



Tree Climb & Potential Roost Assessment (PRA) - letter of report:
Land at The Ridgeway, Cuffley, Hertfordshire.

Ref: WEc_N20

April 2022

Dear Mr. Adam Burgess,

Wychwood Environmental Ltd were commissioned by Mr P. Bowler (via Mr. Adam Burgess, Architect) to undertake a climb and inspect survey to further assess the bat roost potential of eight trees within the above site (Figure 1). This follows a Preliminary Ecological Assessment¹ and a subsequent Ground Level Preliminary Roost Assessment (GLPRA) of the trees², which identified eight of these trees as having moderate or high bat roost potential (Figure 1; Table 1).

These trees have the potential to be impacted, mostly via disturbance, as a result of a proposed eco-build, supporting a single dwelling (Figure 2). More details on the proposed development are given in the 'Supporting Design Information'³.

A climb and inspect survey of each tree in the first instance, rather than an emergence survey, was advised as a result of canopy shading from other trees restricting ground-based visibility. This is accordance with current Bat Conservation Trust (BCT) survey protocols⁴. The climb and inspect survey works were carried out on 25th March 2022.

The purpose of these works was to allow a full assessment of the bat roosting potential of each of the trees in question (Figure 3) and to provide advice on the legal implications and potential constraints, prior to any felling/surgery activities or disturbance resulting from building works.

Bats are European protected species, protected via The Conservation of Species and Habitats Regulations (2017) and also the Wildlife and Countryside Act 1981, as amended. Therefore, it is an offence to kill or injure a bat or interfere with any roosting or resting site. A bat roost is interpreted as "any structure or place used for shelter or protection "whether or not bats are present at the time.

¹ Wychwood Environmental (2020) Preliminary Ecological Assessment: Cuffley, The Ridgeway, Hertfordshire.

² Verdant Ecology (2021) Ground Level Potential Roost Assessment: Cuffley, The Ridgeway, Hertfordshire.

³ Adam Burgess Architect (2022) Supporting Design Information: Cuffley, The Ridgeway, Hertfordshire.

⁴ Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (published by Bat Conservation Trust, London).

The survey was completed to inform the Local Planning Authority (LPA) of any material impacts resulting from the proposed development and to ensure compliance with the requirements of the Natural Environment and Rural Communities (NERC) Act (2006) (Section 40) and the Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their Impact within the Planning System (ODPM 06/2005, Defra 01/2005). Details of legislation and legal protection afforded to all species of British bats are given in Appendix 1.

Site Location

The site is located immediately to the north of The Ridgeway (B157) on a stretch of the road between Carbone Hill and Hanyards Lane (see Figure 1). The application site is immediately bordered to the east and west by large residential properties and extensive areas of deciduous woodland to the north.

The site consists of approximately 4,000m² of deciduous woodland, with a length of cherry laurel *Prunus laurocerasus* hedge spanning approximately 65m of the southern boundary. The woodland is dominated to the south by mature ash *Fraxinus excelsior* and a former hornbeam *Carpinus betulus* coppice. The woodland also supports, to a lesser extent, stands of beech *Fagus sylvatica*, sycamore *Acer pseudoplatanus*, birch *Betula pendula*, yew *Taxus baccata*, with small numbers of mature oak *Quercus robur* to the west of the site. The site and surrounding habitat support good quality potential bat foraging and roosting habitat (based on Bat Conservation Trust [BCT]⁵ criteria).

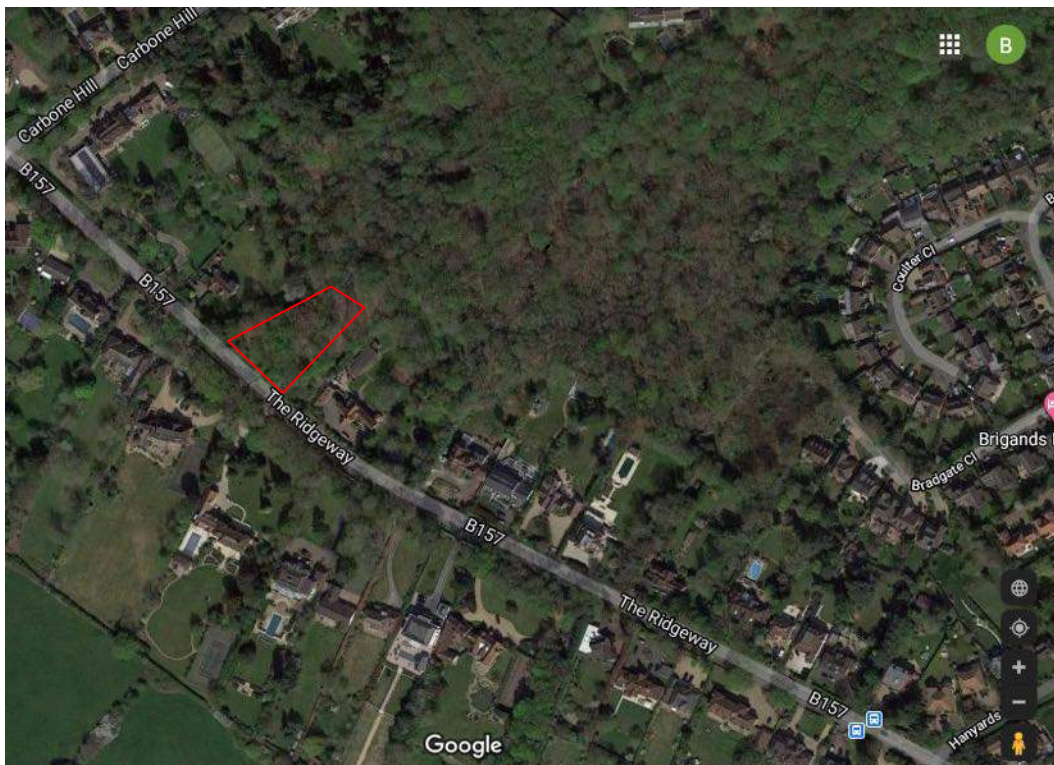


Figure 1. Google screen grab of the site location (red box) at Cuffley.

⁵ Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (published by Bat Conservation Trust, London).



Figure 2. Proposed layout of the development within the site. Produced by Adam Burgess Architect.



Figure 3. All trees with medium or high bat roost potential (BRP) were surveyed. The lower plans show the trees propose to be removed. Produced by Adam Burgess Architect.

Survey Methods

Tree climbing Inspection

The tree climb and inspect survey was completed by Dr. Ryan Walker MCIEEM CEnv (Bat Class licence holder: 2015-16736-CLS-CLS) and Xenia Snowman BSc, Bat Class Licence holder following best practice survey techniques as outlined by the Bat Conservation Trust (2016) and Mitchell-Jones and McLeish (2004)⁶. Dr Walker and Ms. Snowman are qualified to access trees using ropes and harnesses through a City and Guilds qualification.

Trees were climbed and each feature was inspected with the use of an endoscope and /or torch for evidence to either suggest that the feature(s) has been or is currently used by roosting bats, or for the suitability of the feature(s) to potentially support roosting bats. These features include woodpecker holes, loose bark, cracks and splits in limbs, natural holes and hollows and cavities. Binoculars were used (where appropriate) during the course of the survey.

Upon completion of the climb each tree was categorised as supporting a high, moderate, low or negligible suitability to support roosting bats, following BCT (2016) guidance.

Limitations

Tree 70 was unable to be climbed due to safety concerns.

Results

Full results, including photographs of each tree climbed and potential roosting features are detailed in Table 1. The climbed survey allowed for closer inspection of each feature and as a result many of the potential roosting features identified in the GLPRA were graded down, from the original grading.

Table 1. Results of the climb and inspect survey.

Tree No. & species	Feature (description from GLPRA)	BRP from GLPRA	Description/notes from climbed survey	Bat roost potential	Proposed management
63 - Ash (Photo 6)	Almost dead. Bracket fungi. Could not be retained near any development. Six holes at 9 – 10m.	High	All holes superficial, with the exception of 2x large rot holes (A&B; Photo 6) approx. 10m high on E aspect A - Low potential bird/squirrel hole, smooth, 20cmx10cm B - Low potential 30x 10cm smooth full of slugs and woodlice. Opens out to most of stem slightly downwards.	Low	No further action required.

⁶ Mitchell-Jones, A.J. and Mc Leash, A.P. (2004) Bat Workers Manual. JNCC

70 - Ash (prob. no. 67 on plan) (Photo 5)	Almost dead. Could not be retained near any development. Snag and hole on limb to W.	Moderate	Unsafe to climb Large limb tear on NW aspect creating horizontal splits.	Moderate	Undertake two emergence surveys.
74 - Oak (Photo 6)	Snag and hole on limb to E.	Moderate	Inspected with binoculars, insufficient crevice to support roosting bats.	Negligible	No further action required
47 - Ash (Photo 2)	Almost dead. Bracket fungi. Could not be retained near any development. Hole in branch at 7m SW and several holes on stem to E.	High	Very shallow features unsuitable as potential roosts.	Low	No further action required
38 - Hornbeam (Photo 5)	Main stem broken off at 5m. If larger, damaged stem is coppiced canopy extent only 3m to E. Branch at top of broken stem might have rot/cavity extending along it.	High	Topped out creating splits in part of main stem remaining. Not a potentially suitable feature, very open and exposed to water ingress and by predators.	Negligible	No further action required.
37 - Oak (Photo 1)	Leans slightly E. Extensive dead in stem. Only a few % of circumference intact/alive. Could not be retained near any development. Multiple cavities and cracks for bat roost	High	A - Rot hole at 6m on E aspect. Large and smooth internally, goes down approx. 20cm x 8cm wide. Appears to have been used by squirrels previously (low feature) B - Rot holes surrounding lightning strike scar in main stem. One lower and one higher on SE aspect. 2x lightning strike cavities upon NW aspect. Higher one extends 1m. Narrow cavity extends 1m, tight cavity between rot and heart wood. All between 1-2m from ground.	High	This tree will be retained. It is considered that this tree is sufficiently far from the proposed development that further surveys are not necessary.
36 Oak (Photo 4)	Possible included metal or compression bulges at base. Dead wood in canopy.	High	No features present in deadwood. Only superficial.	Low	No further action required.

34 Ash (Photo 3).	Main stem snapped off at 6.5m	High	No safe limb to rope in on. Superficial features from storm damage could inspect with torch from ground.	Low	No further action required.
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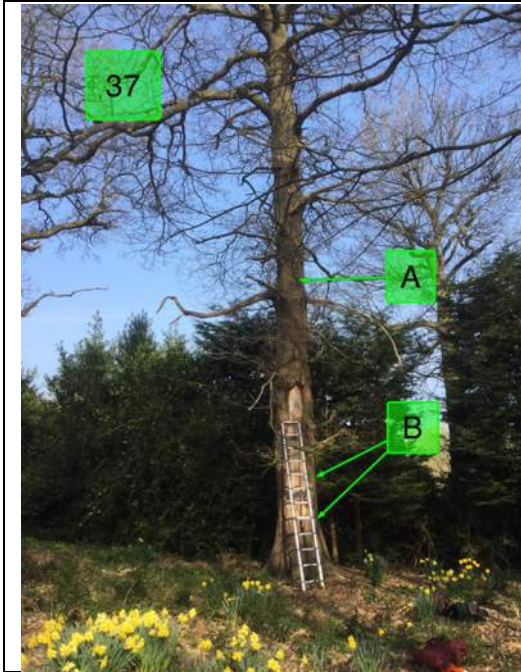


Photo 1: Tree 37 oak.



Photo 2: Tree 47 ash.



Photo 3: Tree 34 ash.



Photo 4: Tree 36 oak.



Photo 5: Tree 38 hornbeam.



Photo 6: Tree 74 oak.

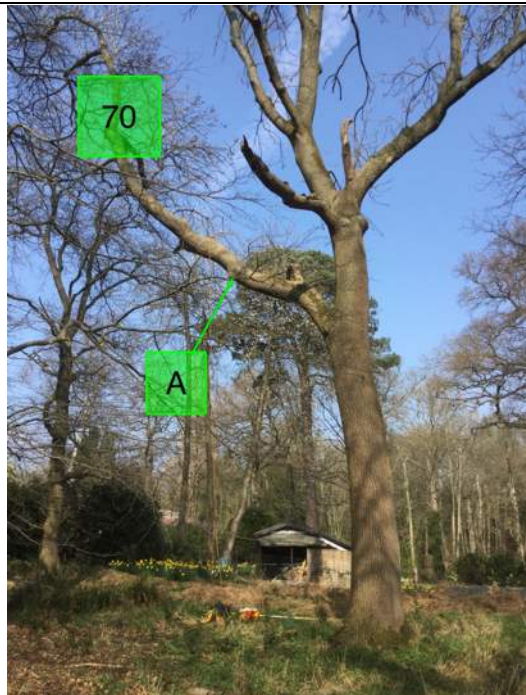


Photo 7: Tree 70 ash.

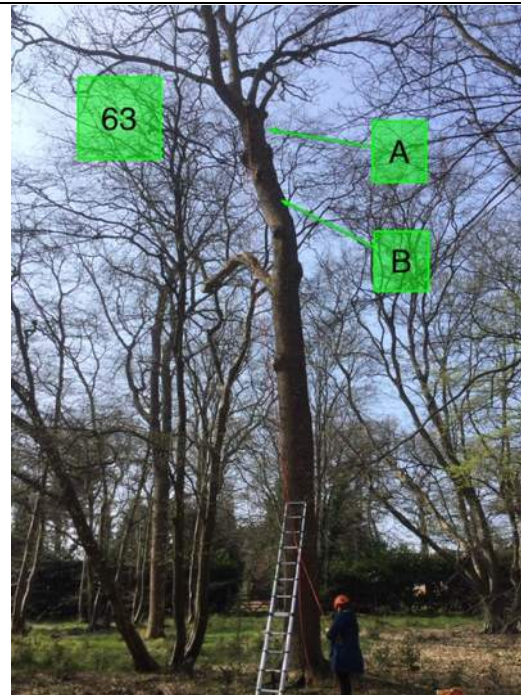


Photo 8: Tree 63 ash.

Discussion and Recommendations

The results of the survey suggest that tree 37 and tree 70 support high and moderate bat roosting potential respectively. However, tree 37 is to be retained and is sufficiently far from the proposed development that direct disturbance is unlikely, therefore requires no further surveys (Table 1). If

works are required to the tree, feature B within tree 37 (Table 1), which includes the rot hole fringing the lighting strike, will require a further two inspections with and endoscope.

Tree 70 was unable to be climbed due to safety concerns. Due to the proximity to the proposed dwelling and accounting of indirect impacts, the limb tear upon the northwest aspect will require two further emergence surveys, undertaken by two surveyors.

The further surveys upon tree 70, should be undertaken between May and September, during appropriate weather conditions. Surveys should be spaced at least two weeks apart following current BCT guidance.

Further suggested mitigation and enhancements will be detailed within the emergence survey report. However, the following measures should also be considered as part of the overall design to protect foraging bats and other nocturnal wildlife that could be using the site:

Lighting

1) The local landscape has the potential to support foraging bats on account of the woodland habitat within the site. Bats may use the site for commuting and foraging and therefore outdoor lighting used within the vicinity of the outbuilding should be 'bat friendly'⁷. Lights should be at a low level and angled down or have baffles to prevent unnecessary light spilling into the surrounding woodland which could disturb bats. Security and timed lights should be at a low level and set to be on for as short a time as possible. A copy of the BCT 'Statement on the impact and design of artificial light on bats' report is provided in Appendix 2 of this report.

Conclusion

Of the eight trees reported as supporting potential bat roost features during the GLPRA, trees 37 and 70 support features that have the potential to support roosting bats. It is deemed that tree 37 is sufficiently far from the proposed works that it will most likely remain undisturbed, therefore requires no further surveys. Tree 70 requires two further emergence surveys using two surveyors. This survey work can be undertaken between May and September. Lighting mitigation to protect foraging bats and other nocturnal wildlife is outlined. Further mitigation and enhancements in order to fulfil requirements under the NPPF, will be detailed within the emergence survey report.

Should you need any further advice on the information provided above please do not hesitate to contact me.

Kind regards,



Dr. Craig Turner MCIEEM FRGS FLS

⁷ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

APPENDIX 1 – Legislation, Policy & Licensing

Bats

All species of British bat are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2017 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”) which defines European protected species of animals.

Bat species are afforded further protection by the Countryside and Rights of Way (CRoW) Act 2000; and the Natural Environment and Rural Communities Act 2006.

Under the above legislation it is an offence to:

- kill, injure or take an individual;
- possess any part of an individual either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by these species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberate disturbance in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring or killing bats (for example a trap or poison), or knowingly cause or permit such an action. In the case all species of British bat there is also protection under *Schedule 6 of The Wildlife and Countryside Act 1981* (as amended) relating specifically to trapping and direct pursuit of these species.

Penalties on conviction

The maximum fine is £5,000 per incident or per bat (some roosts contain several hundred bats), up to six months in prison, and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.

Licensing

A European Protected Species Mitigation (EPSM) Licence or a Bat Low Impact Class Licence (BLICL) in relation to bats is required from Natural England for any work that would result in an otherwise unlawful activity (e.g. damage to a bat roost). A BLICL permits activities resulting in the disturbance and/or capture of certain species of bats and/or damage or destruction of roosts of low conservation significance. A license can only be issued to permit otherwise prohibited acts if Natural England are satisfied that all of the following three tests are met:

- The proposal is for ‘preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment’;
- There is no satisfactory alternative; and,
- The action authorised by the license will not be detrimental to the maintenance of bat populations at a favourable conservation status in their natural range.

A bat roost is defined by the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists— Good Practice Guidelines 3rd Edition* as “*the resting place of a bat*”⁸. Generally however, the word roost is interpreted as “*any structure or place, which any wild bat uses for shelter or protection.*”

Bats tend to re-use the same roosts; therefore legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This can include for summer roosts, used for breeding; or winter roosts, used for hibernating.

⁸ Collins J (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn) (published by Bat Conservation Trust, London)

APPENDIX 2 – Lighting guidance - the impact of artificial light on bats.

The following basic set of guidelines is summarized from the latest Guidance Note (08/18)⁹ provides a concise checklist of points to consider with any lighting scheme:

- *Use professional lighting design engineers to model and predict light spill so that it can be avoided.*
- *Reduce light levels to the minimum necessary to meet legal and safety requirements.*
- *Reduce horizontal and upward/downward light spillage to the minimum achievable. The use of cowling, masks, louvers etc. and limiting the height of lighting columns may be important depending on the design of the lighting units. No bare bulbs. Lighting should only light the target area.*
- *Use non-reflective surfaces within the area to be lit to minimise indirect (reflected) spillage of light. The use of planting or other structures to add screening.*
- *Reduce the duration of lighting. The use of lighting 'curfews' can also be helpful - especially in the vicinity of bats roosts. For example, the emergence of bats, typically within the hour after sunset, may be disrupted (delayed) by raised light levels and this may result in a loss of feeding opportunities.*
- *Consider the type of light to be used and whether a different type or design may reduce potential impacts on bats and other wildlife. Narrow spectrum lighting with minimal UV emission should be used.*
- *Use 'screen planting' to limit light spill into dark areas.*
- *Use narrow spectrum light sources to lower the range of species affected by lighting, as research has shown that spectral composition does impact biodiversity.*
- *Use light sources that emit minimal ultra-violet light*
- *Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue short wave length content they should be of a warm / neutral colour temperature <4,200 kelvin.*

For more details, please refer to:

<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

http://www.bats.org.uk/pages/bats_and_lighting.html

<http://www.batsandlighting.co.uk/index.html>

⁹ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>