MIDDLEMARCH

Orchard Lane / East Molesey

Dusk Emergence & Re-entry Bat Surveys

11 October 2022 I A3711

ORCHARD LANE, EAST MOLESEY

DUSK EMERGENCE AND DAWN RE-ENTRY BAT SURVEYS

A Report to: CIRC Management LLP

Report No: RT-MME-153851-02

Date: July 2022

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	26/07/2022	Meg Cookson MSc (Ecological Field Officer)	Paul Roebuck MSc MCIEEM (South-East Manager)	Paul Roebuck MSc MCIEEM (South-East Manager)
RevA	17/10/2022	Harry Stone MSc ACIEEM (Ecological Consultant)	Paul Roebuck MSc MCIEEM (Regional Manager: South)	
RevB	04/09/2023	Harry Stone MSc ACIEEM (Senior Ecological Consultant)	Paul Roebuck MSc MCIEEM (Regional Manager: South)	

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. 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.

NON-TECHNICAL SUMMARY

In September 2021, CIRC Management LLP commissioned Middlemarch to undertake dusk emergence and dawn re-entry bat surveys of several buildings on Orchard Lane, East Molesey. This assessment is required to inform a planning application associated with the redevelopment of the site. The first dusk emergence survey was undertaken on 15th September 2021, which identified a bat roost within Building 2. The second dusk emergence and dawn re-entry survey were undertaken on 30th June 2022 and 15th July 2022, respectively.

The first dusk survey was undertaken on the 15th September 2021. Four species of bat were recorded during the first dusk survey: common pipistrelle, soprano pipistrelle, noctule and brown long-eared. A soprano pipistrelle bat roost was recorded within Building B2 when a bat emerged from the eaves 14 minutes after sunset. Five species of bat were recorded during the second nocturnal emergence survey on the 30th June 2022; noctule, soprano pipistrelle, common pipistrelle, leisler's bat and nathusius' pipistrelle however, much of the foraging activity recorded was concentrated around the river to the east. No bats were recorded emerging from any of the features on site.

The dawn re-entry survey found commuting and foraging activity was recorded predominantly to the south of the site around the River Ember. There was also foraging activity recorded around the site's allotment area and residential estate gardens to the east of the site. There was no bat roost confirmed during this survey.

Following the results of the dusk emergence and dawn re-entry surveys, the following recommendations have been made:

R1 **Building B2**
As a bat roost/resting place has been identified in Building B2, no unlicensed work can be undertaken which will contravene the legislation outlined in Appendix 1. Prior to any works being undertaken which are likely to result in a breach of the legislation, a development licence must be obtained from Natural England. The licence application process will include the submission of a method statement detailing the current status of bats on site and how the favourable conservation status of the bat population will be maintained. Prior to a licence being issued, planning permission must be granted and relevant conditions relating to protected species and habitat issues must be discharged.

R2 **Buildings B1, B4, B5 and B6**
Buildings B1, B4, B5 and B6 have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed building have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the building in the interim.

R3 **Lighting**
In line with paragraph 180 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats through the careful use of lighting in critical areas only and at a low level with minimum spillage. Any lighting, either temporary or permanent, along the site should be kept to a minimum and directed away from the boundary features to maintain dark areas and corridors. A lighting strategy should be designed and implemented on site to avoid impacting bat usage of the site and wider area.

R4 **Habitat Enhancement**
In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle. Planting of trees, shrubs and herbs which attract night flying insects is encouraged as this will be of value to foraging bats.

CONTENTS

1. INTRODUCTION

1.1 PROJECT BACKGROUND

Middlemarch were commissioned by CIRC Management LLP to undertake dusk emergence and dawn re-entry bat surveys of a number of buildings on Orchard Lane, East Molesey. This assessment is required to inform a planning application associated with the redevelopment of the site.

Middlemarch has undertaken the following ecological assessments for CIRC Management at this site:

- Preliminary Ecological Appraisal (RT-MME-153535-01 RevB);
- Preliminary Bat Roost Assessment (RT-MME-153535-02 RevA);
- Herpetofauna Reasonable Avoidance Method Statement (RT-MME-153851-03 RevA);
- Invasive Species Method Statement (RT-MME-153851-04 RevA); and,
- Biodiversity Net Gain Assessment (RT-MME-156895 RevA).

The Preliminary Bat Roost Assessment identified buildings B1, B2, B4, B5 and B6 as having high potential to support roosting bats. This was due to a variety of features predominantly associated with the roofs of these buildings, such as lifted tiles and gaps at the eaves. Building B7, currently used as a horticultural centre, was assessed as having low potential to support roosting bats due to the presence of missing mortar beneath roof tiles. Smaller additional buildings on site had negligible potential.

The first dusk survey was undertaken on the 15th September 2021. Four species of bat were recorded during the first dusk survey: common pipistrelle, soprano pipistrelle, noctule and brown long-eared. A soprano pipistrelle bat roost was recorded within Building B2 when a bat emerged from the eaves 14 minutes after sunset.

A full assessment of the conservation status of this recorded bat roost is essential therefore, a dawn re-entry and additional dusk emergence bat survey were recommended. This report details the results of the surveys undertaken between 30th June 2022 and 15th July 2022.

All UK bat species are legally protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1. This section also provides some brief information on the ecology of British bat species.

1.2 SITE DESCRIPTION AND CONTEXT

The development site, which measures approximately 0.75 ha, is located within a suburban neighbourhood in the Borough of Elmbridge. The site is centred at National Grid Reference TQ 14625 67341. At the time of the survey, the site was dominated by buildings surrounded by hardstanding, with areas of introduced shrub and amenity grassland scattered throughout the site. A horticultural area dominated the north-eastern portion of the site and the River Ember was present at the site's western boundary. To the north of the site was a large area of rough grassland and woodland that formed part of the River Ember and River Mole green corridor. Orchard Lane was present to the south of the site. The surrounding landscape was highly suitable for foraging and commuting bats, containing habitats such as woodland, rough grassland, scrub, rivers, lakes and ponds.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Landscape Proposal	Exterior Architecture
Tree Retain + Removal Plan / 2241-EXA-XX-GF-DR-L-00150 Rev P02	Exterior Architecture
General Arrangement Plan Ground Floor / 2241-EXA-GF-DR-L-00101 Rev P01	Exterior Architecture
Roof Plan / A3711-ASA-ZZ-RP-DR-A-0215 Rev P21	Assael Architecture

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-153535-01 RevA) an ecological desk study (whichincluded a search for records of bats) was undertaken within a 1 km radius of the site. The consultee for thedesk study was Surrey Biodiversity Information Centre.

Middlemarch then assimilated and reviewed the desk study data provided by this organisation. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report. The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

2.2 FIELD SURVEYS

2.2.1 Overview of Dusk Emergence and Dawn Re-entry Surveys

Buildings B1, B2 B4, B5 and B6 were classed as having high potential to support roosting bats during the daytime survey. In line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), three bat surveys were carried out consisting of two dusk emergence bat surveys and one dawn re-entry bat survey. The aim of these surveys was to detect whether bats are roosting within the buildings, and to enable a profile of site utilisation by bats to be compiled.

A bat roost was identified within Building B2 during the previous nocturnal emergence survey carried out by Middlemarch on the 15th September 2021.

Building 7 was classed as having low potential to support roosting bats during the daytime survey. In line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a dusk emergence survey was carried out.

2.2.2 Dusk Emergence Bat Surveys

In line with the specifications detailed in Bat Surveys: Good Practice Guidelines (Collins, 2016), the dusk surveys commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. The dusk emergence surveys were conducted using electronic bat detectors (Echometer touch and Bat Box Duet with associated recording devices) to facilitate the detection of bats and to aid in the determination of species of bat using the site. Subsequent computer analysis of recordings allowed all species of bat using the site to be identified.

An infrared camera and paired electronic bat detector was also used on the dusk emergence survey (Nightfox Red with 96 LEDS IR Illuminator Array and EM Touch), focused on Building 2. The footage and sound recordings were subsequently reviewed for bat activity. In accordance with the recommendations presented within Bat Conservation Trust, Interim Guidance Note, which supersedes the bat survey guidelines for professional's 3rd edition, screenshots from the recordings are presented within the results section at the darkest point of the survey.

2.2.3 Dawn Re-Entry Bat Survey

Bats swarm at their roost site 10-90 minutes prior to entering the roost at dawn (Mitchell-Jones & McLeish, 2004). Surveying for dawn swarming by bats is an efficient way of detecting bat roosts. In line with the specifications detailed by Bat Surveys: Good Practice Guidelines (Collins, 2016) the dawn survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. To facilitate the detection of bats and to aid in the determination of species of bat using the site, the dawn survey was conducted using electronic bat detectors (Echometer touch and Bat Box Duet with associated recording devices). Computer analysis of bat detector information collected was utilised to identify all species recorded on the site. Two infrared cameras and paired electronic bat detector were used on the dawn surveys (Nightfox Red with 96 LEDS IR Illuminator Array and EM Touch), focused on Building 2. The footage and sound recordings were subsequently reviewed for bat activity. In accordance with the recommendations presented within Bat Conservation Trust, Interim Guidance Note, which supersedes the bat survey guidelines for professional's 3rd edition, screenshots from the recordings are presented within the results section at the darkest point of the survey.

3. DESK STUDY

3.1 STATUTORY NATURE CONSERVATION SITES

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 SPECIES RECORDS

The data search was carried out in September 2020 by Surrey Biodiversity Information Centre. Records of bat species within a 1 km radius of the survey area provided by the consultee are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation
Unidentified myotis *Myotis* sp.	1	2017	600 m north	-	ECH 4, WCA 5, WCA 6
Pipistrelle *Pipistrellus* sp.	1	2017	600 m north	#	ECH 4, WCA 5, WCA 6
Soprano pipistrelle *Pipistrellus pygmaeus*	3	2019	600 m north	✓	ECH 4, WCA 5, WCA 6
Common pipistrelle *Pipistrellus pipistrellus*	3	2019	600 m north	-	ECH 4, WCA 5, WCA 6
Leisler's bat *Nyctalus leisleri*	1	2017	600 m north	-	ECH 4, WCA 5, WCA 6
Nathusius's Pipistrelle *Pipistrellus nathusii*	1	2017	600 m north	-	ECH 4, WCA 5, WCA 6
Noctule *Nyctalus noctula*	2	2019	740 m north	✓	ECH 4, WCA 5, WCA 6
Unidentified bat *Chiroptera* sp.	1	2017	740 m north	#	#
Brown long-eared bat *Plecotus auritus*	1	2008	Potentially within a 1 km radius**	✓	ECH 4, WCA 5, WCA 6

Key:
**: Grid reference provided was two figures only.

ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.
WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).
WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.

Table 3.1: Bat Species Records Within 1 km of Survey Area

4. SURVEY RESULTS

4.1 FIRST DUSK EMERGENCE SURVEY

The first dusk emergence survey was undertaken on 15th September 2021 by Harry Stone (Ecological Consultant), Paul Roebuck (South East Manager), Will Rees (Senior Ecological Consultant), Jacob Kench (Senior Ecological Consultant), Jamie Fletcher (Senior Ecological Consultant), Margarita Smoldareva (Ecological Consultant), Asija Zeidaks (Ecological Project Officer), Amelia Collins (Ecological Project Officer), Matt Fletcher (Ecological Project Officer) and Bostrova Jekaterina (Ecological Project Officer). The weather conditions recorded at the time of the survey are detailed in Table 4.1.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	19	17
Cloud Cover (%)	50	80
Precipitation	F0	F0
Wind Speed (Beaufort)	Dry	Dry

Table 4.1: Weather Conditions During First Dusk Emergence Survey

The dusk emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 19:17 hrs (BBC Weather Centre Data for East Molesey). Four species of bat, noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared *Plecotus auritus*, were recorded during the survey. Survey results are plotted on Drawing C153851-01-01 in Chapter 7.

Soprano pipistrelle
The first soprano pipistrelle was recorded at 19:22 (five minutes after sunset) passing across the northeast section of the site. At 1931 (fourteen minutes after sunset) a bat emerged from the eaves of building B2, on the west-facing aspect of the northern section of the building. The bat dropped across the river and continued flying in a westerly direction.

At 19:36 a bat flew towards the building B2 from the west, turned around above the river, and returned in a westerly direction. This flight path was repeated at 19:54. From 20:00 until approximately 20:15 soprano pipistrelles were recorded foraging in the river corridor west of the building B1. At 20:09 a soprano pipistrelle bat was also recorded foraging briefly towards the south of the site, near buildings B2 and B5, though no visual contact was made. At 22:05 a soprano pipistrelle was heard but not seen in the centre of the site. Foraging activity from soprano pipistrelle bats was recorded at the northeast and western site boundaries throughout the survey effort.

Common pipistrelle
The first common pipistrelle bat was recorded at 19:43 (26 minutes after sunset). This bat entered the site at its eastern boundary, near to buildings B7 and B6, then flew south along the alley past building B6, before turning onto Orchard Lane and travelling in a westerly direction. 26 minutes after this a common pipistrelle bat was recorded in the same area, flying in a straight westerly direction across the front gardens of Orchard Lane.

At 19:38, 19:46 and 19:49 common pipistrelle bats were recorded commuting along the river in a northerly direction. From 20:00 until approximately 20:15 common pipistrelle bats were recorded foraging in the river corridor west of the building B1. At 20:04 a bat was recorded foraging around the dead tree on the western riverbank, opposite building B2. Foraging activity was also recorded intermittently throughout the survey effort in the northeast area of the site. No common pipistrelle bats were recorded emerging from any buildings on site.

Noctule
At 19:25 a noctule bat commuted across the site from south to north. A noctule bat was then recorded at 19:31 flying across the site from west to east. Meanwhile, from 19:29 until 19:39 a noctule bat was recorded foraging above the site, the river, and habitat west of the river. In each of these instances the noctule bats were observed as flying very high above the site and did not emerge from any of the buildings.

Brown long-eared
At 20:07 (50 minutes after sunset) a brown long-eared bat was recorded south of the development site, near to building B6 and Orchard Lane. No visual contact with this bat was made and it was not observed emerging from a building.

No other species of bat were detected or observed during this survey. Analysis of the sound and infrared camera recordings did not identify any further species of bat.

4.2 SECOND DUSK EMERGENCE SURVEY

The second dusk emergence survey was undertaken on 30th June 2022 by Jacob Kench (Senior Ecological Consultant), Jamie Fletcher (Principal Ecological Consultant), Richard Sainsbury (Ecological Consultant), Meg Cookson (Ecological Field Officer), Fiona Cook (Ecological Project Officer), Zeina Farhat (Ecological Project Officer) and Matt Fletcher (Ecological Project Officer). The weather conditions recorded at the time of the survey are detailed in Table 4.2.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	14	13
Cloud Cover (%)	0	0
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F1	F1

Table 4.2: Weather Conditions During Second Dusk Emergence Survey

The dusk emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 21:21 hrs (BBC Weather Centre Data for Elmbridge). Five species of bat, noctule, leisler's bat, nathusius' pipistrelle, common pipistrelle and soprano pipistrelle were recorded during the survey. Survey results are plotted on Drawing C153851-01-02 in Chapter 7.

Noctule
At 21:44 (23 minutes after sunset) a noctule was detected flying high over the site commuting from south to north. This bat was not observed emerging from any features associated with the site. This bat did not stay to forage over the site.

Soprano pipistrelle
The first soprano pipistrelle was detected at 22:12 (51 minutes after sunset). This bat flew from the north section of the river then commuted east towards B7. Two additional soprano pipistrelles were observed commuting south to north of the site at 22:18. Foraging activity of this species was recorded intermittently throughout the site but was concentrated near the river to the east.

Common pipistrelle
Foraging activity was recorded throughout the site from 21:48 onwards however there were no visual observations of this species.

Leisler's bat and Nathusius' pipistrelle were also recorded aurally during the surveys at 21:34 and 21:42 respectively. No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat. Analysis of the camera footage recorded no emergences from the buildings or bat activity.

Plate 4.2.1 Screenshot of camera focused on the apex of Building 2 at 22:24pm on the second Dusk emergence survey 30/06/2022

4.3 DAWN RE-ENTRY SURVEY

The dawn re-entry bat survey was undertaken on 15th July 2022 by Victoria Aelen (Senior Ecological Consultant), Will Rees (Senior Ecological Consultant), Jacob Kench (Senior Ecological Consultant) Ben Huxley (Ecological Project Officer), Zeina Farhat (Ecological Project Officer) and Matt Fletcher (Ecological Project Officer).. The weather conditions recorded at the time of the survey are detailed in Table 4.3.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	16	13
Cloud Cover (%)	10	20
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F0	F0

Table 4.3: Weather Conditions During Dawn Re-entry Survey

The dawn re-entry survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 05:02 hrs (BBC Weather Centre Data for Elmbridge). Three species of bat, common pipistrelle, soprano pipistrelle and noctule, were recorded during the survey. Survey results are plotted on Drawing C153851-03 in Chapter 7.

Common pipistrelle
The first common pipistrelle was recorded at 03:27 (95 minutes before sunrise). This bat was detected commuting in the northwest corner of the site (no visual contact was made). Several common pipistrelles were recorded using the same northwest area as foraging habitat from 03:27 - 04:10. There were also two common pipistrelles recorded foraging from 03:50-04:02 over the River Ember, which flowed along the western boundary of the site. At 4:01, one common pipistrelle was observed commuting from the south into the garden area to the northeast of the site and utilising the back gardens adjacent to the east of the site as foraging habitat. Potentially the same bat was recorded returning to the south of the site at 04:35.

Soprano pipistrelle
Soprano pipistrelle activity was concentrated around the south of the site, with the first recording at 03:30 near the north portion of the river. At 03:53, one individual entered the site from the south and flew over Buildings 3 and 5 towards the northeast. At 03:56, likely the same individual returned along the same flight path. There was consistent foraging of this species recorded around the River Ember and Building 2 from 04:04-04:40.

Noctule

Noctules were recorded foraging close to Building 2, however no visual contact was made. At 04:48 a noctule was detected commuting high over the site from the wooded area on the western banks of the River Ember to the east over Building 3. This bat was not observed re-entering any features associated with the site.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat. Analysis of the camera footage recorded no emergences from the buildings or bat activity.

Plate 4.3.1 Screenshot of camera focused on Building 2 at 3:26am on the Dawn-Re-entry Survey 15/07/2022

5. DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

5.1.1 Summary of Proposals

The proposed redevelopment of the site will involve the demolition of buildings B1, B4, B5, B6 and B7. The river wall of Building B2 (Newstead House) is to be retained but the building will otherwise be demolished. The redevelopment of the site will entail demolition (or partial demolition) of all existing buildings and the erection of 3 buildings comprising 74 residential units (15 x 1 bed, 48 x 2 bed and 11 x 3 bed) and ancillary facilities for residents, underground and surface level car and cycle parking, mechanical plant, soft and hard landscaping and associated diversion of existing Thames Water pipe.

5.1.2 Summary of Dusk Emergence and Dawn Re-entry Surveys

Dusk Emergence Surveys

Six species of bat were recorded during these surveys; brown long-eared bat, noctule, soprano pipistrelle, common pipistrelle, leisler's bat and nathusius' pipistrelle. A soprano pipistrelle bat roost was recorded within Building B2 when a bat emerged from the eaves 14 minutes after sunset. Noctule and soprano pipistrelle were frequently recorded commuting across the site. Much of the foraging activity recorded was concentrated around the river to the east.

Dawn Re-entry Survey

Three species of bat were recorded during this survey; common pipistrelle, soprano pipistrelle and noctule. Commuting and foraging activity was recorded predominantly to the south of the site around the River Ember. There was also activity recorded around the site's allotment area and residential estate gardens to the east of the site. There was no bat roost confirmed during this survey.

5.2 CONCLUSIONS

This site is used as foraging and commuting habitat for at least six species of bats, due to it's proximity to the River Ember and residential gardens.

Following the survey work undertaken on site to date, it can be confirmed that Building B2 contains a bat roost used by soprano pipistrelle. Due to the observation of a single bat emerging from the eaves of the building 14 minutes after sunset during the first Emergence Survey, it is confirmed that this building is used as a day roost. Therefore, no unlicensed works can be undertaken. A recommendation regarding the licence application is made in Chapter 6.

Given that no bats emerged from or re-entered Buildings 1, 3, 4, 5 and 6, it is concluded that there are no bat roosts present in these buildings on site.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 Building B2

As a bat roost/resting place has been identified in Building B2, no unlicensed work can be undertaken which will contravene the legislation outlined in Appendix 1.

Examples of works which will breach this legislation include:

- Roof modifications/repairs/removal;
- Timber treatment;
- Noise, vibrations and storage of odorous and dangerous chemicals;
- Alterations to bat entrance/exit points;
- Investigations works in the roof as this can cause bats to abort their young/awake from hibernation and can alter the roof temperature/humidity; and,
- Works in the main body of the building.

N.B. This is not an exhaustive list and a bat worker should be consulted to determine if the works are likely to breach any legislation.

Prior to any works being undertaken which are likely to result in a breach of the legislation, a development licence must be obtained from Natural England. The licence application process will include the submission of a method statement detailing the current status of bats on site and how the favourable conservation status of the bat population will be maintained. Prior to a licence being issued, planning permission must be granted and relevant conditions relating to protected species and habitat issues must be discharged.

Dusk emergence and dawn re-entry survey data, in line with Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016), is required to inform the licence application. To ensure that the data submitted is current and appropriate for assessment by Natural England, surveys need to be carried out during the peak bat activity season closest to the start date of the proposed development. The peak bat activity season extends from May to August. An appropriate level of survey work has been undertaken within this study, however should any delays occur in the planning process which results in a delay in the bat licence application beyond Summer 2023, the bat activity surveys may have to be updated.

R2 Buildings B1, B4, B5 and B6

Buildings B1, B4, B5 and B6 have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed building have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the buildings in the interim. Updated Preliminary Bat Roost Assessments can be undertaken at any time of year. Updated surveys requiring nocturnal or dawn assessment will need to adhere to the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) with the surveys undertaken between April and September inclusive. In the unlikely event that a bat is found during site works all works in that area must immediately cease and a suitably qualified ecologist should be contacted.

R3 Lighting

In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:

- Avoiding the installation of new lighting in proximity to key ecological features, such as hedgerows and woodland edges.
- Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.

- The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
- Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
- Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
- Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.

R4 Habitat Enhancement

In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle. In general, bats seek warm places and for this reason boxes should be located where they will receive full/partial sun, although installing boxes in a variety of orientations will provide a range of climatic conditions. Position boxes at least 4 m above ground to prevent disturbance from people and/or predators. The planting of species which attract night flying insects is encouraged as this will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.

7. DRAWINGS

Drawing C153851-01-01 – First Dusk Emergence Survey

Drawing C153851-01-02 – Second Dusk Emergence Survey

Drawing C153851-01-02 – First Dawn Re-Entry Survey

514600

167400

B1

B8

B4

B7

B5

B2

B6

B3

167300

0 20 40 m

Legend

- Site boundary
- Infrared camera
- Surveyor location
- Soprano pipistrelle emergence
- Common pipistrelle commuting
- Common pipistrelle foraging
- Noctule commuting
- Noctule foraging
- Soprano pipistrelle commuting
- Soprano pipistrelle emerging
- Area not surveyed
- Building surveyed

Preliminary Roost Assessment

- High potential for roosting bats
- Low potential for roosting bats
- Negligible potential for roosting bats

Project	Orchard Lane, East Molesey
Drawing	First Dusk Emergence Survey (15/09/2021)
Client	CIRC Management LLP
Drawing Number	C153851-02-01-RevA
Revision	Rev A
Scale @ A3	1:500
Date	October 2022
Approved By	HS
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Legend

- Infrared camera
- Surveyor location
- Noctule commuting
- Soprano pipistrelle commuting
- Site boundary
- Area not surveyed
- Building surveyed

Preliminary Roost Assessment

- High potential for roosting bats
- Low potential for roosting bats
- Negligible potential for roosting bats

N

Project	Orchard Lane, East Molesey
Drawing	Second Dusk Emergence Survey (30/06/2022)
Client	CIRC Management LLP
Drawing Number	C153581-02-02
Revision	Rev B
Scale @ A4	1:1,000
Date	August 2023
Approved By	HS
Drawn By	RP

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C153581-02-02

Legend

- Site boundary
- Infrared camera
- Surveyor location
- Common pipistrelle commuting
- Common pipistrelle foraging
- Noctule bat commuting
- Soprano pipistrelle commuting
- Soprano pipistrelle foraging
- Area not surveyed
- Building surveyed

Preliminary Roost Assessment

- High potential for roosting bats
- Low potential for roosting bats
- Negligible potential for roosting bats

N

Project	Orchard Lane, East Molesey
Drawing	Dawn Re-Entry Survey (15/07/2022)
Client	CIRC Management LLP
Drawing Number	C153851-02-03
Revision	Rev B
Scale @ A4	1:1,000
Date	August 2023
Approved By	HS
Drawn By	RP

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APPENDIX 1

LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is 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.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

ECOLOGY

At present, 18 species of bats are known to live within the United Kingdom, of which 17 species are confirmed as breeding. All UK bat species are classed as insectivorous, feeding on a variety of invertebrates including midges, mosquitoes, lacewings, moths, beetles and small spiders.

Bats will roost within a variety of different roosting locations, included houses, farm buildings, churches, bridges, walls, trees, culverts, caves and tunnels. At different times of the year the bats roosting requirements alter and they can have different roosting locations for maternity roosts, mating roosts and hibernation roosts. Certain bat species will also change roosts throughout the bat activity season with the bat colony using the site to roost for a few days, abandoning the roost and then returning a few days or weeks later. This change can be for a variety of reasons including climatic conditions and prey availability. Bats are known live for several years and if the climatic conditions are unfavourable at a particular roost, they may abandon it for a number of years, before returning when conditions change. Due to the matriarchal nature of bat colonies, the locations of these roosts can be passed down through the generations.

Bats usually start to come out of hibernation in March and early April (weather dependent), when they start to forage and replenish the body weight lost during the hibernation period. The female bats then start to congregate together in maternity roosts prior to giving birth and a single baby is born in June or July. The female then works hard to feed her young so that they can become independent and of a sufficient weight to survive the winter before the weather gets too cold and invertebrate activity reduces. Males generally live solitary lives, or in small groups with other males, although in some species the males can be found living with the females all year. The mating season begins in the autumn. During the winter bats hibernate in safe locations which provide relatively constant conditions, although they may venture outside to forage on warmer winter nights.