



THE
ENVIRONMENT
PARTNERSHIP



PHOENIX IRONWORKS ANCOATS, MANCHESTER BAT SURVEY TECHNICAL REPORT

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DRAWINGS

G9803.007 Phase 1 Habitat Survey Showing Building Numbers

APPENDIX A

Surveyor and NVA Positions, with Bat Roost Location

1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned in May 2023 by Manchester Life Development Company 3 Ltd (hereafter referred to as 'the Client') to undertake bat surveys for a development at Phoenix Ironworks, Jersey Street, Manchester (hereafter referred to as 'the site'), in order to inform site proposals of demolition of the four buildings on site.
- 1.2 A Preliminary Roost Assessment (PRA) of structures and trees within and immediately adjacent to the site was undertaken by TEP in March 2023 to determine habitat suitability for roosting bats. Habitats within the site were also reviewed as to their suitability to support foraging and commuting bats during the PRA.
- 1.3 This technical report details the bat surveys undertaken to further inform the Ecological Assessment (TEP Report Ref: 9803.001) for the site, following the findings of the PRA.
- 1.4 The objectives of this report are to:
 - Identify suitable bat roosting habitat (structures) within and immediately adjacent to the site;
 - Identify if bats are roosting within any of the structures identified during the PRA that may be impacted by development proposals;
 - Confirm roosting species, roost locations and roost characteristics, if roosts are present;
 - Advise of mitigation requirements that may be needed prior to works within the site, including further bat surveys and licensing if relevant; and
 - Provide appropriate recommendations for avoidance, compensation and enhancement measures that will be required to maintain the Favourable Conservation Status (FCS) of local bat populations and net biodiversity value for bats within the site.

2.0 Site Description

- 2.1 The site is located between Jersey Street, Poland Street, Naval Street and Radium Street in Ancoats, Manchester. The location of the site is depicted by the red line shown in Figure 1 below. The approximate central grid reference of the site is SJ 85139 98766. The site lies within an industrial area, surrounded by industrial and commercial buildings and associated infrastructure on all sides. The wider area comprises buildings and infrastructure comprising Manchester city centre. This includes new and renovated residential and commercial buildings.



Figure 1. Approximate site boundary in the context of the wider landscape.

- 2.2 No notable habitats are present within the site, which only supports buildings, hardstanding and ephemeral/ short perennial vegetation. The buildings and brick walls on site offer suitability for roosting bats. The site itself offers low foraging potential for bats, with limited connectivity to the wider landscape.

3.0 Background Information

Preliminary Roost Assessment of Structures

- 3.1 A daytime Preliminary Roost Assessment of structures within the site was undertaken to confirm the habitat suitability for roosting bats, carried out at all buildings on site on 15th March 2023 by John Crowder (NE Class 2 licence ref: 2015-10700-CLS-CLS) and Rosie Langley (NE Class 1 licence ref: 2018-35011-CLS-CLS). Four buildings - B1, B2, B3 and B4 were identified within the site (Drawing G9806.007). All buildings were assessed both externally and internally. Full details of the PRA are included in the Preliminary Ecological Assessment Report (TEP Report Ref: 9803.001).
- 3.2 No bats or evidence of bat use was found associated with any buildings on site.
- 3.3 B1, B3 and B4 were assessed as offering moderate bat roost suitability due to features such as lifted/missing roof tiles, missing mortar in brickwork and missing render in gable ends. B2 was assessed as having low bat roost suitability due to small gaps on the metal roof and external cladding. As such, further assessment of these buildings was required to support a planning application and permit future demolition of the buildings.
- 3.4 None of the buildings on site had bat hibernation roost suitability.

4.0 Methods

- 4.1 The following bat surveys were undertaken in accordance with the Bat Conservation Trust (BCT) Good Practice Guidelines (Collins, 2016).

Nocturnal Bat Surveys

- 4.2 The four buildings on site were categorised as having 'low' to 'moderate' bat roost suitability during the March 2023 PRA. Nocturnal surveys were undertaken on these buildings. Nocturnal surveys are required during the peak active season between May and August (inclusive).
- 4.3 Two initial nocturnal surveys were undertaken across the site, with a third required after building 1 was confirmed as a bat roost on the first survey. All surveys were undertaken during the peak active season between May and August and surveys were scheduled with at least the minimum of two weeks apart.
- 4.4 Surveys were undertaken during optimum weather conditions comprising dusk temperatures of $\geq 10^{\circ}\text{C}$, and no rain or strong winds (>4 on the Beaufort Scale).
- 4.5 During each survey, an appropriate number of surveyors were positioned at vantage points around each building to cover all PRFs noted during the PRA. Surveyor and NVA positions are illustrated in Appendix A.
- 4.6 The nocturnal surveys were led by TEP ecologists; Rosie Langley (Natural England Level 1 Class Licence Reference: 2018-35011-CLS-CLS) and Aimee Littlechild (accredited agent under John Crowders Level 2 Class Licence 2015-10700-CLS-CLS).
- 4.7 Lead surveyors were assisted by TEP Staff; Tom West, Gemma Hassall, Cameron Cambell, Poppy Parker, Samantha Vinsun, Eleanor Millington, Katherine Pedder and Sophie Cork and by TEP bat survey trained ecologists; Anthony Carr, Rita Griffiths, David Scott, Alex Wallis, Charlotte Nuttall, Gabriel Cooper, Victoria McKay and Alice Marshall.
- 4.8 Night Vision Aid (NVA) camera recording equipment paired with infra-red lights were used to support the survey effort, with two used on the first survey, three on the second survey and 1 on the final survey. Videos were later watched back for possible emerging bats using VLC media player.
- 4.9 Surveyors used a combination of Batlogger M (full spectrum) and Anabat Scout (full spectrum) bat detectors, with Anabat Express (frequency division) bat detectors used to support the NVA's.
- 4.10 Dusk emergence surveys commenced 15 minutes prior to sunset and finished 1.5 hours after sunset.
- 4.11 The details of the nocturnal surveys including start and finish times, weather conditions and sunset and sunrise times are provided in Table 1.

Table 1. Summary of nocturnal bat survey dates, start and end times and weather conditions completed in 2023.

Visit No.	Date	Start Time	End Time	Sunset	Moon Phase ¹	Weather Conditions				
							Temp °C	Rain	Cloud ²	Wind ³
1- B1, B2, B3, B4	17/05/23	20:45	22:35	21:05	Waning crescent	Survey Start	15.0	None	8	1
						Survey End	12.0	None	8	1
Visit No.	Date	Start Time	End Time	Sunset	Moon Phase ⁴	Weather Conditions				
							Temp °C	Rain	Cloud ⁵	Wind ⁶
2- B1, B3, B4	04/07/23	21:25	23:10	21:40	Waning gibbous	Survey Start	16.0	None	5	2
						Survey End	13.0	None	2	1

¹ Moon Phase: New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent.

² Cloud cover is reported in oktas or eighths (i.e., 0 oktas represent the complete absence of cloud, 1 okta cloud cover of 1 eighth or less, and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represent sky obscured by fog or mist.

³ Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions denoted by scores are as follows: 0 – Calm (vertical smoke); 1 - Light Air (slight smoke drift); 2 - Light Breeze (leaves gently rustle); 3 - Gentle Breeze (small twigs constantly move); 4 - Moderate Breeze (small branches begin to move) and 5 - Fresh breeze (small trees in leaf begin to sway).

⁴ Moon Phase: New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent.

⁵ Cloud cover is reported in oktas or eighths (i.e., 0 oktas represent the complete absence of cloud, 1 okta cloud cover of 1 eighth or less, and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represent sky obscured by fog or mist.

⁶ Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions denoted by scores are as follows: 0 – Calm (vertical smoke); 1 - Light Air (slight smoke drift); 2 - Light Breeze (leaves gently rustle); 3 - Gentle Breeze (small twigs constantly move); 4 - Moderate Breeze (small branches begin to move) and 5 - Fresh breeze (small trees in leaf begin to sway).

Visit No.	Date	Start Time	End Time	Sunset	Moon Phase ⁷	Weather Conditions				
							Temp °C	Rain	Cloud ⁸	Wind ⁹
3-B1	01/08/23	20:51	22:36	21:06	Full moon	Survey Start	17.0	None	2	1
						Survey End	15.0	None	7	1

⁷ Moon Phase: New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent.

⁸ Cloud cover is reported in oktas or eighths (i.e., 0 oktas represent the complete absence of cloud, 1 okta cloud cover of 1 eighth or less, and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represent sky obscured by fog or mist.

⁹ Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions denoted by scores are as follows: 0 – Calm (vertical smoke); 1 - Light Air (slight smoke drift); 2 - Light Breeze (leaves gently rustle); 3 - Gentle Breeze (small twigs constantly move); 4 - Moderate Breeze (small branches begin to move) and 5 - Fresh breeze (small trees in leaf begin to sway).

Limitations

- 4.12 There were no limitations to the surveys.

Data Analysis and Species Identification

- 4.13 Recorded sonograms during nocturnal surveys were analysed using Kaleidoscope Pro software at TEP by Ecologists Emma Hickson and Graham Roberts. Bat calls were manually verified following use of automated filters and identification.

Limitations

- 4.14 Bats vary their calls dependent on the habitats they fly in and on their activity (commuting, foraging, social interaction, etc.). It is not always possible to identify bat calls to species level owing to the overlap of call parameters between some species and/or poor-quality recordings (e.g., brief, and distant passes). In these cases, it is accepted that species are identified to genus level or group level (e.g., *Myotis* species, *Myotis/Plecotus* and *Nyctalus/Eptesicus*) (Russ, 2012¹⁰).
- 4.15 The detectability of some bat species, such as *Plecotus* sp. is lower than that of, for example, *Nyctalus* sp. and *Pipistrellus* sp.. The echolocation calls of *Plecotus* sp. are comparatively more difficult to detect with bat detectors, and their particular hunting strategies take them into less open habitats, where survey transect routes may not venture. Careful interpretation has been applied when comparing survey results across species. Where call parameters are inconclusive the species has been labelled as 'unidentified'. This ensures the dataset is interpreted accurately and transparently.

¹⁰ Russ, J. (ed.), (2012). British Bat Calls: A Guide to Species Identification. Pelargic Publishing, Exeter.

5.0 Results

Nocturnal Bat Survey

- 5.1 No bats were observed emerging from or entering buildings B2, B3 or B4 during the nocturnal bat surveys.
- 5.2 A single common pipistrelle bat was recorded emerging from building B1 during the first emergence survey. Further surveys recorded no bat emergence from B1 or any other building.
- 5.3 Bats within the site were recorded foraging between the buildings and hardstanding areas, albeit at low levels and mostly south of buildings B1, B2 and B3.
- 5.4 On visit 1 only common pipistrelle *Pipistrellus pipistrellus* bats were recorded. The first bat was a common pipistrelle recorded at 21:24 (sunset + 19 minutes) which commuted onto site from the north west. At 21:31 a single common pipistrelle emerged from B1, from underneath a lifted fascia board on the northern elevation (figure 2). The last bat was a common pipistrelle recorded foraging on site at 22:34 (sunset + 1hr 29 minutes).
- 5.5 On visit 2 only common pipistrelle bats were recorded. The first bat was recorded at 21:55 (sunset + 15 minutes), heard but not seen by the north western most surveyor on B3. The last bat was recorded at 23:14 hrs (sunset + 1 hour 24 minutes). No bats emerged from any building during this survey.
- 5.6 On visit 3 only common pipistrelle bats were recorded. The first bat was recorded at 21:32 (sunset + 24 minutes) and the last bat was recorded at 22:36 (sunset + 1hr 28 minutes). No bats emerged from this building during this survey.



Figure 2. Approximate location of common pipistrelle day roost

6.0 Mitigation Strategy

Mitigation Required

- 6.1 Building 1 was confirmed to support one type of bat roost, a day roost for common pipistrelle which is of low conservation significance. As the development will result in the loss of this day roost, mitigation is required.
- 6.2 The demolition of the building must take place under a Natural England (NE) bat licence. Due to the low number of roosts found of a common bat species, the building works will qualify for the low impact scheme.
- 6.3 Planning permission for the development must be obtained before the licence can be applied for. Following submission of a licence application, NE aim to return the outcome of low impact licence applications within 2-4 weeks. This should be taken into consideration in line with the proposed programme of works.
- 6.4 Once granted and the works are due to start, suitable bat roosting features on the building will be removed under ecological supervision by the bat licenced holder, to include the lifted fascia board on the northern elevation. Any bats found during the works will be safely moved to a bat box.

Bat Boxes

- 6.5 Prior to works commencing on site, an appropriate bat box for common pipistrelle must be established on site. This is a precautionary measure to ensure that there is a safe place in the event any bats are discovered.
- 6.6 Bat boxes are best located, and have the best rate of occupancy, when they are situated within or adjacent to bat-friendly features, such as hedgerows, tree-lines or woodland, providing connectivity to the wider landscape. Bat boxes should be situated where they are sheltered from strong winds, and should be exposed to the sun for most of the day, therefore southern and western aspects are favourable. Bat boxes should be hung as high as possible, ideally 2.5m or above.
- 6.7 As the site does not support any suitable vegetative features, it is considered that a bat box could temporarily be installed on a boundary wall, near the existing roost. A suggested bat box for this instance is the Vivara Pro Low Profile Woodstone Bat Box (figure 3).
- 6.8 Although no bats were identified roosting within buildings B2, B3 or B4, there will be a loss of potential roosting features that the buildings provide. As such, measures should be undertaken to mitigate the loss of suitable roost features and roosting habitat for bats should be enhanced within the wider site with the provision of bat boxes incorporated into the new buildings.

- 6.9 Suggested bat boxes include Schwegler 2FR Bat Tubes and Habibat 001 bat boxes unfaced (Figure 3). Both require no maintenance as droppings fall out of the entrance ramp. The added benefit of the Schwegler 2FR tubes is that connecting holes allow several tubes to be placed next to each other to create a large roost space. These should be placed where they will receive sunlight for most of the day as temperature is an important factor in the success of artificial bat roosts. They should also be placed as close to the eaves or gable apex as possible and not above windows to reduce the risk of cat predation.

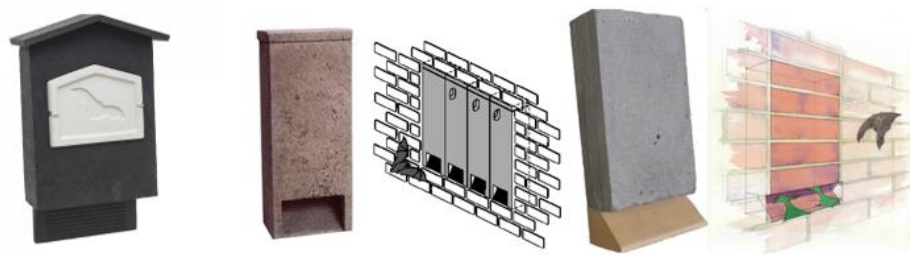


Figure 3. Vivara Pro Low Profile box (left), Schwegler 2FR tube (middle) and Habibat 001 box (right)

Timing and General Working Practices

- 6.10 Prior to any works starting on site, the suggested bat box (or suitable alternative) will be established on the most suitable locations on-site. This must be in situ prior to any work commencing to ensure that alternative roosting provision has been made should a bat be found during the works.
- 6.11 Under a low impact class licence works can be undertaken at any time of year.
- 6.12 All specified works will be supervised by an ecologist holding an appropriate licence.
- 6.13 The method statement of works would include the following:
- Ensure NE licence is in place;
 - Establish the bat box on site, in this case fixed on a boundary wall, prior to any works;
 - Once scaffolding is established, provide a tool box talk (TBT) to all personnel on site, with regards to the legal protection of bats, what to do if a bat is found and method of works;
 - Proceed with the hand removal of any specified areas including fascia board under direct supervision of a licenced ecologist or registered consultant (RC). These features are required to be taken down with extreme care and visually inspected by the ecologist.
 - Any internal membrane / felt also to be removed under ecological supervision;
 - Once all tiles are removed, and all features which can be utilised by bats have been cleared and the licence holder is happy, building works can commence without further involvement of the licenced ecologist;

- Once the building works are completed, the licenced ecologist will return to check that agreed mitigation measures and enhancements are in place and correctly fitted;
- Finally, the ecologist will be able to submit a licence return form, that all mitigation measures are completed within the appropriate time scale and in the correct locations.

6.14 The final timings of works will be detailed in the Natural England licence works schedule.

6.15 The supervising ecologist will also check that any further enhancements conditioned are in place and correctly fitted.

Licence Application

6.16 The timing of the works with regards to the licence requirements is as follows:

- Once full planning is secured, or outline planning with relevant conditions has been discharged, then the licence will be applied for.
- An update survey (walkover or internal survey) must occur in the last 3 months prior to works as a requirement of the licence. If there is a significant lapse in time between planning permission being granted / and or start on site, an update survey may well be required.
- The recommended bat box should be established at the site.
- Once the licence is issued all licensable works can commence (if weather conditions are appropriate). All licensable works must be undertaken under ecological supervision.
- Only once the licensable works are complete and the ecologist is satisfied that the structures are free of bats or features that can be exploited by bats, then the building works can commence.
- Any enhancements as part of the mitigation scheme will be checked by the ecologist to ensure they are fitted during the works.

Other mitigation and recommended enhancements

6.17 Planting of linear features such as hedgerows, flowering plants that attract invertebrates and night-scented plants will enhance the site for foraging and commuting bats.

6.18 Proposed lighting should be designed in line with the Institution of Lighting Professionals Guidance Note 08/18 Bats and Artificial Lighting in the UK. A Sensitive Lighting Strategy should also be incorporated within proposals to avoid impacts on commuting bats by creating dark corridors.

7.0 Conclusions

Bat Roosts

- 7.1 All bats in the UK are protected under UK and European legislation including The Conservation of Habitats and Species Regulations 2010 (as amended) and Schedule 5 of The Wildlife and Countryside Act 1981 (as amended). It is an offence across the UK to:
- deliberately capture, injure or kill a bat;
 - deliberately disturb in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
 - damage or destroy a bat roost (this is an 'absolute' offence); or
 - possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
- 7.2 Building 1 supports a single common pipistrelle day roost, a roost of low conservation significance. Common pipistrelle were also recorded using the site for foraging purposes.
- 7.3 Recommendations and enhancements have been outlined within this report, aimed at maintaining roost provision on site. A low impact licence should be gained from Natural England to ensure that construction works are legally covered and suitable mitigation is agreed and approved.
- 7.4 It is considered that the development would not impact upon the favourable conservation status of bats in the local area.

Survey Validity

- 7.5 If no works are undertaken within two survey seasons (i.e., by September 2024) updated nocturnal surveys and structural roost assessment surveys will be required to inform planning and licencing. It should be noted however, that nocturnal survey data required to support an EPS mitigation licence application from NE is required from the most recent bat active season.

References

Legislation and Policy

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DRAWING- G9803.007 Phase 1 Habitat Survey Showing Building Numbers



KEY

- Site boundary
- Target note
- Fence
- Wall
- Ephemeral vegetation
- Building
- Hardstanding

Note:
The locations of habitats and habitat features are indicative.

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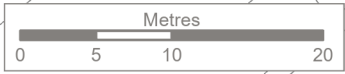
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Project
Phoenix Ironworks, Manchester

Title
Phase 1 Habitat Survey

Drawing Number
G9803.007

Drawn AR	Checked MK	Approved RL	Scale 1:500 @ A3	Date 14/06/2023
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August 2023

First emergence survey
17th May 2023

Buildings B1, B2, B3
and B4

- Surveyor
- NVA camera kit
- Common pipistrelle
day roost



Second emergence
survey 4th July 2023

Buildings B1, B3 and
B4

- Surveyor
- NVA camera kit



Third emergence
survey 1st August 2023

Building B1 only

- Surveyor
- NVA camera kit

