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Bat Dusk Emergence and Dawn Re-entry Surveys - Final Report

University of Manchester Fallowfield Campus, Manchester

For

Rider Levett Bucknall

Project No.: RID002-001-001

September 2023

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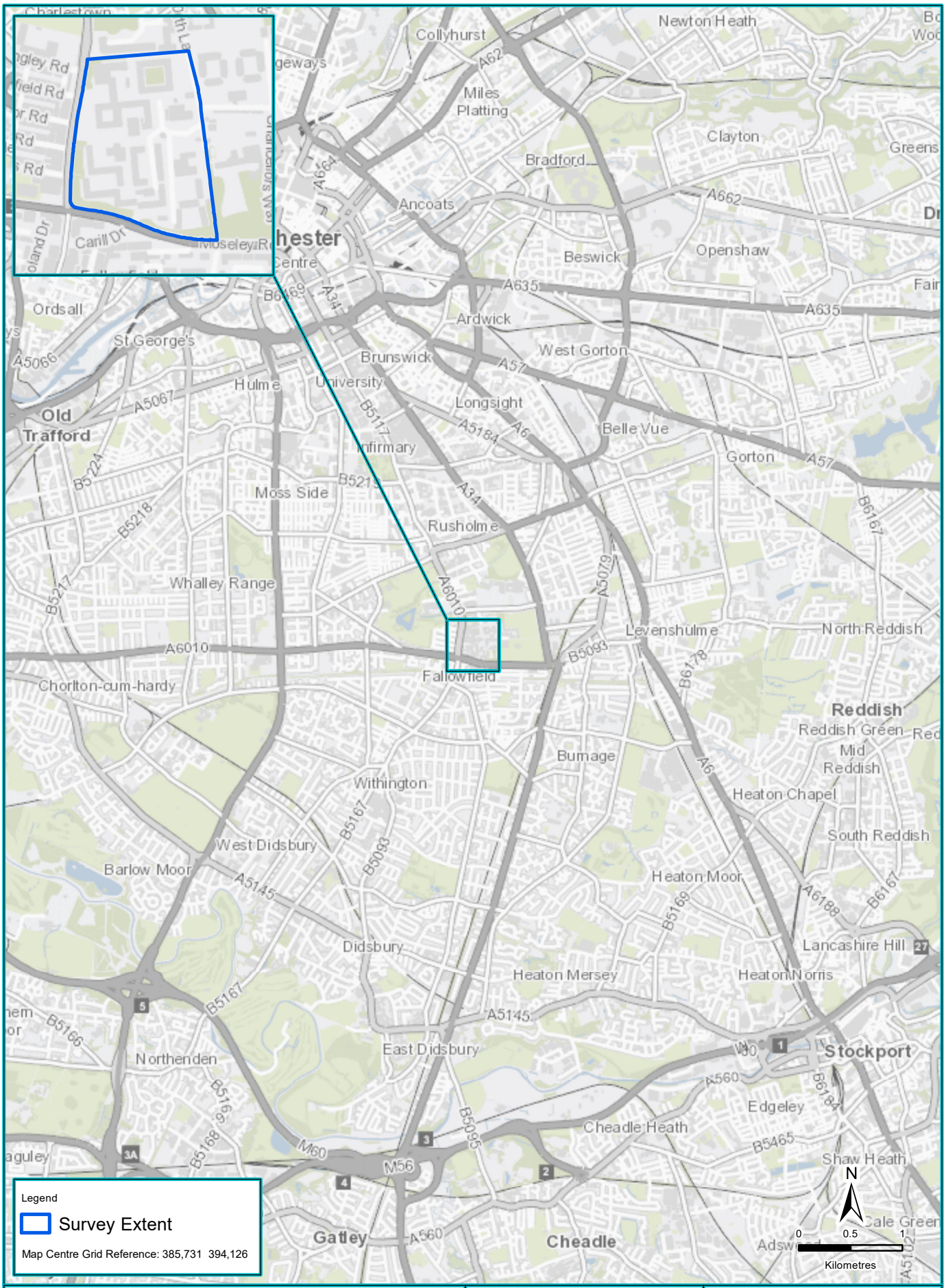
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- Target Note
- Property with Confirmed Roost
- Property without Confirmed Roost
- Survey Extent

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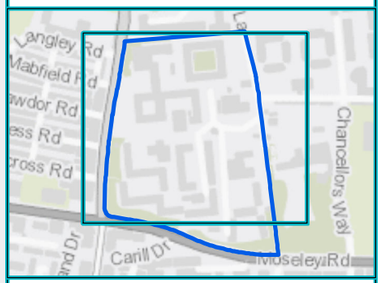


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Legend

- Roost Locations
- *Pipistrellus pipistrellus* flight line
- *Pipistrellus pygmaeus* flight line
- Building
- Survey Extent



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Figure Number	3
Figure Title	Emergence and Re-entry from Confirmed Roosts



Photograph 1:
Emergence feature of B10 on the west side, under the gap where chalking has perished.



Photograph 2:
Emergence feature of B10 around the fascia boards of the east side.



Photograph 3:
Re-entry point of B10 along the fascia board



Photograph 4:
Re-entry point of swarming bats on B11, along the fascia board and soffit box.



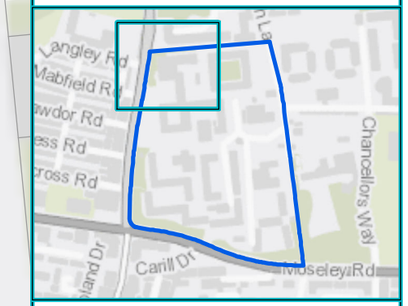
Photograph 5:
Emergence and re-entry point on B12.



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Ornate vent re-entry point on B25.

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Figure Title: Photographs of the Site		Date: 26/06/2023	





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Surveyor Locations

- B7
- B8
- B9
- Target Note
- Building
- Survey Extent

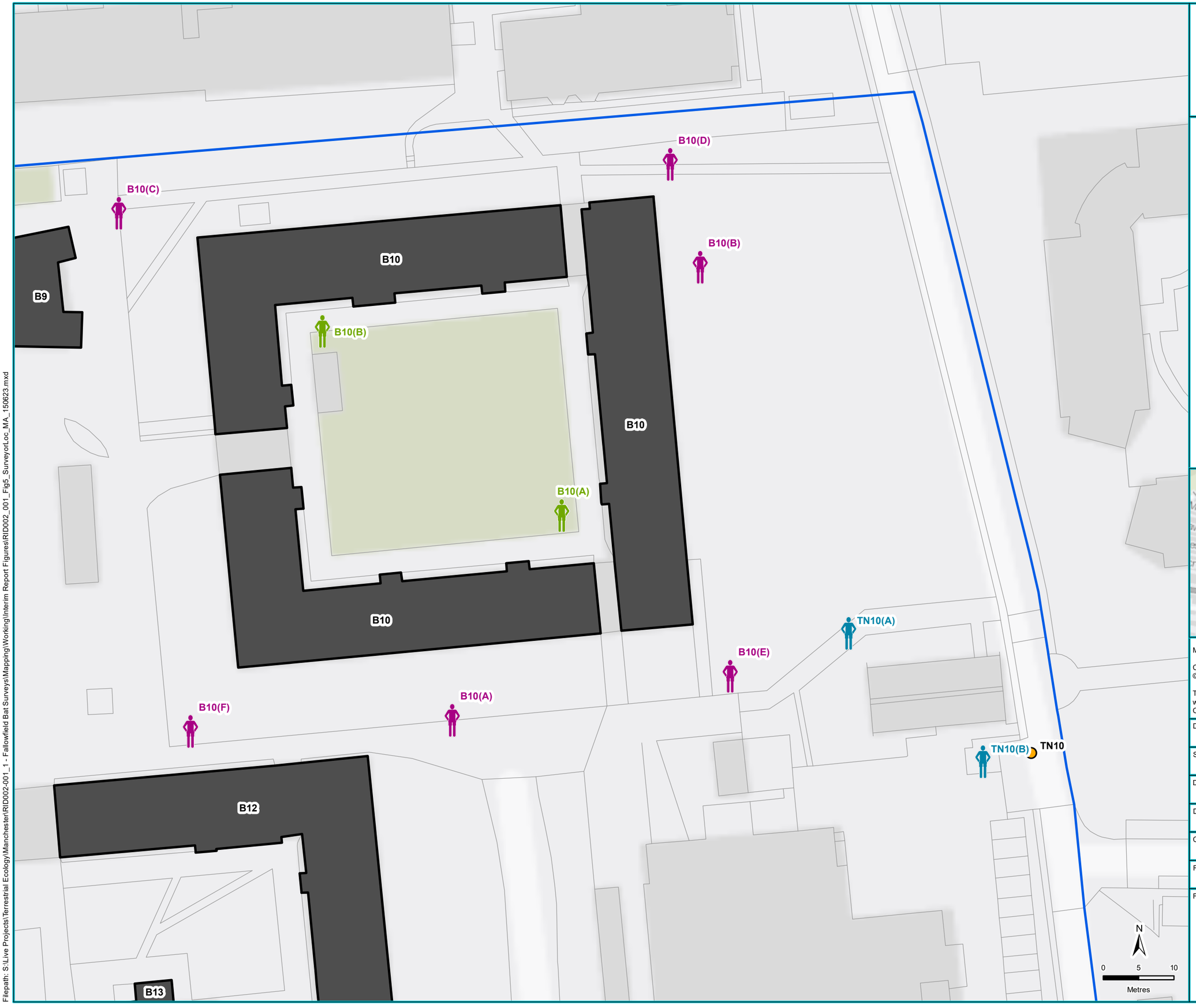
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Figure Title	Surveyor Locations (B8, B9, B7)

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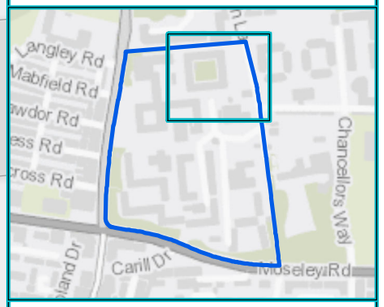
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Surveyor Locations

- B10 (All Other Visits)
- B10 (Visit 3 Only)
- TN10
- Target Note
- Building
- Survey Extent



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Figure Title	Surveyor Locations (B10, TN10)



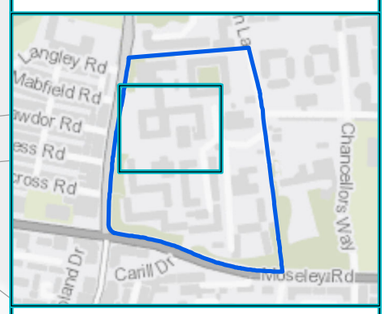
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Surveyor Locations

- B11 (All Other Vists)
- B11 (Visit 3 Only)
- B12
- B13
- TN18
- Target Note
- Building
- Survey Extent



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Figure Title	Surveyor Locations (B11, B12, B13, TN18)



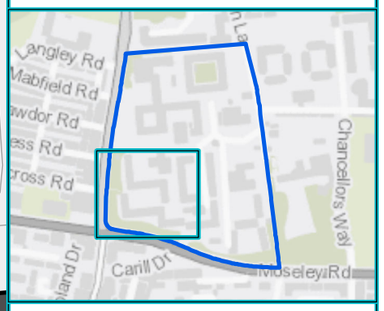
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Surveyor Locations

- B17
- B20
- Target Note
- Building
- Survey Extent



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Figure Title	Surveyor Locations (B17, B20)



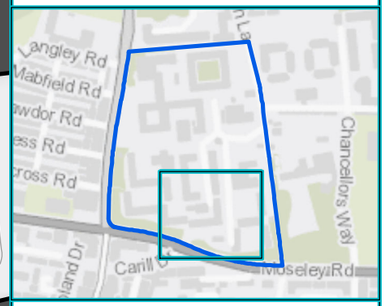
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Surveyor Locations

- B15
- B19
- Target Note
- Building
- Survey Extent



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Figure Number	5 (Page 5)
Figure Title	Surveyor Locations (B15, B19)



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Surveyor Locations

- B16
- B18
- B21
- Target Note
- Building
- Survey Extent

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Figure Title	Surveyor Locations (B16, B18, B21)

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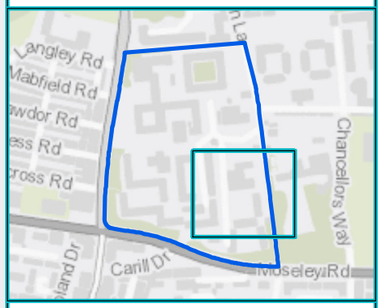
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Surveyor Locations

- B22
- B24
- B25
- Target Note
- Building
- Survey Extent



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Figure Title	Surveyor Locations (B22, B24, B25)



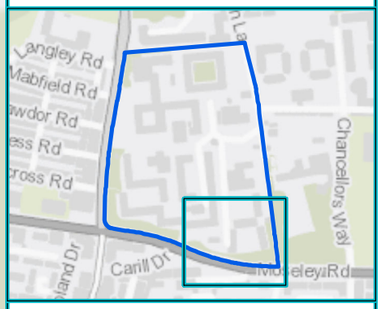
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Surveyor Locations

- B26
- B27
- TN12
- Target Note
- Building
- Survey Extent



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Figure Number	5 (Page 8)
Figure Title	Surveyor Locations (B26, B27, TN12)

1. Summary and Main Recommendations

1.1 Summary

1.1.1 Rider Levett Bucknall (RLB) has been engaged by the University of Manchester (UoM) to support with the residencies redevelopment program, which involves plans for the future of their residential campuses. An aspect of this programme is the redevelopment of the University's Fallowfield Campus. The works to be undertaken include the phased demolition of existing residences within the Fallowfield Campus and the provision of new Purpose Built Student Accommodation (PBSA), these proposals are hereafter referred to as 'the scheme'. An initial programme to submission of the planning application has been developed. The need for bat survey work was outlined to support the application and inform mitigation measures. Thomson Environmental Consultants have been appointed by RLB to undertake bat surveys on buildings within the campus to inform the outline application.

1.1.2 Following the interim report, this is the final report for the site, covering the surveys from the 17th May to the 14th July 2023.

1.1.3 In November 2022, a suite of external bat inspections of the 29 properties included in the scheme was undertaken (Buro Happold, 2023). The findings of the survey were as follows: 7 properties with negligible potential, 6 properties with low potential, 2 properties with moderate potential, and 14 properties as having high potential to support roosting bats between Owens Park, Oak House and Woolton Hall. During previous emergence/re-entry surveys in 2015 a maternity roost was observed within buildings B11 and B12 and a day roost within B10 (BDP, 2015).

1.1.4 RLB commissioned Thomson Environmental Consultants in May 2023 to undertake further bat surveys of the 22 properties with potential to support roosting bats to provide essential information to support the planning application and the European Protected Species Licence (EPSL) prior to commencement of the works. Depending on the potential of each property (Buro Happold, 2023) to support roosting bats, between one and three dusk emergence and dawn re-entry to roost surveys were scheduled and carried out in line with Bat Conservation Trust best practice guidelines (3rd Edition) (Collins, J (ed), 2016).

1.1.5 The bat dusk and dawn surveys confirmed the presence of common pipistrelle (*Pipistrellus pipistrellus*) bat roosts, with six roosts at B10, four roosts at B11, three roosts at B12 Owen's Park and B19 with one roost. B10 also supported a soprano pipistrelle (*Pipistrellus pygmaeus*) roost. A single common pipistrelle bat was observed incidentally re-entering a roost at B25 whilst the surveyors were surveying B27 (during the visit 2 dawn re-entry survey). The locations of the properties with confirmed bat roosts are shown on Figure 2 and Figure 3, with photographs of the features on Figure 4.

1.1.6 The roosts have been assessed as not having the potential to support hibernating bats due to the variation of temperature within the buildings, the lack of humid cold spaces (the buildings are

mostly sealed student accommodation which cannot be humid for health and safety), the structure of the roofing, and the lack of cellars or basements.

1.1.7 Four species of bat, common pipistrelle, soprano pipistrelle, myotis species (*Myotis spp.)* and noctule (*Nyctalus noctula*), were recorded incidentally during the dusk emergence/dawn re-entry survey visits. The majority of surveys encountered common pipistrelle bats only.

1.1.8 As it is an offence to kill or injure bats, or to disturb, damage or destroy their roosts under the Conservation of Habitats and Species Regulations (2017) (as amended), as well as disturb bats whilst in their roosts and obstruct roosts under the Wildlife and Countryside Act (WCA) 1981 (as amended), mitigation measures, under licence from Natural England, are recommended below so that the proposed demolition of these properties is compliant with the relevant legislation and policy with respect to bats.

1.1.9 Bird nests were not identified during the bat surveys; however, it is likely that bird nests are present within the buildings and surrounding trees on site.

1.1.10 Birds are protected under the WCA 1981, which makes it an offence to intentionally kill, injure or take any wild bird; intentionally take, damage, or destroy the nest of any wild bird while that nest is in use or being built; and intentionally take or destroy the nest or eggs of any wild bird.

1.2 Main Recommendations

1.2.1 The main recommendations are set out below:

- It is not possible for the confirmed bat roosts within B10, B11, B12 Owens Park, B19 Oak House and B25 Woolton Hall to be retained as the entire site is due for demolition. Thus, a European Protected Species Licence (EPSL) application should be submitted to and approved by Natural England to enable the scheme to proceed lawfully. This will include the requirement for mitigation during demolition and provision of suitable alternative roosts for the bats to roost in, both in the form of temporary bat boxes and permanent suitable bat structures in the new building design. Full details of the mitigation will be provided in the EPSL but are outlined in Section 6 of this report.
- If the licence application is not written within three months of the last visit to the site a further site visit will be required to confirm that the condition of the site has not changed.
- Compensatory nesting opportunities should be provided alongside bat mitigation where features used by nesting birds will be lost as a result of the works. Bird boxes should be installed across the site onto the exterior of properties involved in the scheme. The number of bird boxes should be proportional to the number of properties involved in the scheme and be suited to common bird species known to use, and likely to be found on site.
- Prior to the works commencing, Appendix 1: Toolbox Talk – Bats should be delivered to the site team that outlines the potential constraints posed by bats during the scheme, and actions to be taken should a roosting bat be identified during the works. This may need to

be amended once the EPSL mitigation measures have been agreed with Natural England.

1.3 Further Bat Surveys

1.3.1 An internal inspection should be undertaken of B10, B11 and B12 at Owens Park in order to obtain additional information regarding the roost characteristics and inform the EPSL. At this stage, an internal inspection of B19 Oak House and B25 Woolton Hall is not required currently as the demolition of the buildings is planned for 2024/5.

1.3.2 Buildings B7 and B8 are located adjacent to building B11 and appear to share some walls. It should be considered whether the two buildings share access features such as a loft space with B11. If building B7/8 and 11 do share these features, then the same precautions must be applied as the buildings with bat roosts. We therefore recommend that the internal inspection is continued into B7 and B8, and if they are found to be suitably connected, they should be treated as one for the purpose of the licence.

1.3.3 The buildings B10, B11 and B12 all featured courtyards that could not be accessed on visits 1 and 2. They were accessed in visit 3 with no real difference in bat emergences/re-entry. B10 and B11 identified a roost within the courtyard, however it was on the same location as an already known roost. When the planned internal inspections are completed, the surveyors will check that the features lead into the same loft space. If the features are disconnected, then additional bat surveys will be required inside the courtyard, if the internal inspection can not be completed before end of the bat season (May-September inclusive) then the courtyard emergence/re-entry surveys will be required.

1.3.4 If the works on the buildings do not proceed before May 2025, or if the condition of the buildings change, then the buildings should be re-assessed for their potential to support roosting bats and dusk emergence and dawn return to roost surveys should be repeated.

2. Introduction

2.1 Development Background

2.1.1 Rider Levett Bucknall (RLB) has been engaged by the University of Manchester (UoM) to support with the residencies redevelopment program, which involves plans for the future of their residential campuses. An aspect of this programme is the redevelopment of the University's Fallowfield Campus. The works to be undertaken include the phased demolition of existing residences within the Fallowfield Campus and the provision of new Purpose Built Student Accommodation (PBSA), these proposals are hereafter referred to as 'the scheme'. An initial programme to submission of the planning application has been developed. The need for bat survey work was outlined to support the application and proposed mitigation measures are expected.

2.1.2 The areas within the University's Fallowfield Campus affected by the scheme are hereafter referred to collectively as 'the site'. The location of the site is shown on Figure 1. The site is located within a largely residential suburban area of Fallowfield, South Manchester, with the campus comprising three main campus areas: Owens Park (central section), Oak House (south-east section) and Woolton Hall (south-west section) with recreational greenspace and meeting areas. The campus area features mature trees, associated gardens, woodland, hardstanding and residential road, and car parking networks. There are also several small areas of recreational amenity grassland within the campus. Please see Table 1 for the breakdown of which buildings are in which group and Figure 2 for a visual reference.

Ecology Background

2.1.3 The site's buildings and trees have been assessed in a Preliminary Roost Assessment, completed by Buro Happold in November 2022 (Buro Happold, 2023). This was undertaken as part of an Ecological Constraints and Opportunities Report. The assessment concluded the site as featuring a total of 22 buildings with bat potential in the three campus areas, 14 of which were high potential, 2 were of moderate potential and 6 were of low potential for roosting bats, in accordance with criteria detailed within the Bat Survey Guidelines (Collins ed., 2016). A previous desk study undertaken by Buro Happold obtained records of five granted European Protected Species licences within 2km of the site. All licences relate to common pipistrelles (*Pipistrellus pipistrellus)*. The closest licence is located approximately 1.3km north. The outcome of this assessment was the recommendation of further survey of the buildings. It was recommended that any trees identified as having potential to support roosting bats should be retained and protected, and a sensitive lighting design should be promoted for the site.

2.1.4 The preliminary roost assessment completed by Buro Happold (Buro Happold, 2023) assessed 6 trees on site as having potential for roosting bats. All six of which were of low potential for roosting bats. If any of these trees are adjacent to building due for demolition, then distance must be considered if the trees have not been felled in advanced. The low potential trees have been considered in the roost assessment by Buro Happold (2023), with recommendations made. There should be a protection buffer surrounding retained trees for the root protection

zone, which typically will be enough to avoid potential impacts for bats too (refer to Buro Happold, 2023 for more detail). There is a tree of moderate potential which was located in the northern section of the University of Manchester campus, Ashbourne Hall, which is off-site and not included in the study and can thus be discounted from further survey.

2.1.5 An environmental statement (ES) completed by BDP (BDP, 2015) relating to previous proposals for the site, confirmed the presence of bat roosts on site. Three bat roosts were located during the bat surveys. A maternity roost of forty-four common pipistrelle bats was recorded within Little Court and Green Court (Owens Park, B12 and B11 respectively), and a day roost of two common pipistrelle bats within Tree Court (Owens Park B10). The building locations are outlined in Figure 1.

2.1.6 Foraging and commuting habitat for bats on, and surrounding the site, is considered to be of moderate value. This is due to the presence of high-quality habitat features in the vicinity, however there is limited connectivity through commuting routes to suitable habitat in the wider environment, due to the largely residential, artificially light landscape of the area.

2.2 The Brief and Objectives

2.2.1 Thomson Environmental Consultants was commissioned on 15th May 2023 by RLB to undertake a suite of dusk emergence and dawn re-entry surveys on 22 buildings at University of Manchester Fallowfield campus, which were identified as having bat roosting potential in a Preliminary Roost Assessment (PRA) completed by Buro Happold Ltd in 2022.

2.2.2 The brief was to:

- Conduct one, two or three emergence and/or re-entry surveys of the properties with the survey method to be based on Bat Conservation Trust guidelines (3rd Edition) (Collins, J (ed), 2016). A visit to comprise one dusk survey or one dawn survey, as appropriate, and last for approximately two hours. Bat detectors and Night Vision Aids (NVA) devices will be used to capture bat calls and emergence/re-entry footage for later analysis, if required. Where multiple visits are required, these should be spaced at least two weeks apart. Sub-optimal weather conditions will be avoided as far as possible. In addition, according to the BCT guidelines, survey visits should be spaced appropriately during the suitable bat survey season (i.e. May to September inclusive). Concentrating all survey visits in one month should be avoided. Data collected all in one month may not be accepted by Natural England in case of licence applications; and

- Provide an interim report and a final technical report outlining the survey methodology, results and any further recommendations accompanied by photographs and appropriate digitised mapping.

2.2.3 This report is the final report for the site, covering the surveys from the 17th May to the 14th July 2023. This report follows the interim report which was provided to the client teams on the 26th June 2023 (Thomson Environmental Consultants, 2023).

2.3 Limitations

2.3.1 Certain aspects of buildings could not be accessed on every survey, which included gated courtyards within buildings in Owen's Park. Infrared cameras were used in certain cases, like B12, to reach aspects surveyors could not, and bats were recorded emerging from the external of the two buildings where the internal courtyards could not be accessed.

2.3.2 On occasion, NVA's in the form of Infrared Cameras (IR) replaced human surveyors, and they were equipped with bat detectors. This was not a limitation and guidance from the BCT moving forward will include the use of cameras replacing surveyors.

2.3.3 On an occasion (B10 V2 in appendix 2) a dawn survey took place when the temperature had fallen below 10 degrees, this is below the required 10 degrees provided in the BCT guidelines. However, bats were still active during the survey and all other weather conditions were optimal for bats, so this limitation is discounted.

2.3.4 The buildings B10, B11 and B12 all featured courtyards that could not be accessed on visits 1 and 2. They were accessed in visit 3 with no real difference in bat emergences/re-entry. B10 and B11 identified a roost within the courtyard, however it was on the same location as an already known roost. This is not a significant constraint as all three buildings had detailed surveys with roosts identified. When the planned internal inspections are completed, the surveyors will check that the features lead into the same loft space. If the features are disconnected, then additional bat surveys will be required inside the courtyard.

2.4 Surveyors

2.4.1 The surveys were undertaken by; Lauren Hornsby-Riley BSc (Hons) ACIEEM Natural England Level 1 class licence for bats (reference: 2019-39865-CLS-CLS), Amy Kennedy BSc (Hons) ACIEEM Natural England Level 1 class licence for bats (reference: 2019-42844-CLS-CLS), Callum Salter BSc (Hons), Raeece Ali BSc (Hons), Katie Woodfine BSc (Hons), Pascale Palethorpe BSc (Hons), Tom Nelson BSc (Hons), David Massey MSc (Hons), Georgina Kelly MSc (Hons) MRSB , Kath Smycki MSc (Hons) and Elsa Little BSc (Hons).

3. Methodology

3.1 Desk Study

3.1.1 A desk study was undertaken by Buro Happold (Buro Happold, 2023) for bat licences within 2km of the site, utilising the online data repository Multi-Agency Geographic Information for the Countryside (MAGIC).

3.2 Dusk Emergence/Dawn Re-entry Survey

3.2.1 Emergence/re-entry surveys were carried out to ascertain the presence or likely absence of roosting bats within each of the 22 properties which had previously been identified as having potential during the Preliminary Bat Roost Assessment Survey Report ((PRA) Buro Happold, 2023). The number and timing of the survey visits was as determined by the level of potential assigned to each property to support roosting bats as per the results, as shown in Table 1.

Table 1: Bat roosting potential of properties and required survey effort following the Bat Roost Assessment Survey (Buro Happold, 2023)

Building Group	Building Number and Name	Bat Roost Potential and Survey Effort
Owen's Park	B7: Campus Reception	Low - One survey visit at dusk or dawn, May to August inclusive.
	B8: Source Cafe	Low - One survey visit at dusk or dawn, May to August inclusive.
	B9: Tower	Moderate - Two separate survey visits, one at dusk and one at dawn separated by a minimum of two weeks, between May and September with at least one visit between May and August.
	B10: Tree Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B11: Little Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B12: Green Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B13: The Mall	Low - One survey visit at dusk or dawn, May to August inclusive.
	B14: The Limes	Negligible - None.
	B14a: Outbuilding adjacent to The Limes	Negligible - None.

Building Group	Building Number and Name	Bat Roost Potential and Survey Effort
	'TN10': Garage Block	Low - One survey visit at dusk or dawn, May to August inclusive.
	'TN18': 'Substation'	Low - One survey visit at dusk or dawn, May to August inclusive.
Oak House	B15: Carill House	Moderate - Two separate survey visits, one at dusk and one at dawn separated by a minimum of two weeks, between May and September with at least one visit between May and August.
	B16: Squirrels Bar	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B17: Beech Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B18: Maple Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B19: Holly Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B20: Sycamore Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B21: Chestnut Court	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
Woolton Hall	B22: Main Building	Low - One survey visit at dusk or dawn, May to August inclusive.
	B23: Ashley	Negligible - None.
	B24: Spencer	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B25: Lindsay	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B26: Morley	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	B27: Cavendish	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and

Building Group	Building Number and Name	Bat Roost Potential and Survey Effort
		September with at least two visits between May and August.
	'TN12': 'The Bungalow'	High - Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August.
	'TN19': 'Cycle Store'	Negligible - None.
	'TN20': Garages/ outbuildings adjacent to B22/23	Negligible - None.
	'TN21'	Negligible - None.
	'TN22'	Negligible - None.

3.2.2 The emergence surveys began 15 minutes before sunset and ended 90 minutes after sunset. The re-entry surveys began 90 minutes before sunrise and ended 15 minutes after sunrise. This survey effort, number of survey visits, timeframes, and survey start and finish times follows good practice guidance (Collins ed., 2016).

3.2.3 Weather conditions including the air temperature at 1m, windspeed, and precipitation were recorded by the lead surveyor at the start and end of the survey. The suitability of weather conditions for the bat survey were then categorised as per Table 2. Any limitations that could affect bat behaviour were recorded. The GPS location of each surveyor was recorded, and a photograph was taken of their survey view.

3.2.4 The overall suitability of the conditions is determined by the least suitable of the three parameters.

Table 2 Guidance on weather conditions (adapted from met office data on the Beaufort scale and BCT Guidance for Onshore Wind Turbine survey)

Conditions	Temperature at sunset (°C)	Precipitation	Beaufort wind force scale
Optimal	>10	Dry	0 to 3 (calm to slight wind)
Suitable	10	Dry	3- 4 (slight to moderate winds
Suitable	10	Dry to light showers/drizzle	3- 4 (slight to moderate winds)
Sub-optimal	10	Moderate Rainfall	5 to 7 (fresh to strong winds)
Unsuitable	<10	Heavy rainfall	> 7 (near gale)

3.2.5 Surveyors were stationed around the properties based upon the features identified during the PRA (Buro Happold, 2023), and further informed by an initial scoping visit which was undertaken in advance of the first nocturnal surveys on each building.

3.2.6 Although not all aspects of all buildings were surveyed, the locations of the surveyors were selected to ensure that all potential roost features (PRFs) could be viewed by the surveyors without obstruction.

3.2.7 NVA's were used on every survey of all buildings on site, in the form of IR Cameras. Occasionally, a camera and a bat detector were used instead of a human surveyor.

3.2.8 During the emergence surveys, access points/PRFs were watched continuously by the surveyors, whilst during the re-entry surveys bats were tracked back to any access points/PRFs within the view of the surveyors.

3.2.9 Recordings of bats were made using Elekon Batlogger M detectors and any bats seen to emerge or re-enter a roost were noted, along with the flight direction. The recordings were retained for later analysis, if necessary, to identify the species.

3.2.10 Incidental bat activity, including species, number of passes, and number of bats was recorded by the surveyor during each survey, but only where doing so would not compromise the emergence/re-entry surveys.

3.3 Data Analysis

3.3.1 All bat calls were recorded, and these were analysed using BatExplorer. Quality assurance was undertaken on 60% of the bat call sound and noise files, and any rare or notable species. All recordings were analysed where a roost was identified.

3.4 Dates of Surveys

3.4.1 The surveys were undertaken between 17th May and 14th July 2023.

3.4.2

4. Results

4.1 Desk Study

4.1.1 The records of five granted European Protected Species licences within 2km of the site were returned during the desk study undertaken by Buro Happold. All licences relate to common pipistrelles. The closest licence is located approximately 1.3km north.

4.1.2 These records comprise three records of common pipistrelle bat roosts, all dated 2015 (25/06/2015, 23/07/2015 and 18/06/2015). These bat roost records were obtained from the 2015 surveys on the site and provided in the preliminary assessment (Buro Happold, 2023). The result of the 2015 bat mergence/re-entry surveys (BDP, 2015) are as follows:

4.1.3 "Two bat roosts were located during the bat surveys. A maternity roost of forty-four common pipistrelle bats was recorded within Little Court and Green Court (B11 and B12 respectively, Owens Park) and a day roost of two common pipistrelle bats within Tree Court (B10 Owens Park)".

4.2 Site Description

4.2.1 Foraging and commuting habitat for bats on, and surrounding the site is considered to be moderate value. This is due to the presence of high-quality habitat features in the vicinity, however there is limited connectivity through commuting routes to suitable habitat in the wider environment, due to the largely residential, artificially lit landscape of the area.

4.2.2 The building construction details within Preliminary Roost Assessment (Buro Happold, 2023) listed the following:

- Owen's Park (B7 to B14a): More recent construction of brick (some with concrete support structures) with either flat or shallow pitched metal roofs. The majority have numerous weep holes above the windows and potential gaps beneath the fascia boards/soffits that could offer roosting opportunities. They have negligible to high potential to support bats.
- Oak House (B15 to B21): More recent construction of brick with a shallow pitched tiled roof with small soffits or fascia boards. The majority have numerous weep holes above the windows and potential gaps beneath the fascia boards/soffits that could offer roosting opportunities. They have negligible to high potential to support bats.
- Woolton Hall (B22 to B27): Brick construction with a pitched metal roof and large timber soffits. They have ornate ventilation slits on some of the gable ends that could allow access into any roof voids that may be present.

4.3 Dusk Emergence/Dawn Re-entry Survey

4.3.1 PRFs surveyed across the 22 properties included lifted/raised/missing tiles, gaps/missing ridge tiles, drainpipe fixtures, lifted/raised flashing, weepholes, missing mortar, damaged fascia boards, gaps in soffits and damaged chimney rendering.

4.3.2 The location of each property surveyed across Owen's Park, Oak House and Woolton Hall is shown on Figure 2. Each property is numbered as per its university building number, this was also used in the PRA completed by Buro Happold (B7 – B27 on Figure 2).

4.3.3 Following the suite of surveys, bat roosts were confirmed within B10, B11 and B12 at Owen's Park, B19 at Oak House, and B25 in Woolton Hall. A common pipistrelle bat was observed re-entering B25 through the ornate vent on the roof, during the second survey of B27. A roost of 14 common pipistrelle was observed at B19 in the top left window above the security light, south-east corner of building. A roost of multiple common pipistrelles was confirmed within each of the properties in Owen's Park (B10, 11 and 12), as well as one individual roost of a soprano pipistrelle at B10. The confirmed roosting features were soffit between first and second story windows northside, with other bats exiting from a fixture of a drainpipe on the south side of the building (B10), swarming and then entering a hole within the soffit/fascia (B11), and a dislodged slate on the south-west side of the building (B12). The locations of the properties are shown on Figure 2 with locations and photographs of the features on Figure 3 and Figure 4, respectively.

4.3.4 The surveys concluded with multiple common pipistrelle bats observed emerging from and re-entering the properties, which was recorded during all visits at B10, B11 and B12 Owens Park. Table 3 below shows the numbers observed at B10, B11 and B12 Owens Park, B19 Oak house, and B25 Woolton Hall during visit the visits.

Table 3 Bat emergence/re-entry totals for B10, B11, B12, B19 and B25 at final stage

Building	V1 Bat Total	Roost Features	V2 Bat Total	Roost Features	V3 Bat Total	Roost Features	V4 Bat Total[1]	Roost Features
B10	17 common pipistrelle, 2 soprano pipistrelle	**5 roost features** – 1 c. pipistrelle emerge from soffit box south-west corner, 13 c. pipistrelle emerging from behind a drainage pipe from loose chalking on the south end of west side. Emergence of 2 c. pipistrelle on the centre east side, emergence of 2 s. pipistrelle and 1 c. pipistrelle emergence on the south end of building at southeast side from fascia board.	2 common pipistrelle	**1 roost feature** - Re-entry of 1 c. pipistrelle and emergence on the south end of building at south-east side from fascia board.	2 common pipistrelle	**1 roost feature –** emergence of 2 c. pipistrelle on the south-west side (courtyard side) appeared to come from the roof near the skylight but not visible from the ground.	N/A	N/A
B11	22 common pipistrelle	**2 roost feature -** Swarming behaviour and re-entry of 20 c. pipistrelle at fascia board on north side of building. 2 c. pipistrelle emergence on the east side.	8 common pipistrelle	**4 roost features –** 1 emergence of c. pipistrelle on the south end of west side, 4 emergences of c. pipistrelle on the east end of the south side and emergence of 3 c. pipistrelles on the centre south side.	3 common pipistrelle	**2 roost features** – Two c. pipistrelle emergence, both seen from internal courtyard on NW side from fascia board. 1 c. pipistrelle emerged from previous swarming roost in NE corner.	N/A	N/A

[1] A fourth survey was completed on B19 Oak House only, this is because an additional surveyor was available on one of the surveys at Oak House.

Building	V1 Bat Total	Roost Features	V2 Bat Total	Roost Features	V3 Bat Total	Roost Features	V4 Bat Total	Roost Features
B12	6 common pipistrelle	**1 roost feature -** 6 bats observed emerging from south-west corner facia around balcony.	13 common pipistrelle	**2 roost features -** Emergence of 9 c. pipistrelle from the southwest corner facia around balcony shown in Figure 3. Emergence of 4 c. pipistrelle from the east and north side.	2 common pipistrelle	**2 roost features -** PIPI seen re-entering halfway along B12 North side below the guttering. PIPI emergence from north-west of the building, facing south.	N/A	N/A
B19	0	N/A	0	N/A	14 common pipistrelle	**1 roost feature** - 12 PIPI re-entry and then an additional 2 PIPI re-entry. Entry point above the top left window of the security light, south-east corner of building.	6 common pipistrelle	**1 roost feature** - 6 PIPI emergence. Exit point above top left window of the security light, south-east corner of building.
B25	0	N/A	1 common pipistrelle	**1 roost feature -** 1 re-entry of c. pipistrelle on the south side of building into ornate vent.	0	N/A	N/A	N/A

4.4 Roost Categorisation

4.4.1 The bats were observed swarming before returning to the roost at B11 and B12 at Owens Park, and B19 Oak House. Therefore, the roosts are considered to be maternity roosts for common pipistrelle. The roosts of B10 are classified as being day roosts of common and soprano pipistrelle, and B25 is classified as being transitional/occasional roosts of common pipistrelle bats. There were no other roosts recorded on the site during the survey. The address, survey dates, weather conditions, surveyor locations and activity summaries for each of the 22 buildings can be seen in Appendix 2: Bat Dusk Emergence/Dawn Re-entry Survey Results.

4.4.2 All three roosts in B10, B11 and B12 Owens Park have historically existed, and were observed in 2015 surveys on the campus. B25 Woolton Hall and B19 Oak House are the exception and have not been recorded in previous surveys.

4.4.3 The roosts have been assessed as not having the potential to support hibernating bats due to the variation of the temperature within the buildings, the lack of humid cold spaces (the buildings are mostly sealed student accommodation which cannot be humid for health and safety), and the structure of the roofing/lack of cellars or basements.

4.5 Incidental Activity

4.5.1 At least four species of bat, common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*), Myotis (*Myotis spp.*) and noctule (*Nyctalus noctula*) were recorded incidentally during the dusk emergence/dawn re-entry survey visits. The majority of surveys recorded common and soprano pipistrelle bats.

4.5.2 Activity across the site was typically commuting bats, but also included foraging and social calling pipistrelle bats. Rare passes of noctule bats were heard, but flightpaths unseen. Bat activity was deemed either absent, low, or moderate during the vast majority of survey visits and surveyor locations (please refer to appendix 2 for activity levels at each building). Occasionally, areas of the sites were used as commuting corridors by multiple pipistrelles to access nearby greenspaces such as Platt Fields Park and Firs Botanical Gardens. These sections of the site featured moderate to high activity.

4.6 Birds

4.6.1 During the subsequent dusk and dawn surveys, several additional common garden bird species were recorded on site, which have the potential to nest within the properties included in the scheme. The following species were observed during the surveys, but were not observed performing nesting behaviour:

- Blackbird (*Turdus merula*);
- Black-headed Gull (*Chroicocephalus ridibundus*)
- Bullfinch (*Pyrrhula pyrrhula*);
- Carrion crow (*Corvus corone*);
- Goldcrest (*Regulus regulus*); and

- Jackdaw (*Coloeus monedula*).

5. Legal and Policy Considerations

5.1.1 This section presents the legislation requirements and policy considerations known to be relevant based on the results of dusk emergence/dawn re-entry surveys across the site.

5.1 Bats

5.1.1 As set out in Appendix 3: British Bats, all British bats receive comprehensive protection under the Conservation of Habitats and Species Regulations, 2017 (as amended) and the WCA 1981 (as amended).

5.1.2 The proposals include demolition works of all buildings at Oak House, Owen's Park and Woolton Hall. Three buildings at Owen's Park (B10, B11 and B12) and one at Oak House (B19) have each been found to support a confirmed roost of multiple common pipistrelle and soprano pipistrelle bats. Building 25 Woolton Hall has been observed to have a single bat roost. Development affecting bats and their roosts is governed by a licensing procedure administered by Natural England.

5.1.3 Soprano pipistrelle and noctule are both species of principle importance in England under the NERC Act 2006. This places a duty on all government departments to have regard for the conservation of these species and on the Secretary of State to further, or promote others to further, the conservation of these species. Furthermore, the National Planning Policy Framework (NPPF) 2019 states that local planning authorities should promote the protection and recovery of priority species populations linked to national and local targets, which presumably means those listed under the Section 41 of the NERC Act, the former UK BAP, and on Local or Regional priorities species lists.

5.1.4 Without mitigation and licensing, the Proposed Development would contravene the legislation and policy set out above with respect to bats. This is because the demolition works of B10, B11 and B12 Owens Park, and B25 Woolton Hall would destroy bat roosts and could result in disturbance, harm and death of individual bats. However, using established techniques it should be possible to:

- Avoid harm to individual bats during the development process; and
- Maintain the population of bats at a favourable conservation status.

5.1.5 The recommendations set out in Section 6 for mitigation and licencing should be followed in order to proceed lawfully with regard to bats and their roosts.

5.2 Birds

5.2.1 No bird nests were recorded on site during the surveys, however it is likely that the site features several bird nests. All birds are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird;

intentionally take, damage, or destroy the nest of any wild bird while that nest is in use or being built; and intentionally take or destroy the nest or eggs of any wild bird.

5.2.2 The recommendations set out in Section 6 should be followed in order to proceed lawfully with regard to breeding birds.

5.3 Ecological Enhancement

5.3.1 Planning permission is in the process of being applied for, therefore consideration of policies by the NPPF relating to the natural environment should be made. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

5.3.2 Within the Biodiversity Strategy (City of Manchester Nature Recovery, 2022) one of the actions is to "*Increase species records associated with rivers, canals and pond habitats - targeted at 29 indicators including daubenton's bat*". This species was however not observed during the survey.

5.3.3 The Greater Biodiversity Action Plan includes a species action plan for bats, which includes the local positive factors and threats (GMRC, 2009). The threats include the following: Exclusion of bats from their roosting places by obstruction of roost entrances and felling of mature trees.

5.3.4 Within the BAP, the only national action plan covering bats known to occur in Greater Manchester is for Pipistrelles. The national conservation objectives are:

- Maintain the existing population size of *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus*.
- Maintain the existing geographical range of *P. pipistrellus* and *P. pygmaeus*.
- Restore population size of *P. pipistrellus* and *P. pygmaeus* to pre-1970 numbers.

5.3.5 Recommendations are made in Section 6 to ensure that the development is compliant with respect to the above legislation and policy.

6. Recommendations

6.1 Mitigation and Licencing

6.1.1 The dusk emergence/dawn re-entry surveys confirmed the presence of fifteen common pipistrelle roosts, each of multiple bats, within B10, B11 and B12 Owens Park, B19 Oak House, and a single bat observed at B25 Woolton Hall. Additionally, the presence of a multiple soprano pipistrelle roosts was confirmed at B10 Owens Park. It will be necessary to apply to Natural England for a European Protected Species (EPS) Mitigation Licence to ensure the demolition works proceed in accordance with the relevant legislation.

6.1.2 Buro Happold recommended that any trees identified to have potential to support roosting bats should be retained and protected. The site also offers foraging opportunities for bats, and therefore, a sensitive lighting design should be promoted for the site. The details should be stated within the licence application and follow the best practice guidelines for artificial light and bats (BCT, 2023).

6.1.3 The data obtained during the dusk emergence/dawn re-entry surveys detailed in Section 4 will be used to inform the licence application, including the recommendations for provision of suitable compensatory and enhancement roost features which should include structure mounted artificial bat boxes and permanent roosting features, as applicable.

6.1.4 EPSL applications for works affecting bats are subject to very close scrutiny and must satisfy regulations set out in the Conservation of Habitats and Species Regulations 2017 (as amended), that:

- The actions are essential for 'imperative reasons of overriding public interest;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the population of the species conserved at a favourable conservation status in their natural range'.

6.1.5 Details of mitigation plans will be included in the EPSL such as a works schedule, bat box/roosting feature installation, and recommendations for ecological watching briefs. This is outlined below.

6.1.6 For the buildings on site, specifically B10, B11 and B12 at this stage, due to the size and scale of the buildings it would be difficult to use the approach of excluding the bats from their respective roosts. Therefore, a combination of both roost exclusion and soft demolition is likely to be the approach required. This is subject to the approval of the licence application from Natural England, which cannot be submitted until planning permission has been granted. This method includes the supervision by a licensed bat ecologist for the demolition of the roof and all suitable roost features on each building, as well as blocking up certain aspects of the building, and fitting roost exclusion devices at specific points where bats can leave but not re-enter. If bats are found during the demolition, then the licenced ecologist will remove the bat and move it

into interim maternity bat roost boxes and traditional bat boxes provided as part of the mitigation for the roost destruction. The bat roost boxes must be set up in advance of the demolition work, and if bats are found during the soft demolition, then the bats will be moved into these bat boxes.

6.1.7 Appendix 1: 'Toolbox Talk – Bats' should be delivered to the site demolition team that outlines the potential constraints posed by bats during the scheme, and actions to be taken should a roosting bat be identified during the works.

6.1.8 Replacement bat roosts will be provided to ensure alternative roosting opportunities exist within the application site to compensate for the loss of the existing bat roosts. Integrated bat boxes will be provided within the proposed buildings in a similar location and of a similar feature type, and as the existing identified roosts, as far as practicable. The details will be developed to support the licence application. Bat roost access (numbers and placement subject to licence recommendations) should be appropriately integrated into the Proposed Development during the early construction stages, ideally this would be prior to the demolition of the Owens Park campus buildings B10, B11 and B12, but this is not possible, therefore interim bat roost boxes should be installed on retained trees associated with the retained broadleaved woodland that forms the site boundaries and is considered to provide foraging, commuting and dark areas appropriate for bat box placement. The integrated bat roost access will not be directly lit and will be located in areas of low light levels, surrounded by an appropriate landscape strategy to provide flight paths across the site towards Platt Fields Park, which previous bat surveys suggest is the principle foraging habitat for the roosting bats. The locations of replacement roosts, as well as interim roosts (maternity and small bat boxes discussed in 6.1.9 below) will be provided with the licence application and placed where possible in the location of the original roosting features.

6.1.9 Before the demolition can take place, initial interim replacement roosts will need to be properly considered. It's important that the roosts are being replaced by integrating replacement features into the final builds that are identical to the originals (this is by far the best way to compensate, as occupancy in separately built roost features and buildings is known to be quite unreliable). However, since the roosts at Owens Park (B11 and B12) are maternity roosts which need to be replaced, the initial interim bat box features need to be suitable for maternity roost bats as well; there are boxes that are designed for this (NHBS, 2023), which should be sufficient for pipistrelles. At least six maternity roost boxes will be provided near to the roosts at Owens Park.

6.2 Enhancements

6.2.1 In addition to the proposed replacement roost areas at Owens Park, a further minimum of 8 replacement roost areas will be created around Oak House and Woolton Hall). 6 additional interim maternity roost boxes and 6 small bat boxes will be provided in other sections of the site as a minimum amount, these should remain after the proposed work where possible.

6.2.2 The site featured woodland habitats suitable for foraging and commuting, with both activities recorded during the surveys. These wooded habitats should be kept as dark as possible, with sensitive lighting considerations in place.

6.2.3 Further bat enhancements could include the planting of new hedges, trees, or night scented vegetation to provide foraging opportunities for invertebrate as a food source. There should be no new lighting to suitable habitats, and any enhancement or replacement habitats should be kept dark too, otherwise they are of limited suitability.

6.3 Indirect Impacts

6.3.1 The preliminary roost assessment completed by Buro Happold assessed 6 trees on site as having potential for roosting bats, all of which were low. If any of these trees are adjacent to buildings due for demolition, then distance must be considered if the trees have not been felled in advance. The low potential trees have been considered in the roost assessment by Buro Happold (2023). There should be a protection buffer surrounding retained trees for the root protection zone, which typically should be enough to avoid potential impacts for bats too. The moderate potential tree was located in the northern section of the University of Manchester campus, Ashbourne Hall, which is not included in the study and can thus be discounted from further survey.

6.4 Birds

6.4.1 As the works have the potential to be ongoing during the nesting bird season (March to August inclusive) and birds are highly mobile, there is potential for them to nest within the properties involved in the scheme where suitable features are present. During the nesting bird season care should be taken during the works to avoid contravening legislation regarding nesting birds. Should an active, or suspected active nest be encountered during the works, work should halt, and an ecologist contacted to advise before works can proceed.

6.4.2 This approach has the potential to cause delays as should nesting birds be encountered, a suitable buffer zone should be implemented, approximately 5m, and works within this area should not be undertaken until birds are no longer nesting. In practice, this is likely to delay demolition work on the entire building concerned.

6.4.3 Compensatory nesting opportunities where features used by nesting birds will be lost as a result of the works should be provided. Bird boxes should be installed across the site onto the exterior of properties involved in the scheme. The number of bird boxes should be proportional to the number of properties involved in the scheme and be suited to common bird species known to use, and likely to be found on site.

6.5 Further Bat Surveys

6.5.1 Internal inspections have not been completed on any buildings. For further clarity, an internal inspection should be undertaken of B11, B11 and B12 Owens Park, B19 Oak House, and B25 Woolton Hall in order to obtain additional information regarding the roost characteristics and inform the EPSL. B10, B11 and B12 are due to be demolished first so the inspection should be completed by December 2023.

6.5.2 Buildings B7 and B8 are located adjacent to building B11 and appear to share some walls. It should be considered whether the two buildings share access features such as a loft space. If

building 7/8 and 11 do share these features, then the same precautions must be applied as the buildings with bat roosts. Therefore, we recommend the internal inspection of B7/8 is completed during the inspection of B11. When internal inspections are completed, the surveyors will check that the features lead into the same loft space. If the features are disconnected, then additional surveyors will be required inside the courtyards of B10, B11 and B12 Owens Park. If the internal inspection cannot be completed before the end of the bat season (May – September inclusive), the courtyard surveys will be required.

6.5.3 If the licence application is not written within three months of the last visit to the site a further site visit will be required to confirm that the condition of the site has not changed.

6.5.4 All buildings should be re-assessed for their potential to support roosting bats and dusk emergence and dawn return to roost surveys repeated if the works on the buildings do not proceed before May 2025.

7. Conclusion

7.1.1 Properties B10, B11, B12 of Owens Park, B19 Oak House, and B25 of Woolton Hall each support a confirmed bat roost and will require an EPSL from Natural England for works to proceed lawfully.

7.1.2 This report should be treated as the final report, with the survey information from the 17th May to14th July 2023 delivered in the full survey report. If the recommendations and further surveys listed in Section 6 are followed, the impact on bats at Fallowfield University Campus will be limited and the provisions on site should be more suitable than the baseline.

8. References

8.1.1 Bat Conservation Trust (Accessed 2023) updated 'Bats and Artificial Lighting in the UK' Guidance Note GN 08 23. Available at: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting

8.1.2 BDP (2015) Owens Park, Fallowfield: Campus Redevelopment for the University of Manchester. Part 2: Environmental Statement. P2006665_(REP)_PL_001.2

8.1.3 Buro Happold (2023). Ecological Constraints and Opportunities Report. University of Manchester, Fallowfield [Version 1 February 2023].

8.1.4 City of Manchester Nature Recovery (2022) Biodiversity Strategy 2022-2030. Available at chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://democracy.manchester.gov.uk/documents/s35928/Appendix%201%20Biodiversity%20Strategy.pdf

8.1.5 Collins ed. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. Bat Conservation Trust, London.

8.1.6 Greater Manchester Records Centre (GMRC, 2009). Greater Manchester Biodiversity Action Plan, Appendix 1 Species Action Plans – Bats. Available at: https://gmlrc.org/projects/gm_bap/

8.1.7 Multi-Agency Geographic Information for the Countryside (MAGIC) (http://www.natureonthemap.naturalengland.org.uk/). Accessed on 07/07/2023.

8.1.8 Natural History Book Service (NHBS) – Maternity Bat Boxes. https://www.nhbs.com/4?slug=maternity-roost-boxes&q=&fR[hide][0]=false&fR[live][0]=true&fR[shops.id][0]=4&fR[subsidiaries][0]=1&hFR[subjects_equipment.lvl1][0]=Bat%20Boxes%20%3E%20Maternity%20Roost%20Boxes Accessed on 07/08/2023.

8.1.9 National Planning Policy Framework (2019). Secretary of State for Housing, Communities and Local Government, London, England.

Appendix 1: Toolbox Talk – Bats

8.1 Toolbox Talk

8.1.1 This toolbox talk is designed for those carrying out works as part of the demolition scheme on properties where likely absence of roosting bats has been established following the nocturnal surveys. This will outline the survey results, legislation surrounding bats in the UK and how they are protected from disturbance and destruction of themselves and their roosts, and actions that should be taken should a roosting bat be encountered.

8.2 Development Background

8.2.1 Rider Levett Bucknall are undertaking demolition works as part of the demolition Scheme. The scope of the improvements includes 22 properties across Owen's Park, Oak House, and Woolton Hall within the Fallowfield University Campus Manchester, M14 6HD.

8.3 Ecology Background

8.3.1 In November 2022 Buro Happold undertook external inspections of the 29 properties included in the scheme to establish their potential to support roosting bats. The properties were assigned a bat roosting potential value from negligible – high.

8.3.2 During May - July 2023, Thomson Environmental Consultants undertook bat dusk emergence and dawn re-entry surveys to establish presence/likely absence of bats within 22 properties.

8.3.3 Multiple roosts of multiple common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats were recorded within B10, B11, B12 Owens Park, B19 Oak House and B25 Woolton Hall.

8.3.4 Before works can commence on B10, B11, B12 Owens Park and B25 Woolton Hall, a European Protected Species (EPS) Mitigation Licence will be required from Natural England.

8.4 Legislation

8.4.1 All bat species in the UK are protected by the Conservation of Habitats and Species Regulations 2017 (as amended). The Regulations make it an offence, with very few exceptions, to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb a bat in such a way as to be likely:
    i. to impair its ability to survive, to breed or reproduce, or to rear or nurture its young; or
    ii. to impair its ability to hibernate or migrate; or
    iii. to affect significantly the local distribution or abundance of the species to which they belong.
- Damage or destroy a breeding site or resting place of a bat; or

- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

8.4.2 In addition to the protection given to bats under the Conservation of Habitats and Species Regulations 2017 (as amended), already described, bats are also partially protected in England under the Wildlife and Countryside Act 1981 (as amended), which adds the following offences (with certain exceptions):

- Disturbance while it is occupying a structure or place which it uses for shelter or protection; or
- Obstructing access to any structure or place used for shelter or protection.

8.4.3 A roost is any structure or place used by bats for shelter or protection. As bats tend to re-use the same roosts year after year, the roost is protected, whether bats are present or not at the time.

8.4.4 What constitutes 'disturbance' includes any work in or affecting a bat roost; in the context of these works these would include disturbance through noise from demolition works, site operatives and equipment moving around site, as well as artificial lighting during any night works.

8.5 Discovery of a Bat

8.5.1 Roosting bats are assumed 'likely absent' from the remaining properties involved in the scheme. However, bats are highly mobile, and there is therefore the potential for them to utilise any of the numerous suitable roosting features present across the site, during and in advance of the works.

8.5.2 If any bats are discovered during any stage of the demolition works, then the following steps should be taken:

- Works should be halted immediately;
- An ecologist should be consulted as soon as is practicable, as a Natural England licence will be required before works can proceed;
- If possible, leave the individual(s) covered up, ensuring safety from predation, injury, and protection from the weather; and
- Only if the life of the individual(s) is at risk, should the bat(s) be moved to a suitable safe place by a site operative, as soon as possible. See section 8.5.3 for advice. Thick protective gloves must be worn at all times should handling be required. The details and location of any bat(s) moved must be recorded.

8.5.3 If the welfare of the bat is at risk, advice provided by the Bat Conservation Trust should be followed: https://www.bats.org.uk/advice/help-ive-found-a-bat

8.6 Ecologist contact details in the event of discovery of a bat

Lauren Hornsby-Riley BSc (Hons) ACIEEM

Senior Ecological Consultant

T: 0113 247 3782 M:07399 554 587
lauren.hornsby-riley@thomsonec.com

8.7 Toolbox Talk Attendance Form

TOOL BOX TALK BRIEFING RECORD					
I, the undersigned site supervisor, have briefed the site operatives on the tool box talk and am satisfied with the competency of everyone on site to adhere to a safe method of working with regard to bats, GCN and common reptiles'.					
Briefing delivered by:		**Position:**		**Date**	
We (the undersigned) have attended and understood the tool box talk and will comply with the specified requirements					
NAME (PRINT)	**SIGNATURE**	**DATE**			

Appendix 2: Bat Dusk Emergence/Dawn Re-entry Survey Results

8.8 Survey Results

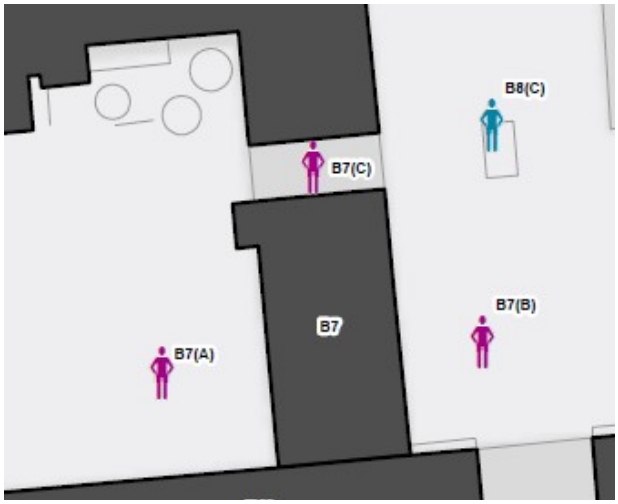
8.8.1 The results of all the bat dusk emergence and dawn re-entry surveys are provided below as a 'case study' table for each property.

8.8.2 The property description, PRF description and bat roost potential for each property is listed in accordance with the results of the Bat Risk Assessment Survey Report results (Buro Happold, 2023). Where properties had been given general PRF types, or repairs have been undertaken, these were updated during the scoping surveys on site.

8.8.3 The survey results of the five confirmed roost properties are shown (B10, B11, B12 Owen's Park, B19 Oak House and B25 Woolton hall).

Project Code	RID002-001-1	**Property**	B7
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Two storey brick-built building with a concrete structure.				
Description of PRFs	Upper floor extends slightly over the ground floor and gaps are present within the join of the concrete panels. In addition, there are several weepholes present across the building. External stairway that leads up to flat roof section of B8.	Bat roost potential **Low/Moderate/High**	**Low**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **25/05/23 DUSK**	**Surveyor and Surveyor Location (SL)**	Raeece Ali (B7A), Callum Salter (B7B) and IR Camera (B7C).				
	Sunset time	21:17	**Start Time**	21:02	**End Time**	22:47
	Weather	Cloud cover: 0-33%.			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	15
	Activity Summary: **B7A:** No bat recorded, no bats observed commuting or foraging. **B7B:** No bat activity, no bats observed commuting or foraging. **B7C:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	Property	B8
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	Grid Reference	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property

Description of property	Similar construction to B7 with a concrete structural support and brick with a flat roof. Two and three storeys.				
Description of PRFs	Weep holes.	Bat roost potential High/Moderate/Low	Low	Confirmed Roost YES/NO	NO

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 15/06/23 DUSK	Surveyor and Surveyor Location (SL)	David Massey (B8A), IR Camera (B8B), Callum Salter (B8C) and Raeece Ali (B8D)				
	Sunset time	21:39	Start Time	21:24	End Time	23:09
	Weather	Cloud cover: 0-33%.			Start Temp (°C)	23
	Rain	Dry	Wind (Beaufort)	3) Gentle breeze 1.6-3.3m/s - Optimal	End Temp (°C)	20
	Activity Summary: **B8A:** No bat recorded, no bats observed commuting or foraging. **B8B:** No bat activity, no bats observed commuting or foraging. **B8C:** 22:15 singe PIPI commuting south of position, faint heard not seen. **B8D:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B9
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	High raise tower over several storeys. Flat roof.				
Description of PRFs	Concrete & brick structure. Numerous weep holes primarily two above each window. Gaps noted along the underside of the concrete support panels.	Bat roost potential **Low/Moderate/High**	**Moderate**	Confirmed Roost **YES/NO**	**NO**

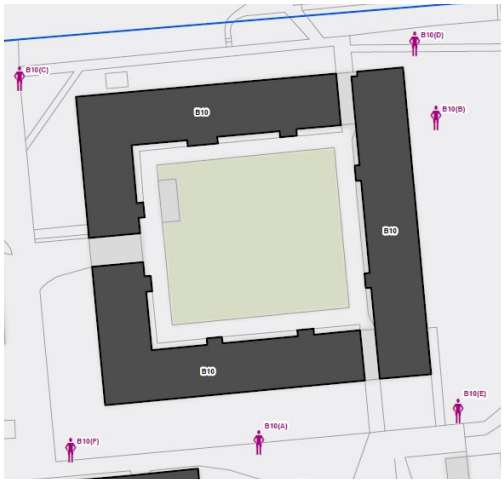
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **19/05/20** **DAWN**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B9A), Raeece Ali + IR Camera (B9B), Pascale Palethorpe + IR Camera (B9C) and Katie Woodfine (B9D).				
	Sunrise time	5:02	**Start Time**	3:37	**End Time**	05:17
	Weather	67-100% cloud cover			**Start Temp (°C)**	11
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	11
	Activity Summary: **B9A:** Limited bat activity. Occasional pass by commuting PIPI. **B9B:** Limited bat activity. Occasional pass by commuting PIPI towards B10. **B9C:** Limited bat activity. Occasional pass by commuting PIPI. **B9D:** Limited bat activity. Occasional pass by commuting PIPI.					
	Limitations: N/A Survey was completed under suitable conditions.					
Visit 2 **08/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Raeece Ali (B9A), Kath Symcki (B9B), David Massey (B9C), Katie Woodfine (B9D) and Elizabeth Redpath (B9E)				
	Sunset time	21:34	**Start Time**	21:19	**End Time**	23:04
	Weather	0-33% cloud cover			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	12
	Activity Summary: **B9A:** Limited bat activity. Occasional pass by commuting PIPI. **B9B:** Limited bat activity. Occasional pass by commuting PIPI. **B9C:** Limited bat activity. Occasional pass by commuting PIPI. **B9D:** Limited bat activity. Occasional pass by commuting PIPI. **B9E:** Limited bat activity. Occasional pass by commuting PIPI.					

	Limitations: N/A Survey was completed under suitable conditions.

Project Code	RID002-001-1	**Property**	B10
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85750 94275
		Address	Fallowfield, Manchester 293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large square building with a central courtyard. Brick built over four stories. with a flat roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **17/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B10A), Lauren Hornsby-Riley (B10B), David Massey + IR Camera (B10C), Katie Woodfine (B10D), Pascale Palethorpe (B10E) and Raeece Ali + IR Camera (B10F),				
	Sunset time	21:05	**Start Time**	20:50	**End Time**	22:35
	Weather	Cloud cover: 67-100%.			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	12
	Activity Summary: **B10A:** First bat call heard at 21:30. Frequent passes by commuting PIPI along treeline in a southward direction. PIPI emergence at 21:43 from soffit box southwest corner. **B10B:** No emergences frequent PIPI activity from 21:38. **B10C**: First bat call heard at 21:38. Frequent passes by commuting PIPI and PIPY between 21:38 and 22:33. PIPI and PIPY observed foraging between 21:54 and 22:33. Emergence of 1 PIPI at 21:50 on the south side. IR Camera captured 1 PIPI emergence at 00:32:50 on recording “00006” and then another PIPI emergence at 00:09:10 on recording “00008”. **B10D:** First bat call heard at 21:15. Frequent passes by commuting PIPI between 21:15 and 22:33. Observation of foraging pair spotted at 21:33 on east side. Emergence of 2 PIPI at 21:22 and 21:26 on the centre east side. **B10E:** First bat call heard at 21:24. Frequent passes by commuting PIPI and PIPY between 21:17 and 21:44 from southwest to northeast. Emergence of 2 PIPYs at 21:17 and 21:30. 1 PIPI emergence at 21:24 on the southeast side from fascia board. Re-entry of 1 PIPI at 21:44. **B10F:** 10 PIPI emerging from behind drainage from loose chalking between 00:23:57 to 00:24:15 recording “00034” confirmed these emergences on IR Camera footage.					
	Limitations: N/A. Survey undertaken in ‘suitable’ conditions.					
Visit 2	**Surveyor and Surveyor Location (SL)**	IR Camera (B10A), Elizabeth Redpath (B10B), Katie Woodfine (B10C),				

			Kath Symcki (B10D), David Massey + IR Camera (B10E) and Raeece Ali + IR Camera (B10F).			
	Sunrise time	4:42	**Start Time**	3:12	**End Time**	4:57
	Weather	Cloud cover: 0-33%.			**Start Temp (°C)**	9
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	7
06/06/23 **DAWN**	**Activity Summary:** **B10A:** No bat activity, no bats observed commuting or foraging. **B10B:** First bat call heard at 03:34. PIPI were occasionally heard but not seen. **B10C:** First bat call heard at 03:34. Occasional passes by commuting PIPI along the north side between 03:34 and 03:50. **B10D:** Occasional Myotis and PIPI passes along the east side. PIPI observed foraging. **B10E:** First bat call heard at 03:18. Occasional passes by commuting PIPI and PIPY along the northwest side between 03:18 and 04:14. Re-entry of 1 PIPI at 03:35 and emergence at 03:55 on the north side. IR Camera footage captured 1 PIPI re-entry on recording “00001” at 00:01:24. **B10F**: Occasional passes by commuting PIPI and PIPY along the southwest side.					
	Limitations: N/A. Survey undertaken in ‘suitable’ conditions.					
	Surveyor and Surveyor Location (SL)		Callum Salter (B10A), IR Camera (B10B), Georgina Kelly (B10C), Lauren Hornsby-Riley (B10D), Kath Symcki (B10E) and Tom Nelson + IR Camera (B10F).			
	Sunset time	21:42	**Start Time**	21:27	**End Time**	23:12
	Weather	Cloud cover: 0-33%.			**Start Temp (°C)**	17
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	15
Visit 3 **26/06/23** **DUSK**	**Activity Summary:** **B10A (Inside courtyard):** 22:28 PIPI pass from west over trees in courtyard. 22:31 PIPI emergences on the south side (courtyard side) of B10, appeared to come from roof. 22:43 2 PIPI passing over the north side of B10 into the courtyard. Consistent foraging between 22:45- 22:52 PIPI. PIPI recorded foraging between 22:52-22:59. **B10B (Inside courtyard):** No bat activity, no bats observed commuting or foraging. **B10C:** No bat activity, no bats observed commuting or foraging. **B10D:** Limited bat activity. First bat call heard at 22:03. Frequent passes by commuting PIPI between 22:18-22:51 and 22:56-23:12 from the south overhead. **B10E:** No bat activity, no bats observed commuting or foraging. **B10F**: No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in ‘suitable’ conditions.					

Project Code	RID002-001-1	**Property**	B11
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85669 94201
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large square building with a central courtyard (no accessed). Brick built over three story's with a flat roof.				
Description of PRFs	Fascia boards/metal soffits are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **18/05/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	David Massey (B11A), Katherine Woodfine + IR Camera (B11B), Callum Salter +IR Camera (B11C), Pascale Palethorpe (B11D), Lauren-Hornsby-Riley (B11E) and Raeece Ali (B11F),				
	Sunrise time	05:04	**Start Time**	03:34	**End Time**	05:19
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	11
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	11
	Activity Summary: **B11A:** First bat call heard at 03:34. Frequent passes by PIPI and PIPY between 03:34 and 04:47. Observed foraging by PIPI and PIPY between 03:34 and 04:47. Re-entry of 1 PIPI at 04:44 and 1PIPY at 04:47 on the northwest side. **B11B:** First bat call heard at 03:35. Frequent passes by PIPI and PIPY between 03:35 and 4:43. Foraging pair spotted at 04:39. **B11C:** Frequent PIPI and PIPY passes along west side of building. No re-entry's observed by surveyor. **B11D:** No bat activity, no bats observed commuting or foraging. **B11E:** Swarming behaviour and re-entry of 20 bats (maternity roost). **B11F:** IR Camera faced opposite direction, No emergence or re-entry observed. High activity, bats headed towards infrared camera.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **05/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	David Massey + IR Camera (B11A), Katie Woodfine (B11B), Raeece Ali + IR Camera (B11C) and Elizabeth Redpath (B11F).				
	Sunset time	21:31	**Start Time**	21:16	**End Time**	23:01
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	19
	Rain	Dry	**Wind**	2) Light air 0.3-	**End Temp (°C)**	15

			(Beaufort)	1.5m/s - Optimal		
	Activity Summary: **B11A:** First bat call heard at 21:47. Frequent passes by PIPI between 21:47 and 22:58 and occasional passes by soprano between 22:49 and 22:58. PIPI and PIPY observed foraging between21:59 and 22:58. Emergence of PIPI at 22:02 on the south side. 1 PIPI emergence confirmed on IR Camera footage "00001" 1 PIPI emergence at 00:26:40 minutes. **B11B:** First bat call heard at 21:51. Frequent passes by PIPI between 21:51 and 21:45. PIPI observed foraging between 22:01 and 22:09 along treeline on the west side. Emergence of 3 PIPI on the centre south side between 22:09 and 22:41. **B11C:** 2 PIPI emergences on the east side. 1 PIPI emergence confirmed on IR Camera footage "00001" 1 PIPI emergence at 00:12:16 minutes. **B11F:** Frequent passes by PIPI and PIPY. No emergences.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 3 **29/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**		David Massey +IR Camera (B11A), Elsa (B11B), Rachel Hetherington + IR camera (B11C), Callum Salter (B11D) and Kath Symcki (B11F).			
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:12
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	17
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	16
	Activity Summary: **B11A:** First bat call heard at 21:47. Occasional passes by PIPI and PIPY between 21:47 and 22:46. PIPI recorded foraging between 21:59 and 22:10. PIPY recorded foraging between 22:49-22:58. No emergences. **B11B:** No bat activity, no bats observed commuting or foraging" **B11C:** Limited bat activity. Occasional foraging, and commuting activity by PIPI and PIPY between 22:03 and 23:09. No emergences. **B11D:** 2 PIPI emergences at 22:08 from internal courtyard on NW side from fascia board. 1 PIPI emerged from previous roost in NE corner. Constant foraging activity by PIPI between 22:19-22:41. Pair of PIPY recorded foraging at 22:44. **B11F:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B12
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94200
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map - Property with surveyor locations (SL)



Photograph of property



Description of property	Large 'L' building with a central courtyard (no access). Brick built over three storeys with a flat roof.				
Description of PRFs	Fascia boards/metal soffits are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **18/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B12A), Pascale Palethorpe (B12B), David Massey (B12C), Lauren Hornsby-Riley + IR Camera (B12D), Katie Woodfine (B12E), Raeece Ali + IR Camera (B12F).				
	Sunset time	21:07	**Start Time**	20:52	**End Time**	22:37
	Weather	Cloud cover: 34-66%.			**Start Temp (°C)**	15
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B12A:** First bat call heard at 21:10. Frequent passes by commuting PIPY and PIPI between 21:10 and 22:37. PIPI and PIPY observed foraging between 21:10 and 22:09. **B12B:** Frequent passes by commuting PIPI and PIPY. **B12C:** No bat activity, no bats observed commuting or foraging. **B12D:** 6 PIPI observed emerging from southwest corner around balcony. **B12E:** First bat call heard at 21:12. Frequent passes by commuting PIPI and PIPY between 21:19 and 22:16. PIPI and PIPY observed foraging between 21:12 and 22:25. **B12F:** Frequent passes by commuting PIPI and PIPY.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **07/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	IR Camera (B12A), Kath Smycki (B12B), Elsa Little (B12C), David Massey, Elizabeth Redpath (B12D), Katie Woodfine (B12E) and Raeece Ali + IR Camera (B12F).				
	Sunset time	21:33	**Start Time**	21:18	**End Time**	23:03
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	2) Light air 0.3-1.5m/s - Optimal	**End Temp (°C)**	N/A
	Activity Summary: **B12A:** No bat activity, no bats observed commuting or foraging.					

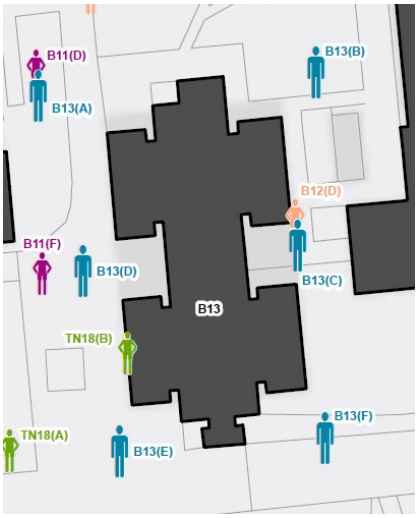
<table>
<tr><td></td><td colspan="6">B12B: Frequent passes by commuting PIPI and PIPY between 22:00 and 22:50
B12C: First bat call heard at 21:46. Frequent passes by commuting PIPI and PIPY between 21:46 and 23:00. PIPI observed foraging between 22:16 and 22:45. PIPY observed foraging between 22:27 and 23:00.
B12D: First bat call heard at 21:45. Frequent passes by commuting PIPI and PIPY between 21:45 and 23:00. PIPI and PIPY observed foraging between 21:45 and 23:00. Emergence of 4 PIPI at 21:55, 22:02, 22:23 and 22:32 from the east and north side.
B12E: First bat call heard at 21:43. Frequent passes by commuting PIPI and PIPY between 21:59 and 22:03. PIPI and PIPY observed foraging between 21:43 and 22:03. Emergence of 6 PIPI from the southwest side above the 3/4 window.
B12F: Emergence of 2 PIPI from the southwest side above the 3/4 window. IR Camera footage “00002” captures 3 PIPI emergences between 00:04:45 minutes to 00:05:20 minutes and then again between 00:15:20 to 00:16:40 minutes.</td></tr>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.
[poor visibility due to limited access and high tree coverage for surveyor location B12E adjusted location at 22:09 to B12F]</td></tr>
<tr><td rowspan="6">Visit 3

27/06/23

DAWN</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">Callum Salter (B12A), Lauren Hornsby-Riley (B12B), Tom Nelson (B12C), David Massey (B12D), Kath Symcki (B12E) and IR Camera (B12F).</td></tr>
<tr><td>Sunrise time</td><td>04:42</td><td>Start Time</td><td>03:12</td><td>End Time</td><td>04:47</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 0-33%</td><td>Start Temp (°C)</td><td>15</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>1) Calm <0.3m/s - Optimal</td><td>End Temp (°C)</td><td>13</td></tr>
<tr><td colspan="6">Activity Summary:
B12A: 03:25 PIPI seen re-entering halfway along B12 north side below guttering.
B12B: Limited bat activity. Occasional passes by commuting PIPI between 3:27-3:55.
B12C: No bat activity, no bats observed commuting or foraging.
B12D: First bat call at 03:06. Frequent passes by commuting PIPI and PIPY between 03:06-04:24. Observed foraging behaviour by PIPI and PIPY between 03:06-03:11, 03:13-03:19 and 03:48-03:50. 1 PIPI emergence at 03:58 from the front of the south facing building and headed east. No emergence’s/re-entry’s seen on IR footage.
B12E: No bat activity, no bats observed commuting or foraging.
B12F: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	Property	B13
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	Grid Reference	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Similar construction over four floors with a flat metal sheet roof and barge boards. Weep holes were not visible, although the metal fascia around the lower section was raised,allowing access beneath.	Bat roost potential Low/Moderate/High	Low	Confirmed Roost YES/NO	NO

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 21/06/23 DUSK	Surveyor and Surveyor Location (SL)	Amy Kennedy (B13A), Katie Woodfine (B13B), Raeece Ali (B13C), Peter Hewitt (B13D), (B13E) David Massey and (B13F) Kath S.				
	Sunset time	21:41	Start Time	21:26	End Time	23:11
	Weather	Cloud Cover: 34-66%			Start Temp (°C)	20
	Rain	Dry	Wind (Beaufort)	1) Calm <0.3m/s - Optimal	End Temp (°C)	19
	Activity Summary: **B13A:** Frequent activity from commuting and foraging PIPI and PIPY along path or treeline to the NW side of B13. Bats observed mainly appeared from behind B12. **B13B:** Bat activity from 21:59 - 22:58 by commuting and foraging PIPI and PIPY from B12 and B11. **B13C:** Frequent activity from commuting and foraging PIPI and PIPY. **B13D:** Frequent commuting and foraging activity by PIPY at 21:57 – 22:00 and PIPI between 22:23 – 23:11. **B13E:** Frequent PIPI observed foraging and commuting between 22:23 and 23:04. No emergences recorded. **B13F:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	TN10
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Single storey modern garage block constructed of concrete panels with a flat roof.				
Description of PRFs	Small gaps noted around the join of the roof line and between concrete panels. Inspected with endoscope, where accessible, and could offer low potential for crevice dwelling species as the gaps are open and travel beneath panels.	Bat roost potential **Low/Moderate/High**	**Low**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **24/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Callum Salter (TN10A) and IR Camera (TN10B)				
	Sunset time	21:16	**Start Time**	21:01	**End Time**	22:46
	Weather	Cloud cover: 0-33%. Lunar Phase: Small.			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	F1	**End Temp (°C)**	14
	Activity Summary: **TN10A:** No bat recorded, no bats observed commuting or foraging. **TN10B:** No bat activity across the survey area, artificial lighting, and low potential buildings. Limited feeding opportunities					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	TN18
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85602 94136
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



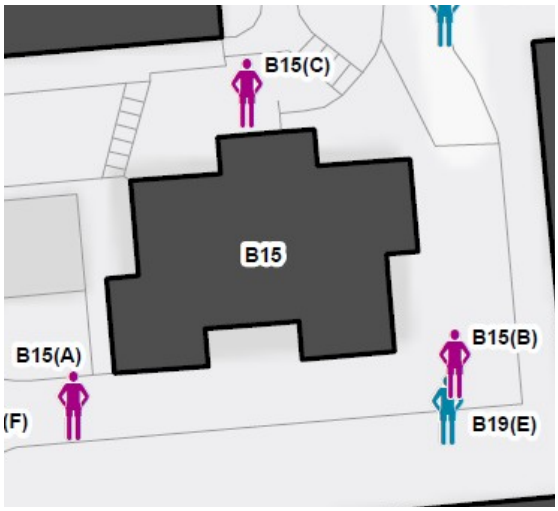
Description of property	Brick building 'substation' with a flat roof which is covered in ivy.				
Description of PRFs	Rear of the building not fully accessible. Gap noted on northern corner of flat roof with timber roof structure visible.	Bat roost potential **Low/Moderate/High**	**Low**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **23/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Callum Salter (TN18B) and IR Camera (TN18A).				
	Sunset time	21:00	**Start Time**	21:15	**End Time**	22:45
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **TN18A:** No bat activity, no bats observed commuting or foraging. **TN18B:** No bat activity, no bats observed foraging and 1 common pipistrelle commuting pass at 22:00.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B15
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built construction with a multiple mono shallow pitched tiles roof.				
Description of PRFs	There are large gaps along the roof verges where the mortar has fallen away. The roof line was not fully visible from the ground but there may be gaps between the tiles that could offer PRFs.	Bat roost potential **Low/Moderate/High**	**Moderate**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **12/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	IR Camera (B15A), Kath Symcki (B15B) and Katie Woodfine (B15C).				
	Sunset time	21:37	**Start Time**	21:22	**End Time**	23:07
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	23
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	21
	Activity Summary: **B15A:** No bat activity, no bats observed commuting or foraging. **B15B:** No bat activity, no bats observed commuting or foraging. **B15C:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **04/07/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Tom Nelson (B15A), Katie Woodfine + IR Camera (B15B) and David Massey (B15C).				
	Sunrise time	04:47	**Start Time**	03:17	**End Time**	05:02
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	11
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	10
	Activity Summary: **B15A:** No bat activity, no bats observed commuting or foraging. **B15B:** No bat activity, no bats observed commuting or foraging. **B15C:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B16
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built construction with a multiple mono pitched tiles roof				
Description of PRFs	Brick work in a good condition but gaps noted between the tiles at the gable ends and fasciae.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **31/05/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	IR Camera (B16A), Katie Woodfine (B16B), Callum Salter (B16C), IR Camera (B16D) and Raeece Ali (B16E).				
	Sunrise time	4:48	**Start Time**	3:18	**End Time**	5:05
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	11
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	12
	Activity Summary: **B16A:** No bat activity, no bats observed commuting or foraging. **B16B:** First bat call heard at 03:29. Frequent passes by commuting PIPI between 03:38 and 04:02. Observation of PIPI foraging at 03:29. **B16C:** No bat activity, no bats observed commuting or foraging. **B16D:** No bat activity, no bats observed commuting or foraging. **B16E:** Frequent passes by commuting PIPI and PIPY. No bats observed foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **21/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	IR Camera (B16A), Raeece Ali (B16B), Katie Woodfine (B16C), IR Camera (B16D) and Peter Hewitt (B16E).				
	Sunrise time	4:39	**Start Time**	3:09	**End Time**	04:54
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	15
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B16A:** No bat activity, no bats observed commuting or foraging. **B16B:** No re-entrys. Medium activity. Mostly PIPI foraging and passes. **B16C:** First bat call heard at 03:21 PIPI H/NS. Activity between 03:12 - 03:35. PIPI commuting at 03:30 and foraging between 03:22 -03:35. **B16D:** No bat activity, no bats observed commuting or foraging. **B16E:** No re-entry. Frequent bat activity during first 30 mins of survey. Mainly PIPI but some PIPY. Activity more					

<table>
<tr><td></td><td colspan="6">sporadic throughout rest of survey.</td></tr>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
<tr><td rowspan="6">Visit 3

11/07/23

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">Katie Woodfine (B16A), David Massey (B16B), Rachel Hetherington (B16C), Tom Nelson (B16D) and Raeece Ali (B16E).</td></tr>
<tr><td>Sunset time</td><td>21:34</td><td>Start Time</td><td>21:19</td><td>End Time</td><td>23:04</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 0-33%</td><td>Start Temp (°C)</td><td>18</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>1) Calm <0.3m/s - Optimal</td><td>End Temp (°C)</td><td>16</td></tr>
<tr><td colspan="6">Activity Summary:
B16A: Limited activity. PIPY observed foraging between 22:39-22:42. No emergences.
B16B: Limited bat activity. NNOC pass at 22:48. PIPI observed foraging between 22:49-22:56.
B16C: No emergences observed. Moderate activity of PIPI commuting and some foraging.
B16D: No bat activity, no bats observed commuting or foraging.
B16E: No emergences observed. Moderate activity of PIPI commuting and some foraging.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	B17
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

#Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **06/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	David Massey (B17A), IR Camera 2 (B17B), Elizabeth Redpath (B17C), Katie Woodfine (B17D), Raeece Ali (B17E) and Elsa (B17F).				
	Sunset time	21:32	**Start Time**	21:17	**End Time**	23:02
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	2) Light air 0.3-1.5m/s - Optimal	**End Temp (°C)**	15
	Activity Summary: **B17A:** No bat activity, no bats observed commuting or foraging. **B17B:** No bat activity, no bats observed commuting or foraging. **B17C:** No bat activity, no bats observed commuting or foraging. **B17D:** No bat activity, no bats observed commuting or foraging. **B17E:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions. High tree coverage for location B17D					
Visit 2 **27/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	David Massey (B17A), IR Camera (B17B), Georgina Kelly (B17C), Rachel Hetherington (B17D), Callum Salter (B17E) and Kath Symcki (B17F).				
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	19
	Rain	Drizzle	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	19
	Activity Summary: **B17A:** No bat activity, no bats observed commuting or foraging. **B17B:** No bat activity, no bats observed commuting or foraging. **B17C:** No bat activity, no bats observed commuting or foraging. **B17D:** No bat activity, no bats observed commuting or foraging. **B17E:** No bat activity, no bats observed commuting or foraging.					

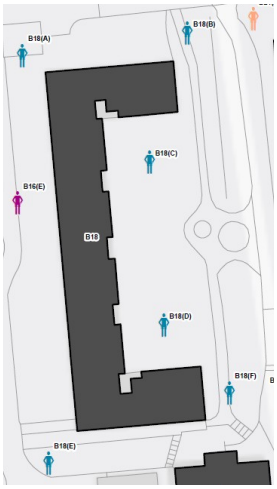
<table>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
<tr><td rowspan="6">Visit 3

12/07/23

DAWN</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">David Massey (B17A), Raeece Ali + IR Camera (B17B), Tom Nelson (B17C), IR Camera (B17D), Callum Salter (B17E) and Katie Woodfine (B17F).</td></tr>
<tr><td>Sunrise time</td><td>04:55</td><td>Start Time</td><td>03:25</td><td>End Time</td><td>05:10</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 0-33%</td><td>Start Temp (°C)</td><td>12</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>1) Calm <0.3m/s - Optimal</td><td>End Temp (°C)</td><td>13</td></tr>
<tr><td colspan="6">Activity Summary:
B17A: Limited bat activity. PIPI and PIPY observed foraging between 03:30-03:45 and 03:51-04:30.
B17B: No re-entry’s observed. High activity of mostly PIPI foraging and commuting. Some PIPY passes and commuting.
B17C: High foraging activity around trees to the left.
B17D: No bat activity, no bats observed commuting or foraging.
B17E: Constant PIPI foraging in pairs from start of survey between B17E-F along treeline until 3:31, 3:36-4:10
B17F: High activity. PIPI observed foraging between 03:27 – 03:37 along treeline from S.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	B18
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large building brick built over four storeys with a shallow pitched tiled roof. Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **06/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	IR Camera (B18A), David Massey (B18B), Katie Woodfine (B18C), Elizabeth Redpath (B18D), IR Camera (B18E) and Raeece Ali (B18F).				
	Sunrise time	4:43	**Start Time**	3:13	**End Time**	04:58
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	2) Light air 0.3-1.5m/s - Optimal	**End Temp (°C)**	13
	Activity Summary: **B18A:** No bat activity, no bats observed commuting or foraging. **B18B:** First bat call heard at 03:20. Occasional passes by commuting PIPI between 03:20 and 04:01. PIPI observed foraging between 03:20 and 03:50. **B18C:** No bat activity, no bats observed commuting or foraging. **B18D:** No bat activity, no bats observed commuting or foraging. **B18E:** No bat activity, no bats observed commuting or foraging. **B18F:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **22/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Amy Kennedy (B18A), David Massey (B18B), Katie Woodfine (B18C), Kath Symcki (B18D), Raeece Ali (B18E) and Peter Hewitt (B18F).				
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	20
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	20
	Activity Summary: **B18A:** No bat activity, no bats observed commuting or foraging. **B18B:** No bat activity, no bats observed commuting or foraging. **B18C:** No bat activity, no bats observed commuting or foraging. **B18D:** No bat activity, no bats observed commuting or foraging.					

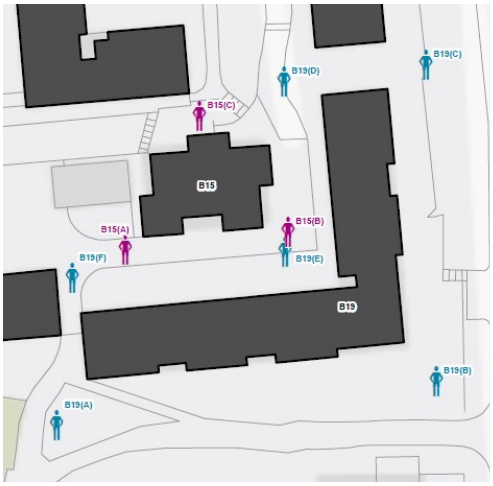
<table>
<tr><td></td><td colspan="6">B18E: No bat activity, no bats observed commuting or foraging.
B18F: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
<tr><td rowspan="6">Visit 3

12/07/23

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">David Massey (B18A), Raeece Ali (B18B), Katie Woodfine (B18C), Rachel Hetherington (B18D), Elsa Little (B18E) and Callum Salter (B18F).</td></tr>
<tr><td>Sunset time</td><td>21:33</td><td>Start Time</td><td>21:18</td><td>End Time</td><td>23:02</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 67-100%</td><td>Start Temp (°C)</td><td>16</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>1) Calm <0.3m/s - Optimal</td><td>End Temp (°C)</td><td>14</td></tr>
<tr><td colspan="6">Activity Summary:
B18A: Occasional passes by commuting PIPI at 22:05 and 22:36. PIPI observed foraging between 22:26-22:31 and 22:38 -22:56.
B18B: No bat activity, no bats observed commuting or foraging.
B18C: High foraging activity between 22:11-13, 22:15-16 and 22:45-46. Commuting towards N/E and W. No emergences.
B18D: No emergences observed. Moderate activity of mostly PIPI foraging and passes.
B18E: No bat activity, no bats observed commuting or foraging.
B18F: 22:39 PIPI foraging around the tree line.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	B19
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the western gable, missing mortar was noted	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

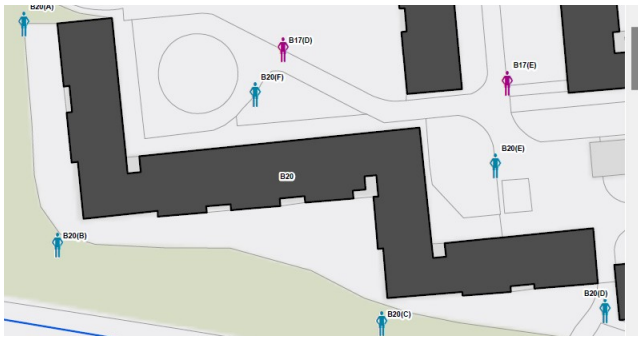
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **31/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	IR Camera (B19A), Callum Salter (B19B), Katie Woodfine (B19C), IR Camera (B19D) and Raeece Ali (B19F)				
	Sunset time	21:25	**Start Time**	21:10	**End Time**	22:55
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B19A:** No bat activity, no bats observed commuting or foraging. **B19B:** Limited bat activity. Occasional PIPI passes from E to W along treeline at 21:53 and 21:57. **B19C:** First bat call heard at 21:53. Occasional passes by commuting PIPI between 21:53 and 22:34. **B19D:** No bat activity, no bats observed commuting or foraging. **B19F:** No bat activity, no bats observed commuting or foraging.					
	Limitations: 1 surveyor down (B19E) but all features covered with three staff 2 IR camera with detectors.					
Visit 2 **19/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	IR camera (B19A), Callum Salter (B19B), Peter Hewitt (B19C), IR Camera (B19D), Raeece Ali (B19E) and Katie Woodfine (B19F)				
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	21
	Rain	Drizzle	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	19
	Activity Summary: **B19A:** No bat activity, no bats observed commuting or foraging. **B19B:** Limited bat activity. Occasional PIPI pass along treeline between 21:51 and 22:37. PIPI observed foraging between 22:22-22:24. **B19C:** Limited bat activity. Several passes by PIPI along treeline between 21:42-22:38. PIPY observed foraging between 22:18 – 22:23 around building edge. **B19D:** No bat activity, no bats observed commuting or foraging. **B19E:** No bat activity, no bats observed commuting or foraging.					

	B19F: No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'optimal' conditions.					
Visit 3 **06/07/23** **DAWN**	**Surveyor and Surveyor Location (SL)**		David Massey (B19A), Kath Smycki (B19B), Tom Nelson (B19C), Callum Salter (B19D) and Katie Woodfine (B19F)			
	Sunrise time	04:49	**Start Time**	03:19	**End Time**	05:04
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	12
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	12
	Activity Summary: **B19A:** Limited bat activity. Occasional pass by commuting PIPI between 03:06-04:18. PIPI and PIPY observed foraging between 03:16-03:26 and 03:31-04:09. **B19B:** Swarming of 16 PIPI 12 re-entries between 04:06-04:20 and then an addition 2 PIPI re-entries at 04:25. Entry point above the top left window of the security light. If there is a maternity roost here this might be the bachelor roost. **B19C:** No bat activity, no bats observed commuting or foraging. **B19D:** 3:11 PIPI pass social call, 3:14-48 occasional PIPI foraging along treeline, 3:46 2 PIPI flew past B19 towards B21. **B19F:** First bat call heard at 03:23. Several passes by PIPI between 03:23-04:04 in a southward direction. Occasional foraging activity by PIPI between 03:23-03:25 and 03:30-03:34.					
	Limitations: N/A. Survey undertaken in 'optimal' conditions.					
Additional visit 4 on confirmed roost **12/07/23** **DUSK**	**Surveyor and Surveyor Location (SL)**		Tom Nelson (B19B)			
	Sunset time	21:33	**Start Time**	21:18	**End Time**	23:02
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B19B:** 6 PIPI emergences between 21:59-22:47. Exit point above the top left window of the security light.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B20
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large building brick built over four storeys with a shallow pitched tiled roof. Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the northern gable, missing mortar was noted.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **30/05/31** **DUSK**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B20A), IR camera (B20B), IR Camera (B20C), Kath Symcki (B20D), Katie Woodfine (B20E) and Raeece Ali (B20F).				
	Sunset time	21:24	**Start Time**	21:09	**End Time**	22:54
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	17
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	15
	Activity Summary: **B20A:** No bat activity, no bats observed foraging or commuting. **B20B:** No bat activity, no bats observed foraging or commuting. **B20C:** No bat activity, no bats observed foraging or commuting. **B20D:** No bat activity, no bats observed foraging or commuting. **B20E:** No bat activity, no bats observed foraging or commuting. **B20F:** No bat activity, no bats observed foraging or commuting.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **22/06/31** **DAWN**	**Surveyor and Surveyor Location (SL)**	Peter Hewitt (B20A), IR camera (B20B), Katie Woodfine (B20C), David Massey (B20D), Raeece Ali (B20E) and Amy Kennedy (B20F).				
	Sunrise time	04:40	**Start Time**	03:10	**End Time**	04:55
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	17
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	17
	Activity Summary: **B20A:** Limited activity, PIPI recorded foraging between 03:10 and 03:40. No-entry's observed. **B20B:** No bat activity, no bats observed foraging or commuting. **B20C:** Activity between 03:23 and 03:50. 1 PIPI foraging along tree line. PIPI and PIPY. No re-entry. **B20D:** No bat activity, no bats observed foraging or commuting. **B20E:** No bat activity, no bats observed foraging or commuting.					

<table>
<tr><td></td><td colspan="6">B20F: x7 common pip calls recorded between 03:16-03:19. Heard but not seen. Calls sounded far away and likely commuting.</td></tr>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
<tr><td rowspan="7">Visit 3

13/07/31

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">David Massey (B20A), Tom Nelson (B20B), Katie Woodfine (B20C), Rachel Hetherington (B20D), Raeece Ali (B20E) and Elsa Little (B20F).</td></tr>
<tr><td>Sunrise time</td><td>21:32</td><td>Start Time</td><td>21:17</td><td>End Time</td><td>23:01</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 0-33%</td><td>Start Temp (°C)</td><td>18</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>1) Calm <0.3m/s - Optimal</td><td>End Temp (°C)</td><td>17</td></tr>
<tr><td colspan="6">Activity Summary:
B20A: Limited activity. Occasional pass by commuting PIPI and PIPY between 22:02 -22:54.
B20B: Limited activity, mainly PIPI foraging.
B20C: Limited activity. 1 PIPI pass at 22:40 along treeline E to W.
B20D: No bat activity, no bats observed commuting or foraging.
B20E: No observed bat emergences. Moderate activity of mostly PIPI passes and some foraging.
B20F: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	SJ 85731 94126
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the northern gable, missing mortar was noted.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **01/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B21A), Raeece Ali (B21B), Kath Symcki (B21C) and Katie Woodfine (B21D).				
	Sunrise time	4:57	**Start Time**	3:17	**End Time**	5:02
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	10
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	11
	Activity Summary: **B21A:** PIPI observed frequently foraging along treeline of N B21 between 03:17-03:21. Occasional passes by PIPI along treeline from N to S between 03:23- 03:42 and 04:20-04:50. PIPY observed foraging at 03:38 and commuting at 04:20. Occasional PIPY. **B21B:** PIPI observed frequently foraging. **B21C:** First bat call heard at 3:21. Occasional passes by commuting PIPI between 4:02 and 4:12. PIPI observed frequently foraging between 3:21 and 3:50. **B21D:** First bat call heard at 3:20. PIPI observed frequently foraging between 3:20 and 5:20.					
	Limitations: No bat activity, no bats observed commuting or foraging.					
Visit 2 **20/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Katie Woodfine (B21A), Peter Hewitt(B21B), Callum Salter (B21C) and Raeece Ali (B21D).				
	Sunrise time	4:39	**Start Time**	3:09	**End Time**	04:54
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	17
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	16
	Activity Summary: **B21A:** No bat activity, no bats observed commuting or foraging. **B21B:** Several passes by commuting PIPI between 03:12-04:18. PIPY commuting along building at 04:11. **B21C:** No bat activity, no bats observed commuting or foraging. **B21D:** Several passes by commuting PIPI. No bats observed foraging.					

<table>
<tr><td></td><td colspan="6">Limitations: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td rowspan="6">Visit 3

03/07/23

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">Tom Nelson (B21A), Georgina Kelly (B21B), Katie Woodfine (B21C) and Kath Symcki (B21D).</td></tr>
<tr><td>Sunset time</td><td>21:40</td><td>Start Time</td><td>21:25</td><td>End Time</td><td>23:10</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 0-33%</td><td>Start Temp (°C)</td><td>13</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>3) Gentle breeze 1.6-3.3m/s - Optimal</td><td>End Temp (°C)</td><td>11</td></tr>
<tr><td colspan="6">Activity Summary:
B21A: Large number of bats commuting and foraging in surrounding trees throughout the survey.
B21B: No bat activity, no bats observed commuting or foraging.
B21C: Limited activity. 1 PIPI pass at 22:22. No emergences.
B21D: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td colspan="6">Limitations: No bat activity, no bats observed commuting or foraging.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	B22
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85808 94076
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



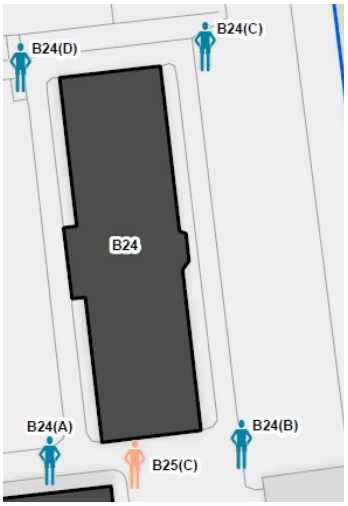
Description of property					
Description of PRFs	Large two storey brick-built building with a multi-pitched metal roof. Large timber soffits, which appeared well sealed through. Lead flashing at join between sections and elevations. Main ornate entrance to Woolton Hall on western elevation.	Bat roost potential **Low/Moderate/High**	**Low**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **22/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	David Massey (B22A), Katie Woodfine (B22B), Callum Salter (B22C), IR Camera (B22D) and Raeece Ali + IR Camera (B22E).				
	Sunset time	21:13	**Start Time**	20:58	**End Time**	22:43
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B22A:** First bat heard at 21:24. Occasional passes by commuting PIPI between 21:24 and 22:23. No bats observed foraging. **B22B:** First bat heard at 22:12. Occasional passes by commuting PIPI between 21:12 and 21:38. No bats observed foraging. **B22C:** First bat heard at 21:49 with 2 PIPY passes throughout entire survey. **B22D:** No bat activity, no bats observed commuting or foraging. **B22E:** First bat heard at 22:12. Occasional passes by commuting PIPI between 21:12 and 21:38. No bats observed foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B24
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large three storey brick-built building with a metal roof. Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

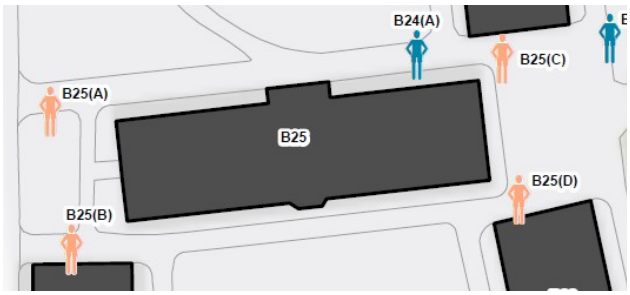
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **23/05/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Callum Salter (B24 A), IR Camera (B24B), Katie Woodfine + IR Camera (B24C) and Raeece Ali (B24D).				
	Sunrise time	4:57	**Start Time**	3:27	**End Time**	5:12
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B24A:** No bat activity, no bats observed commuting or foraging. **B24B:** No bats observed with the camera. **B24C:** First bat heard at 3:46. Occasional passes by commuting PIPI between 3:46 and 3:54. No bats observed foraging. **B24D:** PIPY pass at 03:45, low activity levels.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **12/06/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	IR Camera (B24A).David Massey (B24B), Georgina Kelly + IR Camera (B24C) and Raeece Ali (B24D)				
	Sunset time	21:37	**Start Time**	21:22	**End Time**	23:07
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	24
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	20
	Activity Summary: **B24A:** No bat activity, no bats observed commuting or foraging. **B24B:** No bat activity, no bats observed commuting or foraging. **B24C:** No bat activity, no bats observed commuting or foraging. **B24D:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Visit 3 06/07/23 DUSK	**Surveyor and Surveyor Location (SL)**		Katie Woodfine (B24A), Georgina Kelly (B24B), Tom Nelson (B24C) and David Massey (B24D)			
	Sunset time	21:38	**Start Time**	21:23	**End Time**	23:09
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	19
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	18
	Activity Summary: **B24A:** Limited bat activity. PIPI commuting eastward at 22:15 and foraging activity recorded between 22:31-22:46. No emergences. **B24B:** No bat activity, no bats observed commuting or foraging. **B24C:** No bat activity, no bats observed commuting or foraging. **B24D:** Limited bat activity. PIPI and PIPY observed commuting and foraging between 22:36-22:53.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B25
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.				
Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	Bat roost potential **Low/Moderate/High**	High	Confirmed Roost **YES/NO**	**NO**

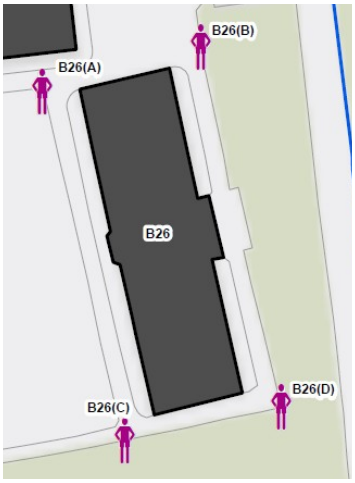
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **23/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Raeece Ali (B25A), David Massey (B25B), Katie Woodfine (B25C) and IR Camera (B25D).				
	Sunset time	21:15	**Start Time**	21:00	**End Time**	22:45
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B25A:** No bat activity, no bats observed commuting or foraging. **B25B:** First bat heard at 21:30. Occasional passes from commuting PIPI between 21:30 and 22:39. No bats observed foraging. **B25C:** First bat heard from a commuting PIPI at 22:18. No bats observed foraging. **B25D:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **13/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Raeece Ali (B25A), IR Camera (B25B), IR Camera (B25C) and David Massey (B25D)				
	Sunrise time	4:40	**Start Time**	3:10	**End Time**	04:55
	Weather	Cloud cover: 34-66%.			**Start Temp (°C)**	15
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B25A:** No bat activity, no bats observed commuting or foraging. **B25B:** No bat activity, no bats observed commuting or foraging. **B25C:** No bat activity, no bats observed commuting or foraging. **B25D:** No bat activity, no bats observed commuting or foraging.					

	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 3 **04/07/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Kath Symcki (B25A), Tom Nelson (B25B), IR Camera (B25C) and Katie Woodfine (B25D)				
	Sunset time	21:39	**Start Time**	21:24	**End Time**	23:09
	Weather	Cloud cover:0-33%			**Start Temp (°C)**	12
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	11
	Activity Summary: **B25A:** No bat activity, no bats observed commuting or foraging. **B25B:** No bat activity, no bats observed commuting or foraging. **B25C:** Footage to be reviewed. **B25D:** Limited activity. PIPI observed foraging and commuting along treeline between 22:03-06, 22:22-24,22:44-49. No emergences.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	B26
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map - Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.

Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **24/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	David Massey (B26A), Katie Woodfine (B26B), Raeece Ali (B26C) + IR Camera (B26D).				
	Sunset time	21:16	**Start Time**	21:01	**End Time**	22:46
	Weather	Cloud cover: 0-33%.			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B26A:** First bat spotted at 22:31. Occasional passes by commuting PIPI between 22:31 and 22:39. No bats observed foraging. **B26B:** First bat spotted at 22:03. PIPI observed foraging between 22:03 and 22:06 along the eastern treeline. **B26C:** No bat activity, no bats observed commuting or foraging. **B26D:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **13/06/23** **Dusk**	**Surveyor and Surveyor Location (SL)**	Raeece Ali + IR Camera (B26A), Pascale Palethorpe (B26C), David Massey + IR Camera (B26D)				
	Sunset time	21:38	**Start Time**	21:23	**End Time**	23:08
	Weather	Cloud cover: 0-33%.			**Start Temp (°C)**	23
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	20
	Activity Summary: **B26A:** First bat spotted at 22:34. Occasional passes by commuting PIPI between 22:34 and 22:57. No bats observed foraging.					

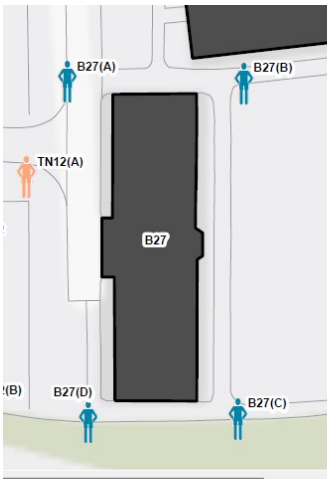
<table>
<tr><td></td><td colspan="6">B26B: No bat activity, no bats observed commuting or foraging.
B26C: Limited bat activity. Occasional passes by commuting PIPI.
B26D: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td></td><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
<tr><td rowspan="6">Visit 3

29/06/23

Dawn</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">Callum Salter B26(A), Tom Nelson (B26B), David Massey (B26C) and IR Camera (B26D).</td></tr>
<tr><td>Sunrise time</td><td>04:43</td><td>Start Time</td><td>03:12</td><td>End Time</td><td>04:58</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud cover: 34-66%</td><td>Start Temp (°C)</td><td>11</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>3) Gentle breeze 1.6-3.3m/s - Optimal</td><td>End Temp (°C)</td><td>9</td></tr>
<tr><td colspan="6">Activity Summary:
B26A: No bat activity, no bats observed commuting or foraging.
B26B: No bat activity, no bats observed commuting or foraging.
B26C: PIPI commuting activity between 22:34 – 22:57.
B26D: No bat activity, no bats observed commuting or foraging.</td></tr>
<tr><td colspan="6">Limitations: N/A. Survey undertaken in ‘suitable’ conditions.</td></tr>
</table>

Project Code	RID002-001-1	**Property**	B27
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.				
Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

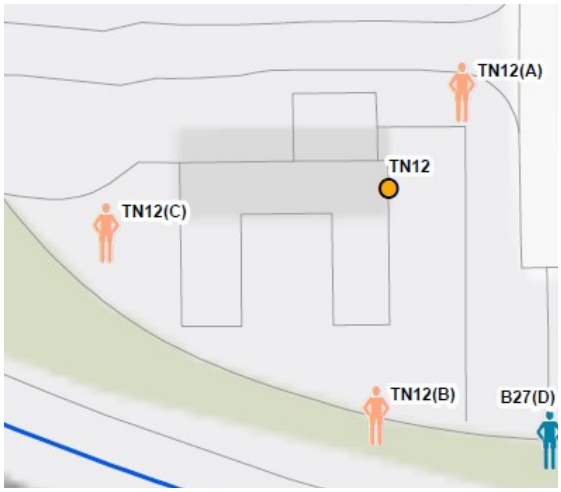
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **25/05/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Raeece Ali + IR Camera (B27A), David Massey (B27B), Katie Woodfine + IR Camera (B27C) and Callum Salter (B27D).				
	Sunrise time	4:54	**Start Time**	3:24	**End Time**	5:09
	Weather	Cloud cover: 34-66%			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B27A:** No bat activity, no bats observed commuting or foraging. **B27B:** First bat heard from a commuting PIPI at 03:28. No bats observed foraging. **B27C:** No bat activity, no bats observed commuting or foraging. **B27D:** First bat heard from a commuting PIP at 03:35. Low activity					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **14/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Raeece Ali and IR Camera (B27A), Pascale Palethorpe (B27B), IR Camera (B27C) and David Massey (B27D)				
	Sunrise time	4:39	**Start Time**	3:09	**End Time**	4:54
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	14
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	14
	Activity Summary: **B27A:** High bat activity from frequently commuting and foraging PIPI. No re-entries observed. **B27B:** Moderate bat activity. PIPI (social, foraging and commuting calls) from 03:09 – 03:37. No further activity after 03:37. No re-entries observed. **B27C:** No bat activity, no bats observed commuting or foraging. **B27D:** First bat call heard from a commuting PIPI at 03:02. Moderate activity by commuting PIPI between 03:02-03:29. Observation of foraging by PIPI between 03:02 – 03:26. No re-entries observed.					

	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 3 **05/07/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Kath Symcki (B27A), David Massey (B27B), Tom Nelson (B27C) and Katie Woodfine (B27D)				
	Sunset time	21:39	**Start Time**	21:24	**End Time**	23:09
	Weather	Cloud cover: 67-100%			**Start Temp (°C)**	12
	Rain	Dry	**Wind (Beaufort)**	1) Calm <0.3m/s - Optimal	**End Temp (°C)**	10
	Activity Summary: **B27A:** No bat activity, no bats observed commuting or foraging. **B27B:** No bat activity, no bats observed commuting or foraging. **B27C:** No bat activity, no bats observed commuting or foraging. **B27D:** High C/F activity by PIPI and PIPY. Pair of PIPI observed C/F between 22:08-09. Activity between 21:53-22:41. No emergences.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Project Code	RID002-001-1	**Property**	TN12
Project Title	Bat Dusk Emergence and Dawn Re-entry Surveys. Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built with a multi sloping tile roof. Open porch to front (northern elevation) with a sloping tiled roof.				
Description of PRFs	There is an extensive covering of moss across the roof line. Shaded by surrounding trees. Gaps noted between tiles, weep holes and gaps between fasciae.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **25/05/23** **DUSK**	**Surveyor and Surveyor Location (SL)**	Katie Woodfine (TN12A), David Massey (TN12C) and Tom + IR Camera (TN12B)				
	Sunset time	21:17	**Start Time**	21:02	**End Time**	22:47
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	16
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	15
	Activity Summary: **TN12A:** First bat heard by commuting PIPI at 22:48. No bats observed foraging. **TN12B:** No bat activity, no bats observed commuting or foraging. **TN12C:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 2 **13/06/23** **DAWN**	**Surveyor and Surveyor Location (SL)**	Raeece Ali + IR Camera (TN12A), Pascale Palethorpe (TN12B) and David Massey + IR Camera (TN12C).				
	Sunrise time	4:40	**Start Time**	03:10	**End Time**	04:53
	Weather	0-33% cloud cover			**Start Temp (°C)**	15
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	15
	Activity Summary: **TN12A:** Moderate bat activity, PIPI passes from 03:09-4:10 (commuting and foraging). No re-entries. **TN12B:** Moderate bat activity, PIPI passes from 03:09-04:10 (commuting and foraging). No re-entry. **TN12C:** Moderate bat activity, PIPI passes from 03:05 – 04:09 (commuting and foraging). No re-entry.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					
Visit 3	**Surveyor and Surveyor Location (SL)**	Callum Salter (TN12A), David Massey (TN12B), IR Camera (TN12C) and IR Camera (TN12D).				

03/07/23 DUSK	**Sunset time**	21:40	**Start Time**	21:25	**End Time**	23:10
	Weather	Cloud cover: 0-33%			**Start Temp (°C)**	13
	Rain	Dry	**Wind (Beaufort)**	3) Gentle breeze 1.6-3.3m/s - Optimal	**End Temp (°C)**	11
	Activity Summary: **TN12A:** Limited bat activity. PIPI pass at 22:07 and PIPY pass at 22:11 from the north treeline. **TN12B:** Limited bat activity. Occasional PIPI pass between 22:02-22:06. PIPI observed foraging between 22:12-22:59. **TN12C:** No bat activity, no bats observed commuting or foraging. **TN12D:** No bat activity, no bats observed commuting or foraging.					
	Limitations: N/A. Survey undertaken in 'suitable' conditions.					

Appendix 3: British Bats

8.9 Introduction

8.9.1 A summary of the biology of British bats and the legislation and policy that protects them is provided below.

8.10 Biology

8.10.1 There are 18 British species of bats, belonging to two families; the horseshoe bats (*Rhinolophidae*) and vesper bats (*Vespertilionidae*). Of the 18 species, two species are horseshoe bats and belong to the genus *Rhinolophus*,. The remaining 16 species are vesper bats and are sub-divided between six genera; *Myotis, Eptesicus, Nyctalus, Pipistrellus, Plecotus* and *Barbastella*. Whilst there are many differences in the biology of the different species, all share certain characteristics, and these are described below.

Roosting

8.10.2 Bat species utilise roost sites of varying character; some preferring tree roosts whilst others are thought to be almost entirely dependent on built structures. Most bats will have a number of available roosting sites within their range, which they move between throughout the year. They are generally faithful to their roosts and a colony of bats may use the same roost site(s) year after year.

8.10.3 Bats hibernate during the winter and will often gather to hibernate communally, remaining in the same hibernation roost from November to February/March. Hibernation roost sites typically have a constant low temperature and high humidity levels. Sites include caves, mines, thick-walled buildings and hollow trees. With the arrival of spring, the ambient temperature and day length increase and bats begin to leave their hibernation roosts, either moving immediately to summer roost sites or occasionally, to a transitional roost.

8.10.4 By June, breeding females will begin to congregate in maternity roost sites where they will give birth to and nurture their young. Male bats are also occasionally found roosting in maternity roosts, but during this period they mostly roost alone. Maternity roost sites include hollowed out trees, buildings, and bridges. Male bats may use similar sites but also cracks and crevices in trees, under loose tiles or even amongst dense ivy growth during the summer period. Similar sites may be used by bats for brief periods during the night when they are resting or feeding on recently caught prey. In autumn, male bats establish mating roosts and are visited by females. A variety of roost sites may be used until the bats return to their hibernation roosts.

Foraging

8.10.5 All British bat species feed on invertebrates, with flies, beetles, moths, and other insects making up much of their diet. Areas with an abundance of insect prey, such as woodlands, scrub, wetlands, river corridors and flower rich grasslands are therefore favoured foraging sites for

bats. Habitats such as intensively farmed arable land, and amenity grassland support a much lower invertebrate abundance and are therefore less favoured foraging habitats for bats.

Commuting

8.10.6 Bats favour roost sites in close proximity to suitable foraging habitat, however, given variation in prey availability, land-use change, and competition with other bats, for at least part of the year bats must commute between their roosts and foraging habitat.

8.10.7 Commuting routes tend to follow linear features in the landscape such as hedgerows, woodland edges, rivers, and other watercourses, particularly when crossing areas of less favourable habitat. The distance that bats commute between roost sites and foraging areas is dependent on local geography and the species of bat. Some species will travel up to 18km, though shorter distances are more typical.

8.11 Site Designation

8.11.1 All bat roosts in the UK receive protection under the following legislation:

- Conservation of Habitats and Species (Amendment) Regulations 2017;
- Wildlife and Countryside Act 1981, as amended;
- The Countryside and Rights of Way Act 2000 (which amends the Wildlife and Countryside Act); and
- Natural Environment and Rural Communities Act 2006 (which amends the Wildlife and Countryside Act).

8.11.2 This is described in more detail under 'Species Protection' below. In addition, the most important sites for certain bat species in the UK receive further statutory protection through designation of Special Areas of Conservation (SACs) and/or Sites of Special Scientific Interest (SSSIs).

8.11.3 Four UK bat species, the greater and lesser horseshoe, barbastelle and Bechstein's bats, are included on Annex II of the European Community Directive of the Conservation of Natural Habitats and of Wild Fauna and Flora, referred to as the Habitats Directive. The Habitats Directive is transposed into UK law by the Conservation of Habitats and Species (Amendment) Regulations 2012. This legislation requires that areas are designated as Special Areas of Conservation (SACs) to protect populations of these 4 bat species. To date, 26 SACs have been designated specifically to protect these species, and these sites are of international importance for the populations of bats that they support. A further 5 SACs have been designated, where the presence of at least one of the 4 bat species is a qualifying feature but not the primary reason for the statutory designation.

8.11.4 Sites designated under the Wildlife and Countryside Act 1981 (WCA) are known as Sites of Special Scientific Interest (SSSIs). SSSIs received further protection under the Countryside and Rights of Way Act 2000 (CRoW) and the Natural Environment and Rural Communities (NERC) Act 2006.

8.11.5 Some SSSIs are designated for the population(s) of bats that they support. The criteria for selecting SSSIs on the basis of their bat populations are provided in Guidelines for the Selection of Biological SSSIs (NCC, 1989):

- Greater horseshoe bat – all main breeding roosts and all winter roosts with 50 or more adult bats;
- Lesser horseshoe bat - all main breeding roosts containing 100 or more adult bats and all winter roosts containing 50 or more bats;
- Barbastelle, Bechstein's and grey long-eared bats – any traditional breeding roosts;
- Natterer's, Daubenton's whiskered, Brandt's, serotine, noctule and Leisler's bats – only exceptionally large breeding roosts or those with a long history of use; and
- Mixed Roost sites – all hibernacula containing four or more species and more than 50 individuals or three species and 100 or more individuals or two species and 150 or more individuals, though these criteria may be lower in some parts of the UK.

8.11.6 Sites that qualify as SSSIs for the bat populations they support are considered to be of at least national importance.

8.11.7 Sites designated for nature conservation at the county level may also include bat populations as part of the site qualifying criteria, although the criteria used may vary from county to county. Such sites are protected through the planning system and there is generally a presumption against development that affects such sites in local authority development plans.

Planning Policy

8.11.8 The National Planning Policy Framework (NPPF), 2012, gives further direction with respect to biodiversity conservation and land use change / development. The NPPF encourages local planning authorities to identify, conserve and restore, ecological networks, which should benefit amphibians, and it also states that planning permission should be refused if significant harm to biodiversity cannot be avoided, mitigated, or compensated. In addition, the Government Circular 06/05, which relates to biodiversity conservation, states that all protected species, such as otters, are a material consideration for the planning authority when considering Proposed Developments.

8.12 Species Protection

Legislation

8.12.1 All bat species are protected by the Conservation of Habitats and Species (Amendment) Regulations 2017. The Regulations make it an offence, with very few exceptions, to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb a bat in such a way as to be likely:
    i. to impair its ability to survive, to breed or reproduce, or to rear or nurture its young; or

ii. to impair its ability to hibernate or migrate; or

iii. to affect significantly the local distribution or abundance of the species to which they belong.

- Damage or destroy a breeding site or resting place of a bat; or
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

8.12.2 In addition to the protection given to bats under the Conservation of Habitats and Species (Amendment) Regulations 2012 already described, bats are also partially protected in England under the WAC, which adds the following offences (with certain exceptions):

- Disturbance while it is occupying a structure or place which it uses for shelter or protection; or
- Obstructing access to any structure or place used for shelter or protection.

8.12.3 A roost is any structure or place used by bats for shelter or protection. As bats tend to re-use the same roosts year after year, the roost is protected whether bats are present or not, at the time.

8.12.4 In this context of the legislation, 'damage' would include such operations as treatment of wood with toxic preservatives or use of rodenticides near roosting bats while 'disturbance' includes any work in or affecting a bat roost.

8.12.5 If proposed actions, such as redevelopment of an existing building, lead to an offence under the above legislation, appropriate mitigation which seeks to avoid these impacts should be devised and implemented under licence from Natural England to allow the activity to proceed legally.

8.12.6 In addition to the above legislation, all bats are protected under the Bonn Convention, within which the Agreement on the Conservation of Bats in Europe (1991) or EUROBAT, establishes a mechanism for international collaboration to conserve bats and their habitats, including foraging habitats. All European bat species are covered under Appendix II of the Conservation of Migratory Species of Wild Animals (CMS).

8.12.7 The Hedgerow Regulations 1997 provide for the conservation of 'important' hedgerows and their constituent trees. The presence of a protected species such as bats is included in the assessment of whether a hedgerow is considered 'important' and applications to remove such hedgerows must be made to the planning authority.

8.13 UK Post-2010 Biodiversity Framework and Species of Principal Importance

8.13.1 Published by the Joint Nature Conservation Committee (JNCC) and the Department for Environment, Farming and Rural Affairs (Defra) in July 2012, the UK Post-2010 Biodiversity Framework identifies UK-scale activities and priority works that are required to deliver the EU Biodiversity Strategy. Following a process of devolution, the framework is underpinned by country level strategies which are now largely responsible for continuing the work carried out under the former UK Biodiversity Action Plans (UK BAP). JNCC guidance dictates that UK BAP

background information on priority species and habitats still remains relevant and it now forms the basis of country specific priority lists, which for England, are specified under Section 41 of the NERC Act 2006. Targets for England's biodiversity strategy 'Biodiversity 2020': A strategy for England's wildlife and ecosystem services, are informed by this list.

8.13.2 Seven species of bats (Barbastelle, Bechstein's, greater and lesser horseshoe, brown long-eared, noctule and soprano pipistrelle) have been adopted as Species of Principal Importance for the Conservation of Biodiversity in England. This places a duty on all government departments to have regard for the conservation of these species and on the Secretary of State to further, or promote others to further, the conservation of these species. Furthermore, the NPPF states that local planning authorities should promote the protection and recovery of priority species populations linked to national and local targets, which presumably means those listed under the Section 41 of the NERC Act, the former UK BAP and on Local or Regional priorities species lists.

8.14 References

8.14.1 Altringham, J. (2003) British Bats. New Naturalist Series No. 93.

8.14.2 Entwistle, A. C., Harris, S., Hutson, A., Racey, P., Walsh, A., Gibson, S., Hepburn, I., and Johnston, J. (2002) Habitat management for bats: A guide for land managers, land owners and their advisors. JNCC, Peterborough.

8.14.3 Highways Agency (1999 et seq) Design Manual for Roads and Bridges, Volume 10 Environmental Design and Management, Section 3 The Good Roads Guide- Nature Conservation, Part 6 Nature Conservation Management Advice in Relation to Bats.

8.14.4 Hundt L (2012). Bat Surveys: Good Practice Guidelines, 2nd Edition. Bat Conservation Trust, London.

8.14.5 JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). (2012). UK Post-2010 Biodiversity Framework. Available from: http://jncc.defra.gov.uk/page-6189.

8.14.6 Mitchell-Jones, A.J. & McLeish, A.P. (1999). Bat Workers' Manual (2nd Edition). Joint Nature Conservancy Committee, Peterborough

8.14.7 NCC (1989) Guidelines for Selection of Biological SSSIs. Nature Conservancy Council, Peterborough

8.14.8 Office of the Deputy Prime Minister (2005) Planning Policy Statement 9; Biodiversity and Geological Conservation.

8.14.9 Russ, J. (1999). The Bats of Britain and Ireland. Alana Ecology, Shropshire.