

APPENDIX 3 - LAND AT CHICHELE ROAD, OXTED: BAT SURVEY UPDATE

1 INTRODUCTION

1.1 Bat surveys undertaken in 2022 included ground level assessment of trees, three activity surveys and static surveys which combined covered the months of May, June, July and September. Additional bat surveys have been undertaken in 2024 to supplement the existing baseline on how the site is being used by bats. The methodologies for the updated bat surveys have been informed by the Bat Conservation Trust *Bat Surveys Good Practice Guidelines* (Collins, 2023).

2 METHODOLOGY

2.1 Ground Level Tree Assessment

2.1.1 The methodology draws upon guidance within Collins (2023) and the Bat Tree Habitat Key (2018). The surveys were undertaken using binoculars and a high-powered torch to view features from the ground and from a distance where access was restricted. Details on the potential roosting features were recorded as well as information to identify the specific trees. This included tree height, diameter at breast height, species, mortality of tree, and the tree location.

2.1.2 Potential roosting features on trees were identified as any feature within a tree that could provide shelter for a roosting bat. These features result from the following three mechanisms:

- Disease and decay;
- Damage; and,
- Associations.

2.1.3 Tree with no potential roost features were assessed as having 'negligible' potential for roosting bats. Trees with potential features have been categorised to suitability following the guidelines (Collins, 2023) set out in table 6.2 (extract below):

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.1.4 Trees with features suitable for roosting bats were assessed as having 'PRF-I' or 'PRF-M' suitability for bats. Trees with 'PRF-I' potential for roosting bats were not subject to additional survey, in line with BCT survey guidelines. Should any trees be identified to be of moderate potential or support any PRF-Ms further surveys should be undertaken. Justification is provided, in the form of a detailed description and photographic evidence, to demonstrate how the classification of 'PRF-I potential' and/or 'PRF-M potential' had been made. Recommendations will be made as necessary if any trees with low potential are to be impacted.

2.2 Activity surveys

2.2.1 Three activity surveys were undertaken at the site on 22nd April, 4th July and 20th August 2024. The survey involved a pair of surveyors walking a transect around the site, as shown in Figure 1. The surveys began at sunset and finished approximately two hours after sunset. The bat detectors used during the surveys included an Echo Meter Touch. All calls recorded were analysed using Bat Explorer and Kaleidoscope software and were compared to a library of known bat calls to confirm species presence.

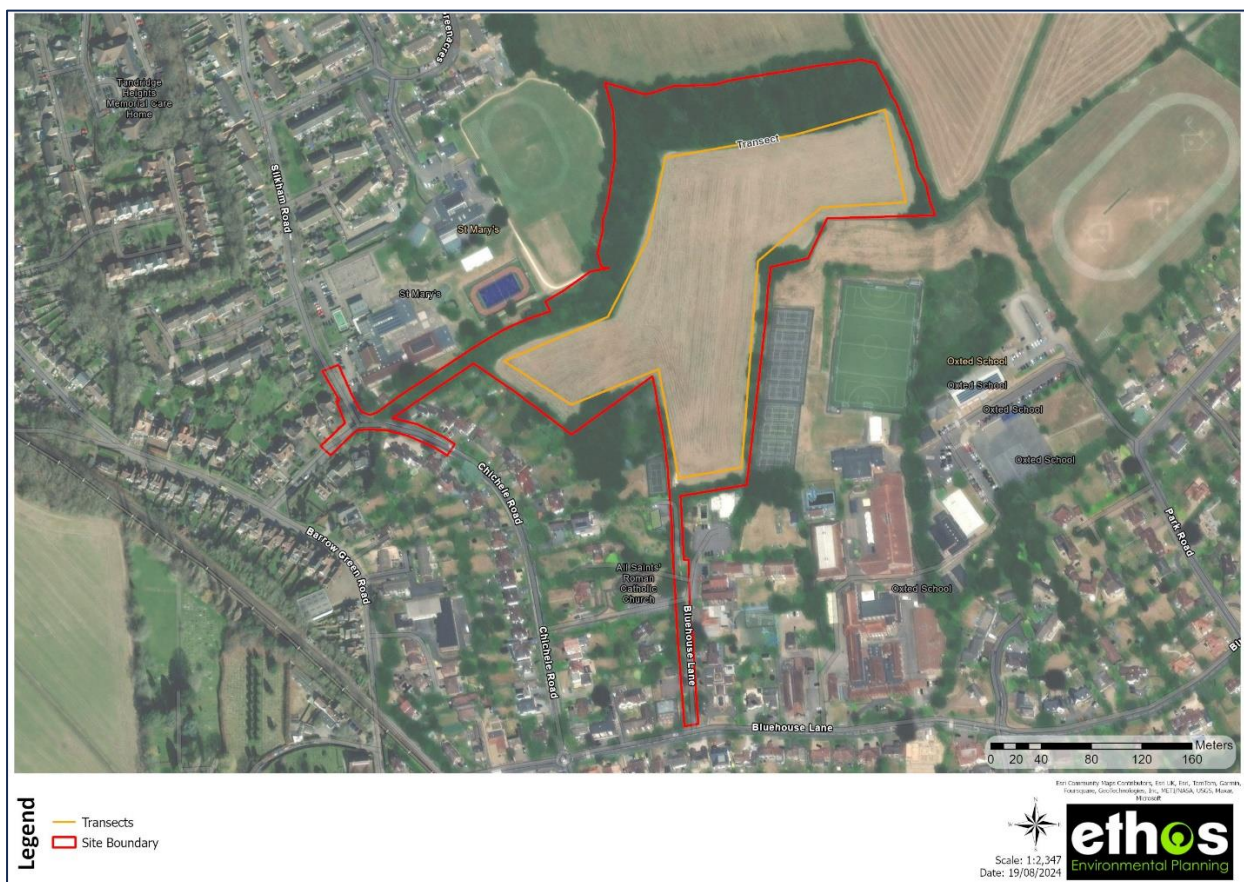


Figure 1 Transect route

2.3 Static detector surveys

- 2.3.1 Three static bat detectors were deployed across the site at the same three locations for five consecutive nights in the months of April, May June, July and August 2024 (figure 2).
- 2.3.2 Wildlife Acoustics Song Meter 4 (SM4) passive bat detectors were used for all surveys. The detectors provide information to inform an assessment of the assemblage of bat species across the site and to highlight areas of activity. All calls recorded were analysed using Kaleidoscope Software and the BTO pipeline.

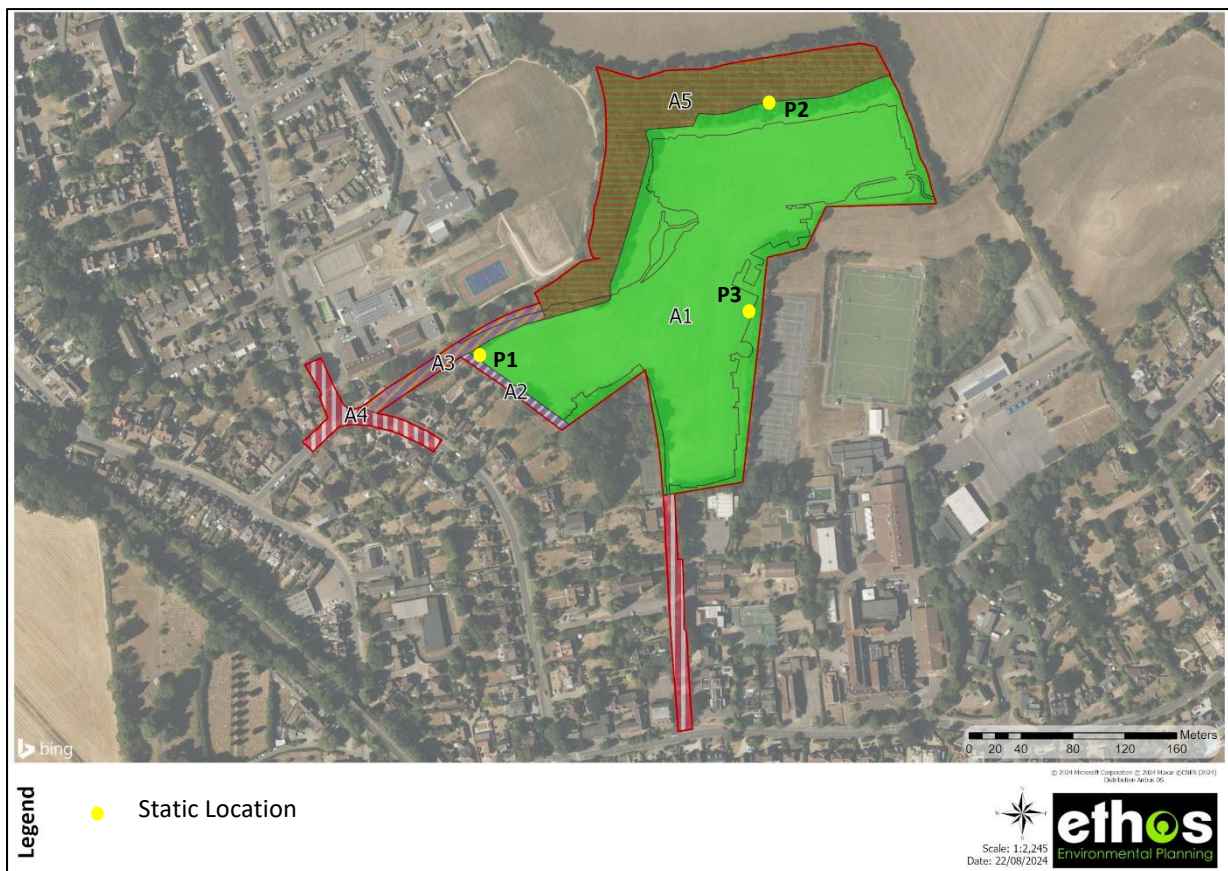


Figure 2 Static detector locations

3 RESULTS

3.1 Ground Level Assessment

- 3.1.1 The full table of results are presented in appendix 1 of this report.
- 3.1.2 A total of eight trees are identified on the tree plan for removal. Of these eight trees only one tree, T52, had any potential roosting features for bats. The features were both PRF-Is, only suitable for individual or low numbers of bats. The tree is assessed to be of low potential for roosting bats and no further survey is needed.
- 3.1.3 Loss of these potential features suitable for bats to utilise for roosting, will be mitigated with the installation of two bat boxes on suitable retained trees.
- 3.1.4 Six trees were assessed as negligible; and one undetermined due to a lack of accessibility (T64) through dense scrub habitat.

3.2 Activity Surveys

- 3.2.1 A summary of the bat activity surveys is included below, and the environmental variables recorded during the surveys are shown in the table 1 and codes used in the description of bat species are as follows:

- CP Common pipistrelle (*Pipistrellus pipitrellus*)
- SP Soprano pipistrelle (*Pipistrellus pygmaeus*)
- NOC Noctule bat (*Nyctalus noctula*)
- SER Serotine bat (*Eptesicus serotinus*)
- DAU Daubenton's bat (*Myotis daubentonii*)
- BLE Brown long-eared bat (*Plecotus auritus*)
- PIP Unidentified pipistrelle bat
- LHS Lesser horseshoe bat (*Rhinolophus hipposideros*)
- GHS Greater horseshoe bat (*Rhinolophus ferrumequinum*)
- MYO Unidentified myotis bat
- HNS Heard, but not seen bat

Table 1 Environmental variables for bat activity surveys

Date	22 nd April		4 th July		20 th August	
Sunset/Sunrise	20:09		21:20		20:13	
Start / End time	20:10	22:10	21:20	23:20	20:15	22:10
Temperature (°C)	12.2	11.1	17.9	17.2	18.9	17.2
Humidity (%)	72.1	74.2	68.2	73.1	68.1	63.2

Date	22 nd April		4 th July		20 th August	
Cloud cover (oktas)	8	8	1	1	0	0
Avg. Wind speed (m/s)	1.3	1.2	1.5	1.1	0.9	0.9
Rain	Earlier in day		None		None	

Activity survey 1 – 22nd April, 2024

- 20:32 CP pass on woodland edge;
- 20:40 CP briefly foraging in N/W of site;
- 21:12 CP pass on W boundary;
- 21:46 CP brief record on woodland edge.
- Extremely quiet survey, weather was average but not optimal.

Activity survey 2 – 4th July, 2024

- 21:35 CP foraging in corner of woodland;
- 21:42 faint call HNS, likely foraging in woodland;
- 21:43 foraging around woodland edge;
- 21:51 CP x 2 foraging and social calling in corner by woodland
- 22:05 brief CP call HNS;
- 22:18 brief CP foraging along woodland edge near NW boundary;
- 22:19 CP HNS brief faint call woodland edge;
- 22:22 HNS CP but continuous foraging, likely in/around woodland;
- 22:40 CP x 2 foraging and social calling along woodland edge along NW boundary;
- 22:45 CP foraging in NW corner around woodland;
- 23:11 brief call HNS

Activity survey 3 – 20th August

- 20.59 brief CP HNS north eastern corner by woodland;
- 21.03 CP continuous foraging, along eastern hedgerow;
- 21.12 CP HNS likely foraging, faint call and not in close proximity to woodland;
- 21.17 CP social calling came from north, foraging along hedgerow N/W;
- 21.26 CP foraging briefly east boundary;
- 21.34 CP HNS east boundary;
- 21.39 CP commuting along east boundary;
- 21.45 CP HNS very brief, woodland edge;
- 21.55 CP HNS very brief, woodland edge;
- 22.17 CP HNS very brief, woodland edge.

3.3 Static Surveys

3.3.1 Tables 2 and 3 below provide a summary of the static bat detector results, with table 2 showing the total calls and assemblage of species per month, whilst table 3 shows the total records by species and location.

Species	April	May	Jun	Jul	Aug
Common Pipistrelle	921	1968	6071	6012	2354
Soprano Pipistrelle	45	94	570	51	113
Nathusius' Pipistrelle			3		
Brown Long-eared Bat	6	19	8	27	29
Leisler's Bat	34	61	140	49	9
Noctule	5	19	6	22	42
Serotine	27	181	17	36	19
Daubenton's Bat		8	13	27	51
Natterer's Bat		3	33		3
Whiskered Bat		3	5	25	24
Other Myotis Spp	1	2	1		
Grand Total	1039	2358	6867	6249	2644

Table 2 Summary of static surveys results (total by month)

Species	Location 1: East Boundary	Location 2: West Boundary	Location 3: Northern Woodland Boundary
Common Pipistrelle	2971	1813	12542
Soprano Pipistrelle	93	68	712
Nathusius' Pipistrelle			3
Brown Long-eared Bat	46	21	22
Leisler's Bat	46	6	241
Noctule	43	28	23
Serotine	201	18	61
Daubenton's Bat	28	17	54
Natterer's Bat	5	1	33
Whiskered Bat	2	2	53
Other Myotis Spp	4		
Grand Total	3439	1974	13744

Table 3 Summary of static surveys results (total by location)




3.3.2 The survey results reflect the previous assessment (2022), which identified that bat activity is dominated by common pipistrelle bats, notably along the boundary between the grassland and woodland in the north of the site. The results indicate that this area is used for foraging and commuting; the woodland edge is assessed to be of **'Local' importance** for commuting and foraging common pipistrelle bats.




4 ASSESSMENT AND MITIGATION


- 4.1 The scheme is providing a 15m buffer to the ancient woodland, this will include retention and enhancement of the existing grassland habitat and new buffer planting and fencing between the development and the 15 metre buffer edge (as shown on the Ancient Woodland Mitigation Plan drawing). The submitted lighting plan also demonstrates that this buffer will be a dark area (below 0.5 lux) and will continue to provide suitable habitat and conditions for commuting and foraging bats.
- 4.2 The boundary hedgerows which are also used for occasional commuting are also being retained outside of garden curtilage and will remain as dark corridors which will maintain their availability for use by bats.
- 4.3 It is assessed that the sensitive design together with mitigation provided through the buffers and lighting design will retain suitable commuting and foraging habitat for the local bat assemblage.
- 4.4 It is therefore conclude that the scheme will not have a significant effect on bats.



APPENDIX 1 GROUND LEVEL ASSESSMENT DATA



Table 4 Ground level assessment of trees to be removed


Trees to be removed			
Tree number	Species / Description	Suitability for roosting bats	Photograph(s)
T30	Common oak	Negligible	
T33	Goat willow with decaying limbs. No PRFs.	Negligible	
G35	Silver birch, beech. No PRFs.	Negligible	





Trees to be removed			
Tree number	Species / Description	Suitability for roosting bats	Photograph(s)
T52	Two PRF-ls, small areas of lifted bark on limbs in the canopy. No further survey. Mitigation – two bark bat boxes on suitable retained trees	Low	
G54	Mixed scrub, hawthorn, bramble	Negligible	
T62	Norway Maple No gaps around wound, or under bark.	Negligible	




Trees to be removed			
Tree number	Species / Description	Suitability for roosting bats	Photograph(s)
T63	Goat willow. No PRFs.	Negligible	
T64	Hawthorn	Unknown	Not accessible for survey.


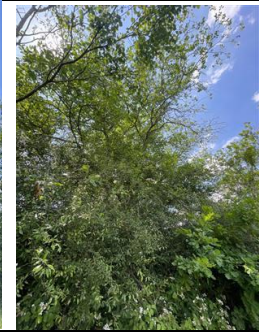


Trees to be retained			
Tree number	Species / Description	Suitability for roosting bats	Photograph(s)
T1	Ash Knot hole, south facing. PRF I (potential PRF-M).	Low to moderate	
T2 -T6	Scoped out – set back, either negligible or no visible PRFs observed from walking the woodland edge.		
T7	Common oak Decaying limbs with traverse cracks and another with potential cavity. Potential PRF-Ms	Moderate to high	
T8-21	Scoped out – set back, either negligible or no visible PRFs observed from walking the woodland edge.		



T22	No features visible, ivy cover however very thin. Limited access around entire tree	Negligible	
T23	PRF-I (possible PRF-M) on dead limb. Crown decay but no PRFs	Moderate	



G24	1 PRF-M from dead branch with gaps and potential access points to cavity. Limited access to tree.	Moderate to high		
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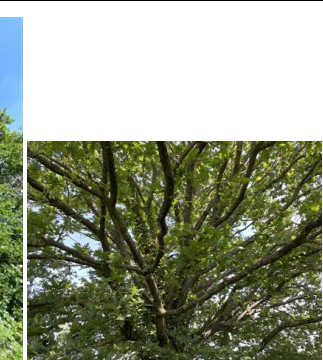

T25	<p>Very limited visibility so precautionary medium eligibility. Some lifted bark on branch near top of crown.</p>	Moderate			
T26	<p>Common oak Potential PRF-M, lifted and cracked limb, but limited access to inspect</p>	High			
T27	Common oak	Not accessible.			



T28	Goat willow No PRFs	Negligible		
T29	Common oak Decaying branches with traverse cracks, potential PRF-M.	Moderate to high		
T30	Refer to tree removal table			
T31	Common oak Precautionary PRF-M, limb with potential cavity. Dead limb with cracks & lifted bark. Limited access.			
T32, T33	Refer to removal table.			






T34	Willow Very minor flaking bark, not suitable.	Negligible			
T35	Refer to tree removal table.				
T36, T37	Not accessible.				
T38	Cherry Decaying limbs, no PRFs	Negligible			




<p>T39 (offsite)</p>	<p>Numerous areas of lifted bark, very flakey and exposed and/or very small gaps. A few areas on main trunk more suitable. Limited access. 3 PRF-Is.</p>	<p>Moderate</p>	
<p>T40 – T47 Scoped out (west woodland/hedgerow and southwest hedgerow)</p>			
<p>T48</p>	<p>Some ivy cover, thin stemmed, & large roots exposed</p>	<p>Negligible</p>	




<p>T49</p>	<p>Some ivy cover, thin stemmed, & large roots exposed</p>	<p>Negligible</p>	
<p>T50 – A2</p>	<p>Common oak 2 PRF-ls, minor areas of lifted bark. Potential lighting impacts. Mitigation required in RPZ (car parking bays).</p>	<p>Low</p>	

T51.1	Ash No PRFs.	Negligible		
T51.2	Common oak	Negligible		 
T51.3	Ash No PRFs.	Negligible		 

T51.4	Ash No PRFs.	Negligible		
T51.5	Common oak Light Flaking bark, but not suitable	Negligible		

T51.6	Hawthorn Light Flaking bark, but not suitable.	Negligible			
T51.7	Ash One shallow wound. Not suitable.	Negligible			

T51.8	Ash No PRFs.	Negligible		
T51.9	Hawthorn No features	Negligible		
T51.10	Ash No features	Negligible	above	
T51.11	Ash No features.	Negligible	above	
G52	Refer to removal table.			
T53-B2	Common oak	Negligible		

T54	Refer to removal table.		
T55	Ash Very minor areas of lifted bark. None assessed as suitable.	Negligible	
T56 (offsite)	Common oak	Negligible	Not taken
G57	Blackthorn, common oak, ash, field maple. Overall lack of suitable features. One blind knot hole on ash. Some ivy cover on a maple and a wound on upper canopy but young and thin stemmed. A couple of mature hawthorns, partly dead with flaking bark and very minor, not suitable.	Negligible	
T58	Hawthorn Lightly flaking bark, not suitable.	Negligible	

T59 (H60)	Hawthorn (offsite) and hedgerow.
W61	Northern section of woodland, scoped out.
T62, T63	Refer to removal table.
T64	Hawthorn- not accessible.
T65 to T69 (H72)	New access road, not accessible for survey. (T68 wild cherry, T67 hawthorn, T66 common oak, T65 common oak)

