DAYTIME BAT SURVEY & ECOLOGICAL SCOPING SURVEY AT LAND OFF BROOK STREET, BROWN LEES, KNYPERSLEY, STAFFORDSHIRE

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1.0 INTRODUCTION

1.1 Rachel Hacking Ecology Limited was commissioned in 2019 by Chicubes, via Knights, to undertake a daytime bat survey & ecological scoping survey of a series of structures on land off Brook Street, Brown Lees, Knypersley, Stoke-on-Trent. The site will be the subject of a planning application for the demolition of the existing buildings and the construction of residential buildings in its place. The site was previously surveyed in 2017, with no protected species constraints identified, and this report serves to update that report.

1.2 The site is located off Brook Street in Brown Lees, Knypersley, Stoke-on-Trent, Staffordshire (O.S. grid reference: SJ 87461 56263 – see Figure 1). The development site comprises of an area of hardstanding with two warehouse units, six sheds and a stable block. Two fields also exist which are bordered by hedgerows, and fences. The site is currently in use for car repairs and animal housing production.

1.3 The site lies on the outskirts of Brown Lees village, with residential development to the east and south of the site. Agricultural land lies to the north and west. The surrounding area offers good commuting and foraging opportunities for bats.

1.4 Biodiversity is a material consideration to the planning process and consideration must be given to protected species. The proposed works to the structures at Brook Street will be destructive and therefore consideration should be given to roosting bats and other protected and notable species, which could potentially utilise the site.

1.5 All bat species are European Protected Species under the Conservation of Habitats and Species Regulations 2017. Bats are also protected under The Wildlife and Countryside Act 1981 (as amended).



Figure 1 showing the site location edged in red

2.0 METHODOLOGY

2.1 A daytime bat survey of the structures at Brook Street, Brown Lees was undertaken to search for, and to assess the potential for, a bat roost to be present within the structures.

2.2 An external survey was carried out, which included, for example, looking for gaps between any soffit boards and walls, gaps between window frames and the walls, and looking for bat droppings on the walls and window ledges.

2.3 The structures were also searched internally for evidence of a bat roost, which included looking for the following signs:

- live or dead bats
- bat droppings
- bat entry/exit points
- bat urine staining
- grease marks on any timbers
- feeding remains such as insect wings
- areas clear of cobwebs.

2.4 A pair of close-focussing binoculars, a high-powered torch and an endoscope were used (where required) to search for evidence of bats externally and internally.

2.5 In addition to the bat survey, an ecological scoping survey was also carried out, to search for evidence of protected species within the site and to assess the habitats for their potential to support protected species. A search for invasive species of plant, such as Japanese Knotweed, was also undertaken.

Personnel and Timing

2.6 Kate Reed (Senior Ecologist) carried out the daytime bat survey on the 7th June 2019. Kate is experienced and fully trained in protected species surveys. The weather on the day of the survey was cool and dry with occasional light showers.

Survey constraints

2.7 Daytime bat surveys and scoping surveys can be undertaken at any time of year. The majority of the buildings were accessible internally and externally. There were negligible constraints to the survey.

3.0 RESULTS

DAYTIME BAT SURVEY

3.1 The buildings on site have been grouped into six groups of single buildings or buildings of similar construction (see Figure 1).

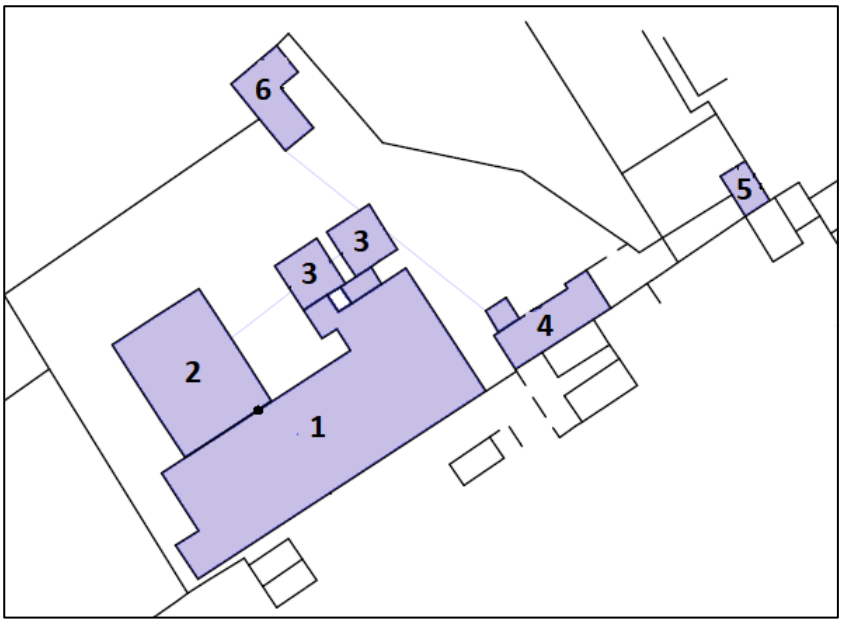


Figure 1 showing the location of the buildings

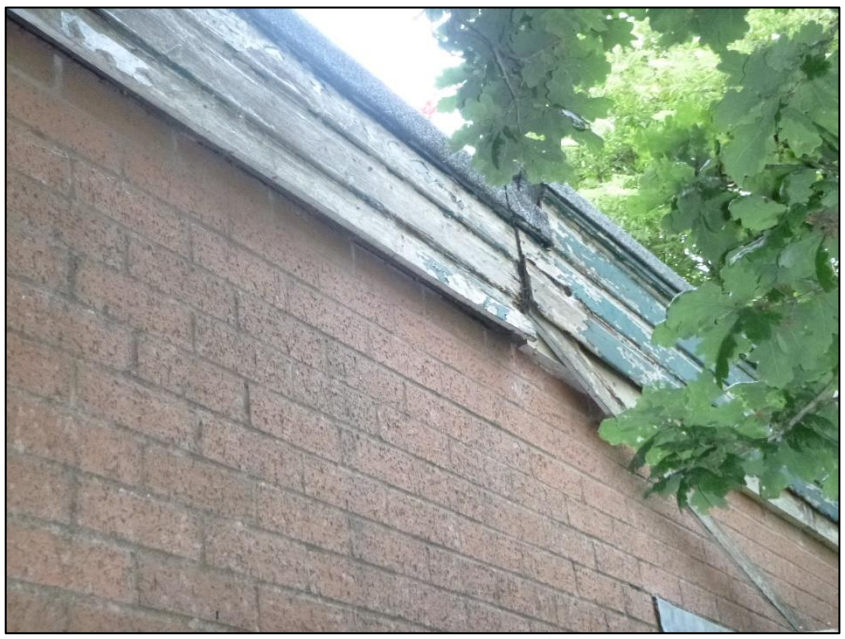
Building 1: Main Workshop - External Survey

3.2 The main workshop is a single-storey brick-built warehouse with a flat roof (see Photograph 1). It has been extended to the northern elevation. The external brickwork is in good condition, with no missing bricks or damaged mortar. The wooden doors and window frames are in good condition but are weather worn. They are flush with the brickwork, heavily cobwebbed and do not provide potential bat access points into the building or a suitable bat roosting cavity.



Photograph 1 showing the brick-built workshop

3.3 Wooden cladding exists on the upper part of the walls. The panels are in good condition, with only minimal areas of damage (see Photograph 2). No suitable bat roosting cavities were found behind any of the panels and they do not provide access into the internal space. The gap between the wooden panels and the brickwork has been sealed with wooden blocks.



Photograph 2 showing wooden cladding and minor damage

3.4 A bargeboard exists on the rear of the property and this is in poor condition (see Photograph 3). The bargeboard is flush with the brickwork. A chimney is present with wooden cladding on the exterior which was weather damaged. No suitable bat roosting cavities were found behind the damaged panels or bargeboard and no access to the

internal space was found. There are two metal shutters on the rear of the property. These are in good condition and flush with the brickwork.



Photograph 3 showing the bargeboard

3.5 The roof of the building is constructed of corrugated metal panels and roofing felt. Most of the roof is flat but a sloped section occurs on the southern elevation (see Photograph 4). The roof appears to be mostly in good condition, although the view was limited. A section of the roof in western part the building is damaged, there was no access to this section of the building internally or externally (see Photograph 5). Many of the ridge tiles are also missing from this section of the roof, there doesn't appear to be any potential cavities or access point associated with the missing ridge tiles. The edges of the roof are well-sealed, particularly on the corrugated sloped roof which has been sealed with mortar beneath the eaves, preventing any bat access opportunities.



Photograph 4 showing the sloped section of the roof



Photograph 5 showing the damaged section of the roof

3.6 A small wooden extension occurs on the western elevation (see Photograph 6). Lead flashing seals the space between the extension and the main building. No potential access points could be seen, and the building has poor thermal properties unlikely to support a bat roost.



Photograph 6 showing the wooden extension at the rear

Building 1: Main Workshop - Internal Survey

3.7 The internal space of the workshop is well-lit with a series of large, well-sealed skylights. The metal support beams are in good condition and do not create any bat roosting opportunities. The room is open to the ceiling and has no roof void (see Photograph 7). The internal walls and ceiling have ben plastered and painted and are in good condition. A small hole in the plaster reveals the roof above (see Photograph 8).



Photograph 7 showing the main workspace



Photograph 8 showing the hole in the ceiling and roof above

3.8 The section of the ceiling under the damaged section of roof is water damaged (see Photographs 9 and 10). Waste building material has been piled up to the ceiling to prevent people accessing this part of the building.



Photograph 9 showing part of the damaged roof



Photograph 10 showing another section of the damaged roof

3.9 An office space, a kitchen and toilet space are also present within Building 1. No evidence of bat activity or crevices suitable for roosting bats could be found within any rooms in the main workshop.

Building 2: Car Repair Workshop - External Survey

3.10 The car repair workshop is constructed entirely from corrugated metal panels, with a pitched roof (see Photograph 11). The panels are all in good condition with no areas of damage. There are gaps along the ridge and edges of the roof as the corrugated sheets do not lie flush. However, it is unlikely these spaces would be used by bats as they have poor thermal qualities. The building is otherwise well-sealed. The building has not changed since 2017.



Photograph 11 showing the car repair workshop

Building 2: Car Repair Workshop - Internal Survey

3.11 The internal space is well-lit with a series of large well-sealed skylights. The roof has been lined with thin sheets of plastic, these are flush with the roofing material and do not offer any bat roosting opportunities. The internal walls similarly have been lined with wooden boards and these are in good condition and do not provide any suitable bat roosting cavities. The metal support beams are in good condition and do not create any roosting opportunities. The room is open to the ceiling and has no roof void (see Photograph 12). No suitable bat roosting habitat, or evidence of bat activity was found within the car repair workshop.



Photograph 12 showing the internal space of the car garage

Building 3: Storage Sheds - External Survey

3.12 There are four sheds on the site (see Photograph 13). These are all constructed from wood with asbestos cement and wooden roofs. The sheds are poorly maintained. The wooden doors are poorly fitted and damaged to the external walls and roof have been poorly repaired. Given the materials used in the constructed of the sheds they are not considered to offer optimal bat roosting habitat.



Photograph 13 showing two of the sheds on site

Building 3: Storage Sheds - Internal Survey

3.13 The internal spaces of all the sheds were mostly accessible and are used for storage or are disused (see Photograph 14). They are all draughty and dusty internally, and Ivy *Hedera helix* has begun growing internally in one shed. No suitable crevices for roosting bats were found within the sheds. No evidence of bat activity was found within the sheds.



Photograph 14 showing the internal space of one shed

Building 4: Storage Sheds - External Survey

3.14 Building 4 is a pair of attached sheds. The first shed is a small square wooden structure with a flat roof (see Photograph 15). Wooden doors and window frames are present on the exterior, these are well-sealed with the wooden panels. The roof is in good condition and also well-sealed with the walls. This shed was not accessible internally.



Photograph 15 showing part of Building 4

3.15 The second shed is wooden with a metal pitched roof (see Photograph 16). Ivy *Hedera helix* is growing over the eastern elevation of the building. A windowpane is missing on the northern elevation. The building appears otherwise well-sealed. The wooden panels are complete and flush to one another. The roof is constructed from corrugated metal panels these are in good condition with no missing or damaged panels. Skylights are present on the southern elevation of the roof; these are in good condition and flush to the roof panels. Roofing felt has been used to seal the roof edges.



Photograph 16 showing part of Building 4

Building 4: Storage Sheds - Internal Survey

3.16 Inside the shed with the pitched corrugated roof, the space is used for storage of building materials (Photograph 17). The space is well-lit and damp. Ivy *Hedera* helix is growing through the edges of the skylights. Two bat droppings were found on one of the building panels being stored beneath one of the skylights (see Photograph 18). Access for foraging bats is available through the missing windowpane. No other evidence of bat activity was found within Building 4. No suitable bat roosting cavities exist.



Photograph 17 showing the internal space of the pitched roof shed



Photograph 18 showing the two bat droppings, one is crushed

Building 5: Tool Shed - External Survey

3.17 Building 5 is a brick-built shed in the south-east corner of the site (see Photograph 19). It is a small structure with a single window and door. Both are constructed from wood and are well-sealed with the brickwork. The shed is secured with screws and was not accessed internally. The building has a flat roof which appears to be sagging inwards suggesting it may be water damaged. No potential access points for bats could be found in association with Building 5 and no evidence of bat activity was found on the exterior.



Photograph 19 showing Building 5

Building 6: Stable Block - External Survey

3.18 The stable block is constructed of wood with a corrugated sheet metal roof. It is currently in use. The external wooden panels are in good condition and flush with each other. The wooden stable doors are open and provide a potential access point for bats (see Photograph 20). The corrugated sheet metal roof is also in good condition with all of the panels compete and flush with each other. Ivy *Hedera helix* is growing over the rear of the stables (see Photograph 21).



Photograph 20 showing Building 6, the stable



Photograph 21 showing the rear of Building 6

Building 6: Stable Block - Internal Survey

3.19 The interior of the stables is extremely damp. with Ivy *Hedera helix* establishing internally (see Photograph 22). The internal wooden panels are in good condition and flush with each other. The wooden support beams are in good condition and provide no suitable bat roosting features. No evidence of bat activity was found within Building 6.



Photograph 22 showing the internal space of Building 6

ECOLOGICAL SCOPING SURVEY

3.20 The buildings on site are surrounded by hardstanding.

3.21 Two paddocks of grazed species-poor improved grassland exist on the wider site (see Photograph 23). The grassland is dominated by Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus* and Meadow-grasses *Poa* sp*.* There are also a number of common herbs within the grassland including Broad-leaved Dock *Rumex obtusifolius*, Common Nettle *Urtica dioica* and Common Ragwort *Jacobaea vulgaris*. Ruderal vegetation has developed beneath the hedgerows and in parts of the grassland which are not grazed. This is dominated by Common Nettle *Urtica dioica*, Broad-leaved Dock *Rumex obtusifolius* and Bramble *Rubus fruticosus* agg.



Photograph 23 showing the grassland on site

3.22 Species-poor hedgerows exist on the site boundary. They are mature and dominated by Hawthorn *Crataegus monogyna* with small amounts of Elder *Sambucus nigra* and Ivy *Hedera helix*. (see Photograph 24).



Photograph 24 showing the hedgerows on site

3.23 Scattered trees exist on site (see Photograph 25). They are all semi-mature Silver Birch *Betula pendula* trees. A single mature Pedunculate Oak *Quercus robur* tree lies on the northern boundary of the site (see Photograph 26). The trees were assessed from the ground for Potential Roosting Features (PRFs) such as Woodpecker holes and damaged limbs. No such features could be seen in association with any of the trees on the site.



Photograph 25 showing some of the trees on site



Photograph 26 showing the mature Pedunculate Oak on site

3.24 A Polypropylene growing tunnel occurs within the fields and tall, ruderal vegetation is growing within it (see Photograph 27).



Photograph 27 showing the Polypropylene growing tunnel

3.25 No evidence of protected species was located within the wider site. No Badger *Meles meles* sett is present on site and no evidence of Badger activity was found.

3.26 No waterbodies exist on site and no waterbodies could be located within 250 metres of the site. A small drainage ditch exists to the west of the site, which is shallow and fast-flowing and therefore, is not suitable habitat for Great Crested Newt. The site supports limited suitable terrestrial habitat for Great Crested Newt within the hedgerow and tall ruderal vegetation. However, given the lack of breeding habitat in the locality, Great Crested Newt is not considered to be a constraint on development and is reasonable unlikely to occur on the site.

3.27 The trees, scrub, hedgerow and in some cases the piles of waste building materials have the potential to support nesting birds.

3.28 Wall Cotoneaster *Cotoneaster horizontalis* is present on the site (see Photograph 28). This is a non-native, invasive species listed under schedule 9 of The Wildlife and Countryside Act 1981 (as amended). This makes it an offense to allow this species to spread into the wild.



Photograph 28 showing the Wall Cotoneaster on site

3.29 No statutory or non-statutory protected site exists on the site or immediately adjacent to the site. The nearest statutory protected site is Roe Park Woods Site of Special Scientific Interest (SSSI), which lies 2.5km away. The SSSI is protected for its woodland habitat. A large area of farmland and residential properties lie between the proposed development site and the designated site. The proposed development lies within a SSSI Impact Risk Zone that does not list residential development as a risk to nearby designated sites.

4.0 SUMMARY AND RECOMMENDATIONS

4.1 Two bat droppings were found in Building 5 at Brook Street, Brown Lees, Staffordshire. Potential bat access points occur at Building 5, including a missing windowpane. It is possible the bat droppings were brought in with the building materials stored in the shed or a bat has entered the shed to forage. There is no evidence of a bat roost, with no potential bat roosting cavities present. No feeding remains were found, indicating the shed is unlikely to support a feeding perch. This building is considered to offer **negligible-low bat roost suitability.**

4.2 No evidence of bat activity was located within Buildings 1, 2, 3, 4 and 6. These buildings are generally in good condition and well maintained, with some areas of the buildings showing water damage. The sheds and stables are less well maintained. Internally the main workshops are well-sealed, bright, cold and dusty. The sheds and stable are heavily cobwebbed and dusty and cold. No roof voids exist within any of the buildings. No suitable bat roosting habitat was found within any of the buildings on site. Given the survey findings, it is considered that Buildings 1, 2, 3, 4 and 6 offer **negligible bat roost suitability**.

4.3 The trees on site are semi-mature and mature and do not support potential bat roosting features. They all offer **negligible bat roost suitability.**

4.4 Building 5 may require a precautionary bat emergence survey, prior to demolition being undertaken. This dusk survey will need to be undertaken between late April – late September and during suitable weather conditions.

4.5 It is the opinion of the author of this report that the development can proceed on Buildings 1, 2, 3, 4 and 6 and the trees without the need for further survey work (e.g. bat activity surveys) or bat mitigation due to the negligible potential of the structures to support bats. However, if the work is delayed by longer than two years from the date of this survey, a further bat survey will be required to update the findings.

4.6 It should be noted that bat absence is very difficult to prove definitively due to their mobility and size, and single or small numbers of bats are able to roost in extremely small spaces, such as in gaps between panels. Demolition should be undertaken with care. **If during development works a bat (or an accumulation of bat droppings) is discovered at any time, work is to temporarily cease whilst an experienced bat ecologist is contacted for guidance and assistance**. This can be Rachel Hacking Ecology (0161 465 8971) who undertook the initial survey, any licensed bat worker, or the Bat Conservation Trust (BCT) helpline (0845 1300 228).

4.7 No evidence of other protected species was found on the site, and therefore no specific protected species or habitat mitigation is required. The trees, hedgerows and stables do offer suitable bird nesting habitat. All bird species are protected whilst at the nest under The Wildlife & Countryside Act 1981 (as amended), therefore, it is recommended that any work to suitable bird nesting habitat takes places outside of the bird nesting season (the nesting season is generally March to August) or a bird nest check be undertaken immediately prior to work commencing.

4.8 Wall Cotoneaster *Cotoneaster horizontalis* was recorded on site. This species is invasive, non-native and listed on Schedule 9 Part II of The Wildlife and Countryside Act 1981 (as amended) which makes it an offence to allow the species to grow in the wild. This will need to be removed using a recognised methodology or managed as part of the landscaping.

4.9 It is recommended that bird and bat boxes are erected onto the site, either onto retained mature trees or the new dwellings. The bat boxes should be 2F Schwegler Woodcrete boxes or similar and the bird boxes should include a variety of different types, to encourage nesting by multiple species.

REFERENCES

Collins, J. (ed.). (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. Bat Conservation Trust. London.

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