

MOSS LANE EAST MANCHESTER

**DUSK EMERGENCE AND
DAWN RE-ENTRY BAT SURVEYS**

A Report to: CS Moss Lane East Ltd

Report No: RT-MME-158448

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FINAL



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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:	Approved by:
Draft	17/08/2022	Amy Carter MSc (Ecological Project Officer)	Ellie Rickman MCIEEM (Principal Ecological Consultant)
Final	08/09/2022	Amy Carter MSc (Ecological Project Officer)	Ellie Rickman MCIEEM (Principal Ecological Consultant)

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 Environmental Ltd. 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 Environmental Ltd 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 August 2022, CS Moss Lane East Ltd commissioned Middlemarch Environmental Ltd to undertake dusk emergence and dawn re-entry bat surveys at 466 to 470 Moss Lane East in Manchester. These surveys are required to inform a planning application associated with the demolition of 470 Moss Lane East and redevelopment of 466/468 Moss Lane East to create new student accommodation and associated amenities.

Dusk emergence and dawn re-entry surveys were undertaken between 2nd August 2022 and 16th August 2022. A final survey is scheduled to be undertaken on 2nd September 2022.

The interim findings of the surveys undertaken so far indicate that there is a summer day roost for common pipistrelle bats in Building B1 (470 Moss Lane East). One common pipistrelle bat was observed to emerge from the north western eaves of this building during the first dusk survey on the 2nd of August 2022. Three common pipistrelle bats were recorded returning to roost within a vent, and under two gable end eaves during the dawn re-entry survey on 16th August 2022. Emergences from a building adjacent to the site, to the west, were also recorded during the first dusk survey.

Following the results of the dusk emergence and dawn re-entry surveys, the following recommendation has been made with the available data:

R1 Buildings B1

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

R2 Third Emergence/Return to Roost Survey

This report must be updated and re-issued on completion of the third emergence/return to roost survey in line with Bat Surveys: Good Practice Guidelines (Collins, 2016).

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.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In August 2022, Turley Associates commissioned Middlemarch Environmental Ltd to undertake dusk emergence and dawn re-entry bat surveys at Moss Lane East, Manchester. These surveys are required to inform a planning application associated with planning application associated with the demolishing of 470 Moss Lane East (identified as Building 1 for the purposes of this report) to make way for new student accommodation and the redevelopment of 466/468 Moss Lane East (identified as Building 2 for the purposes of this report) to create student amenities.

To fulfil the above brief to assess the potential for the existing buildings on site to support roosting bats, three emergence surveys were undertaken on 2nd of August and 16th of August, with the third survey set to take place on the 1st of September.

Middlemarch Environmental Ltd has previously carried out a Preliminary Ecological Assessment and Preliminary Bat Roost Assessment for Turley Associates at this site. The findings of these surveys are detailed in Report RT-MME-158021-01 and RT-MME-158021-02, respectively.

Building 1 was a three-story building constructed of red brick with an irregular shaped roof, covered in slate tiles, some of which were dislodged or broken. During the assessment, several bat roosting features were identified and included missing or dislodged roof tiles, missing mortar in brickwork, lifted lead flashing and worn fascia boards. Due to these features, Building 1 was considered to have high bat roost potential and therefore will be subject to three emergence/re-entry surveys.

Building 2 was also a three-story building constructed of red brick with a mansard shaped roof, covered in slate tiles, some of which were dislodged. Several features were identified which included missing or dislodged roof tiles, missing mortar in brickwork, lifted lead flashing and worn fascia boards. This building was also considered to have high bat roost potential due to the number of suitable features and is therefore also subject to three emergence surveys.

B3 was a small bike shed. It had a hipped roof with clay tiles all in good condition and had a metal grate door which allowed a view of the interior. The interior was open up to the roof. The structure had wooden fascia boards, all in good condition with heavy cobwebbing. The bike shed was considered to have negligible bat roost potential due to lack of roosting features and being open to weather conditions and fluctuating internal temperatures and will not be subject to emergence surveys.

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 site consisted of two large buildings 466/468 and 470 Moss Lane East, Manchester with a central OS Grid Reference of SJ 84858 95654. The buildings have been split into flats. The entire site area was Approximately 0.16 ha in area and as well as the buildings, included a large hardstanding carpark with access paths, amenity grassland, scattered trees throughout and occasional scattered privet and laurel planted borders.

The wider landscape consisted of the urban area of Hulme, dominated with businesses, residential houses, flats and gardens, hospitals, schools, carparks and carriageways. Whitworth Park is situated immediately to the north of the survey area.

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
AC20238-466-470MossLane East Manchester	Turley Associates

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal Report RT-MME-158021-01) an ecological desk study (which included a search for records of bats) was undertaken within a 2 km radius of the site. The consultee for the desk study was Greater Manchester Record Centre.

Middlemarch Environmental Ltd 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

The two main buildings (B1 and B2) 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.

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 (EM Touch 2 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.

2.2.3 Dawn Re-Entry Bat Surveys

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 (EM Touch 2 with associated recording devices). Computer analysis of bat detector information collected was utilised to identify all species recorded on the site.

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 on August 2022 by Greater Manchester Record Centre. Records of bat species within a 2 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
Brown long-eared bat <i>Plecotus auritus</i>	1	2016	440 m East	✓	ECH 4, WCA 5, WCA 6
Common pipistrelle <i>Pipistrellus pipistrellus</i>	6	2017	320 m North	-	ECH 4, WCA 5, WCA 6
Pipistrelle <i>Pipistrellus</i> sp.	1	2010	800 m North-East	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	1	2015	850 m East	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Key: #: Dependent on species. ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation. 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 2 km of Survey Area

4. SURVEY RESULTS

4.1 FIRST DUSK EMERGENCE SURVEY

The first dusk emergence survey was undertaken on 2nd of August by Charlotte Richardson (Senior Ecologist), Ellie Rickman (principal Ecological Consultant) and Shona Sutherland (Ecological Consultant). The weather conditions recorded at the time of the survey are detailed in Table 4.1.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	22	20
Cloud Cover (%)	100	90
Precipitation	F2-3	F3
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 21:03 hrs (BBC Weather Centre Data for Manchester). One species of bat, common pipistrelle *Pipistrellus pipistrellus* which were recorded during the survey. Survey results are plotted on Figure 4.1 below:

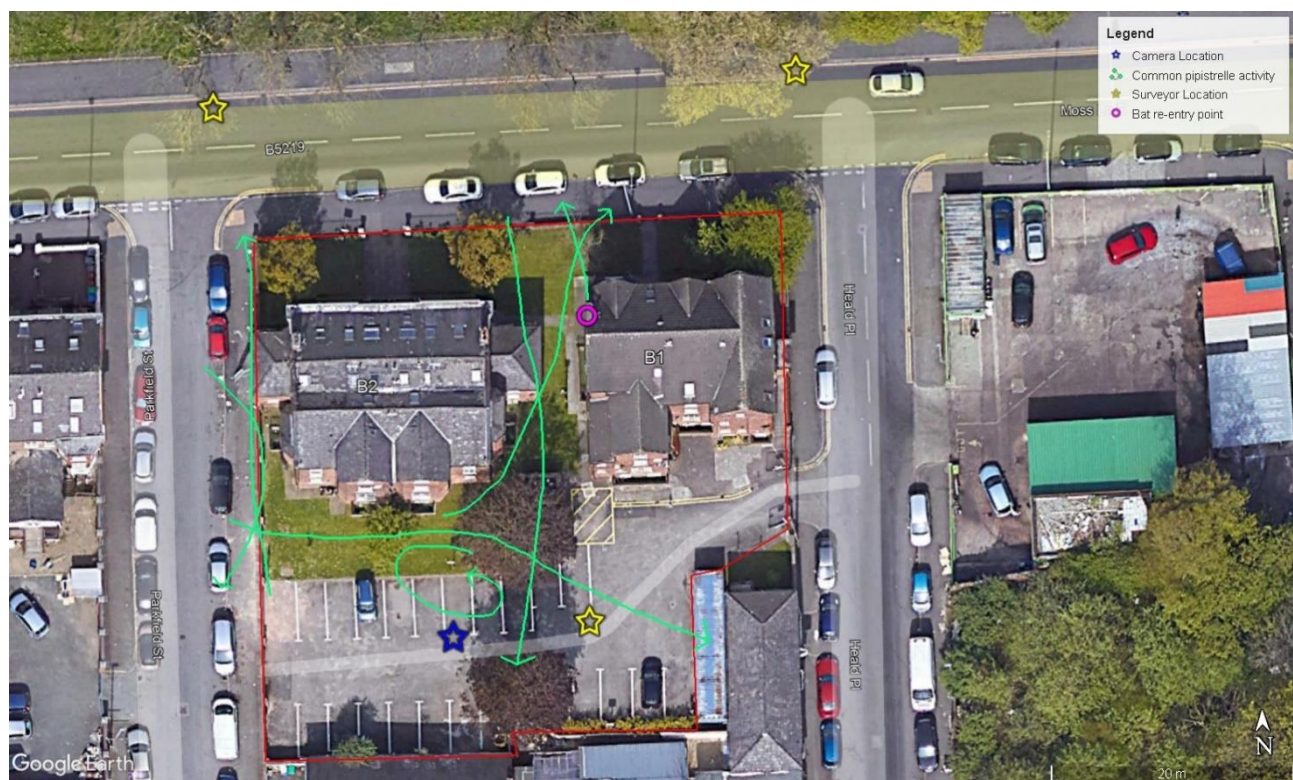


Figure 4.1: First Emergence Survey

Common pipistrelle

The first common pipistrelle was detected at 21.13 (11 minutes after sunset). The bat was seen moving from south to north toward Whitworth park but was not thought to have emerged from the building.

At 21.17 a common pipistrelle was seen to emerge from the eaves of Building B1 on the north west corner and was noted to fly north toward the park.

At 21.18, a bat was observed to fly behind building B2 in a westerly direction and pass between the two buildings towards Whitworth Park. This bat was not observed to have emerged from the buildings.

A strong pipistrelle call was detected but not seen to the south, before being seen to the north again, travelling off site to the park but was not thought to have emerged from the building.

At 21.21 a possible emergence was noted from an adjacent building to the west of B2, it was noted to fly south-west toward nearby gardens.

Foraging behaviour was then noted with bats flying around the buildings and towards the park from 09.27 and 09.43.

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

4.2 DAWN RE-ENTRY SURVEY

The dawn re-entry bat survey was undertaken on 16th of August 2022 by Ellie Rickman (Principal Ecological Consultant), Anna Evans (Ecological Consultant), Amy Carter (Ecological Project Officer) and Geoff Nicholls (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)	17	16
Cloud Cover (%)	100	95
Precipitation	dry	Dry
Wind Speed (Beaufort)	F0	F0-F1

Table 4.2: 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 05:50 hrs (BBC Weather Centre Data for Manchester). One species of bat, common pipistrelle were recorded during the survey. Survey results are plotted on Figure 4.2 below:

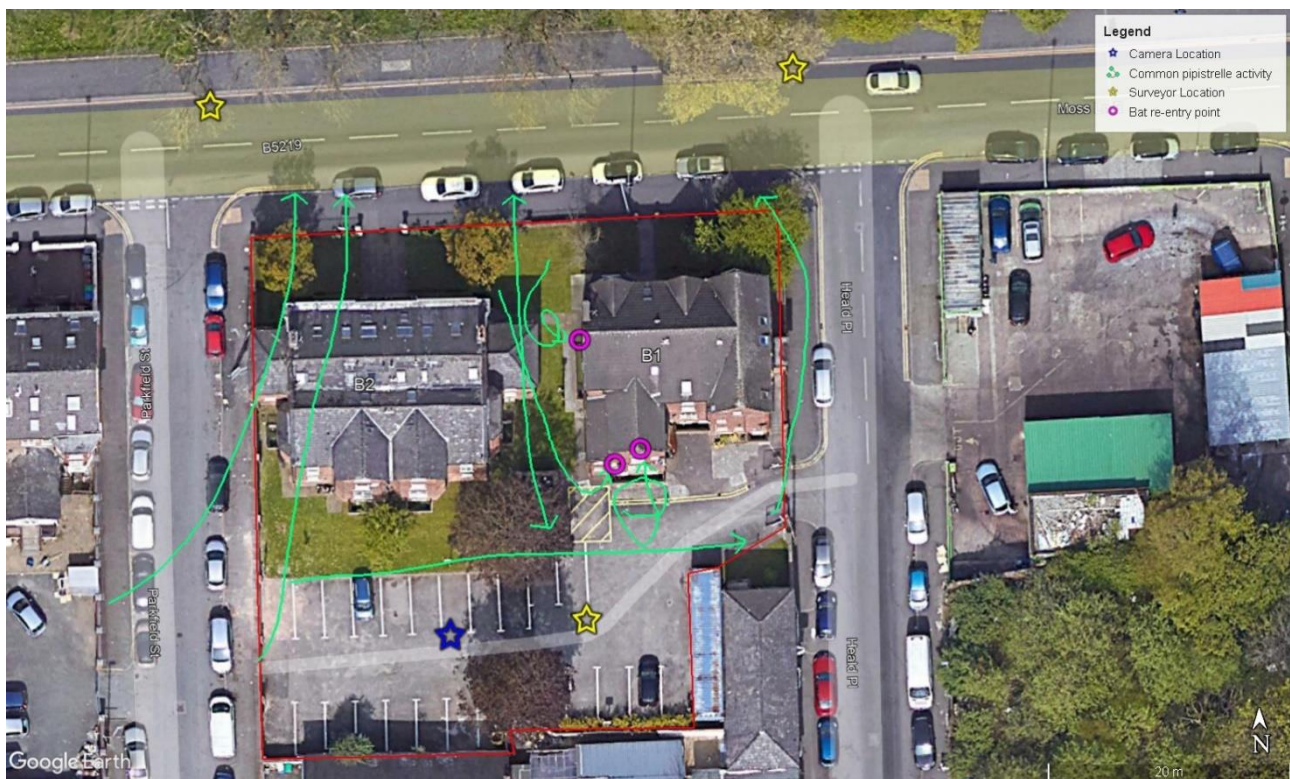


Figure 4.2: Dawn Re-entry Survey

Common pipistrelle

The first common pipistrelle was recorded at 04.29 and was seen moving from the south to the north. Between 04.42 and 04.46, common pipistrelles were picked up on the detector, but no visuals were made. Further detections were made between 05.07 and 05.09, where bats were seen flying towards the park from the south.

Foraging behaviour was then seen with bats moving to and from the north and south toward the park in the north and back to the south and west toward the gardens between 05.18 and 05.32.

At 5.20, two common pipistrelles were observed in swarming behaviour around the carpark to the south of the buildings, before one was seen entering a vent to the south-western side of B1 at 05.25. Another common pipistrelle was observed entering the eaves at the apex of the roof on B1 on the south-western gable end at 05.35. At 05.39 a common pipistrelle was seen swarming around a gable end apex to the north of B1 and was then seen entering under the eaves on the north-western corner.

4.3 SECOND DUSK EMERGENCE SURVEY

The second dusk emergence survey was undertaken on 1st September 2022 by Marie Steggall MCIEEM (Principal Ecological Consultant), Shona Sutherland (Ecological Consultant), Geoff Nickolds (Ecological Project Officer) and Andrew Farmer (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)	22	19
Cloud Cover (%)	10	0
Precipitation	F1-2	F1
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 19.59 hrs (BBC Weather Centre Data for Manchester). Three species of bat, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctula* were recorded during the survey. Survey results are plotted on Figure 4.3 below:



Figure 4.3: Second Emergence Survey

Noctule

At 20:03 (4 minutes after sunset) a noctule was recorded by the surveyor at the north western corner of the site. This bat was not observed and was considered likely to have been within Whitworth Park to the north. Further similar passes were detected at 20:08, 20:16 and 20:35.

At 20:15 a noctule was observed foraging along the trees at the edge of Whitworth Park

Common pipistrelle

The first common pipistrelle was detected at 21.08 (9 minutes after sunset). The bat was detected but not seen by the surveyor to the north west. Given the early time, it was considered to have emerged from nearby

At 20:12, a common pipistrelle was detected but not seen to the north of the buildings. Similar detections were also recorded at 20:18, 20:34 and 20:40.

At 20:25, a common pipistrelle was observed to fly between buildings B1 and B2 from north to south and back again.

At 20:37 a common pipistrelle was observed foraging over gardens to the west of the site

At 20:45 a common pipistrelle was observed to fly along the west side of building B2 and enter a location in the gable end of a garage structure immediately south of the site.

Soprano Pipistrelle

The first soprano pipistrelle was detected at 20:12 (13 minutes after sunset) by the surveyor to the north west. This bat was not observed.

At 20:19 a soprano pipistrelle was detected flying north to south along the western side of the site.

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

5. DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

5.1.1 Summary of Proposals

It is understood that B1 is to be demolished completely in order to make way for new student accommodation and B2 will remain but will undergo redevelopment in order to repurpose the building for student amenities on site.

5.1.2 Summary of Dusk Emergence and Dawn Re-entry Surveys

First Dusk Emergence Survey

One bat species was recorded during the dusk survey; common pipistrelle. One common pipistrelle bat emerged from eaves at the north western corner of B1 and was seen then commuting north toward Whitworth Park. Around the same time a bat was observed to pass behind B2 and between the buildings on site. Commuting and foraging activity was recorded during the survey period. This was predominantly around the buildings and toward Whitworth Park to the north, and occasionally to the north west toward residential gardens. Another bat was seen potentially emerging from an adjacent building to the west of B2 and was noted to leave site to the south-west toward a corridor of gardens.

Dawn Re-entry Survey

One bat species was recorded during the dusk survey; common pipistrelle. Three common pipistrelle bats re-entered Building B1 in different locations during the survey. One common pipistrelle bat was seen re-entering a vent on the south-western side of B1, the second was seen entering the building at the eaves at the apex of the building on the south-western gable end and a third bat was seen swarming and then re-entering B1 in the eaves to the north-western corner. Commuting and foraging activity was recorded during the survey period. This was predominantly around the buildings and toward Whitworth Park to the north, and occasionally to the north-west toward residential gardens.

Second Dusk Emergence Survey

No bats were seen to emerge from either building although one common pipistrelle bat was recorded just 4 minutes after sunset, suggesting that it had emerged from very nearby. One common pipistrelle bat was recorded entering a roost site in a building immediately off-site to the south. Commuting and foraging activity by common pipistrelles was recorded on the west side, through the gap between buildings and in the car park to the south. Noctule bats were recorded within Whitworth Park to the north and soprano pipistrelles were also detected commuting to the west of the site.

5.2 CONCLUSIONS

Following the suite of survey work undertaken on site it can be confirmed that Building B1 contain a bat roost used by common pipistrelle. Due to the observation of numerous features on the buildings during the Preliminary Roost Assessment and the observation of one common pipistrelle emerging from the north east corner during the first emergence survey and three common pipistrelles returning to roost during the dawn-re-entry survey, it is considered that building B1 is in use as a day roost for a small number of common pipistrelle bats. Therefore, no unlicensed works can be undertaken on this building that may disturb roosting bats. A licence from Natural England will be required and a recommendation regarding this is made in Chapter 6.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals and after only undertaking two out of three emergence/re-entry surveys, 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 Buildings B1 (470 Moss Lane East)

As a bat roost/resting place has been identified in Building B1, 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. A summary version is given in Chapter 7. 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 August 2023, the bat activity surveys may have to be updated.

R2 Building B2

Building B2 has 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/s 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 trees and the park edge;

- 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;
- 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;
- For internal lights, recessed light fittings cause significantly less glare than pendant type fittings. The use of low-glare glass may also be appropriate where internal lighting has the potential to influence sensitive ecological receptors.

7. PROPOSED MITIGATION STRATEGY

7.1 INTRODUCTION

During the suite of surveys conducted at the site, a day roost for a low number (maximum count of 3) of common pipistrelle bats is present in Building B1, 470, Moss Lane East. A Natural England Bat licence for Low Impacts will be obtained for the site before works may proceed.

The following approaches are recommended to ensure that works proceed without any breaches in wildlife legislation and no bat roosts are disturbed/destroyed as a result of the works.

7.2 PROTECTION MEASURES

7.2.1 Pre-Works Survey

As dusk emergence and dawn re-entry surveys have been carried out within the current activity season, a pre-works survey will not be carried out. However, if the works are delayed beyond August 2023, a pre-works survey will be undertaken immediately prior to works commencing on site to ensure that the status of the site has not changed since the survey work was carried out. This will include a daytime assessment (externally and internally) and a dusk emergence survey (where the works are undertaken during the bat activity season). If it is identified that the status of the roost has altered/increased, no destructive works will be carried out until advice from Natural England has been sought. If the status of the roost has not altered, then the works will proceed as per this method statement.

7.2.2 Mitigation of Roost Features

Prior to any works being undertaken, three Schwegler 2F bat boxes (or similar) will be installed on an appropriate tree in close proximity to the property. This will provide a location for any bats discovered during the demolition of the building to be transferred to. The bat boxes will be placed on a tree at approximate angles of 120 degrees to provide a variety of climatic conditions (i.e. sun and shade at different times of the day). All bat boxes will be situated higher than 3 metres from the ground to prevent any negative interference.

Building B1 is scheduled to be demolished under the current proposals and the day roosts will therefore be lost. As mitigation for this, three permanent Habibat 001 or Schwegler 1 FQ (or similar) bat boxes will be installed within new buildings or on the retained building. If this is not feasible, it may be possible to seek permission for tree mounted boxes (Schwegler 2F or similar) to be installed on trees in nearby Whitworth Park.

7.2.3 Lighting

No additional lighting should be installed on site (either during or post development) which will cause new or increased illumination to the bat boxes or foraging habitat such as retained or planted trees. If any lighting is required for health and safety/security reasons, it will be low level (i.e. installed at the ground level) and directional (i.e. downwards pointing and directed away from the roost locations and identified foraging/commuting habitat around the building). This will ensure that bats using the site to roost/forage/commute are not affected by illumination. Any illumination should be approved by Middlemarch Environmental Ltd to ensure no bat roosts are impacted.

7.2.4 Toolbox Talk

A 'toolbox talk' will be held with the development team before any works are undertaken to ensure that the contractors are aware of the bat issues associated with the site. This will also include the adoption of appropriate methodologies for works to remove the key roost features, to ensure no harm to bats occurs. A written record of this toolbox talk will be made by the ecologist and also the site manager to confirm that it was undertaken in line with this method statement.

7.2.5 Timing of Works

As only a day roost of a common bat species (common pipistrelle) will be directly affected by the development, works can be undertaken at any time of year. Works affecting roosting locations will not take place in temperatures lower than 5°C or in periods of heavy rain.

7.2.6 Destruction of Roost/ Ecological Clerk of Works

Prior to demolition, key features at the roost locations will be dismantled by hand under ecological supervision. This will include removal of soffits and tiles at the eaves and the terracotta vent to the south of the building. Destruction of key features will be carried out by hand under the supervision of the licensed bat worker. If a bat is discovered during these works, then this will be quickly transported to the temporary bat boxes previously installed on a tree near to the site. These works will not be undertaken when it is raining to ensure that the bats do not get wet when they are transported to the bat box.

The installation of new bat boxes will be overseen by a licensed bat worker to ensure they are located appropriately on the building/trees.

7.2.7 Unexpected Bats

If individual bats are discovered unexpectedly, including during periods of adverse weather, then the following steps must be taken:

- a. Works to the building must stop immediately. If the Named Ecologist is not on site, he/she must be contacted immediately to attend the site.
- b. Do not expose the bat or cause it to fly out of the roost on its own accord.
- c. The bat must only be handled by the Named Ecologist or an Accredited Agent unless it is in immediate danger. The bat must be carefully placed in a lidded ventilated box with a piece of clean cloth and a small shallow container with some water. The box must be kept in a safe, quiet location.
- d. Care must be taken to avoid rousing the bat during transfer to a suitable location – which may be a suitable hibernation box or other alternative roost constructed, providing a safe, quiet environment with stable, suitable temperature and relatively high humidity, safe from further disturbance.
- e. The Named Ecologist must re-assess the structure and determine whether works can continue under this licence, or whether a modification to the licence is required before works re-commence. A written record must be kept of this decision and made available to Natural England or any police officer on request. This incidence must also be reported on the licence return.
- f. Any underweight or injured bats must be taken into temporary care by an experienced bat carer and looked after until such time that the bat can be transferred to a suitable replacement roost at the same site, or weather conditions are suitable for release at the same site.

In the unlikely event that a bat becomes injured, any injured bats will be immediately taken into care (as directed by Bat Workers Manual, 2004). Details of a bat carer are known.

7.3 CONCLUSION

Due to the presence of three roost locations for individual common pipistrelle bats within Building B1 (470 Moss Lane East) a bat licence will be required from Natural England to enable works to take place. Methodologies, work timings and recommendations will be detailed within the licensed method statement in order to allow works to proceed without any breaches in wildlife legislation occurring.

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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.