LIZARD
Landscape Design and Ecology

BAT EMERGENCE SURVEY REPORT

Land at Chesapeke, Reeds Lane, Sayers Common

On behalf of: Antler Homes

Client:	Antler Homes			
Project:	Land at Chesapeke, Reeds Lane, Sayers Common			
Reference:	LLD2818-ECO-REP-005-00-BES			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake emergence / re-entry surveys of Land at Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*).

1no. existing building and 18no. trees on site were categorised as offering some level of bat roost suitability during the Preliminary Roost Assessment undertaken on the 6th of December 2022. Subsequent surveys were therefore completed during June and July 2023. The survey identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11. No roosts were identified within building B04, nor any other tree surveyed throughout the survey period.

Given the results of the survey, removal or major tree surgery works to T01 and / or T11 would contravene the protection afforded bats under The Conservation of Habitats and Species Regulations 2017 (as amended). To ensure the protection of bats and allow the development to proceed lawfully the following mitigation measures shall be required:

- Apply for a mitigation licence from Natural England once planning permission has been granted.
- Erect 2no. crevice bat boxes to adjacent retained trees, at a similar height and aspect as the existing roosts.
- A toolbox talk is to be given to contractors prior to tree works to make them aware of the presence of bat roosts on site, and what to do if a bat roost is unexpectedly found during works.
- All works to T01 and T11 are to be completed under licence, and under the supervision of the named ecologist or accredited agent.
- A licence return shall be sent to Natural England on completion of the licence period.

Furthermore, trees which have been assessed as offering 'low' bat roost suitability which require removal or major tree surgery works (such as T04, T07 and T12) shall require soft felling under ecological supervision, in accordance with best practise guidelines (Collins, 2016).

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake emergence / re-entry surveys of Land at Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*).

1.2 1no. existing building and 18no. trees on site were categorised as offering some level of bat roost suitability during the Preliminary Roost Assessment undertaken on the 6th of December 2022. The purpose of the survey and this report is to establish the presence or absence of a bat roost within the buildings and trees to be affected by the proposals, and allow the full impact of the proposed development to be established.

1.3 This report has been compiled in accordance with current guidelines, including British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and Bat Conservation Trust Best Practise Guidelines 2016.

Site Information

1.4 The survey area covers c. 1.5 hectares (ha) of grassland fields located towards the south-western edge of Sayers Common. The site is enclosed by mature, mixed-species hedge and treelines and is bordered by Reeds Lane to the north, residential properties to the east and west and farmland to the south.

Surrounding Landscape

1.5 The surrounding landscape is rural, with the nearest large settlement of Burgess Hill located 3.1 (km) to the east, while the properties of Hurstpierpoint are located 1.5km south-east. Surrounding land is dominated by arable fields and grazing land interspersed with small shaws and mature tree / hedge lines.

1.6 The surrounding landscape is suitable for generalist species such as common pipistrelle and aerial hawkers such as noctule. Due to the urban nature of the surrounding land, the site is considered to be unsuitable for Annex II species such as barbastelle.

Development Proposals

1.7 The development proposals include the construction of a c. 33no. new residential dwellings with associated public open space, amenities, gardens and parking.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the survey has been:

- To assess the buildings for signs of current use by bats;
- To establish the location of any roosts if present;
- To establish the numbers and species of bats present;
- To identify access points and flight lines to and from the building;
- To provide suitable mitigation measures.

3.0 METHODOLOGY

3.1 Bat Emergence / Re-entry Surveys

3.1.1 In accordance with current best practise guidelines (BCT, 2016), a single bat emergence survey of building B04, alongside 2-3no. survey visits of trees T01, T05-T06, T08-T11 and TG14 were completed between June and July 2023.

3.1.2 Between 3-7 no. bat surveyors were used each survey to cover all potential roost features during the surveys (*Refer to Figure No. 01 – Site Habitat Plan for location of trees*).

3.1.3 Dusk emergence surveys started 15 minutes before sunset and terminated approximately 1.5 hours after sunset. Dawn re-entry surveys began 1.5 hours before sunrise and ended 15minutes after. Data including species, behaviour and general patterns of activity were recorded throughout the survey. Details of the survey visits can be found in *Table No. 01* below:

Table No. 01 – Bat Emergence Survey Details

Date	21/06/23	06/07/23	10/07/23	20/07/23	25/07/23
Building / Tree	T01, T03, T06	T01, T03, T06	B04, T05, T08, T10, T11, TG14	T01, T03, T06	T05, T08, T10, T11, TG14
Survey Type	Dusk	Dusk	Dusk	Dawn	Dawn
Surveyors	LB, SH, PA	CO, HS, AC	LB, WM, AC, KB, BS, SH, PA	WM, AC, BS	WM, AC, KB, SH
Weather	17ºC, WF2, 70% cloud, dry	18ºC, WF0, 10% cloud, dry	20ºC, WF1, 90% cloud, dry	17ºC, WF2, 70% cloud, dry	12ºC, WF1, 60% cloud, dry
Sunset	21:18	21:16	21:13	05:09	05:15
Start	21:03	21:01	20:58	03:39	03:45
Finish	22:48	22:48	22:48	05:24	05:30

3.1.4 Bats were identified using Echo Meter Touch Pro 2 and Peersonic RPA3 bat detectors. 2no. infra-red cameras with additional illuminators were also used to aid the surveys where necessary.

Data Analysis

3.1.5 Sonogram analysis was undertaken using the Kaleidoscope programme.

Surveyor Details

3.1.6 The survey was designed and led by a licenced surveyor, assisted by experienced field ecologists. The following surveyors were used during these surveys:

- Catherine O'Reilly –NE Class 2 Licence Licence Holder, 9 years survey experience.
- Louise Barker –NE Class 2 Licence Licence Holder, 7 years survey experience.
- Will Mills – Consultant Ecologist, 5 years survey experience.
- Sam Hall – Assistant ecologist with 3 years survey experience
- Hayley Swann – Assistant ecologist with 3 years survey experience.
- Ben Sear – Assistant ecologist with 2 years survey experience.
- Kofi Bernson – Assistant ecologist with 1 year survey experience.
- Penny Andrews – Field Assistant with 1 year survey experience.

3.2 Limitation and Constraints

3.2.1 No limitations to the emergence / re-entry survey was encountered, surveys were undertaken at the optimal time of year and in suitable weather conditions for bats to be active.

4.0 RESULTS

4.1 Desk Study

4.1.1 Sussex Biodiversity Records Centre (SxBRC) returned records of Common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared bat *Plecotus* sp., noctule *Nyctalus noctula*, serotine *Eptesicus serotinus*, Brandts *Myotis brandtii* / whiskered *Myotis mystacinus*, Natterer's *Myotis nattererii*, Daubenton's *Myotis daubentonii*, Bechstein's *Myotis bechstenii* and barbastelle *Barbastella barbastellus* bats have been recorded within 2.0km of the site area.

4.2 Preliminary Roost Assessment

4.2.1 The initial survey completed in December 2022 assessed all buildings and trees within the site. Building B04 was found to be a brick bungalow with plain tile roof. A small gap was recorded between the southern gable wall and soffit box, as well as small gap to western dormer window. This building was assessed as offering low bat roost suitability. 18no. trees on site were found to offer some level of bat roost suitability, 8no. of which were considered to be potentially impacted by the proposed development. For full details of the PRA refer to the Preliminary Ecological Appraisal (Lizard Landscape Design & Ecology, December 2022).

4.3 Bat Emergence / Re-entry Surveys

Dusk Emergence – 21st of June 2023

4.3.1 Bat activity was generally low throughout the survey period with no bats recorded emerging from any surveyed tree.

4.3.2 A soprano pipistrelle was record consistently foraging around the southern section of the site between 21:22 and 21:45 before flying away to the south. Other species recorded on site include noctule, long-eared sp. and myotis sp., although these species were only recorded as single passes.

Dusk Emergence – 06th of July 2023

4.3.3 A single soprano pipistrelle emerged from tree T01 at 21:27 and flew towards the south-east. No bats were seen to emerge from any other tree during the survey period.

4.3.4 Frequent passes by common and soprano pipistrelle were recorded throughout the first hour after sunset, after which activity was much lower. A single noctule was recorded commuting over the site at 21:28, with a whiskered bat recorded foraging along the boundary vegetation at 21:58 and 22:32. No other species were recorded during the survey.

Dusk Emergence – 10th of July 2023

4.3.5 A common pipistrelle emerged from tree T11 at 21:31 and foraged along the treeline before flying south. No bats were recorded emerging from any other tree or building during the survey period.

4.3.6 Moderate levels of activity was recorded on site, with the majority of bat passes being either common or soprano pipistrelle utilising the southern section of the site and adjacent treeline. A small number of passes by long-eared bats were also recorded, as well as a single Daubentons pass recorded at 22:42.

Dawn Re-entry – 20th of July 2023

4.3.7 2no. soprano pipistrelles re-entered a tear-out to a primary scaffold of T01 at 04:50. Numerous common and soprano pipistrelles were recording foraging around this tree, and the southern hedgerow throughout the survey period. A single noctule was recorded at 04:49 however no other bat species were recorded on site during the survey.

Dawn Re-entry – 25th of July 2023

4.3.8 A single common pipistrelle was noted re-entering tree T11 at 04:51. Activity was low during this survey, limited to a small number of passes by common and soprano pipistrelle.

5.0 EVALUATION AND MITIGATION

5.1 The survey has identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11.

5.2 No roosts were identified within building B04, nor any other tree surveyed throughout the survey period.

5.3 Given the results of the survey, removal or major tree surgery works to T01 and / or T11 would contravene the protection afforded bats under The Conservation of Habitats and Species Regulations 2017 (as amended). To ensure the protection of bats and allow the development to proceed lawfully the following mitigation measures shall be required:

- Apply for a mitigation licence from Natural England once planning permission has been granted.
- Erect 2no. crevice bat boxes to adjacent retained trees, at a similar height and aspect as the existing roosts.
- A toolbox talk is to be given to contractors prior to tree works to make them aware of the presence of bat roosts on site, and what to do if a bat roost is unexpectedly found during works.
- All works to T01 and T11 are to be completed under licence, and under the supervision of the named ecologist or accredited agent.
- The trees are to be section felled, with cuts placed to avoid cutting through potential roost features. Each section is to be carefully lowered to the ground before being inspected by the supervising ecologist.
- Features which are found to contain bats shall be securely braced to an adjacent tree at a height and aspect as similar to the existing as possible.
- A licence return shall be sent to Natural England on completion of the licence period.

5.4 Furthermore, trees which have been assessed as offering ‘low’ bat roost suitability which require removal or major tree surgery works (such as T04, T07 and T12) shall require soft felling under ecological supervision, in accordance with best practise guidelines (Collins, 2016).

5.5 A sensitive lighting scheme must be utilised on site, which should comply with Bats and Artificial Lighting at Night – Guidance Note 08/23 (ILP, 2023). Light spill upon retained boundary vegetation and compensatory / new roost features must be avoided to allow the use of these features by bats.

5.6 The scheme should provide ecological enhancements for the benefit of biodiversity, including enhancements for bats. Measures should include the installation of bat boxes to the southern aspect of new buildings and incorporation of pale and night species plant species within the soft landscape scheme. Further details of potential enhancements are provided within the Preliminary Ecological Appraisal (December 2022).

6.0 CONCLUSION

6.1 The site supports low numbers of roosting common and pipistrelle bats within trees T01 and T11. As roosts used by low numbers of common bat species, the roosts are considered to be of low conservation significance. Implementation of mitigation measures as outlined above shall ensure the protection of bats on site, and shall ensure that the development proceeds lawfully.

7.0 REFERENCES

BCT & ILP. (2023). Guidance Note 08/23. Bats and Artificial Lighting at Night. Bats and the Built Environment series

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Ministry of Housing, Communities & Local Government. (2021). National Planning Policy Framework. Fry Building, 2 Marsham Street, London. This publication is available [online] at www.gov.uk/government/publications

Multi-Agency Geographic Information for the Countryside (MAGIC). (2013). Interactive Map. [online]. Available at http://www.magic.gov.uk/Magicmap.aspx

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004).

Appendix A – Full Survey Results

Emergence Survey of Trees:

Date	**21/06/2023**
Survey Type	**Dusk**
Sunrise / Sunset	**21:18**
Start Time	**21:03**
End Time	**22:48**
Temperature	**17 ºC**
Wind	**2**
Weather	**Overcast**

Surveyor	PA	
Point	N of T01	
Time	**Species**	**Notes**
22:44	S.Pip	Flying along boundary vegetation

Surveyor	SH	
Point	T03	
Time	**Species**	**Notes**
21:22 – 21:45	S.Pip	Foraging within the southern fields and tree lines
22:07	C.Pip	Foraging along southern boundary vegetation
22:12	C.Pip	HNS
22:42	C.Pip	Flying north

Surveyor	LB	
Point	S of T06	
Time	**Species**	**Notes**
21:30	Noctule	commuting high up
22:22	BLE	Flew along tree line from E, heading N
22:24	Myotis	HNS
22:27	Sop	HNS

Date	**06/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:16**
Start Time	**21:01**
End Time	**22:46**
Temperature	**18 ºC**
Wind	**0**
Weather	**Clear and warm**

Surveyor	HS	
Point	S of T01 & T06	
Time	**Species**	**Notes**
21:27	**S.Pip**	**Emerged from T01, Flew from N to SE**
21:30	Noctule	Flew from W to SE
21:43	S pip	Short / clear HNS
21:46 - 21:49	C pip	Flew from W to E along tree line in front of SP, foraging along tree line
21:51	S pip	Short / clear HNS
21:55	S pip	Flew from N, foraging in front of SP
21:58	Pip	SNH - Flew from S to N, W of T01
22:01-22:02	x 2 C pips	Foraging around T01, flew W
22:11-22:12	S pip	Flew from E, foraging around T01
22:16-22:18	S pip	Flew from S, foraging around T01
22:27	C pip	Faint HNS
22:31	C pip	Foraging in front of tree line
22:32	Whiskered Myotis	HNS
22:33-22:35	S pip	Foraging in front of tree line

Surveyor	AC	
Point	N of T01 & T06	
Time	**Species**	**Notes**
21:29	Noc	HNS
21:44	Spip	HNS
21:49	Cpip	Flew from S to NW
21:54	Spip	Flew from S moving N, looked to be foraging once it broke treeline, then flew back SW towards trees
22:00	2 x Cpip	Both came from NE, looked to forage, then left going SE
22:01	Cpip	Flew from S, commuting towards NW
22:04	Spip	HNS
22:12	Cpip	HNS
22:16	Cpip	HNS

Surveyor	CO	
Point	T03	
Time	**Species**	**Notes**
21:28	Noctule	Flying SW over tree, flew away to S
21:58	Myotis sp.	HNS
22:04	CPip	Flew E to W over barn
22:16	CPip	HNS, brief pass

Date	**10/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:13**
Start Time	**20:58**
End Time	**22:43**
Temperature	**20 ºC**
Wind	**1**
Weather	**Clear and dry**

Surveyor	KB	
Point	TG14	
Time	**Species**	**Notes**
21.33	Noc	HNS
21.39	Noc	HNS
21.49	C.pip	Commuting N to S over trees
22.01	C.pip	HNS
22.04	C.pip	Foraging in tree group.
22.08	C.pip	Commuting e to w over southern treeline
22.12	S.pip	HNS
22.26	C.pip	HNS
22.42	Daubentons	HNS

Surveyor	BS	
Point	T08	
Time	**Species**	**Notes**
21:33	Noc	Commuting high up heading East
21:38	Noc	Flying north
21:44	Cpip	HNS
22:05	Cpip	HNS
22:20	LE	Flying north
22:25	Spip	HNS

Surveyor	SH	
Point	T10 / T11	
Time	**Species**	**Notes**
21:31	**C.pip**	**Emerge from T11, flew S**
21:37	Noc	HNS
22:00	C.pip	Commute along tree line towards N
22:03	C.pip	HNS
22:11-22:12	S.pip	HNS x2

Surveyor	AC	
Point	T05	
Time	**Species**	**Notes**
21:38	Noc	Foraging, hns
21:45	Cpip	Flew from sw, did some foraging behaviour then left SE
21:45	Cpip	Flew from E between TO5&TO6 then left S
21:50	Spip	Foraging hns
21:50	Spip	Flew From NW Then Left NE
21:50	Spip	Flying In Distance Between TO5&TO6
21:52	Spip	Commuting, Flew From NE (T01 Direction) And Left SW
22:04	Spip	Brief HNS
22:12	Cpip	Brief HNS
22:13	LE	Brief HNS
22:15	Cpip	commuting E to N
22:16	Spip	commuting from NE to S
22:19	LE	Brief HNS
22:22	Cpip	Brief HNS
22:25	Spip	Brief HNS

Date	**20/07/23**
Survey Type	**Dawn**
Sunrise / Sunset	**05:09**
Start Time	**03:39**
End Time	**05:24**
Temperature	**13 ºC**
Wind	**1**
Weather	**Overcast**

Surveyor	WM	
Point	T03	
Time	**Species**	**Notes**
04:03	Myotis sp.	flew S to N over the path
04:13	Myotis sp	flew S to N over the trees
04:55	Noc	flew E to W over the trees

Surveyor	BS	
Point	T06	
Time	**Species**	**Notes**
03:40-44	cpip	hns multiple passes
03:47	cpip	hns
03:51	spip	hns 2 passes
03:58	cpip	hns
04:03	spip	hns commute
04:06	spip	hns brief
04:12	spip	commute along treeline n - s
04:15-19	cpip	multiple bats foraging amongst T6
04:22	cpip	multiple bats foraging around T1 and T6
04:24-26	cpip	hns foraging
04:29	cpip	hns foraging
04:36	cpip	hns 2 passes

Surveyor	AC	
Point	T01	
Time	**Species**	**Notes**
03:37-03:45	cpip	2x bats foraging around tree
03:47	S.Pip	HNS
03:51-04:16	cpip	constant foraging around upper half of T01
04:17	cpip	HNS

04:18-04:21	cpip	approached tree from S, foraging within crown
04:22-04:25	cpip	foraging in between an above SW hedgerows of T01, then flew towards T01
04:26-04:35	CPip	3x bats foraging around trees
4:35-04:49	SPip	foraging around W&S aspects of tree
04:50	**Spip**	**2x re-entries to tear out in lower bole**

Date	**25/07/23**
Survey Type	**Dawn**
Sunrise / Sunset	**05.15**
Start Time	**03.45**
End Time	**05.15**
Temperature	**12 ºC**
Wind	**1**
Weather	**Overcast**

Surveyor	KB	
Point	T10 & 11	
Time	**Species**	**Notes**
04:51	**c.pip**	**Re-entry to T11**
04:59	S.Pip	Flying S along tree line

Surveyor	SH	
Point	T08	
Time	**Species**	**Notes**
04:05 – 04:08	CPip	Foraging along trees
04:34	SPip	Flying N
04:36	CPip	Commuting along hedge to S

Surveyor	WM	
Point	TG14	
Time	**Species**	**Notes**
04:15	Noc	HNS
04:25	C.pip	HNS

Surveyor	AC	
Point	T05	
Time	**Species**	**Notes**
03:55	LE	HNS
04:02	cpip	Foraging S of T05 and t01
04:03	LE	Commuting along hedge
04:15	Noctule	Flying high over site
04:34	Cpip	Came from S flew towards T01

Emergence Survey of B04:

Date	**10/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:13**
Start Time	**20:58**
End Time	**22:43**
Temperature	**20 ºC**
Wind	**1**
Weather	**Clear and dry**

Surveyor	LB	
Point	NE	
Time	**Species**	**Notes**
21:31	Sop	NHS
21:35	Sop	flew west of building, heading north
21:50	Sop	flew from SE heading NW around building and back
21:58	Sop	flew from NE heading SW
22:04	Sop	HNS
22:14	CP	Foraging around building
22:19	CP	HNS
22:28	CP	HNS

Surveyor	WM	
Point	SE	
Time	**Species**	**Notes**
21:31	C.pip	Flew n from next door along the treeline
21:36	C.pip	Flew n from next door along the treeline then flew back and foraged around the garden
21:53	Sop	Flew n from next door along the treeline
21:04	C.pip	Foraged around the garden then flew s
22:09 - 22:22	C.pip	HNS fairly active

Surveyor	PA	
Point	SW	
Time	**Species**	**Notes**
21.33	S pip	Flying over house; did not emerge
21.36	C Pip	Flapping around doing loops in the back garden
21.49	S pip	Flying over the north west aspect of hedge to the house
21.51	C Pip	HNS
21.51	S Pip	HNS
21:54	LE	Bat seen flying over NW aspect of house to hedge
21:58-22:11	CPip	Foraging over rear garden and driveway
22.14	C Pip	Seen flying between hedge and west aspect of house
22:23 – 22:31	Cpip	Flying up and down hedge and garden

Figure No. 01 – Site Habitat Plan