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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 it is not possible to adequately manage or exclude the risk of harm to bats without the need for a European Protected Species Licence (EPSL).

Therefore, in order to provide adequate support for this planning application, mitigation and compensation compliant to industry best practice, such as are set out in the Bat Conservation Trust publication, Bat Surveys—Good Practice Guidelines (Hundt 2012) and the Bat Mitigation Guidelines (Mitchell-Jones 2004) will be required.

A specification for bat mitigation and compensation that is appropriate to the scale and scope of the proposed development can be found in the 'Conclusions' and 'Recommendations' sections of this report.

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 GradIEEM.

Other Surveyors

Chris Gosset.

Rachel Hamer.

Bat Licence Number(s)

England: CLS02941.

Wales: 39248.

Scotland: 13660.

The Client

The client is Mr. Paul Padden.

The Site of Proposed Development

The client is preparing a planning application to demolish at Hillside, Stubbins Lane, Chinley, High Peak, Derbyshire SK23 6EB.

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.

Dates of the Surveys

18th, 20th and 25th September 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 four bat droppings resembling those of pipistrelle species located within the crawl space roof void below the dormer window within the detached house (building B1). These were hanging in cobwebs at the far eastern side of the roof void below an exposed wall top. This area correlated with missing mortar in the ridge tile and gaps in the lead flashing around the dormer window externally. Missing mortar was visible at the apexes of the north and south elevations of the detached garage (building B2).

Table 2: Initial Assessment Bat Survey Summary

Roost	Habitat Value	Are bat emergence surveys required?
Buildings B1 & B2	High	Yes. 3x Dusk surveys. May to September inclusive. 2 x surveyors.

Dates of the Bat Emergence Survey

Table 3: Survey Dates, Times and Weather Records

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
18/09/2013	Dusk	19:00 – 20:50	Temp: 11 ℃ Humidity: 60% Cloudy: 100% Wind: 1/8 Rain: None	Temp: 8 ℃ Humidity: 76% Cloudy: 60% Wind: 0/8 Rain: None
20/09/2013	Dusk	18:55 – 20:45	Temp: 11 ℃ Humidity: 57% Cloudy: 100% Wind: 0/8 Rain: None	Temp: 9 ℃ Humidity: 85% Cloudy: 100% Wind: 0/8 Rain: None
25/09/2013	Dusk	18:45 – 20:40	Temp: 16.5 ℃ Humidity: 50% Cloudy: 100% Wind: 0/8 Rain: None	Temp: 14.5 ℃ Humidity: 61% Cloudy: 100% Wind: 0/8 Rain: None

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 (SK08) SK038826 where the site is situated the following bat species have been recorded: ***NBN:*** *Species from the NBN data search cannot be published without the owner's permission.* *The NBN has been checked for records and no protected species have been recorded from the site.*
Local Environment	The site is surrounded by housing and fields in the immediate vicinity. Woodland is located approx. 149m away to the west (Chinley Local Nature Reserve), approx. 387m to the east, approx. 524m to the southeast and approx. 370m to the south of the site. Open water is located approx. 925m to the southeast of the site. Fields are located approx. 10m to the north, approx. 658m to the east, approx. 34m to the south and approx. 240m to the west of the site. 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 small detached house (building B1) with a loft conversion forming the second floor. Brick built with stone cladding and pebble dash render and a wooden porch as the main entrance on the south elevation. A wood clad dormer window is present on the north elevation roof. The building has a pitched concrete tiled roof and plastic soffit boxes at the eaves. A detached two storey brick built garage (building B2) that is stone clad and pebble dash rendered is located immediately adjacent to the eastern elevation of the detached house. The garage has a pitched concrete tiled roof and wooden barge boards are present on all elevations.

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/Rachel Hamer				
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)**
		18/09/2013 Sunset: 19:17		
JG	B1 & B2	19:00 – 20:50	One pass by a common pipistrelle *(Pipistrellus pipistrellus)* at 19:54 flying up through the garden from the railway station, around the eastern gable of B1. One pass by a myotis bat (*Myotis spp.)* at 20:11 bat not seen. One pass by a common pipistrelle at 20:20 bat not seen. Social calls by an unidentified bat (social calls only no echolocation) at 20:30 bat not seen. One pass by a myotis bat at 20:33 bat not seen but direction and length of echolocation calls suggested the bat was flying up the garden from the railway station. Two passes by common pipistrelles at 20:38 and 20:43 bats not seen.	Activity
CG	B1 & B2	19:00 – 20:50	Four passes by common pipistrelles between 19:42 – 19:59 bats not seen but direction of echolocation indicated bats were flying along Stubbins Lane. One pass by a myotis bat at 20:10 bat not seen. Several passes and foraging activity by common pipistrelles between 20:11 – 20:42 with bats flying up and down Stubbins Lane.	Activity
		20/09/2013 Sunset: 19:12		
JG	B1 & B2	18:55 – 20:45	One pass by a common pipistrelle at 19:37 with the bat flying up through the garden from the railway station, around between B1 and B2. One pass by a myotis bat at 19:43 flying up the hedgerow on the eastern side of the garden heading south. Two passes by	Activity

			common pipistrelles at 19:44 with one bat flying northwards from the gap between B1 and B2, and one bat flying southwards along the hedgerow. One pass by a common pipistrelle at 19:47 flying across the garden from east to west. One pass by a common pipistrelle at 19:49 flying across the garden from west to east. Four passes by common pipistrelles between 20:01 – 20:31 bats not seen.	
RH	B1 & B2	18:55 – 20:45	One pass by a common pipistrelle at 19:37 flying through the gap between B1 and B2. One pass by a common pipistrelle at 19:40 flying along the hedgerow on Stubbins Lane heading west. Two passes by common pipistrelles at 19:42 and 19:46 bats not seen. One pass and foraging activity by a common pipistrelle at 19:47 flying along the hedgerow on Stubbins Lane heading west. One pass by a common pipistrelle at 19:51 flying over B2 and heading west along Stubbins Lane. Foraging activity by a common pipistrelle at 19:57 flying along the hedgerow on Stubbins Lane heading west. Several passes and foraging activity by common pipistrelles between 20:03 – 20:28 bats not seen. Constant foraging activity by a common pipistrelle between 20:32 – 20:40 with bats flying along the hedgerow on Stubbins Lane.	Activity
		25/09/2013 Sunset: 19:00		
JG	B1 & B2	18:45 – 20:40	One pass by a common pipistrelle at 19:23 flying across the garden from the east and flew around the eastern gable of B1 towards Stubbins Lane. One pass by a common pipistrelle at 19:33 flying around the trees on the eastern side of B1. One pass by a common pipistrelle at 19:37 bat not seen. One pass by a myotis bat at 19:39 flying up the garden from the railway station and continued southwards flying over the roof of B1. Several brief passes and feeding buzzes by a common pipistrelle between 19:54 – 20:19 bat not seen but direction of echolocation suggested the bat was flying up and down the hedgerow on the eastern side of B1.	Activity
CG	B1 & B2	18:45 – 20:40	One pass by a common pipistrelle at 19:18 flying back and forth along the hedgerow on the eastern side of B1. One pass by a common pipistrelle at 19:21 bat not seen. One pass by a common pipipstrelle at 19:23 flying back and forth along the hedgerow on the eastern side of B1. One pass by a common pipistrelle at 19:32 with the bat flying along the hedgerow on the eastern side of B1 coming from the north and continued southwards towards Stubbins	Activity

			Lane. Several passes by common pipistrelle between 19:48 – 20:16 bats not seen. One pass by a myotis bat at 20:05 bat not seen. Several distant passes and social calls from common pipistrelles between 20:13 – 20:26 bats not seen but direction of echolocation indicated bats were flying up and down Stubbins Lane.	

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 ☐	Yes. The roost will be lost when building B1 is demolished.	Low ☒ Moderate ☐ High ☐ Only four bat droppings resembling those of pipistrelle species were located in the roof void during the initial bat survey indicating this is a small roost with a minor number of common bat species. Bat droppings were sent to Warwick University for DNA analysis.	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, *hibernacula*, etc. DNA Analysis confirmed that the droppings located within the roof void were Common pipistrelle (*Pipistrellus pipistrellus*). **We recommend:** The roof and eaves are removed by hand under ecological supervision. Replacement roosting provision will be installed in the new building, either bat access tiles or bat tubes for use by common pipistrelles. Bat boxes are installed on the retained buildings. These should be a minimum of 3m above ground level and face south or southwesterly A mitigation method statement detailing the design and execution of bat mitigation, as well as any pre-cautionary measures e.g. ecological supervision, is submitted to Natural England as part of an EPS licence application.	Yes ☒ No ☐
B2	Unconfirmed ☒	N/A No roost	Low ☐	Mitchel-Jones (2004) defines the conservation value of bat	Yes ☐

	Further survey work required ☐ Confirmed ☐	confirmed.	Moderate ☐ High ☐ N/A No roost confirmed.	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, *hibernacula*, etc. **We recommend:** Caution should be observed during works and should a bat be unexpectedly found work should stop and further advice sought.	No ☒

Bibliography

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Document Production and Approval

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Draft	1	J Gregory	26/09/2013
Final	2	J Gregory	27/09/2013
Final	3	J Gregory (DNA Analysis results added)	21/10/2013

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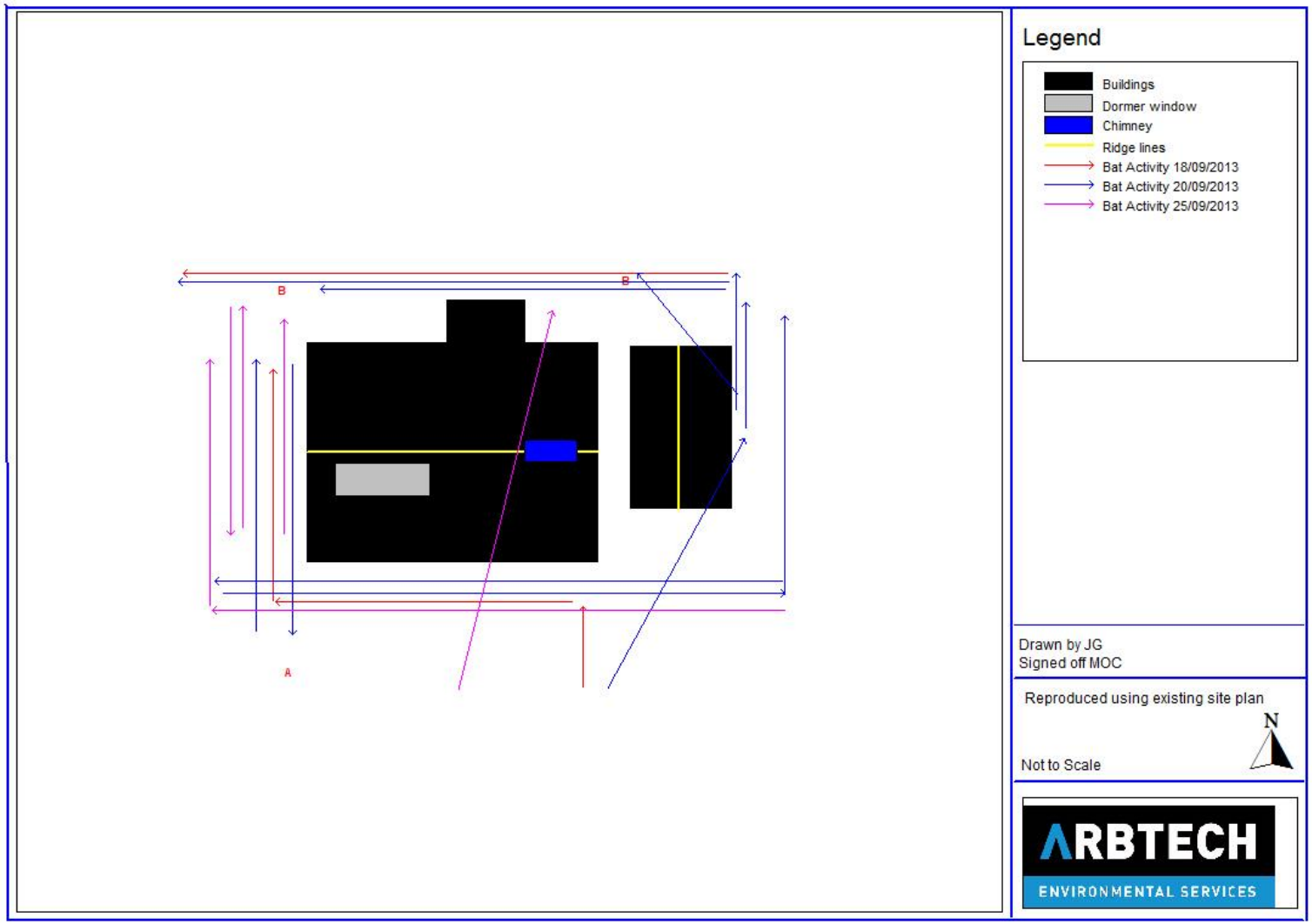
Appendix 1 Plan



Appendix 2 Photos

Figure 1: North elevation (building B1).

Figure 2: South elevation (building B1).

Figure 3: East elevation (building B1).

Figure 4: West elevation (building B1).

Figure 5: North elevation of garage (building B2).

Figure 6: South elevation of garage (building B2).

Figure 7: West elevation (building B2).