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Bat Emergence Survey

Summary of Recommendations

If bats, evidence of their activity and suitable locations for roosting bats, are all absent from the site, then no further visits are normally required (Hundt 2012).

Taking into consideration the desk study, initial assessment bat survey and site survey findings, this report concludes that the proposed development of the site presents a low probability of harm to bats. Caution should be observed during works and should a bat be unexpectedly found work should stop and further advice sought.

The Company and Contact Information

Established in 2005, Arbtech Consulting Limited provides arboricultural and ecological consultancy services in respect to planning and development, throughout the UK.

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The Surveyor

The surveyor and principal author of this report is Jo Gregory BA (Hons), MSc GradIEM.

Other Surveyors

David Marshall, Surveyor (Bat License Number: 20122551).

Lorraine McKee, Surveyor.

Chris Gosset, Surveyor.

Lizi Langston, Surveyor.

Kiri Jones, Surveyor.

Bat Licence Number(s)

England: 20122461.

Wales: 39248.

Scotland: 13660.

The Client

The client is Mr. Gordon Beever.

The Site of Proposed Development

The client is preparing a planning application to convert the outbuildings at Little Royd Farm, Halifax Road, Hoylandswaine, Sheffield S36 7EY.

The Survey Brief

The client has commissioned Arbtech to undertake a bat emergence survey; referring to a method of ecological assessment outlined in the Bat Conservation Trust publication *Bat Surveys—Good Practice Guidelines* authored by L. Hundt, 2012.

These guidelines state that the aim of the bat survey is to observe and catalogue *“informing and identifying the type and extent of work needed (if any)”* (Hundt 2012).

Data Searches

The author’s preparation of this report has been assisted by a search of the National Biodiversity Network Gateway.

No other data searches or desk study has been undertaken.

Date of the Surveys

7th and 21st May, and 3rd June 2013.

Seasonality

This type of assessment can be conducted during the period May to September inclusive, with the optimal season for surveying maternity colonies limited to mid-May to August inclusive (Hundt, 2012).

Informative

Table 1: Summary of Pertinent Legislation and Planning Policy Relevant to the Protection of Bats in the UK

This table is adapted from Table 2.1 and Section 2.5 of the Bat Surveys—Good Practice Guidelines (Hundt, 2012).

Location of Roost	Transposing EC Habitats Directive	Other Relevant Legislation	Planning Policy
England	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	National Planning Policy Framework (“NPPF”).
Wales	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	Technical Advice Note (“TAN”) 5.
Scotland	Conservation (Natural Habitat & c.) Regulations 1994 as amended.	Wildlife and Countryside Act 1981 as amended. The Nature conservation (Scotland) Act 2004.	National Planning Policy Guidance (“NPPG”) 14 and Planning Advice Note (“PAN”) 60.

Cumulatively, this legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport a bat or any part of a bat, unless acquired legally.
- Sell, barter or exchange bats, or any part of a bat.

A bat roost is defined by Hundt (2012) as “the resting place of a bat”. Generally however, the word roost is interpreted to mean “any structure or place, which any wild bat uses for shelter or protection.”

The Survey Methodology

In order to fully assess the potential value of bat habitat at the site, the survey observes widely accepted, industry best practice standards set out in the Bat Conservation Trust publication *Bat Surveys—Good Practice Guidelines* (Hundt 2012).

These guidelines state that the aim of the bat emergence survey – also called a nocturnal survey or an activity survey – is to observe and catalogue “the bat activity in a given area” (Hundt 2012), and to make recommendations for further survey work as appropriate.

The survey includes for the observation of all elevations of all buildings, structures (and trees) referred to in the Survey Results section of this report.

Observations are both internal (where possible) and external, making use of torches, ladders, endoscopes, mirrors, binoculars and cameras where appropriate to do so.

More specifically, Hundt (2012) state the aims of the survey are;

- To determine presence/absence of species i.e. the species present in a given area.
- To determine the intensity of bat activity both spatially and temporally i.e. to help estimate bat populations.
- To determine the type of activity, most usually foraging (e.g. by feeding buzzes), commuting (e.g. by high directional pass rates) and mating (e.g. by mating social calls).
- To find roosts by tracking back bat flight paths or observing dawn flight activity at roosts.
- To find or record the emergence of bats from a building or built structure.

If bats, evidence of their recent activity or the emergence of bats from a roost are found during our survey, this report will make recommendations for further survey work and or design mitigation, where this is consistent with the Hundt (2012) and Mitchell-Jones (2004) publications, and considered appropriate by the surveyor in the context of the proposed development.

Previous Survey

The site was the subject of an initial assessment bat survey by Arbtech Consulting Ltd, prior to the bat emergence survey. This survey found suitable roosting features in Building B1 in the form: of holes in the soffit boxes, missing ridge tiles, missing mortar and gaps in the stonework at the far southwestern gable. Suspected prey remains were also located within stable 2 of Building B1. Building B5 had suitable roosting features in the form of several gaps in the stonework on the northwest elevation providing roosting opportunities for small crevice dwelling bats, and an unglazed window on the upper storey of the southwest elevation providing access to the building interior.

Table 2: Initial Assessment Bat Survey Summary

Roost	Habitat Value	Are bat emergence surveys required?
Building B1	High	Yes. 3x Dusk surveys. May to September inclusive. 3x surveyors.
Building B5	Significant	Yes. 2x Dusk surveys. May to September inclusive. 1x surveyor.

Dates of the Bat Emergence Survey

Table 3: Survey Dates, Times and Weather Records

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
07/05/2013	Dusk	20:31 - 22:15	Temp: 13.3 °C Humidity: 54% Cloudy: 0% Wind: 1/8 Rain: None	Temp: 10.7 °C Humidity: 66% Cloudy: 0% Wind: 1/8 Rain: light
21/05/2013	Dusk	20:55 - 22:40	Temp: 10.1 °C Humidity: 75% Cloudy: 100% Wind: 0/8 Rain: None	Temp: 9.2 °C Humidity: 87% Cloudy: 100% Wind: 0/8 Rain: None
03/06/2013	Dusk	21:05 - 23:00	Temp: 16.9 °C	Temp: 9.2 °C

			Humidity: 48% Cloudy: 0% Wind: 0/8 Rain: None	Humidity: 80% Cloudy: 5% Wind: 0/8 Rain: None
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Extents of the Desk Study

Table 4: Buildings and or trees referred to by number and in accordance with the sketch plan at Appendix 1.

Desk Study Records	The NBN Gateway search revealed that within the Ordnance Survey 10 km grid square SE20 (SE254047) where the site is situated the following bat species have been recorded: NBN: <i>Species from the NBN data search cannot be published without the owner's permission.</i> <i>The NBN has been checked for records and no protected species have been recorded from the site.</i>
Local Environment	The site is surrounded by arable fields and scattered farms in the immediate vicinity, with a large residential area (Hoylandswaine) located approx. 326m to the northeast of the site. Woodland is located approx. 427m and approx. 557m away to the northwest, approx. 826m to the northeast, approx. 1260m to the east, approx. 615m and approx. 1538m to the southeast (Cliff Plantation and Royd Wood), approx. 790m to the south (Shrogg Wood), and approx. 1161m to the southwest of the site. Open water cannot be located within 1km of the site however Scout Bridge and Scout Dyke Reservoir are located approx. 1155m and 1200m to the southwest of the site. The site is surrounded by fields which are located within 50m of the proposed development area. Hedgerows and tree-lined roads are located immediately adjacent to the site offering commuting routes to and from the woodland and other foraging areas. The site comprises of a complex of former farm buildings. These have various roof types including concrete tiles, asbestos sheet and sheet metal roofs. Some are traditional stone built buildings (building B1 and B5) with the remaining buildings being metal framed former cow sheds and a metal Dutch barn (building B2, B3 and B4).

Survey Results

Table 5: Buildings and or trees referred to by number and in accordance with the sketch plan at Appendix 1 and photographs at Appendix 2.

Surveyors: A Jo Gregory B Chris Gosset/Kiri Jones C Lizi Langston/David Marshall D Lorraine McKee				
Surveyor Initials	Suspected Roost Identified on sketch plan at Appendix 1	Dates and Times	Records of Significant Bat Activity	Roost Status: Emergence (Black) Activity (Amber) No Activity (Green)
		07/05/2013 Sunset 20:46		
A	B1	20:55 - 22:40	Foraging activity by a common pipistrelle (<i>Pipistrellus pipistrellus</i>) at 21:39 around the tree on the northeastern side of the building. One pass by a common pipistrelle at 22:07 from the northeast flying down the eastern side of the building then headed east across the field.	Activity
B	B1	20:55 - 22:40	No bat activity.	No Activity
C	B1	20:55 - 22:40	Same bat activity observed by surveyor A - one common pipistrelle foraging above the tree on the northeastern side of the building (tree canopy visible behind the building).	Activity
D	B5	20:55 - 22:40	One common pipistrelle observed leaving through the open sided elevation of the barn (B3) at 21:17 and re-entering the same way at 21:19. One common pipistrelle entered the barn (B3) at 21:20 and left the barn at 21:21. A further common pipistrelle was observed entering the barn via the ventilation slit in the metal roof at 21:40. Four passes of common pipistrelle between 21:25 - 21:39 flying along tree line on the northwestern side of the site behind B3. Foraging activity among the trees by an unidentified pipistrelle at 21:24 (observed but not heard).	Activity

		21/05/2013 Sunset 21:10		
A	B1	20:55 - 22:40	Distant pass by a noctule (<i>Nyctalus noctula</i>) at 21:16. Three distant passes of common pipistrelle (<i>Pipistrellus pipistrellus</i>) at 21:37, 22:06 and 22:28. Seven passes by common pipistrelle between 21:50 - 22:32 with bats circling B1, flying up and down the rear of B1 and over the top of B1 from the farmyard.	Activity
B	B1	20:55 - 22:40	Nine passes by common pipistrelle heard within building B3 behind surveyor between 21:24 - 22:32. Foraging activity was also recorded coming from inside B3 at 22:18 and 22:28.	Activity
C	B1	20:55 - 22:40	One distant pass by a common pipistrelle at 21:15. Two passes of common pipistrelle at 21:35 and 21:50 flying towards the tree behind B1. Five further distant passes by common pipistrelle between 22:15 - 22:28.	Activity
		03/06/2013 Sunset 21:27		
A	B1	21:05 - 23:00	Four passes by two common pipistrelles (<i>Pipistrellus pipistrellus</i>) at 22:15 - 22:18 with one flying around B1 and the second flying up and down behind B1 before flying northeasterly towards hedgerow and fields. A commuting pass by a common pipistrelle at 22:31 flying over the top of the B1 towards the hedgerow and fields. Two distant passes by common pipistrelles at 22:40 and 22:44.	Activity
B	B1	21:05 - 23:00	One pass by a common pipistrelle inside B3 at 22:10. Constant foraging activity of two common pipistrelles behind B1 having flown through B2 between 22:15-22:18. Four distant passes of common pipistrelles between 22:43 - 22:54.	Activity
C	B1	21:05 - 23:00	A pass by an unidentified pipistrelle (not echolocating) at 22:17 flying from east to west. One pass of a common pipistrelle at 22:19 over B1 heading northeast. Three distant passes of common pipistrelle at 22:23, 22:50 and 22:55.	Activity
D	B5	21:05 - 23:00	Constant distant foraging activity by common pipistrelles recorded between 22:00-22:06. A pass by a common pipistrelle was heard inside B3 at 22:08 then exited through open side (southwest	Activity

			elevation) at 22:09. Three distant passes of common pipistrelles at 22:20, 22:28, 22:40 and 22:57. Constant foraging activity within the courtyard between building B3, B4 and B5 from 22:21 - 22:52 with several bats entering and exiting B3 through open side (southwest elevation) throughout this period.	
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Bat activity maps and surveyor locations are found at Appendix I.

Conclusions and Recommendations

Table 6: Buildings, Groups or Trees referred to by number and in accordance with the sketch plan at Appendix I.

Suspected roost Identified on sketch plan at Appendix 1	Was the roost confirmed?	Will the development affect the roost?	Roost significance Graded per Natural England Guidance	What recommendations and mitigation are appropriate?	Is a European Protected Species Licence necessary?
B1	Unconfirmed ☒ Further survey work required ☐ Confirmed ☐	No. No roost was confirmed within this building. No droppings were found during the initial daylight inspection or during checks prior to the emergence surveys. The possible prey remains located in stable 2 during the initial daylight	Low ☐ Moderate ☐ High ☐ No roost confirmed.	Mitchel-Jones (2004) defines the conservation value of bat habitats and roosts and makes proposals for mitigation that are appropriate to: the species of bat(s); the population using the roost; and the roost's status e.g. maternity, pre-breeding summer roost, <i>hibernacula</i> , etc. We recommend: Works can be completed without the need for a Licence or mitigation plan. Caution should be observed during works and should a bat be unexpectedly found work should stop and further advice sought. Bat boxes could be added to new development when it is completed to enhance the biodiversity of the site and provide additional roosting opportunities for the common pipistrelles recorded to be foraging at the site.	Yes ☐ No ☒

		inspection were still present during the emergence surveys - with the exact same number of tortoiseshell wings in the same place. This suggests that the prey remains were most likely the result of birds or wasps, and the building is not being used as a brown long-eared feeding perch.			
B5	Unconfirmed ☒ Further survey work required ☐ Confirmed ☐	No. No roost was confirmed.	Low ☐ Moderate ☐ High ☐ No roost confirmed.	Mitchel-Jones (2004) defines the conservation value of bat habitats and roosts and makes proposals for mitigation that are appropriate to: the species of bat(s); the population using the roost; and the roost's status e.g. maternity, pre-breeding summer roost, <i>hibernacula</i>, etc. We recommend: Works can be completed without the need for a Licence or mitigations plan. Caution should be observed during works and should a bat be unexpectedly found work should stop and further advice sought. Bat boxes could be added to new development when it is complete to enhance the biodiversity of the site and provide additional roosting opportunities for the common pipistrelles recorded to be foraging at the site.	Yes ☐ No ☒

B3	Unconfirmed ☒ Further survey work required ☐ Confirmed ☐	No. No roost was confirmed. Although not highlighted as a potential roost during the initial daylight inspection it was considered a possible foraging area for bats and this was confirmed during the emergence surveys.	Low ☐ Moderate ☐ High ☐ No roost confirmed.	Mitchel-Jones (2004) defines the conservation value of bat habitats and roosts and makes proposals for mitigation that are appropriate to: the species of bat(s); the population using the roost; and the roost's status e.g. maternity, pre-breeding summer roost, <i>hibernacula</i>, etc. We recommend: Works can be completed without the need for a Licence or mitigations plan. Caution should be observed during works and should a bat be unexpectedly found work should stop and further advice sought. Bat boxes could be added to new development when it is complete to enhance the biodiversity of the site and provide additional roosting opportunities for the common pipistrelles recorded to be foraging at the site.	Yes ☐ No ☒
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Bibliography

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Batbox (2011). The Batbox Duet: ultrasonic bat detectors [online]. Available at: <http://www.batbox.com/duet.html> [Accessed 01 January 2011].

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<http://www.communities.gov.uk/documents/planningandbuilding/pdf/147570.pdf>

Document Production and Approval

Status	Issue	Surveyor	Date
Draft	1	J Gregory	06/06/2013
Final	2	J Gregory	07/06/2013

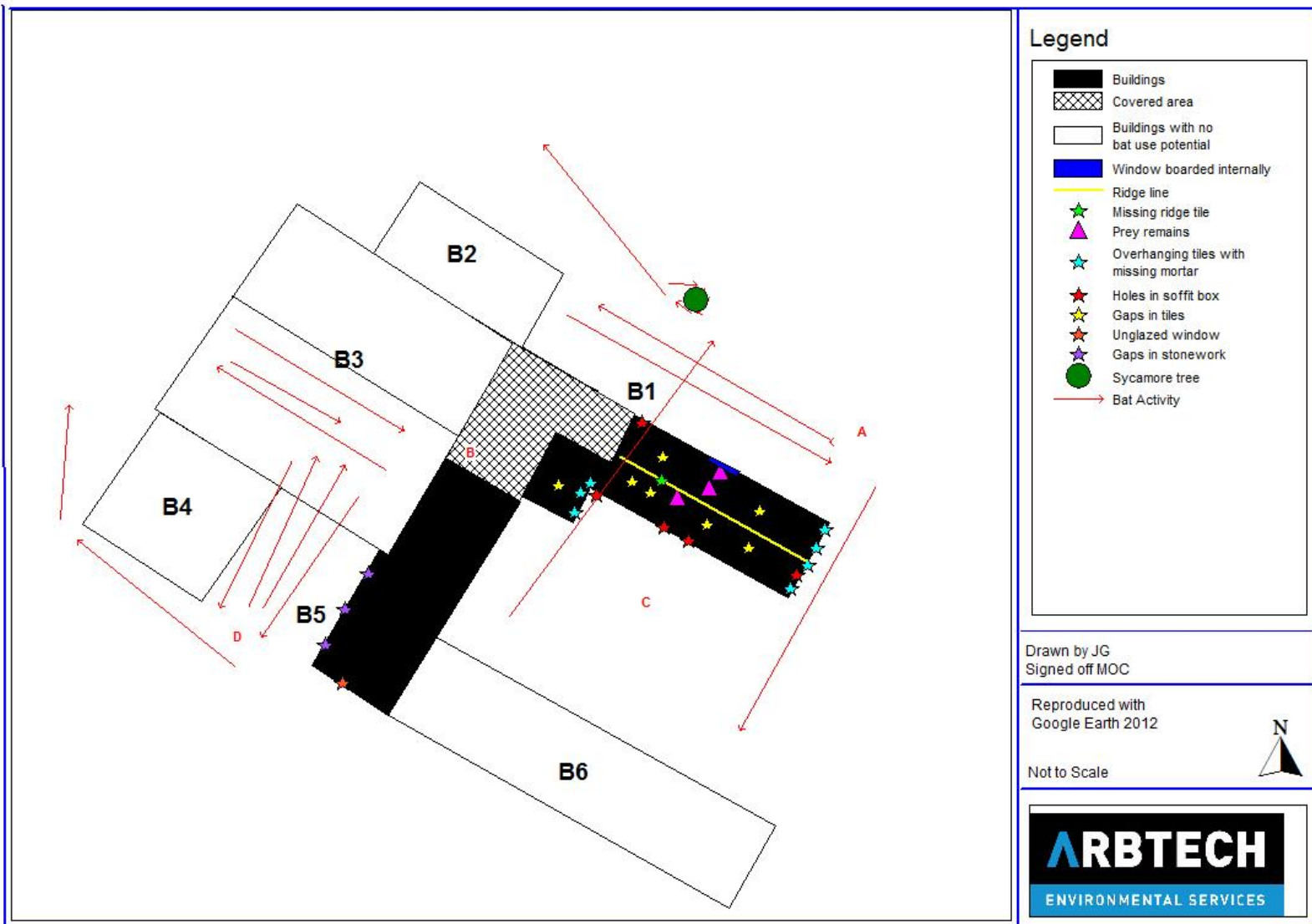
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Appendix 1 Plan



Appendix 2 Photos

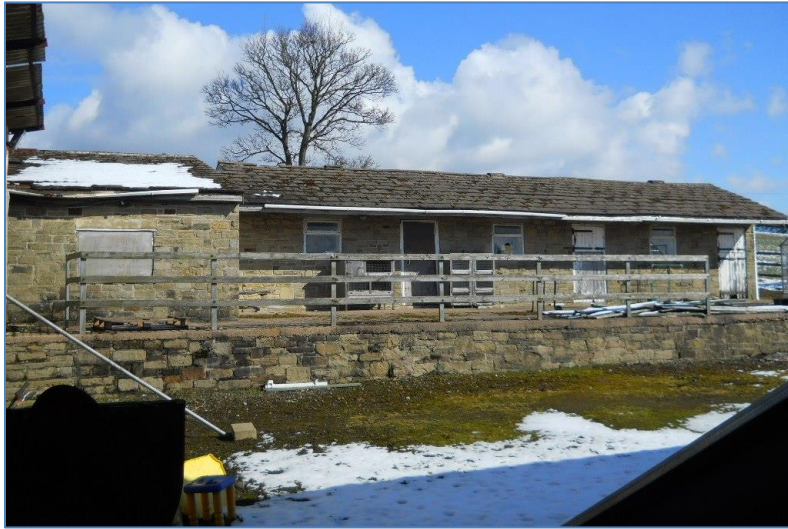


Figure 1: Building B1.

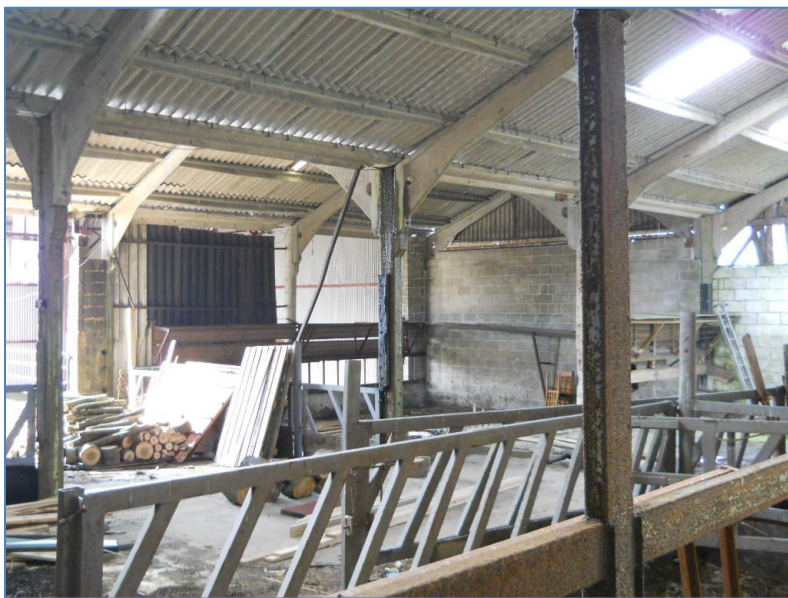


Figure 2: Interior of B3 used for foraging by common pipistrelle bats.



Figure 3: Far northwestern elevation of B3 interior - open access from tree line behind barn to barn interior for foraging bats.



Figure 3: Foraging activity of common pipistrelle bats was observed both inside and outside of the open sided elevation of B3.



Figure 4: Building B5.