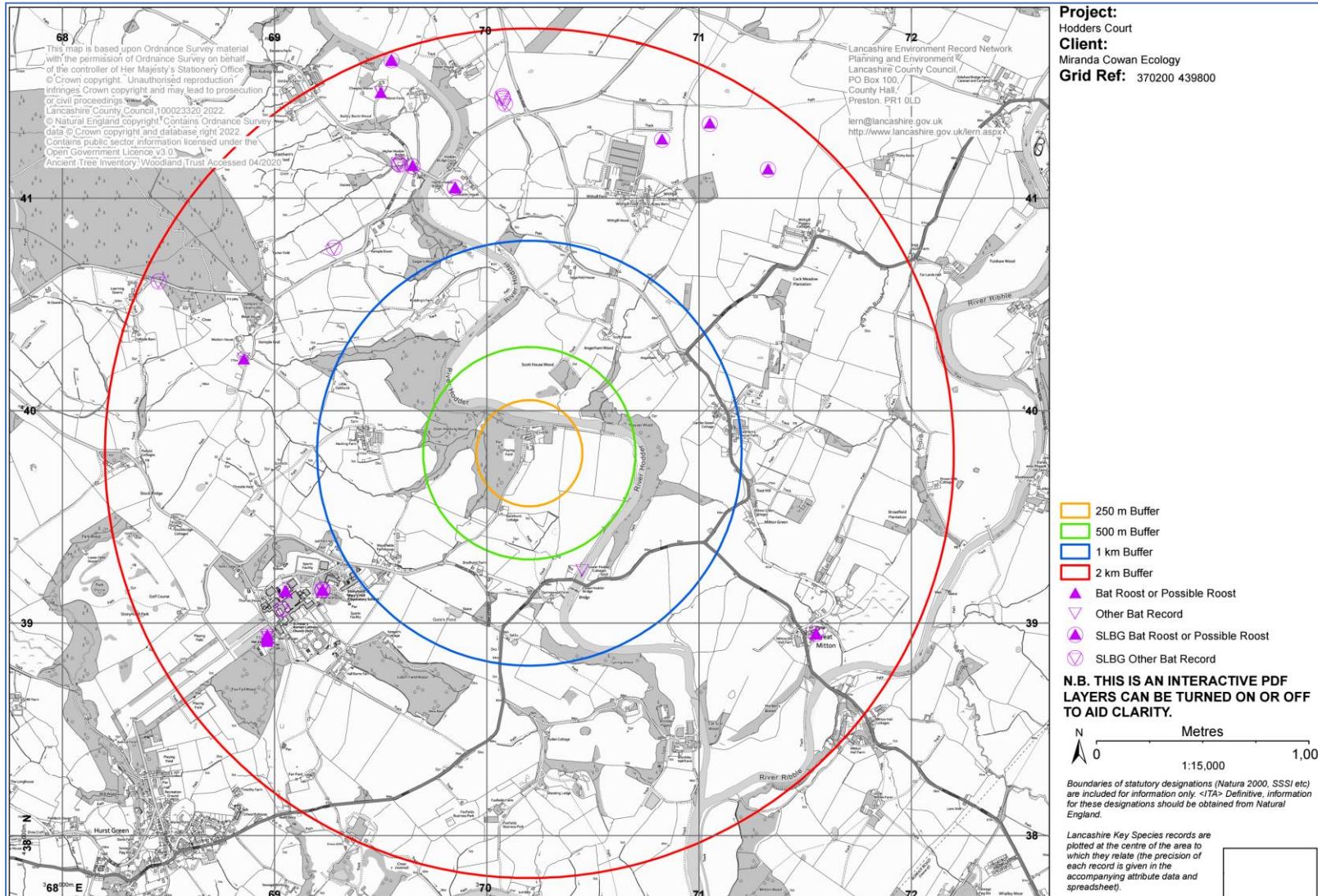
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Appendix A: Proposal Plan



Appendix B: Desk Study Data



Appendix C: Preliminary Roost Assessment:

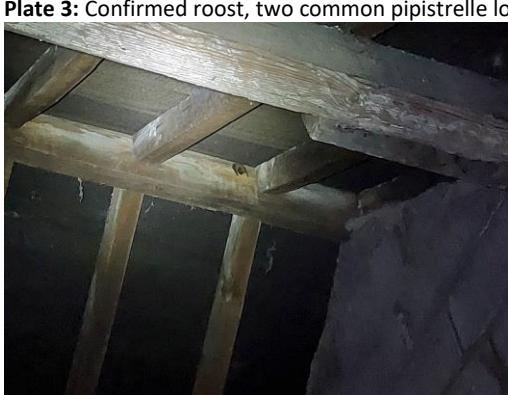
Site: Hodder Court	Structure Ref / OS Ref: SD 702 389	Date: 14 th July 2022		
Surveyor: Miranda Cowan Ecology Ltd.	Weather: Dry conditions, good visibility			
<p>Structure Description: A complex for flats, with the front of Flat 3 being west facing with a courtyard, and the rear of the Flat 3 east facing and adjoined by a steep sloping area of amenity grass / garden. Flat 3 front and rear aspects are shown as Plate 1 and 5. The building is built from traditional local stone, which is fully and neatly pointed. The entirety of Hodder Court has a slate roof, with all individual tiles sitting flush. All stone surroundings to the windows are also neatly flush. Wooden fascia boarding (Plate 2) spans across both the full length of both the front and rear facing aspect of Hodder Court. The property to the right of the image in Plate 1 relates to a previous EPSL as identified on magic.</p>				
<p>Note of PRF: The fascia boarding at the front and rear of Flat 3, and also along the wider extent to the front and rear property has notable gaps beneath, see marked orange circles for location of gaps under fascia boarding (Plate 1 and 2).</p>				
<p>Resulting Value: Confirmed common pipistrelle bat roost.</p>				
<p>Additional Survey Requirements: Three activity surveys.</p>				
<p>Plate 1: Front view of Hodder's Court, extent of Flat 2.</p> 	<p>Plate 5: Rear view of Hodder's Court, extent of Flat 2.</p> 			
<p>Plate 2: Gaps visible under fascia at Front of property.</p> 	<p>Plate 6: Common pipistrelle droppings.</p> 			
<p>Plate 3: Confirmed roost, two common pipistrelle located</p> 	<p>Plate 7: Gap in fire walls, towards the top wall section.</p> 			

Plate 4: View of loft void, fir wall and low wall along lower roof section.



Plate 8: Part lined loft space.

