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Tyrer Ecological Consultants Ltd, Roselands, 3 Cross Green, Formby L37 4BH

Dusk Survey Results

October 2023

Wythenshawe Bus Garage

Bradnor Road

Sharston Industrial Area

Wythenshawe

Manchester

M22 4TE

National Grid Ref: SJ83048937



Wythenshawe Bus Garage, Bradnor Road, Sharston Industrial Area, M22 4TE
Dusk Survey Results

Document Title	Dusk Survey Results
Prepared for	Atelier MB Ltd
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Tyrer Ecological Consultants Ltd will however consider forwarding data that is collected as part of its reports to the relevant wildlife records centre.

N.B. *Bat emergence/re-entry surveys are typically valid for a period of 12-18 months, at the discretion of the Local Planning Authority and/or Natural England. Should your planning application not achieve consent, or a licence application (where required) not be applied for within this time period, updated surveys may be required.*

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1.0 Background and Introduction

- 1.1 As part of a proposed planning application and application for listed building consent at Wythenshawe Bus Garage off Bradnor Road, Manchester, Tyrer Ecological Consultants Ltd carried out a Preliminary Ecological Appraisal (PEA) in August 2023. As part of this appraisal, a preliminary roost assessment in relation to bats was undertaken which concluded the following:

“Based upon the findings of the survey covered through sections 6.0 - 7.0 of the report, the historic bus shelter has been determined to offer ‘Moderate’ bat roost suitability based on availability of potential roost features. The level of suitability assigned is in strict accordance with the Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) as are the subsequent recommendations. It is recommended that two dusk and/or dawn emergence/re-entry surveys are conducted during the active season of bats (May – August) at the bus depot, in order to establish if it is being used by bats for roosting use, and if so, identify bat species, abundance, roost locations and flight lines around site during any emergence/re-entry.”

- 1.2 The proposals are for refurbishment of the existing bus garage and follow discussions with Manchester City Council Conservation Officers and advice from various specialist contractors.
- 1.3 Tyrer Ecological Consultants Ltd were therefore re-commissioned to undertake the further bat surveys as recommended in the preliminary survey report; the surveys (two dusk emergence surveys) were carried out in August-September 2023 in accordance with current Bat Conservation Trust (BCT) Guidelines during the active season of bats (see **Figure 1.1**).

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

Figure 1.1 - Extract from Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016)

- 1.4 The results, conclusions and recommendations following the survey, including any indicative mitigation to inform an application to Natural England for a European protected species mitigation licence (EPSML), where necessary, will be supplied within this report.
- 1.5 This report should be read, understood, and presented to the local authority as an additional document to the preliminary roost assessment.
- 1.6 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM et al, 2019), measures have been recommended proportionate to anticipated impacts to ensure that the proposed development results in a biodiversity net gain.

2.0 Bats - Legislation & Policy

2.1 All British bats and their ****roosts**¹ are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (Mainly spring/summer months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

Policy

2.3 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

¹ ******The term **roost** is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

- 2.4 Policy EN15 under Biodiversity & Geological Conservation of the Manchester Core Strategy 2012 to 2027 states -

“Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate...”, and, “Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation”, “It is important to recognise that brownfield sites often contain diverse and valuable biodiversity.”

3.0 Protected Species in Greater Manchester

- 3.1 Up to ten bat species have been recorded in Manchester, most of which use built structures, notably occupied residential properties, for roosting. All bats feature on the local biodiversity action plan for the area; the most frequently encountered bat species is the Common Pipistrelle (*Pipistrellus pipistrellus*) which will roost in building crevices, and its abundant status in Manchester is reflected throughout the UK.

4.0 Survey Methods

- 4.1 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) edition states:-

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. The guidance should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”

- 4.2 Relative to the above the survey protocol has been determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.3 In accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), it is specified that: *“The bat active period is generally considered to be between April and October inclusive”*, though the period of **May - August** is the optimal most productive period to identify breeding / maternity sites that Natural England accept bat surveys and grant European Protected Species Mitigation licences (EPSML).
- 4.4 The timing of the surveys took place in August-September, and whilst the second survey. Was outside of the main breeding season is still within the active and social season of bats. September is a time when summer roosts are starting to disperse, and bats are moving into a transitional period prior to the hibernation season. The main active season of bats is generally accepted as May – August across the industry, though this can be extended into September dependent on the roost potential identified at a building. In this instance, given the potential present at the building, Wythenshawe Bus Shelter is considered highly unlikely to support a maternity roost of any of the bat species identified as being present within the Greater Manchester area. However, it is considered a suitable building to offer day / transitional provision for bats, and thus a survey at this time of year is considered to be a productive month to complete emergence observations.
- 4.5 Where bats are roosting, they are likely to be detected by the ecologists who are trained in the use of bat detector hardware and call analysis software (Analook / Kaleidoscope), and specifically how to detect bats and to correctly identify/disseminate bat calls.
- 4.6 Furthermore, at dawn, temperatures are usually lower than at dusk; as a result, bat activity can, in some locations, be less frequent. Additionally, where singular/small numbers of bats are present and there are no survey constraints then dawn surveys are of no more value than dusk surveys; singular bats can and do return to a roost before dawn and as a result a dawn survey would not record them anyway.

BCT issued an Interim Guidance Note in May 2022 in advance of a 4th edition of bat survey guidelines to be published in Summer 2022, which supersedes existing guidelines and states in relation to dawn surveys that:

“Whilst dawn surveys can reward surveyors with displays of dawn swarming behaviour, there is a concern that bats that have returned earlier will be missed...”

The 4th edition of the survey guidelines will therefore transition away from the standard use of dawn surveys, particularly as a method for presence/absence surveys in favour of dusk surveys supported by NVAs. The use of NVAs has the potential to improve the quality of dusk surveys, providing clarity on exact emergence points and bat counts that might not otherwise be available because of the limitations of the human eye.”

- 4.7 Survey protocol should not be determined by parties who are 1) not familiar with the site, and 2) do not have a sufficient level of experience in relation to the undertaking of dusk/dawn bat surveys.
- 4.8 The number of surveys and surveyors was adequate relative to the roost potential that was identified during the daytime appraisal – i.e. **‘Moderate’** potential. Five surveyors were required to accurately monitor potential roost features (PRF’s) on the building at any one time; the locations and positions of the surveyors was in correspondence with the features that were identified during the daytime survey.
- 4.9 Surveyors were strategically positioned so that all elevations with bat roost potential, as described in the daytime report, could be observed without limitations. The surveyors were aided with Anabat, Batlogger, Echometer EM2, Peersonic, or equivalent electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; echolocation calls were analysed the next day using Analook or equivalent computer software to verify field observations; where deemed appropriate by the attending ecologists, elevations were also surveyed via the use of a Night Visual Aid (NVA) Camera (Panasonic HC-VXF990) (or similar) – recordings would be subject to review the following day.

Survey Limitations

- 4.10 No significant limitations were encountered that impacted upon Tyrer Ecological Consultants ability to conduct surveys using best practice methodology or the conclusion of this report.

5.0 Results

5.1 Two dusk emergence surveys were undertaken on 31st August and 22nd September 2023 by five surveyors at a time; surveyor credentials have been given within **Table 5.1**. **Tables 5.2-5.3** alongside **Figures 5.1-5.2** document the results of the dusk surveys.

Table 5.1 - Surveyor Credentials

Name	Experience	Details
Mr. H. Mulligan Qualifying CIEEM	2 years	- Junior Ecologist with a range of training and experience, - MBiolSci in Biological Sciences (Zoology), - Accredited agent on the Class 2 Natural England bat license of Mrs K Wildling (CLS-14227).
Miss. C. Rimmer	1 year	- Trainee Ecologist undergoing extensive training and experience, - BSc Hons in Wildlife and Conservation.
Mr. H. Green	30+ years	- Highly experienced bat specialist and carer with surveying experience with Tyrer Ecological Consultants Ltd over decades, - Holds a Class 2 Natural England bat license (CLS-03290).
Mr. M. Smith	7 years	An experienced seasonal bat surveyor with Tyrer Ecological Consultants Ltd.
Mr. J. Wright	1 year	A seasonal ecological consultant with experience of undertaking professional bat surveys.
Dr. R. King MCIEEM	15 years	An experienced seasonal ecological consultant with experience of undertaking professional bat surveys.
Miss. L. Wilde	1 year	A seasonal ecological consultant with experience of undertaking professional bat surveys.

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Table 5.2 – Survey dates, times and weather conditions

Time	Date	Weather Conditions
1942 – 2130	31 st August 2023	Sunset: 2002: Post rain, 100% cloud cover, gentle breeze Start temp: 16°C End temp: 13°C
1850 – 2040	22 nd September 2023	Sunset: 1910: Clear, 10% cloud cover, light breeze Start temp: 13°C End temp: 11°C

Table 5.3 – Dusk Survey Results

Time	Dusk Survey	Activity
1942 – 2130	31 st August 2023	Summary: No bat emergence from target building. Absence of bat activity during survey.
1850 – 2040	22 nd September 2023	Summary: No bat emergence from target building, occasional activity by a single noctule. 1942 – 2010 hrs: Occasional passes by a noctule along Harling Road at north-west of the building.

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Dusk Survey 1 – 31/08/2023

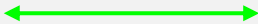
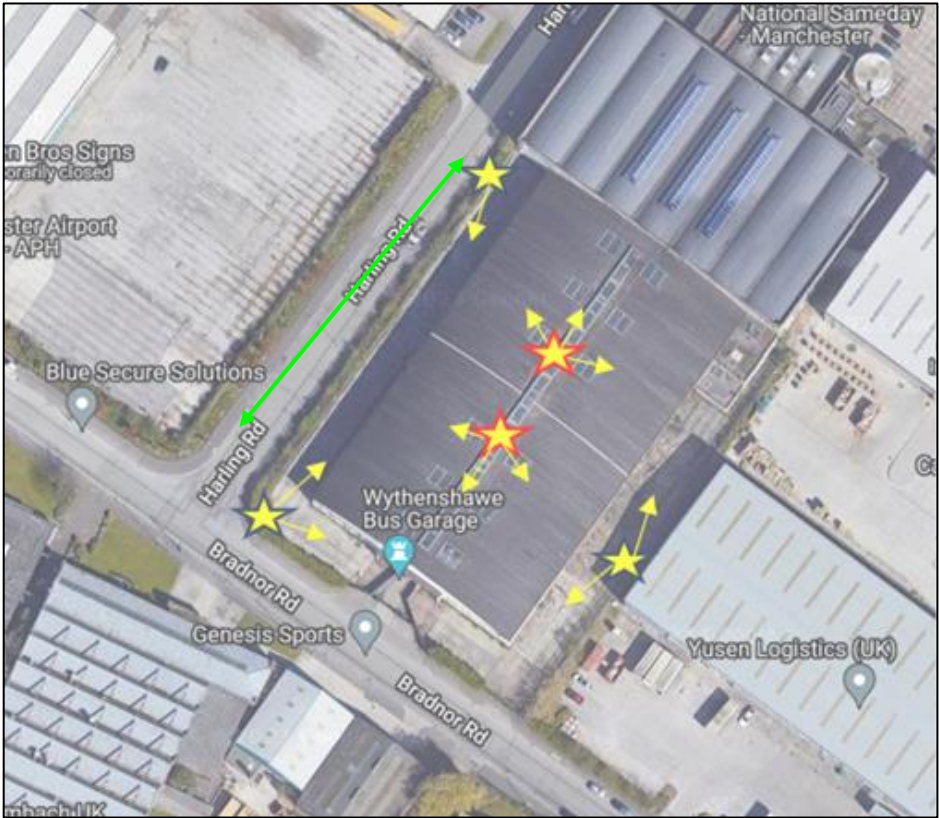
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.1 - Visual Aid - Dusk Survey 1 Results with Key



Dusk Survey 2 – 22/09/2023

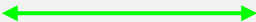
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.2 - Visual Aid - Dusk Survey 2 Results with Key

6.0 Survey Conclusions & Recommendations

- 6.1 From the dusk survey results, it can be concluded that whilst using best practice survey methodology, emergence of bats was absent at Wythenshawe Bus Garage; activity comprised of one noctule bat which was recorded during the survey.
- 6.2 As bats are highly transient species and can use buildings that offer potential roost features at any time of the year, it should be stated that if bats, or evidence of bats (see **Figure 6.1**), is found at any stage during the works then as a legal requirement the work at the site should immediately cease and a bat ecologist contacted for further advice.



Figure 6.1 - Bat droppings (left) and pipistrelle bat (right)

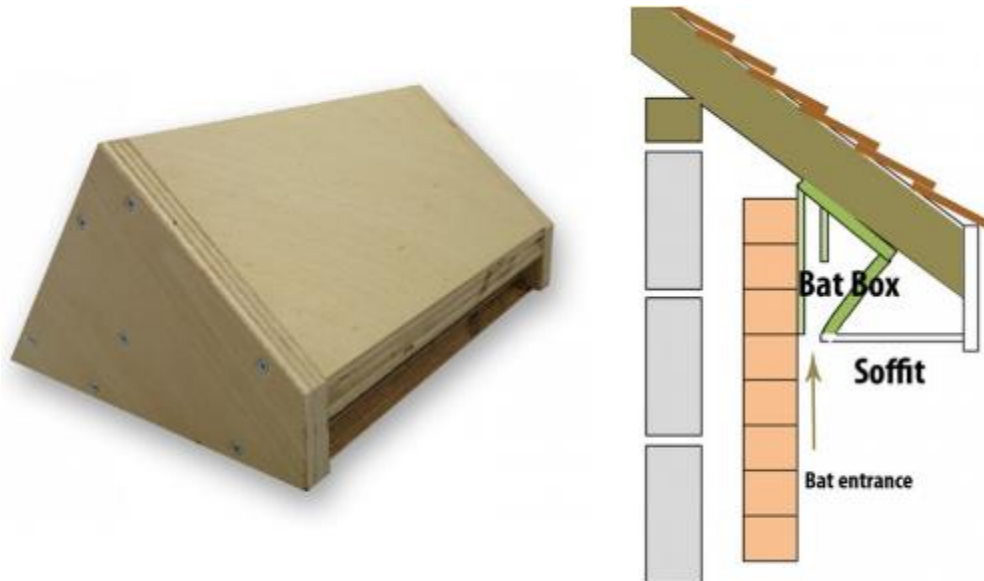
- 6.3 If bat(s) or their roost will be affected then a Natural England Mitigation licence will be required to legally continue with the work. Notwithstanding the granting of a licence works that would affect a roost cannot take place if a maternity colony is in occupation.
- 6.4 Notwithstanding the absence of roost behaviour observed, the proposed development scheme should consider further enhancement for bats as part of its biodiversity enhancement of the site in accordance with local and national planning policy, particularly as many of the potential roost features were destroyed/impacted upon before surveys could take place. At the clients request Tyrer Ecological Consultants can provide a bespoke and annotated plan in respect to the location and specific roost provision that would be considered suitable as part of this development.

See Figures overleaf for indicative ideas which could be integrated during the proposed development Wythenshawe Bus Garage. A bespoke enhancement plan at the client's request can be provided which will annotate locations of roost provision and specification.

Enhancing a development site for Bats

Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

This Improved Crevice Bat Box is designed to be suitable for the small British crevice-dwelling bats - the Pipistrelles, Soprano Pipistrelles and Barbastelle's - these species make up over three quarters of UK bats.

The box is relatively lightweight and can easily and safely be mounted to walls or trees.

<https://www.nhbs.com/improved-crevice-bat-box>



The Beaumaris box has a single narrow cavity which makes it suitable for crevice roosting bats such as the common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Brandt's bat and whiskered bat. This bat box is made entirely from woodstone, a robust material comprising concrete and wood fibres. This means that, not only does the box have excellent insulating properties maintaining a more consistent temperature

<https://www.nhbs.com/beaumaris-woodstone-bat-box>



7.0 References

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Appendix I: Preliminary Ecological Appraisal (Tyrer Ecological Consultants Ltd, September 2023)