Thomson
environmental
consultants





Further Bat Assessment Report

Fallowfield Campus Redevelopment Project

For

John Graham Construction Ltd

Report Ref.: GRA001-013-001/003/002

February 2025

Guildford
Compass House
Surrey Research Park
Guildford
GU2 7AG
t: +44 (0)1483 466 000

North East
Carrwood Park
Selby Road
Leeds
LS15 4LG
t: +44 (0)113 518 2121

North West
Kennedy House
31 Stamford Street
Ground Floor
Altrincham
WA14 1ES
t: +44 (0)1483 466 000

Cardiff
Sophia House
28 Cathedral Road
Cardiff
CF11 9LJ
t: +44 (0)2920 660180

Birmingham
605 Holly Court
Holly Farm Business Park
Honiley
Kenilworth
CV8 1NP
t: +44 (0)121 827 3180

East
70-72 The Havens
Ransomes Industrial Estate
Ipswich
IP3 9BF
t: +44 (0)1483 466 000

Enquiries

e: enquiries@thomsonec.com

w: www.thomsonec.com

PEERS QUALITY ASSURANCE LTD
UKAS MANAGEMENT SYSTEMS
ISO 9001:2015 9940
PEERS QUALITY ASSURANCE LTD
UKAS MANAGEMENT SYSTEMS
ISO 14001:2015 9940

Project Number	Report No.
GRA001-013-001	003

Revision No.	Date of Issue	Author	Reviewer	Approver
001	21/01/2025	Olivia Satur	Callum Salter	Irfaan Junaideen
002	18/02/2025	Olivia Satur	Callum Salter	Callum (Change in appendix only)

Disclaimer:

Copyright Thomson Ecology Limited. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from Thomson Ecology Limited. If you have received this report in error, please destroy all copies in your possession or control and notify Thomson Ecology Limited.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Thomson Ecology Limited, no other party may use, make use of or rely on the contents of the report. No liability is accepted by Thomson Ecology Limited for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Thomson Ecology Limited using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to Thomson Ecology Limited has been made.

Contents

1. Summary and Main Recommendations....6
1.1 Summary....6
1.2 Recommendations....7
2. Introduction....9
2.1 Development Background....9
2.2 Ecology Background....10
2.3 The Brief and Objectives....12
2.4 Limitations....13
3. Methodology....15
3.1 Survey Area and Data Collection....15
3.4 Ground Level Tree Assessments....20
4. Results....23
4.1 Desk Study....23
4.2 Preliminary Roost Assessment....23
4.3 Internal Roost Assessment of Buildings....23
4.4 Ground Level Tree Assessment....24
5. Legal and Planning Policy Considerations....26
5.1 Site Designation....26
5.2 Species Protection....27
6. Recommendations and Bat Safeguarding Measures....30
6.3 Enhancements....31
6.4 Further Survey....31
7. Conclusion....33
8. References....34
Appendix 1 - Results of the Bat Internal Inspections....35
Appendix 2 – GLTA Survey Results....41
Appendix 3 – Tree Constraints Plan....49

Table 2-1: Bat emergence/re-entry totals for B18, B19 Oak House and B25 Woolton Hall....12
Table 3-1: Habitat Suitability for Roosting Bats (Bat Conservation Trust guidelines (4th Edition) (Collins, J (ed), 2023))....17
Table 3-2: Roost type definitions....18
Table 3-3: PRF types that can be exploited by bats and how they form (adapted from Bat Roosts in Trees (BTHK, 2018)):....20
Table 3-4:Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement (adapted from Collins ed 2023)....21
Table 3-5: Guidelines for assessing the suitability of tree PRFs on proposed development sites for bats, to be applied using professional judgement (adapted from Collins ed 2023)....21

Figure 1: Site Overview
Figure 2: Preliminary Roost Assessment and Internal Roost Inspection Survey Results
Figure 3: 2023 and 2024 Emergence and re-entry Survey Results and Confirmed Roost Locations
Figure 4: 2024 Ground Level Tree Assessment Survey Results
Figure 5a and 5b: Preliminary Roost Assessment (B14) Photographs
Figure 6a - 6g: Internal Inspection Photographs
Figure 7 a-e: Ground Level Tree Assessment Photographs

1. Summary and Main Recommendations

1.1 Summary

1.1.1 A Preliminary Ecological Appraisal and External Bat Roost Assessment was undertaken by Buro Happold in 2022 at student accommodation at the Fallowfield Campus, University of Manchester, to support an application for outline planning permission. The redevelopment of Fallowfield Campus 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'. As part of this appraisal, further surveys were recommended for bats. The bat surveys were commissioned to Thomson Environmental Consultants (TEC) on behalf of River Levett Bucknall in the summer of 2023, during which multiple bat roosts were identified. Outline planning permission (Ref. 138126/OO/2023) was subsequently granted for the demolition of Owen's Park, which is the first phase of demolition. Further bat surveys, which were set out within Condition 9 attached to the Outline Planning Permission, were commissioned to Thomson Environmental Consultants in the summer of 2024, which identified additional roosts within Oak House and Woolton hall, including a common pipistrelle (*Pipistrellus pipistrellus*) bachelor's/maternity roost within B19 Oak House, and common pipistrelle transitional/day roosts within B18 Oak House and B25 Woolton Hall (Thomson, 2024).

1.1.2 Following this suite of bat surveys by Thomson Environmental Consultants (summarised above), further surveys were recommended. These were also set out within Condition 10 of the Outline Planning Permission. The scheme has been passed to Graham Construction Ltd for the next phase of construction works. This includes an update Preliminary Roost Assessment (PRA) of The Limes (B14), as this building was not included within the 2023 or 2024 bat surveys. Further survey recommendations was an internal inspection of the buildings at Oak House and Woolton Hall, as this was not included within the previous survey scope and will provide further data allowing detailed roost characterisation. Within this report this applies to B14 – B21 Oak House, and B22 and B24-B27 Woolton Hall. In addition, a Ground Level Tree Assessment (GLTA) of trees on campus was recommended. This is to inform future tree removal required to allow for the construction of the new PBSA, whilst safeguarding bats on site. These surveys have been instructed by Graham Construction Ltd and are reported herein.

1.1.3 The following conclusions were drawn after the PRA, internal assessments and GLTA:

- The Limes (B14) has negligible potential to support roosting bats, as with the previous assessment;
- The loft void structure and building layout was consistent among the buildings. This enables broad discussion of the suitability of all buildings for bats. No evidence of roosting bats were recorded during the survey. Light was visible through the roofs of most voids which suggested that bats would be able to access them. However, due to health and safety reasons surveyors could not leave the ladders and enter the lofts, therefore the PRFs could not be surveyed. Furthermore, more PRFs may be present that could not be seen from the

ladder. Access to all areas of loft void was not possible due to access issues or health and safety reasons;

- Given the building is actively used as student accommodation, disturbance levels were assessed as moderate. The loft voids were recorded as having high suitability for roosting bats as the light seen through the roofs suggest bats can access the voids, more PRFs may be present that could not be seen from the ladders and as the void supports wooden trusses that may be used for roosting.
- The external roost access points were not assessed in this report, however they were outlined in the preliminary report (Buro Happold, 2023) and bat reports (Thomson, 2023) (Thomson 2024). Features included gaps in soffit boxes, fascia boards, lose lead flashing, dislodged slates, gaps behind a chalking fixture of a drainpipes and open windows in the buildings.
- The buildings were not classified as being suitable for use by roosting bats during the winter/hibernation period. Given that the buildings and central heating will be used by the residents, temperatures are likely to fluctuate during winter.
- Three trees (T177, T191 and T201) were identified as PRF (having at least one PRF) during the GLTA. This is as they supported features including lifted bark, wound cavities and knot holes.

1.2 Recommendations

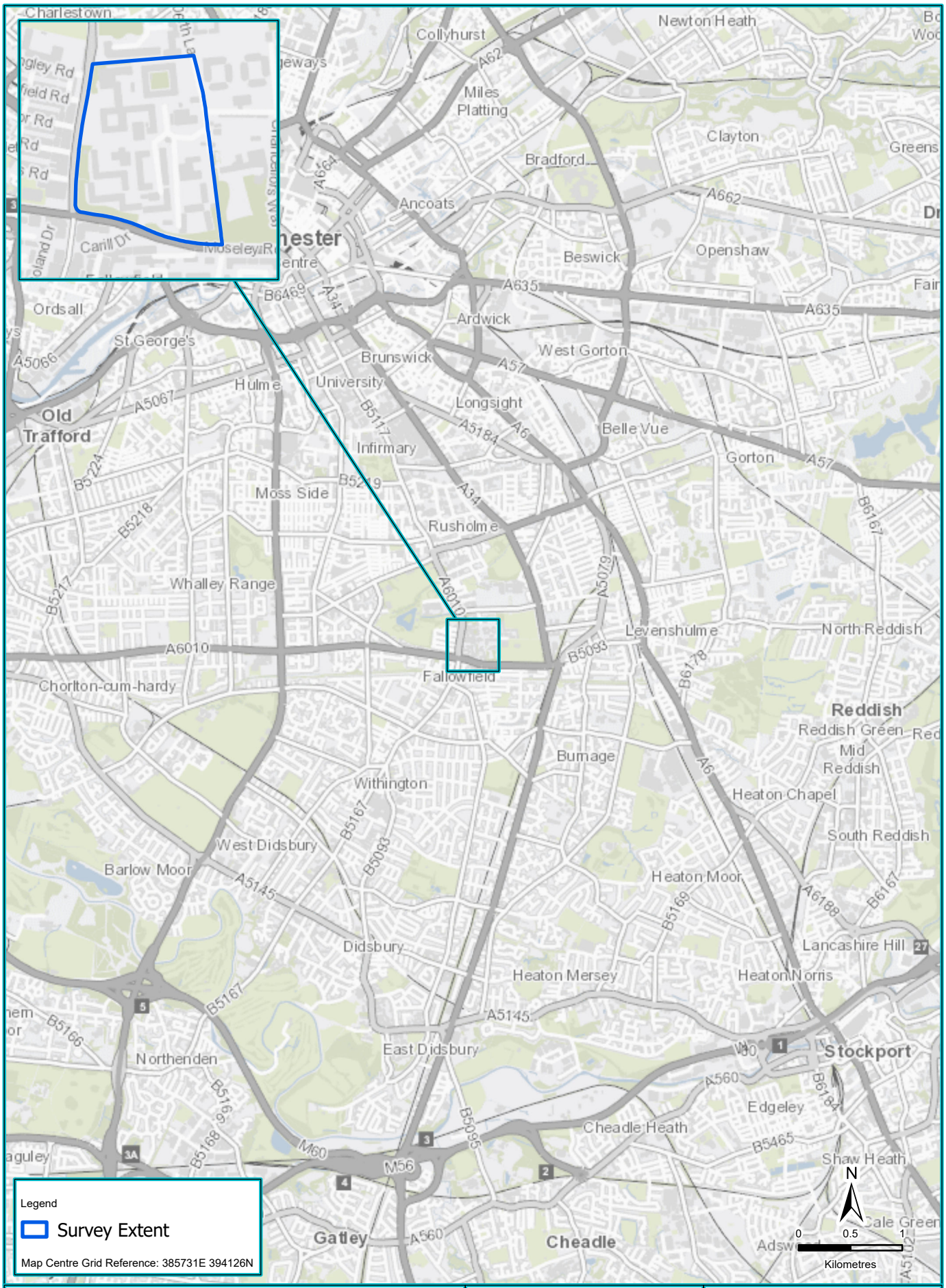
1.2.1 It will be necessary to obtain a site specific Natural England European Protected Species (EPS) Mitigation Licence for buildings B18, B19 and B25 prior to the demolition works to ensure the project is carried out in accordance with the relevant legislation. Full recommendations and mitigation have been established in the full bat report (Thomson, 2024) but are summarised in section 6 of this report. However, the Method Statement set out in the upcoming bat mitigation licence application will supersede any recommendations herein, which give likely requirements anticipated at this stage.

Further Surveys

1.2.2 It is recommended that a PRF inspection survey is carried out on the three trees identified as PRF (T177, T191 and T201). This is as PRFs cannot be exhaustively searched from ground level and so tree-climbing or use of a Mobile Elevated Work Platform (MEWP) is required to accurately assess their suitability. The survey should be carried out by a licenced bat ecologist.

1.2.3 Only those trees that are to be removed (according to Appendix 3) were subject to a GLTA. If any additional trees are required to be removed, then it is recommended that they are also subject to a GLTA.

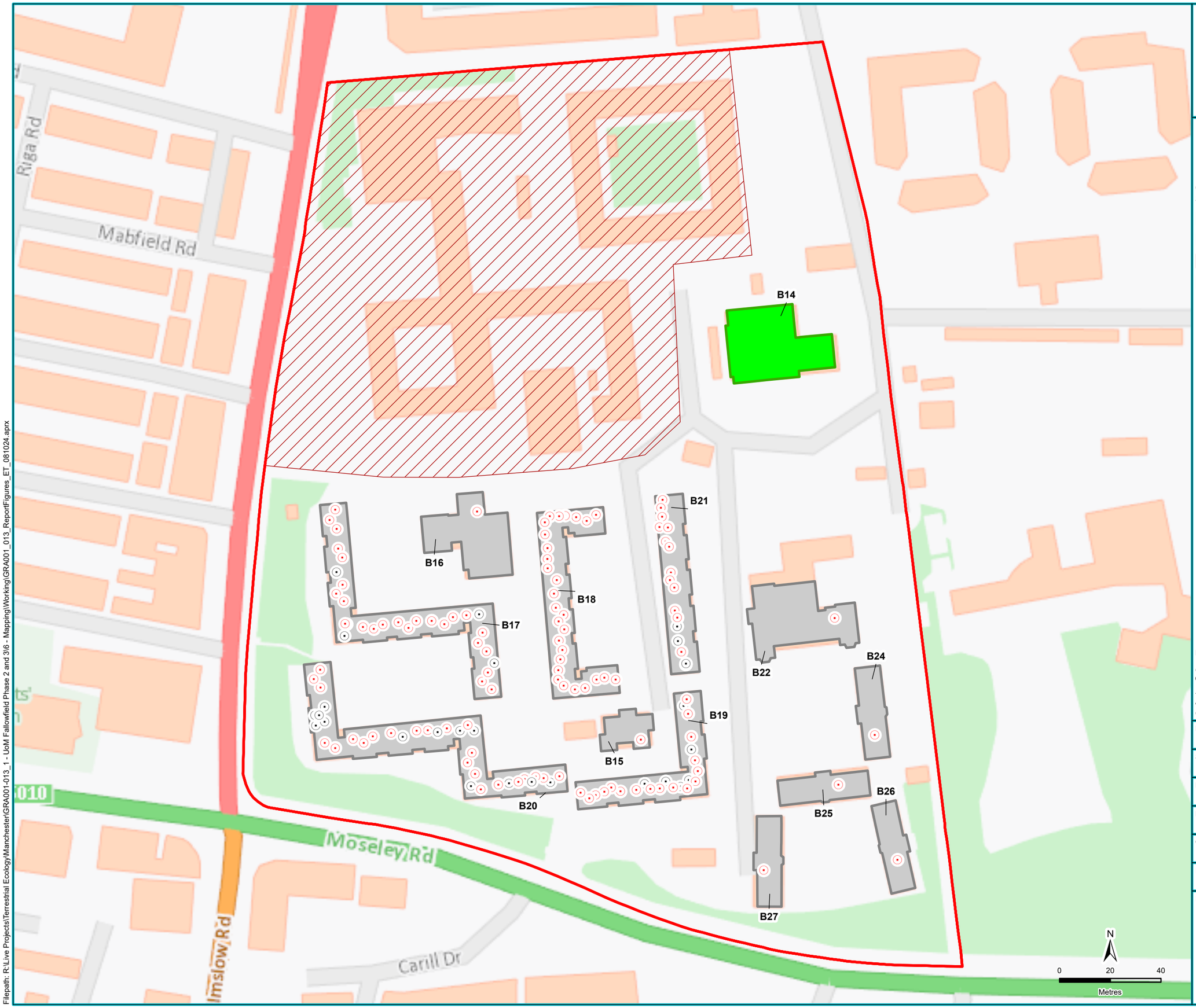
1.2.4 It is also recommended that a MEWP is used to inspect the buildings at Oak House, specifically the fascia boards and soffit boxes. This is to identify if bats are using these features on the buildings.



Client: John Graham Construction Ltd		Drawing Ref: GRA001-013/406204/1	
Figure Number: 1		Scale at A4: 1:50,000	
Figure Title: Site Location		Drawn: KC	Checked: AS
		Date: 02/10/2024	Date: 02/10/2024

Thomson environmental consultants
www.thomsonec.com
enquiries@thomsonec.com

Filepath: \\thomson.int\Data\Live Projects\Terrestrial Ecology\Manchester\GRA001-013_1 - UoM Fallowfield Phase 2 and 3\6 - Mapping\Working\GRA001_013_ReportFigures_KC_270924\GRA001_013_ReportFigures_KC_270924.aprx
Contains Ordnance Survey data © Crown copyright and database right 2024. This map must not be copied or reproduced by any means without prior written permission from Thomson Environmental Consultants.



Filepath: R:\Live Projects\Terrestrial Ecology\Manchester\GRA001-013_1 - UoM Fallowfield Phase 2 and 316 - Mapping\Working\GRA001_013_ReportFigures_ET_081024.aprx

Thomson environmental consultants
www.thomsonec.com
enquiries@thomsonec.com

Legend

- Access
- No Access

Overall Potential (Whole Building) to Support Roosting Bats

- Negligible
- Not Surveyed
- Restricted Access
- Site Boundary

Map Centre Grid Reference: 385731E 394126N

Contains Ordnance Survey data
© Crown copyright and database right 2025.

This map must not be copied or reproduced by any means without prior written permission from Thomson Environmental Consultants.

Drawing Ref	GRA001-013/406317/1
Scale at A3	1:1,400
Drawn: JTW	Checked: AS
Date: 17/01/2025	Date: 17/01/2025
Client	John Graham Construction Ltd
Figure Number	2

Figure Title

Preliminary Roost Assessment and Internal Roost Inspection Survey Results



Thomson environmental consultants
www.thomsonec.com
enquiries@thomsonec.com

Legend

- Roost Locations
- *Pipistrellus pipistrellus* flight line
- *Pipistrellus spp.* flight line
- Property With Confirmed Roost
- Property without Confirmed Roost
- Building under Licensed Demolition
- Site Boundary

Map Centre Grid Reference: 385731E 394126N

Contains Ordnance Survey data
© Crown copyright and database right 2025.

This map must not be copied or reproduced by any means without prior written permission from Thomson Environmental Consultants.

Drawing Ref	GRA001-013/406294/1
Scale at A3	1:1,400
Drawn: SC	Checked: AS
Date: 17/01/2025	Date: 17/01/2025
Client	John Graham Construction Ltd
Figure Number	3

Figure Title

2023 and 2024 Bat Surveys and Confirmed Roost Locations

Filepath: R:\Live Projects\Terrestrial Ecology\Manchester\GRA001-013_1 - UoM Fallowfield Phase 2 and 3\6 - Mapping\Working\GRA001_013_ReportFigures_ET_081024.aprx



Filepath: R:\Live Projects\Terrestrial Ecology\Manchester\GRA001-013_1 - UoM Fallowfield Phase 2 and 3\6 - Mapping\Working\GRA001_013_ReportFigures_ET_081024.aprx

Thomson environmental consultants
www.thomsonec.com
enquiries@thomsonec.com

Legend

Overall Suitability of Tree to Support Roosting Bats

- PRF
- No Potential
- Restricted Access
- Owens Park (Central section) - Phase 1
- Oak House (South-east section) - Phase 2
- Woolton House (South-West section) - Phase 3
- Site Boundary

Map Centre Grid Reference: 385728E 394061N

Contains Ordnance Survey data
© Crown copyright and database right 2025.

This map must not be copied or reproduced by any means without prior written permission from Thomson Environmental Consultants.

Drawing Ref	GRA001-013/406295/1
Scale at A3	1:900
Drawn: SC	Checked: AS
Date: 17/01/2025	Date: 17/01/2025
Client	John Graham Construction Ltd
Figure Number	4

Figure Title

2024 Ground Level Tree Assessment Survey Results



Photograph 1: Limes building South facing (s facing)



Photograph 2: The building comprises of entirely flat roofs. (South facing).



Photograph 3: Limes Building North facing.



Photograph 4: Limes building south west facing.



Photograph 5: Limes building west facing.



Photograph 6: Limes building east facing



Photograph 7: Limes building west facing.



Photograph 8: Limes building north facing.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 5a		Drawn: DJ / Checked: IJ	
Figure Title: Preliminary Roost Assessment (B14) Photo-graphs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com



Photograph 09: Limes building west facing.



Photograph 10: Limes building north facing.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 5b		Drawn: DJ	Checked: IJ
Figure Title: Preliminary Roost Assessment (B14) Photo-graphs		Date: 15/10/2024	



Photograph 1: B15 Loft hatch entrance. Located inside a coded staffroom.



Photograph 2: B15 Clean loft space. Insulated and partially boarded.



Photograph 3: B15 Clean loft space. Insulated and partially boarded.



Photograph 4: Squirrels bar loft located in a storage room above the bar.



Photograph 5: Squirrels bar, clean loft space, insulated but not boarded.



Photograph 6: Squirrels bar, clean loft space, insulated but not boarded.



Photograph 7: Squirrels bar, vent inside loft space.



Photograph 8: Water tanks situated in oak house buildings loft spaces.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 6a		Drawn: DJ	Checked: IJ
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	



Photo 9: Water tanks situated in oak house buildings loft spaces.



Photo 10: Typical vent exiting via the roof, found throughout oak house buildings.



Photo 11: Other vents exiting via the roof in oak house building's loft spaces.



Photo 12: Another common fixture in oak house buildings. Pipes and cables.

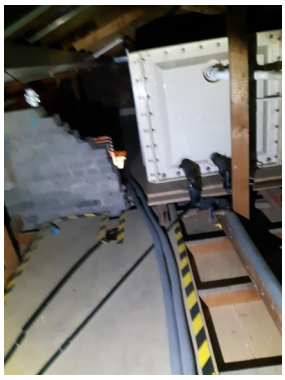


Photo 13: Partially boarded space to provide access for tank/ cable maintenance etc.



Photo 14: Wooden beams running along oak house buildings. No access to check eaves.



Photo 15: Different loft angle, relatively clean loft space, partially boarded.



Photo 16: Debris found in some oak house buildings. Stacked insulation/ plasterboard.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 6b		Drawn: DJ / Checked: IJ	
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com



Photo 17: Debris found in some oak house buildings. Chairs/ rubble.



Photograph 18: Tear in the felt found in B17- Could provide access to bats.



Photo 19: Water damage in B17. Source of leak could be an access point/ PRF.

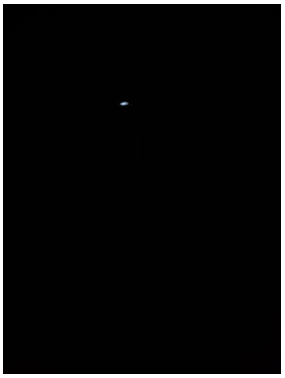


Photo 20: Small hole in B17 roof. Could provide access to bats.



Photo 21: Boarded loft space in oak house to provide access to water tanks.



Photo 22: Typical loft hatch entrance in the middle flats of oak house properties. 1/3

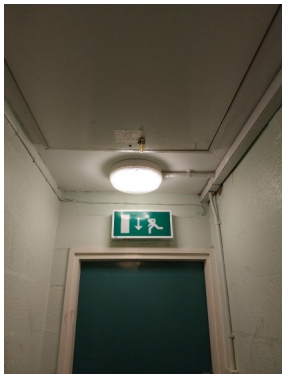


Photo 23: Typical hatch entrance in the middle flats of oak house - usually fire escape with fire safety features on doors. 2/3



Photo 24: Typical hatch entrance in the middle of oak house properties. 3/3

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 6c		Drawn: DJ / Checked: IJ	
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com

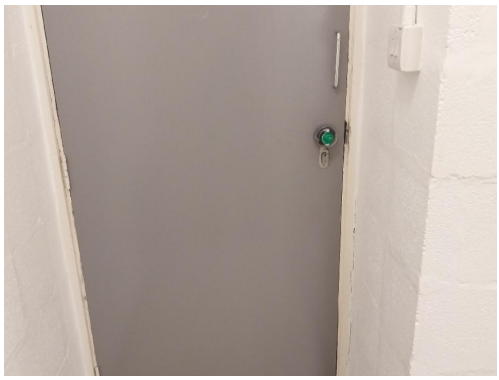


Photo 25: Various hatches were inaccessible within oak house properties due to fire safety features on fire escape doors.



Photo 26: Various hatches were inaccessible within oak house properties. The correct key was not provided for access when asked.



Photo 27: Oak house - hatch was inaccessible The correct key was not provided for access.



Photo 28: Oak house - hatch was inaccessible The correct key was not provided for access.



Photo 29: Typical loft hatch entrance at the top of the stairs in corner flats of oak house. 1/2.



Photo 30: Typical loft hatch entrance through top floor corridor in the corner flats of oak house. 2/2.



Photo 31: B18 Loft hatch closest to emergence point.



Photo 32: B18 Loft hatch closest to emergence point. Pipes leading to vent. Discarded chairs.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 6d		Drawn: DJ	Checked: IJ
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	

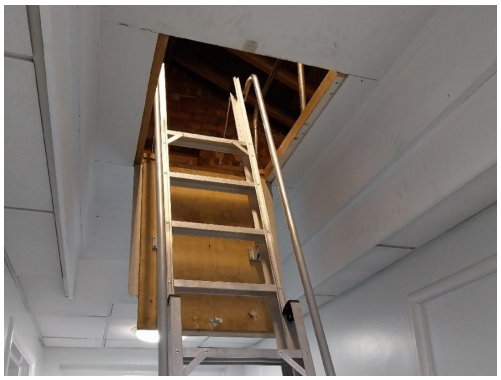


Photo 33: One loft hatch per building at Woolton hall residences B24, B25, B26, B27.

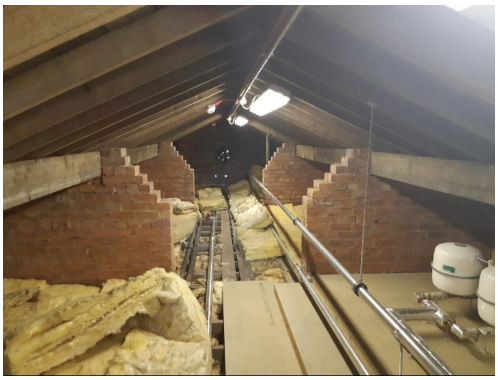


Photo 34: General layout of the loft spaces in Woolton hall residences.



Photo 35: General layout of the loft spaces in Woolton hall residences.



Photo 36: Middle section of Woolton residence loft spaces. Containing boilers, electrical equipment and windows.



Photo 37: B25, known roost. Tear in mesh covering ornate feature on the outside.



Photo 38: B24, patched up broken window in the middle of the loft space.



Photo 39: Ornate features on the ends of B24, B25, B26, B27 leading outside. Mesh covering blocking access to the loft space from outside.



Photo 40: Mesh covering permanently open windows in the middle section of Woolton residence loft spaces.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 6e		Drawn: DJ	Checked: IJ
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	



Photo 41: Pipes leading to the outside of B24, B25, B26, B27. Usually sealed.



Photo 42: Un-sealed pipes leading from loft space to the outside in B24.



Photo 43: Woolton Hall B22. Light coming from vents along fascia board.



Photo 44: B22 - Feature at the end of the building leading outside. Usually covered by mesh.

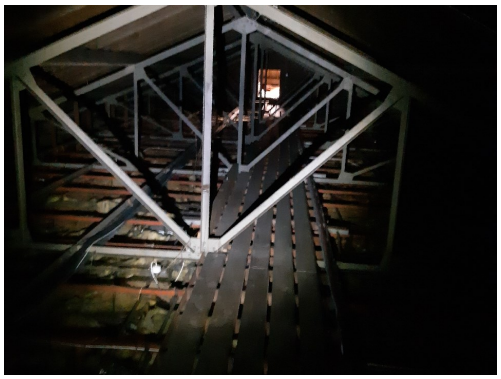


Photo 45: Loft space layout of B22 Woolton Hall.



Photo 46: Woolton Hall B22. Used partially for storage.



Photo 47: Woolton Hall B22. Used partially for storage.



Photo 48: Woolton Hall B22 - Electrical equipment in loft space.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 6f		Drawn: DJ / Checked: IJ	
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com



Photo 49: B18 Loft hatch closest to emergence point. Insulated, felted. Discarded chairs.



Photo 50: Layout of loft spaces with electrical and water equipment within oak house residences.



Photo 51: Layout of loft spaces with electrical and water equipment within oak house.



Photo 52: Layout of loft spaces with electrical and water equipment within oak house.



Photo 53: Larger hole surrounding vents leading outside on B20 oak house.

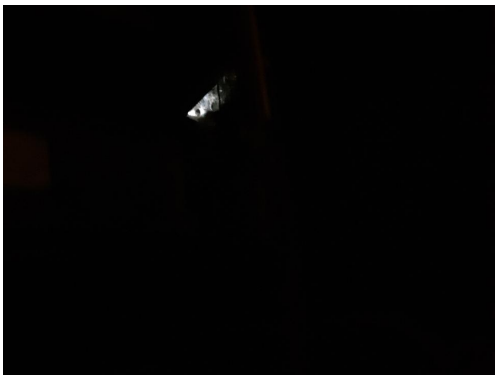
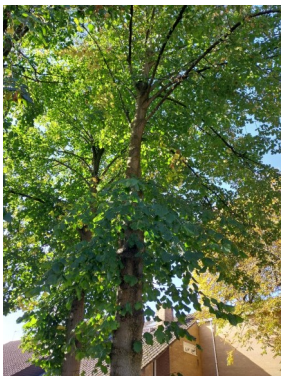


Photo 54: Hole in the roof of B20 oak house.

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 6g		Drawn: DJ	Checked: IJ
Figure Title: Internal Inspection Photographs		Date: 15/10/2024	



Photograph 1:
GR31



Photograph 2:
GR31



Photograph 3:
GR31



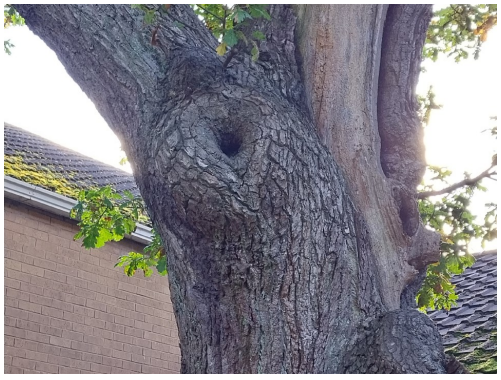
Photograph 4:
T200



Photograph 5:
T201



Photograph 6:
T201 PRF



Photograph 7:
T201 PRF



Photograph 8:
T201 PRF

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 7a		Drawn: DJ / Checked: IJ	
Figure Title: Ground Level Tree Assessment Photographs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com



Photograph 9:
T202



Photograph 10:
T203



Photograph 11:
T204



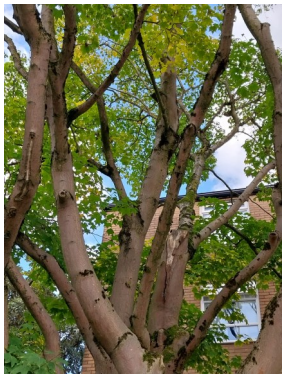
Photograph 12:
T205



Photograph 13:
T206



Photograph 14:
T207



Photograph 15:
T191



Photograph 16:
T191 PRF

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants
Figure Number: Figure 7b		Drawn: DJ / Checked: IJ	
Figure Title: Ground Level Tree Assessment Photographs		Date: 15/10/2024	www.thomsonec.com enquiries@thomsonec.com



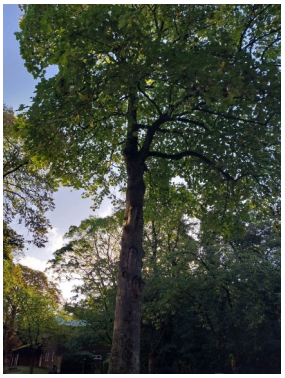
Photograph 17:
T194



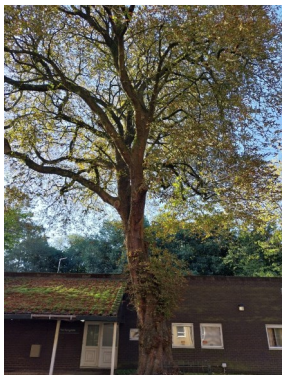
Photograph 18:
T238



Photograph 19:
T240



Photograph 20:
T146



Photograph 21:
T152



Photograph 22:
T130



Photograph 23:
T131



Photograph 24:
T132

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 7c		Drawn: DJ	Checked: IJ
Figure Title: Ground Level Tree Assessment Photographs		Date: 15/10/24	



Photograph 25:
G30



Photograph 26:
T189



Photograph 27:
T188



Photograph 28:
T187



Photograph 29:
T186



Photograph 30:
T185



Photograph 31:
T180



Photograph 32:
T179

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 7d		Drawn: DJ	Checked: IJ
Figure Title: Ground Level Tree Assessment Photographs		Date: 15/10/2024	



Photograph 33:
T178



Photograph 34:
T177



Photograph 35:
T176



Photograph 36:
T175

Client: John Graham Construction Ltd		Drawing Ref: GRA001-013-001	Thomson environmental consultants www.thomsonec.com enquiries@thomsonec.com
Figure Number: Figure 7e		Drawn: DJ	Checked: IJ
Figure Title: Ground Level Tree Assessment Photographs		Date: 15/10/2024	

2. Introduction

2.1 Development Background

2.1.1 John Graham Construction have been appointed on behalf of the University of Manchester (UoM) to support with the residencies redevelopment program. An aspect of this programme is the redevelopment of the University's Fallowfield Campus, 293 Wilmslow Road, Fallowfield, Manchester, M14 6HD, central OS grid reference SJ 85722 94149 (hereafter referred to as the 'site'). The location of the site is shown on Figure 1.

2.1.2 The site is located within a largely residential, suburban area of Fallowfield, South Manchester, with the campus comprising of three campus areas: Owens Park (central section), Oak House (south-west section), and Woolton Hall (south-east 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.

2.1.3 Proposals include the replacement of existing Fallowfield residences with new Purpose Built Student Accommodation (PBSA), hereafter referred to as 'proposed development'. An initial programme to submission of the planning application has been developed. The need for bat survey work was within the Outline Planning Permission conditions, with previous bat roost surveys completed during the summer of 2023 and 2024. Figure 1 shows the site location and Figure 3 shows the 2023 and 2024 emergence survey results and confirmed roost locations. This report aims to satisfy the Outline Planning Permission Condition 9 (along with the bat survey report, REF Thomson 2024) and 10, as detailed below:

9) As part of any reserved matters application submitted in relation to the part of the site which accommodates Oak House and Woolton Hall and The Limes or in relation to any phase of development for which an application for the approval of reserved matters is submitted after the 30th April 2025 an updated bat survey will be provided. Any mitigation measures outlined within the survey shall be fully complied with.

10) The removal of any tree with bat roosting potential as identified in the Ecological Constraints and Opportunities Report- Buro Happold ref. 0053454 shall not in any circumstances occur until further information on how bats shall be safeguarded has been provided to and agreed in writing by the local planning authority. Works shall be undertaken in accordance with the agreed details.

Reason - To ensure the protection of habitat of species that are protected under the Wildlife and Countryside Act 1981 or as subsequently amended and to comply with policy EN15 of the Core Strategy.

2.2 Ecology Background

2.2.1 In November 2022, a suite of external bat inspections of the 29 properties included in the scheme was undertaken (Buro Happold, 2023). The findings from the survey were as follows: seven properties with negligible, six properties with low, two properties with moderate, and 14 properties with high suitability to support roosting bats within Fallowfield. During previous emergence/re-entry surveys in 2015 a maternity roost of common pipistrelle (*Pipistrellus pipistrellus*) was recorded within buildings B11 and B12 and a day roost of the same species within B10 (BDP, 2015).

2.2.2 The site's trees were also subject to a Preliminary Roost Assessment (PRA) (Buro Happold, 2023). This concluded that a total of six trees have potential to support roosting bats, all of which were of a low potential for roosting bats according to Bat Conservation Trust's (BCT) best practice guidelines (3rd edition) (Collins, J (ed.), 2016).

2.2.3 Rider Levett Bucknall (RLB) commissioned Thomson Environmental Consultants in May 2023 to undertake update bat roost surveys of the 22 buildings 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 suitability of each building (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 BCT best practice guidelines (3rd Edition) (Collins, J (ed), 2023).

2.2.4 The bat roost surveys confirmed the presence of common pipistrelle bat day roosts, with six-day roosts at B10, four-day roosts at B11 and four-day roosts at B12. Numbers suggest the presence of a common pipistrelle maternity roost at B11 and B12, with swarming behaviour observed by 22 common pipistrelles at B11 at a fascia board above an open window. B10 also supported a soprano pipistrelle (*Pipistrellus pygmaeus*) day roost.

2.2.5 An EPSL for bats was granted in 2024 (ref:2024-67005-EPS-MIT) which allowed for the destruction of multiple bat roosts of common pipistrelle and soprano pipistrelle bats at B10, B11 and B12 within Owens Park. In December 2023, 11 bat boxes were erected on site under the supervision of experienced ecologists from Thomson Environmental Consultants. The surveys also recorded a bachelors/maternity roost at B19 and a transitional roost at B25. Mitigation works including destructive roost searches, dusk emergence surveys and dawn re-entry surveys commenced in May 2024 and were concluded by July 2024. B10, B11 and B12 have now been demolished. The roosts at B19 Oak House and B25 Woolton Hall remain.

2.2.6 In June 2024, RLB commissioned Thomson Environmental Consultants to undertake a suite of emergence surveys on 13 buildings at UoM Fallowfield Campus. The buildings surveyed comprised Oak House and Woolton Hall, and survey methods were based on BCT guidelines (4th edition) (Collins, J. (ed), 2023). The update surveys confirmed the presence of one additional Pipistrelle sp. roost in B18 Oak House. Although no emergences were recorded at B19 or B25, these are still considered to be confirmed roosts due to the historical presence of bats. The locations of the buildings with confirmed bat roosts are shown on Figure 3, with photographs of the features on Figure 5a and b.

2.2.7 Table 1 shows Bat emergence/re-entry totals for B18, B19 and B25 during the 2023 and 2024 surveys. See figure 3 for emergence/re-entry locations from both survey seasons.

Table 2-1: Bat emergence/re-entry totals for B18, B19 Oak House and B25 Woolton Hall

Building	Year of Emergence	Visit	Bat Total Emergences	Roost Features
B18	2024	V3	1 Pipistrelle sp.	**1 roost feature –** one common pipistrelle emergence from fascia board on eastern aspect of the southern part of the building.
B19	2023	V2	14 common pipistrelle	**1 roost feature** – 12 common pipistrelle re-entry and then an additional 2 common pipistrelle re-entry. Entry point above the top left window of the security light, south-east corner of the building.
		V3	6 common pipistrelle	**1 roost feature** – 6 common pipistrelle emergence. Exit point above top left window of the security light, south-east corner of the building.
B25	2023	V2	1 common pipistrelle	**1 roost feature** – one re-entry of common pipistrelle on the south side of building into ornate vent.

2.3 The Brief and Objectives

2.3.1 Thomson Environmental Consultants was commissioned by John Graham Construction Ltd on 26th September 2024 to undertake an updated PRA of The Limes (B14), Bat Internal Inspections of all buildings at Oak house and Woolton Hall and Ground Level Tree Assessments (GLTA).

2.3.2 The brief was to:

Updated Preliminary Roost Assessment of The Limes

- Conduct an external inspection of The Limes (B14). The survey method will be based on Bat Conservation Trust guidelines (4th edition) (Collins, J (ed), 2023). To include an inspection of the building from the ground, using high powered optics and torches where appropriate, to look for potential bat access and egress points, potential roosting sites and signs of bats

themselves. A level of potential to support roosting bats will be assigned to the building to help determine the requirements for further survey.

- Provide a report detailing the results of the survey and any recommendations. The updated PRA should be completed as early as possible to identify any further surveys that may be required.

Bat Internal Inspections

- To undertake an internal inspection of the necessary buildings to inform an EPSL, where access has been arranged and it is safe to do so,. The survey method will be based on BCT guidelines (4th edition) (Collins, J (ed), 2023). This will include a search inside the buildings for evidence of bats, such as bat droppings. Any internal inspections will be undertaken by two surveyors, for health and safety reasons, at least one of whom will be a licenced bat worker and will be the anticipated named ecologist on the licence.

- As a result of the internal inspections, hibernation surveys may be recommended to support a licence application.

Ground Level Tree Assessment

- Conduct ground level inspections of up to 80 trees (number of trees due to be felled).

- To estimate (as far as can be achieved from ground level) which trees are suitable for roosting bats, or require increased survey effort to confirm suitability, informing next stage surveys such as above ground Potential Roost Feature (PRF) inspection. The survey method will be based on Bat Conservation Trust guidelines (4th edition) (Collins. J (ed), 2023). All trees identified as suitable for roosting bats will be recorded as necessary to inform further surveys.

- Inspect trees using binoculars and high powered torches where appropriate, to look for PRFs and evidence of use by these bats. The survey outcome will be the classification of all surveyed trees regarding suitability for roosting bats as follows: 'None', 'Further Assessment Required' (FAR) and 'Potential Roost Feature' (PRF confirmed). Where possible, ground accessible PRFs will be classified according to their suitability for individual (PRF-I) or multiple (PRF-M) roosting bats. The PRA may recommend further surveys which can only be conducted at a certain time of year

2.4 Limitations

2.4.1 During the internal inspections some of the loft voids could not be accessed. This was either because a key could not be provided by site staff, because of fire safety features that blocked the hatch and prevented access or due to the hatch being positioned above a stairwell. In a large proportion of the loft voids that could be accessed, wooden boards used to run cables prevented surveyors from being able to survey the eaves sufficiently.

2.4.2 Due to health and safety concerns, surveyors could not fully enter the loft voids and instead remained on the ladders in the access point to survey the void, as such, any potential PRFs that were observed could not be exhaustively surveyed for their characteristics and suitability. As such, individual PRFs were not mapped and instead assumptions have been made about the suitability of the voids should bats be able to enter.

2.4.3 Access to Owens Park (Phase 1) was not possible during the survey as this is an active demolition site (see 'restricted access on Figure 2 and Figure 4). As such, trees located within this area could not be subjected to an update GLTRA (T25, T27-T29, T33-T39, T74-T76, T241-T242, T244, T246, T250-T262, G3, G15, G43 and G44). These trees were all subjected to a roost assessment in 2022 (Buro Happold, 2022), where three trees were assessed as being of low potential and these will be retained.

2.4.1 It is known that at least a quarter of tree roosts are likely to be unseen/invisible from the ground (Collins (ed.),2023). Therefore, in accordance with BCT guidelines, only trees which could be visually assessed from the ground level with a high level of confidence that PRFs were not present, were classified as having no suitability for roosting bats.

2.4.2 This report is based on the development boundary and layout shown on Figure 1. Changes to either may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.

3. Methodology

3.1 Survey Area and Data Collection

3.1.1 A survey area was defined which encompasses the development site, comprising Owens Park and Woolton Hall (see Figure 1). All data was recorded on the ArcGIS FieldMaps mobile mapping app.

3.2 Desk Study

3.2.1 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).

3.3 Preliminary Roost Assessment and Internal Inspections

3.3.1 An update PRA was undertaken of The Limes (B14) building on Wednesday 2nd October 2024 by Ecological Consultant Jack Crutchley (CL17 level 1 bat survey licence ref.: 2022-108001-CL17-BAT) BSc (Hons) MSc ACIEEM, with assistance from Assistant Ecologist Danielle Johnson BSc (Hons) MSc qualifying CIEEM. As this building was not covered during the 2023 and 2024 emergence and re-entry surveys, an update PRA was carried out to characterise B14 and to search for PRFs and evidence of bats. See Figure 3 for a map of the building and structure locations.

3.3.2 Following on from the emergence surveys carried out in 2024 (Thomson, 2024), internal inspections of buildings at Oak House and Woolton Hall were conducted in order to inform the EPSL.

3.3.3 The Internal Roost Assessment (IRA) (termed as such given the sequence of surveys and following the 'internal inspection' methods of Preliminary Roost Assessment in Bat Conservation Trust guidelines (4th Edition) (Collins, J (ed), 2023)) surveys were carried out on 30th September and 1st and 2nd October 2024. Surveys were led by Jack Crutchley and Senior Ecological Consultant Laura Meer (CL17 level 1 bat survey licence ref.: 2023-11510-CL18-BAT) BSc (Hons) MCIEEM, with assistance from Danielle Johnson.

3.3.4 The IRA was carried out on 13 buildings: The Limes (B14), Carill House (B15), Squirrel's Bar (B16), Beech Court (B17), Maple Court (B18), Holly Court (B19), Sycamore Court (B20), Chestnut Court (B21), Woolton Hall - Main Building (B22), Ashley (B24), Spencer (B25), Lindsay (B26) and Morley (B27). This included an assessment of the individual PRFs on the interior loft space of buildings. Findings of the internal roost assessment are shown in Figure 2.

Evidence of Roosting Bats

3.3.5 Evidence of roosting bats searched for included:

- Bat droppings, feeding remains (discarded invertebrate wings in localised piles) and corpses (with notes made on quantity, freshness and type);
- Dark staining below an access point that may be caused by bat faeces or urine;
- Staining around a hole that may be caused by the natural oils in bat fur; and
- Noises made by bats.
- Bats roosting in-situ.

3.3.6 Any evidence of bats found was recorded together with a note on the location. If any bat droppings were found, their location, spread, approximate number and age were recorded on a GPS enabled mobile mapper or paper form. If necessary for identification, a sample of droppings was collected and retained for later DNA analysis.

External Inspection of Buildings

3.3.7 Where possible to determine, the following information was recorded for each building present within the survey area[1]:

- Type (House, flats, offices, barn, church, etc.);
- Presence of roof void;
- Year built (1960 - present, 1914 - 1960, before-1914 or unknown);
- Aspect (orientation of the front of the building using the 8 principal compass points);
- Wall material (brick, block, stone, wood, concrete, metal, sheet materials or other), construction (solid, unfilled cavity or filled cavity) and presence of other materials (rendering, hanging tiles, wooden weather boards, plastic or metal cladding) and their condition;
- Presence and form of roof (absent, pitched (gable end or hipped) or flat), presence of roof void, type of roof covering (tiles, slates, felt or similar, thatched, corrugated sheet GRP, concrete or wood) and condition of roof covering (no, minor, moderate or severe damage/decay/gaps);

[1] This should be done for all the buildings and structures present, even if they have been classified as negligible potential in the PEA. This is because all of this information is unlikely to have been collected during the PEA and you may, at a later date, need to justify why any building was considered unsuitable as a bat roost.

- Presence and form of eaves (presence of soffits, fascia boards, barge boards) and condition (no, minor, moderate or severe damage/decay/gaps); and
- Presence and condition of flashing (no, minor, moderate or severe damage/decay/gaps).

3.3.8 The exterior of all buildings was then searched for PRFs and evidence of bats. The search was made from the ground with the aid of binoculars and a high-powered torch. PRFs looked for included:

- Presence of loft voids and wall cavities;
- Gaps around windows, doors and lintels;
- Lifted lead flashing;
- Loose or missing roof, ridge or hanging tiles;
- Gaps between stones or bricks where mortar is absent;
- Other gaps or cracks between various elements of the building structure; and
- Potential access points to an internal cavity such as a cavity wall, loft space, eaves or behind cladding (such as hanging tiles and weather boarding).

3.3.9 The search for bats and evidence of bats focused on the following key areas:

- The ground and walls below potential access points and wall cladding;
- Window recesses, especially window sills; and
- Accessible cracks and crevices.

3.3.10 The location of the PRFs and any evidence found were recorded using photographs and diagrams of the buildings. Each PRF was given a unique identification code.

Categorisation of Results

3.3.11 After each survey type, each building, structure, was assigned a level of suitability to support a bat roost according to Table 2 (taken from latest BCT guidelines). Where multiple surveys were undertaken the level of potential was refined at each stage (where necessary) based on the additional information collected. Roost types were defined as set out in Table 3.

Table 3-2: Habitat Suitability for Roosting Bats (Bat Conservation Trust guidelines (4th Edition) (Collins, J (ed), 2023))

Potential Suitability	Examples for Structures
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by large numbers of bats (e.g. unlikely to suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

Table 3-3: Roost type definitions

Roost Type	Broad Definition (not including 'occasional' which can refer as a sub-type to a roost (particularly day roosts or transitional roosts) which based on survey effort is considered likely to be used infrequently)
Day roost	Where bats shelter as individuals or small groups during the day. This term can be applied in conjunction with other roost types, typically transitional depending on the season and nature of use (see below). Perhaps most commonly applied to males during the summer season when females gather in nursery colonies.
Night roost	Where bats shelter at night as individuals or a whole colony. These can be located very close to or within the same structure as day roosts.
Feeding roost	Used by individuals or small groups for feeding at night between foraging bouts. These are often in association with night roosts especially for species such as brown long-eared. These can also be very close to or within the same structure as a day roost.
Satellite roost	An alternative roost found near the main nursery colony used by a few individual breeding females to small groups of breeding females during the breeding season.
Maternity/nursery roost	Mainly dominated by females where they give birth to young and raise these. Maternity roost characteristic preferences differ between species, however warm conditions are generally favoured.
Transitional roost	A roost used by bats between the summer and winter seasons, often (though not always) during a physical movement phase between summer and wintering roosts/geographical locations. This term can be applied to other roost types if they are used only during the transitional period.
Mating roost	Often encountered during the autumn transitional period, typically comprising a larger number of bats than transitional day roosts. Typically, a territorial male will be accompanied in a mating roost by numerous females. Mating also continues during the hibernation/winter period within winter/hibernation roosts.
Hibernation roost	Where bats are found individually or in groups during winter. These classically needs to have cool temperature and high humidity, although more 'cold hardy' species can be found hibernating singly within day roosts which are used year-round (sometimes referred to as 'winter roosts'.

3.3.12 The buildings were classified according to the highest suitability PRF identified within that building during the survey.

3.4 Ground Level Tree Assessments

3.4.1 The trees within Phase 1 of the development (Owen's Park) were assessed as part of the outline planning applications by Buro Happold (2023). As these trees are within an active demolition site agreed through outline planning approval they will not be reassessed in this update.

3.4.2 Within the survey area, the following surveys were undertaken:

- Ground Level Tree Assessment (GLTA), where all trees identified during the survey as requiring further assessment (FAR) or with PRFs recorded, were inspected in detail from ground level to look for features which could be used by bats for roosting, including using close focusing binoculars, high power torches and where necessary and (depending on ground level accessibility of features, if present) endoscopes.;
- PRF Inspection, where all trees identified within the GLTA as requiring further assessment (FAR) or with PRFs recorded (PRF-I or PRF-M), were close inspected in detail by, or under the supervision of, a suitably licensed bat ecologist. Inspections were carried out from the ground.

3.4.3 The GLTA was undertaken on 3rd October during suitable weather (dry, and sunny). The survey conducted was led by Gemma Hassall BSc (Hons) with qualifying CIEEM membership.

3.4.4 Trees identified within the survey boundary were subject to detailed inspection from the ground, systematically visually surveying the tree from all possible aspects, including close to the stem and further from the base (as required) Results were recorded using a mobile phone with Fieldmaps for ArcGIS. Photographs of each tree PRFs were also taken to support results.

3.4.5 The survey searched for and recorded any PRFs which could be viewed from the ground. Those which were apparently pointing upwards were included in the assessment, as were seasonally wet features because these factors do not necessarily preclude use without further investigation. Where higher level areas of the tree were viewable from the ground, a high-powered torch was used to search for PRFs.

3.4.6 Features searched for included those in Table 1 defined according to Bat Roosts in Trees, (BTHK, 2018):

Table 3-4: PRF types that can be exploited by bats and how they form (adapted from Bat Roosts in Trees (BTHK, 2018)):

Disease/Decay Formed PRFs	Damaged formed PRFs	Association formed PRFs
woodpecker holes	lightning strikes	Fluting
squirrel holes	hazard beams	ivy
knot holes	subsidence cracks	
pruning cuts	shearing cracks	
tear outs	transverse snaps	

wounds cankers compression forks butt rots	welds lifting bark desiccation fissures frost cracks	

3.4.7 All trees with identified PRFs and requiring further assessment were photographed, tagged, numbered and the following information recorded:

- GPS coordinates
- UK Habitat Classification (if not recorded previously at the site)
- species, height, condition (alive, dead etc)
- approximate diameter at breast height

3.4.8 Where PRFs were identified, they were recorded including PRF type, location on tree (stem or limb), height above ground and compass direction on the tree. Any evidence confirming or indicating use of a PRF was also recorded, including:

- GPS coordinates
- Bat droppings, feeding remains and corpses (with notes made on quantity, freshness and type);
- Dark staining below an access point that may be caused by bat faeces or urine;
- Staining around a hole that may be caused by the natural oils in bat fur; and
- Noises made by bats.

3.4.9 If any bat droppings were found, their location, spread and approximate number and age were recorded. If necessary (and accessible) for identification, a sample of droppings was collected and retained for later DNA analysis.

3.4.10 The suitability of potential tree roosting habitat was classified according to the broad categories in Table 2, based on the presence or absence of potential roosting features (PRF).

Table 3-5:Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement (adapted from Collins ed 2023)

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any
FAR	Further Assessment Required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

3.4.11 All PRFs were estimated according to the following categories in Table 3:

Table 3-6: Guidelines for assessing the suitability of tree PRFs on proposed development sites for bats, to be applied using professional judgement (adapted from Collins ed 2023)

Suitability	Description
None	No potential space to support roosting bats.
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used for a maternity colony.

3.4.12 All accessible PRFs were searched from the ground for evidence of use by roosting bats, including droppings (although these often deteriorate rapidly in trees) and bats occupying a PRF at the time of the survey.

3.4.13 During the classification visit, all PRFs were mapped within each tree (following the GLTA references) and numbered, with the following attributes recorded, and updated as necessary during subsequent visits:

- stem/limb diameter at the PRF
- no. entrances
- width of all entrances
- internal dimensions (height, width and depth) and apex shape
- internal conditions (substrate, dry, damp, wet, odour)
- presence of competitors
- presence of bats / bat droppings
- lack of evidence of use by bats
- if roosting bats present: species, number, state (torpid/awake), location in PRF, distance from entrance

3.4.14 Where bats were present, they were photographed, and any droppings found were collected in a receptacle labelled with the tree and PRF reference, to enable species identification and verification (multiple species may use a single feature) through DNA analysis.

4. Results

4.1 Desk Study

4.2 Preliminary Roost Assessment

4.2.1 The Limes (B14) (Photographs 1 – 10, Figure 5a and 5b) is a brick-built, two-storey construction with a flat, glass reinforced plastic (GRP) roof. The building is currently in use as a maintenance and catering facility on the Fallowfield campus. The roof shows no signs of damage or decay and no gaps are visible. In addition, no loft void is present within the building and fascia boards are also absent. Therefore, given the lack of PRFs recorded during the survey, B14 was assessed as having a negligible potential to support roosting bats.

4.3 Internal Roost Assessment of Buildings

4.3.1 A summary of results for buildings B14 – B22 and B24 – B27 are presented in Appendix 1. Figure 2 shows the locations of the results of the surveys, including loft hatch entry points and no access areas. Figure 3 displays the results of the bat surveys, which were completed in 2023 and 2024 and allow for comparisons with the findings in the internal survey results. Figures 6a – 6g show photos of the loft voids.

4.3.2 All buildings subject to survey in the IRA were assessed as being constructed in 1960-present. The Limes (B14) does not have a loft void, and hence this could not be subject to an internal inspection. At Oak House, B15 and B16 contained one loft void each that covered all or the majority of the area of the building. The loft voids within the remaining buildings at Oak House (B17, B18, B19, B20 and B21) are accessed via numerous loft hatches. Each building is a long construction with multiple ground floor entrance doors that each lead to multiple flats. The entrance doors located at the ends or the corners led to two loft hatches, and the remaining entrances led to four loft hatches. The voids within the buildings are mostly connected. At Woolton Hall, the loft voids within B22, B24, B25, B26 and B27 covered the entire footprint of the building. See Appendix 1 for description and Figures 6a – 6g for photographs of the internal inspections.

4.3.3 During the survey, a number of the loft hatches could not be accessed, either due to fire safety features that covered the hatch or because surveyors were not supplied with the key to access the hatch. At B17-B21 Oak House, some loft hatches were not accessed due to them being positioned above a stairwell and therefore being unsafe to access. Please refer to Figure 2 for loft hatches that could not be accessed during the survey. As the loft voids surveyed varied little between and within the buildings, it is reasonably likely that those that could not be accessed are largely similar to those surveyed.

4.3.4 During the IRA survey, no evidence of roosting bats was found within B14-B21 Oak House or B22 and B24-B27 Woolton Hall. However, due to health and safety reasons, surveyors did not enter the loft voids and remained on the ladders to complete the survey. As such, the loft voids

could not be exhaustively searched for signs of roosting bats or PRFs, and there may be additional PRFs present within the voids that could not be detected during the survey. Also, PRFs could not be assessed for their dimensions and suitability.

4.3.5 In most of the voids that were accessed, light could be seen through vents/holes in the roof, suggesting that bats could enter the loft space (Photograph 7 on Figure 6a, 20 on Figure 6d, 43 on Figure 6f and 54 on Figure 6g). Furthermore, the voids in Oak House were mostly connected, meaning that bats would be able to move between the voids should they be able to access via an entry point. In addition, tears were identified in mesh coverings on the ornate ventilation feature of B25 (Photograph 37, Figure 6e), a confirmed roost. Tears in the roof lining were also noted (B17, Photograph 20 Figure 6c) which may provide access for roosting bats. The voids also all had a typical timber truss feature, which may also provide suitable roosting opportunities.

4.3.6 The voids were also assessed as being subject to a moderate level of disturbance. This is as they are located within active student halls and are accessed annually for boiler inspections. In addition, temperatures will fluctuate throughout the year and the lofts will be subject to noise disturbance from the students within the flats. However, light disturbance within the lofts will be low.

4.3.7 Given the above, the loft voids were assessed as high potential to support roosting bats. The survey also assessed that none of the buildings at Oak House and Woolton Hall had potential to support hibernating bats. This is due to the constant high temperature from central heating, and noise caused by the residents of the buildings over the hibernation period.

4.4 Ground Level Tree Assessment

4.4.1 The majority of the trees were individual or small groups of trees located within a suburban setting within areas of amenity grassland, hard standing and introduced shrub. As trees are scattered across the grounds of Oak House and Woolton Hall which form a part of the University of Manchester's Fallowfield Campus, they are likely subject to a varying level of disturbance as campus use changes throughout the year. Those situated along the peripheries of the site will likely be subject to a high level of disturbance from the adjacent roads and campus combined, and those situated closer to the centre of the site will likely be subject to a moderate level of disturbance from the campus. The trees are also connected to areas of woodland that are found along the peripheries of the site which provide foraging and commuting opportunities.

4.4.2 Tree species within Oak House and Woolton Hall comprise sycamore (*Acer pseudoplatanus*), cherry (*Prunis avium*), Lawson's cypress (*Chamaecyparis lawsonia*), holly (*Ilex aquifolium*), ash (*Fraxiunus excelsior*), alder (*Alnus glutinosa*), false acacia (*Robinia pseudoacacia*), field maple (*Acer campestre*), sugar maple (*Acer saccharum*), whitebeam (*Sronus aria*), paper birch (*Betula papyrifera*), horse chestnut (*Aesculus hippocastanum*), oak (*Quercus robur*), lime (*Tilia europaea*) and pear (*Pyrus communis*) (see Photographs 1 – 36 on Figures 7a – 7e).

4.4.3 At Oak House and Woolton Hall, three trees (T177; Photograph 34, Figure 7e) (T191; Photographs 15 and 16, Figure 7b) (T201; Photographs 5 – 8, Figure 7a) were recorded as

having potential for roosting bats. All three trees were identified as PRF which were estimated as PRF-I category: containing PRFs suitable for individual or a very small number of bats for use as a day or transitional roost. PRF types noted consisted of:

- Broken limb;
- Lifted bark;
- Knot hole; and
- Wound;

4.4.4 No bats or evidence of roosting bats were identified during the survey. Full details of all surveyed trees are listed in Appendix 2.

5. Legal and Planning Policy Considerations

5.1 Site Designation

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

- Conservation of Habitats and Species Regulations 2017 as amended (which replaces the Conservation (Habitats &c) Regulations 1994 as amended)
- 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).

5.1.2 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).

5.1.3 Four UK bat species, the greater and lesser horseshoe, barbastelle (*Barbastella barbastellus*) and Bechstein's (*Myotis bechsteinii*) 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 was transposed into UK law by the Conservation of Habitats and Species Regulations 2017 as amended. The Habitat Regulations, amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, now form stand-alone legislation for England and Wales, independent of the Directive. This legislation requires that areas are designated as Special Areas of Conservation (SACs) to protect populations of these 4 bat species. These sites for part of the National site network and are considered to be of international importance for the bat populations they support.

5.1.4 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.

5.1.5 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.

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

5.1.7 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.

5.1.8 There are no designated sites of concern for this project regarding bats or other protected species, so therefore the project is in compliance with this legislation.

Planning Policy

5.1.9 The National Planning Policy Framework (NPPF) 2024, 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 bats, 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 bats, are a material consideration for the planning authority when considering proposed developments. See section 6 for recommendations on protection and enhancement of bat habitat on site.

5.2 Species Protection

Legislation

5.2.1 All bat species 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.

5.2.2 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.

5.2.3 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.

5.2.4 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.

5.2.5 If proposed actions, such as redevelopment of an existing building may 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.

5.2.6 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).

5.2.7 Without mitigation, six roosts in B10, four roosts in B11 and three roosts in B12 will be permanently destroyed during the demolition of the three buildings. Amongst these roosts are maternity roosts for common pipistrelles. Unmitigated destruction of these roosts will negatively impact the conservation status of the species on a wider scale. See section 6 for recommendations on mitigation measures to ensure the compensation and maintenance of these roosts on site.

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

5.3.1 Published by the Joint Nature Conservation Committee (JNCC) and the Department for Environment, Food 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 Natural Environment and Rural Communities Act 2006 (the NERC Act). Targets for

England's biodiversity strategy 'Biodiversity 2020': A strategy for England's wildlife and ecosystem services, are informed by this list.

5.3.2 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 (SPI) 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.

5.3.3 Of the two species roosting on site, one of them is a SPI; soprano pipistrelle. See section 6 for recommendations of measures to be taken to protect and maintain the conservation status of soprano pipistrelles and their roosts on site.

6. Recommendations and Bat Safeguarding Measures

6.1.1 Recommendations and mitigations relating to the bat roosts identified within buildings at Oak House and Woolton Hall have been established in the bat report (Thomson, 2024) and have been summarised below. Please refer to the full Bat Survey Report (Thomson, 2024) for a full description of these recommendations. However, the final details on the recommendation and the mitigation will be set out in the upcoming bat mitigation licence application that will support the development. In the case of any discrepancies, the EPSL documents must take precedence.

6.1.2 Likely requirements are summarised below regarding the results of the PRA, IRA and GLTA.

6.2 Mitigation, Licencing and Bat Safeguarding

6.2.1 It will be necessary to obtain a site-specific Natural England European Protected Species (EPS) Mitigation Licence prior to the demolition works to ensure the project is carried out in accordance with the relevant legislation.

6.2.2 Conditions within the EPSL will include provision of suitable compensatory roost features which should include structure mounted artificial bat boxes and some permanent roosting features within the new buildings.

6.2.3 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'.

6.2.4 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. These should include (refer to full Bat Survey Report (Thomson, 2024)):

- A combination of roost exclusion and soft demolition of the roof and all suitable roosting features under supervision of a licenced bat ecologist. This is subject to approval of the licence application from Natural England, which cannot be submitted until planning permission is granted. If bats are found, the licence ecologist will move it into interim maternity or traditional roost boxes set up in advance of the demolition works.
- As the roost at B19 Oak House was classified as a bachelor's/maternity roost, the initial interim bat box features need to be suitable for maternity roost bats; boxes are available (NHBS, 2023), which should be sufficient for pipistrelles. At least six additional maternity roost boxes will be provided near to the roosts at Oak House/Woolton Hall within the retained trees.

- Replacement bat roosts will be provided within the new buildings to ensure alternative roosting opportunities exist within the applications to compensate for the loss of roosts. The details will be developed to support the licence application in 2025.

6.2.5 Trees shown in Figure 4 were subject to the GLTA survey based off the tree removal plan (Appendix 3). Therefore, the remaining trees within Oak House and Woolton Hall that are not due for removal as per Appendix 3 have not been subject to a GLTA survey. If any additional trees are to be lost, they should be subject to a GLTA survey prior to removal.

6.2.6 Appendix 3 details the Root Protection Areas (RPA) that will be applied to each of the retained trees. It is considered reasonably likely that these RPAs would be sufficient to mitigate again disturbance effects resulting from the demolition of nearby buildings and construction works on roosting bats, should any of the retained trees have PRFs.

6.2.7 The site offers foraging and commuting opportunities for bats. A sensitive lighting design should be detailed for the site and included within the licence application following best practice guidelines for artificial light and bats (Collins, 2023a).

6.3 Enhancements

6.3.1 In addition to the proposed replacement roost areas at Owen's Park, a further minimum of eight replacement roost areas will be created around Oak House and Woolton Hall. Six additional interim maternity roost boxes and six 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.

6.3.2 The site featured woodland habitats suitable for foraging and commuting, with both activities recorded during the surveys. These wooded habitats should not be subject to any additional lighting during or post development, with a sensitive lighting plan in place. Further habitat enhancements to benefit bats could include the planting of new hedges, trees, or night scented vegetation to provide foraging opportunities for invertebrates as a food source. There should be no new lighting to suitable existing or created habitats, to prevent degradation through illumination. This will be outlined within a Construction Environmental Management Plan (CEMP).

6.4 Further Survey

6.4.1 The GLTA identified three trees within Oak House and Woolton Hall as having potential roosting features (T177, T191 and T201). Each PRF was also estimated to be PRF-I, being suitable for individual or low numbers of bats. As PRFs are not always visible from ground level, it is not always possible to establish how extensive they are. As such, it is recommended that PRF inspection surveys are carried out on T177, T191 and T201, as per BCT best practice guidelines (4th Edition) (Collins, J. (ed) 2023). This will involve the use of tree climbing or Mobile Elevated Working Platforms (MEWP) to gain access to the PRFs, allowing for a more detailed inspection of their suitability for bats by a licenced bat ecologist. This will allow for the re-assessment of the suitability of PRFs, determination of the likely presence/absence of roosting bats and the need for further survey and/or mitigation.

6.4.2 It is also recommended that a MEWP is used to inspect the buildings at Oak House, specifically the fascia boards and soffit boxes. This is to identify if bats are using these features on buildings.

7. Conclusion

7.1.1 Previous bat surveys identified use of buildings B18, B19 and B25 as confirmed bat roosts, including a bachelor's/maternity roost of higher conservation value within B19. The PRA survey confirmed that B14 has negligible potential to support roosting bats. This is due to a lack of PRFs and a loft void. No further surveys are recommended for this building.

7.1.2 The internal roost assessment reported herein did not identify any evidence of roosting bats, although some loft voids could not be thoroughly searched due to the access restrictions or health and safety concerns. The internal inspections also reported that none of the buildings surveyed at Oak House or Woolton Hall were likely to support hibernating bats. This was due to the noise and heat that will result from the residents of the building during the hibernation period.

7.1.3 The GLTA survey identified three trees (T177, T191 and T201) as PRF, with the PRFs estimated to be PRF-I (potential to support individual or small numbers of bat). It is recommended that a PRF inspection survey is carried out on these three trees whereby a licenced bat surveyor will closely inspect each PRF, either by use of tree-climbing or a MEWP.

7.1.4 A site-specific EPSL will need to be obtained from Natural England prior to the demolition works. Details of mitigation plans will be included within the EPSL such as a works schedule, bat box/roosting feature installation, and recommendations for ecological watching briefs. Such measures will ensure the safeguarding of bats throughout the demolition process and once the site is operational.

8. References

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

8.1.2 Collins, J. (ed). (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust, London. ISBN-978-1-7395125-0-6.

8.1.3 Collins, J. (ed). (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. Bat Conservation Trust, London. ISBN-978-1-7395125-0-6.

8.1.4 Collins, J. (ed) (2023a) *Guidance Note 08/23: Bats and Artificial Lighting At Night.* Bat Conservation Trust, London.

8.1.5 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.

8.1.6 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 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.

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

8.1.9 National Planning Policy Framework (2024). Secretary of State for Housing, Communities and Local Government, London, England.

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

8.1.11 Thomson Environmental Consultants (2023). Bat Dusk Emergence and Dawn Re-entry Surveys – Final Report. University of Manchester Fallowfield Campus, Manchester. Ref: RID002-001-001.

8.1.12 Thomson Environmental Consultants (2024). Bat Survey Report Final; University of Manchester Fallowfield Campus, Manchester. Ref: RID002-002-001.

Appendix 1 - Results of the Bat Internal Inspections

Building	Type	Construction	Void description	PRF recorded	Setting	Distance from woodland or waterbody (m)	Level of disturbance/ lighting	Evidence of bats?	Overall void potential	Overall roost potential	Potential roost types	Confirmed roost type and peak count
B14	University Maintenance and Catering	Brick building with concrete supports. Flat roof, lead flashing present around single storey extension to northern elevation but this is well sealed with no PRF noted.	n/a	None.	Suburban.	55	Moderate	None.	n/a	Negligible	Day, Night, Feeding, Transitional, Maternity	None.
B15	University Student Accommodation	Brick-built construction with multiple mono shallow pitched tiles roof. Large gaps along roof verges where mortar has fallen away.	Void is 2m in height with <25 % stored material and typical truss timbers. No or water tank is present. Insulated floor and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	40	Moderate	None.	High	Moderate	Day, Night, Feeding, Transitional, Maternity	None.
B16	University	Brick-built construction	Void is 2m in height	PRFs	Suburba	60	Moderate	None.	High	High	Day,	None.

	Recreational Facility	with multiple mono shallow pitched tiles roof. Brick work in good condition but gaps noted between the tiles at the gable ends and fascias.	with <25 % stored material and typical truss timbers. No roof lining or water tank is present. Insulated floor and void not recently cleaned.	not able to be confirmed due to access restrictions.	n.						Night, Feeding, Transitional, Maternity	
B17	University Student Accommodation	Large brick building built over four storeys with shallow pitched tile roof. Fascia boards are present entire way round the building. Weepholes present above most windows and gaps noted around fascia boards.	Void is 2m in height with <25 % stored material and typical truss timbers. The roof lining is felt and has minor damage/decay/gaps. Water tank is present and uncovered. The floor is insulated and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	None.
B18	University Student Accommodation	Large brick building built over four storeys with shallow pitched tile roof. Fascia boards are present entire way round the building. Weepholes present above most windows	Void is 2m in height with <25 % stored material and typical truss timbers. The roof lining is felt and has minor damage/decay/gaps. Water tank is	PRFs not able to be confirmed due to access restrictions.	Suburban.	90	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	Transitional /occasional roost, one pipistrelle species.

		and gaps noted around fascia boards.	present and uncovered. The floor is insulated and void not recently cleaned.									
B19	University Student Accommodation	Large brick building built over four storeys with shallow pitched tile roof. Fascia boards are present entire way round the building. Weepholes present above most windows and gaps noted around fascia boards. On western gable end missing mortar was noted.	Void is 2m in height with <25 % stored material and typical truss timbers. The roof lining is felt and has minor damage/decay/gaps. Water tank is present and uncovered. The floor is insulated and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	Bachelors/ maternity roost, 14 common pipistrelle.
B20	University Student Accommodation	Large brick building built over four storeys with shallow pitched tile roof. Fascia boards are present entire way round the building. Weepholes present above most windows and gaps noted	Void is 2m in height with <25 % stored material and typical truss timbers. The roof lining is felt and has minor damage/decay/gaps. Water tank is present and	PRFs not able to be confirmed due to access restrictions.	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	None.

		around fascia boards. On northern gable end missing mortar was noted.	uncovered. The floor is insulated and void not recently cleaned.									
B21	University Student Accommodation	Large brick building built over four storeys with shallow pitched tile roof. Fascia boards are present entire way round the building. Weepholes present above most windows and gaps noted around fascia boards. On western gable end missing mortar was noted.	Void is 2m in height with <25 % stored material and typical truss timbers. The roof lining is felt and has minor damage/decay/gaps. Water tank is present and uncovered. The floor is insulated and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	75	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	None.
B22	University Student Accommodation	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	Void is 2m in height with <25 % stored material and typical truss timbers. No roof lining is present and the water tank is covered. Insulated floor and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	20	Moderate	None.	High	Low	Day, Night, Feeding, Transitional, Maternity	None.

		Woolton Hall on western elevation.										
B24	University Student Accommodation	Large two-storey brick-built building with a multi-pitched metal roof. Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on gable ends that could provide access into roof voids.	Void is 2m in height with <25 % stored material and typical truss timbers. No roof lining is present and the water tank is covered. Insulated floor and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	None.
B25	University Student Accommodation	Large three storey brick building with a metal roof. Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on gable ends that could provide access into roof voids.	Void is 2m in height with <25 % stored material and typical truss timbers. No roof lining is present and the water tank is covered. Insulated floor and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	20	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	Transitional /occasional roost, one common pipistrelle
B26	University Student Accommodation	Large three storey brick building with a metal roof. Large timber soffits. Gaps noted along base of	Void is 2m in height with <25 % stored material and typical truss timbers. No roof lining is present	PRFs not able to be confirmed due to	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional,	None.

		soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	and the water tank is covered. Insulated floor and void not recently cleaned.	access restrictions.							Maternity	
B27	University Student Accommodation	Large three storey brick 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.	Void is 2m in height with <25 % stored material and typical truss timbers. No roof lining is present and the water tank is covered. Insulated floor and void not recently cleaned.	PRFs not able to be confirmed due to access restrictions.	Suburban.	10	Moderate	None.	High	High	Day, Night, Feeding, Transitional, Maternity	None.

Appendix 2 - GLTA Survey Results

Tree	Tree Information																
	Species	Age[2][3]	Height (m)[1]	Diameter (mm)[1]	Condition	PRF 1 Type	PRF 1 Aspect	PRF 1 Size (cm)	PRF 2 Type	PRF 2 Aspect	PRF 2 size (cm)	Distance to Hedge (m)	Distance to Woodland (m)	Distance to Water (m)	Surrounding Habitat Quality	Disturbance Level	Evidence of Bats?	Roost Type
G31	Large-leaved lime (*Tilia platyphyllos*)	SM	20	500	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a
	Large-leaved lime (*Tilia platyphyllos*)	SM	20	500	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a
	Large-leaved lime (*Tilia*	M	20	500	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a

[2] Taken from Appendix 3
[3] EM = early mature. SM = semi-mature. M = mature. OM = over mature.

	platyphyllos)																
T146	Sycamore (*Acer pseudoplatanus*)	M	16	580	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	High	None	n/a
T174	Wild cherry (*Prunus avium*)	EM	8	310	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	n/a
T175	Lawson cypress (*Chamaecyparis lawsoniana*)	SM	4	140	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	n/a
T176	Holly (*Ilex sp.*)	SM	7	300	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	n/a
T177	Ash (*Fraxinus excelsior*)	M	17	580	Good	Broken limb	East	TBC	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	PRF-I
T178	Lawson cypress (	SM	5	160	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	Moderate	None	n/a

	Chamaecyparis lawsoniana)																
T179	Alder	EM	8	250	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a
T180	Sycamore (*Acer pseudoplatanus*)	EM	12	420	Good	n/a	n/a	n/a	n/a	n/a	n/a	In hedge	>400	>400	Moderate	Low	None	n/a
T185	Sycamore (*Acer pseudoplatanus*)	EM	12	360	Good	n/a	n/a	n/a	n/a	n/a	n/a	In hedge	>400	>400	Moderate	Low	None	n/a
T186	False acacia (*Robinia pseudoacacia*)	EM	14	370	Good	n/a	n/a	n/a	n/a	n/a	n/a	In hedge	>400	>400	Moderate	Low	None	n/a
T187	False acacia (*Robinia pseudoacacia*)	EM	14	320	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a
T188	Field maple (*Acer*	SM	6	180	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a

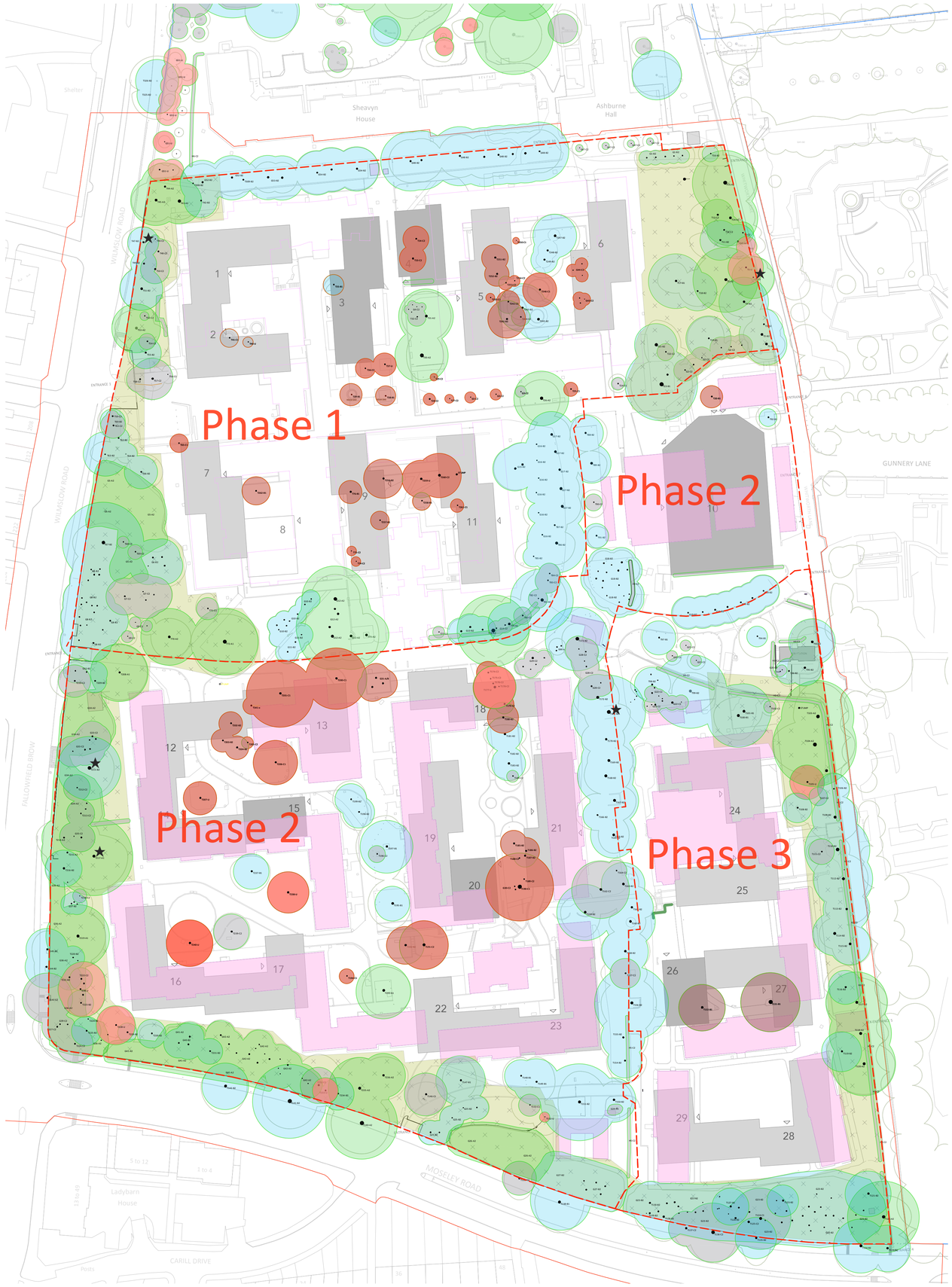
	campestre)																
T189	Field maple (*Acer campestre*)	SM	6	160	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	n/a
T190	Ash (*Fraxinus excelsior*)	M	19	920	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	Moderate	None	n/a
G30	Lawson cypress (*Chamaecyparis lawsoniana*)	SM	5	180	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	Moderate	None	n/a
	Lawson cypress (*Chamaecyparis lawsoniana*)	SM	5	180	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	Moderate	None	n/a
T191	Sugar maple (*Acer saccharum*)	M	12	660	Good	Lifted bark	South	30	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	PRF-I

T192	Whitebeam (*Sorubs aria*)	M	10	510	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	n/a
T194	Paper birch (*Betula payrifera*)	EM	9	200	Good	n/a	n/a	n/a	n/a	n/a	n/a	200-400	>400	>400	Moderate	Low	None	n/a
T200	Horse chesnut (*Aesculus hippocastan un*)	M	14	830	Good	n/a	n/a	n/a	n/a	n/a	n/a	200-400	>400	>400	Moderate	Moderate	None	n/a
T201	Oak species (*Quercus sp.*)	OM	10	910	Good	Woun d	West	50	Knot hole	North-west	10	<200	<200	>400	Moderate	Moderate	None	PRF-I
T202	Large-leaved lime (*Tilia platyphyllos*)	EM	11	320	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	n/a
T203	Large-leaved lime (*Tilia platyphyllos*)	EM	11	310	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	None

T204	Large-leaved lime (*Tilia platyphyllos*)	EM	11	320	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	None
T205	Holly (*Ilex sp*)	SM	5	160	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	None
T206	Large-leaved lime (*Tilia platyphyllos*)	EM	9	600	Good	n/a	n/a	n/a	n/a	n/a	n/a	In hedge	>400	>400	Moderate	Moderate	None	None
T207	Sycamore *(Acer pseudoplatanus*)	EM	11	450	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	None
T238	Pear (*Pyrus communis*)	OM	10	560	Good	n/a	n/a	n/a	n/a	n/a	n/a	200-400	>400	>400	Moderate	Low	None	None
T240	Ash *(Fraxinus excelsior*).	M	15	630	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	>400	>400	Moderate	High	None	None

T131	Large-leaved lime (*Tilia platyphyllos*)	M	17	800	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	200-400	>400	Moderate	Moderate	None	None
T132	Large-leaved lime (*Tilia platyphyllos*)	M	18	630	Good	n/a	n/a	n/a	n/a	n/a	n/a	200-400	200-400	>400	Moderate	Moderate	None	None
T20	Large-leaved lime (*Tilia platyphyllos*)	EM	8	300	Good	n/a	n/a	n/a	n/a	n/a	n/a	<200	<200	>400	Moderate	Moderate	None	None

Appendix 3 – Tree Constraints Plan



PHASE 1 (41 trees)

BNG Sizes
28 small
13 medium

Tree No.	Species	Dbh (mm)	Height (m)	Age	N	E	S	W	Crown clearance	Condition rating	Observations & comments	Preliminary recommendations	Estimated remaining contribution	Tree quality category rating	Root Protection Area (m2)	Circle Radius (m)	Radius Squared (m2)	Length of Sides Of Square (m)	Landscape Projects' Commentary	Size for BNG Classification
T25	Bird Cherry	190	6	EM	3	3	3	3	1.8	A/B	An individual specimen located within grass verge area with good form. Mower/strimmer damage present. Memorial tree.	n/a	10+	C1	16.33	2.28	5.20	4.04	Tree removed to construct vehicular turning head. Memorial tree - REPLACE	S
G3	Group - 3 Mulberry	150	5	SM	2	2	2	2	1.5	A	A young well spaced linear group within grass verge.	n/a	10+	C2	10.18	1.80	3.24	3.19	Tree removed - in order to install Concourse CAN THESE BE MOVED?	S x 2
T27	Crab Apple	120	3	SM	2	2.5	2.5	3	1.5	B	A young tree still on the stake within grass verge. Mower/strimmer damage present. Memorial tree.	n/a	10+	C2	6.51	1.44	2.07	2.55	Tree removed - in order to install Concourse. Memorial tree REPLACE	S
T28	Lawson Cypress	160	4	SM	2	2	2	2	0	B	A young Conifer in shrub bed, poor structural form.	n/a	10+	C2	11.58	1.92	3.69	3.40	Tree removed - in order to install Concourse	S
T29	Weeping Cherry	100	2.5	SM	2	2	2	2	1	B/C	A young tree in raised shrub planter. Low vigour.	n/a	10+	C2	4.52	1.20	1.44	2.13	Tree removed - in order to install Concourse	S
T33	Holly	360	7	EM	4	4	4	4	1.8	B	A co-dominant specimen within shrub area with good form. Slightly sparse crown, low vigour.	n/a	10+	C2	58.63	4.32	18.66	7.66	Trees to be removed - within footprint of Block 4.	M
T34	Holly	350	5	EM	3	3	3	3	1.8	B	A co-dominant specimen within shrub area with reasonable form. Slightly sparse crown, low vigour.	n/a	10+	C2	55.42	4.20	17.64	7.44		M
T35	Silver Maple	280	8	EM	4	4	5	5	2.5	A/B	An individual specimen located within raised planting area with good form.	n/a	20+	B1	35.47	3.36	11.29	5.96	**TREE ALREADY REMOVED FOR PHASE 1 DEMOLITION WORKS**	S
T36	Sycamore	270	7	EM	4	4	6	4	4	B/C	A poor specimen, which was in a planting pit but a raised bed has been placed around it. A tube has been inserted to protected the stem. Previous decline in the top but has gained some vigour.	n/a	10+	C2	32.98	3.24	10.50	5.74	Tree removed - within 2m of Block 3	S
T37	Norway Maple	310	8	EM	3	3	4	3	4	C	A poor specimen, which was in a planting pit but a raised bed has been placed around it. A tube has been inserted to protected the stem. Exhibits low vigour and a declining crown.	**Remove significant deadwood.**	5-10	U	43.47	3.72	13.84	6.59	Tree removed in order to construct Block 3. Tree within 2m of building façade.	M
T38	Sweet Gum	270	8	EM	4	4	5	4	3	A	An individual specimen located within raised planting area with good form and vigour. Memorial tree.	n/a	20+	B1	32.98	3.24	10.50	5.74	Tree removed to construct the Concourse. Memorial Tree - COULD THIS BE MOVED?	S
T39	Holm Oak	300	7	SM	4	4	5	4	1.8	B	An individual specimen located within raised planting area with good form. Slight dieback in top.	n/a	20+	B1	40.72	3.60	12.96	6.38	Tree removed to construct the Concourse.	S
T40	Cherry	140	4	SM	1	3	3	2	1.8	C	An individual specimen located within raised planting area with poor form and low vigour.	n/a	5-10	U	8.87	1.68	2.82	2.98	**TREE ALREADY REMOVED FOR PHASE 1 DEMOLITION WORKS**	S
T41	Cherry	250	8	EM	3	4	5	4	1.8	B	A vigorous specimen located within raised planting area with reasonable form.	n/a	10+	C1	28.27	3.00	9.00	5.32	**TREE ALREADY REMOVED FOR PHASE 1 DEMOLITION WORKS**	S
T65	Yew	140	6.5	SM	3	3	3	3	1	A/B	A mine should be a specimen close to building.	n/a	10+	C1	8.87	1.68	2.82	2.98	Tree removed - within footprint of Block 7.	S
T74	Larch	130	6	SM	3	4	4	3	1.8	A	A young tree within shrub area with reasonable form.	n/a	10+	C2	7.65	1.56	2.43	2.77	Tree removed - levels being lifted approx. 700mm around Block 9	S
T75	Cherry	120	2	SM	2	3	2.5	2	0	A	A young tree within shrub area with good form. Acacia-variety.	n/a	10+	C2	7.65	1.56	2.43	2.77	Tree removed - levels being lifted approx. 700mm around Block 9	S
T76	Norway Maple (Purple)	310	9	EM	5	5	5	4	3	A/B	A young tree within shrub area with reasonable form.	n/a	20+	B1	43.47	3.72	13.84	6.59	Tree removed - within footprint of Block 9	M
T241	Robinia	510	17	M	5	3	8	9	7	B	A co-dominant specimen located within raised planting area exhibiting major asymmetry and minor deadwood present.	n/a	20+	B2	117.67	6.12	37.45	10.85	Tree removed - within L 5m of proposed façade of Block 5.	M
T242	Lawson Cypress	310	12	EM	2	2	2	3	3	B	A poor specimen located within raised planting area. Forked at 8m.	n/a	10+	C2	43.47	3.72	13.84	6.59	Trees removed to construct Block 5. Planter to be levelled.	M
T246	Oak	460	9	EM	8	8	7	7	3	C	An individual specimen located within raised planting area exhibiting poor form with a large callused cavity in one of the main scaffold limbs. Previous rip out in top. Deadwood present.	**Consider removal and replacement.**	10+	C1	95.73	5.52	30.47	9.78	Trees removed in order to construct fire vehicle access route to Block 6.	M
G43	Group – 3 Birch	170	<9	SM	3	3	3	3	2	B	Young co-dominant stems located within raised planting area. Reasonable overall form but low vigour.	n/a	10+	C2	13.07	2.04	4.16	3.62	Trees removed - within footprint of Block 6.	S x 3
G44	Group – 3 Willow Leaved Pear	170	4	EM	3	3	3	3	2	B	A young co-dominant group located within grass area.	n/a	10+	C2	13.07	2.04	4.16	3.62	Trees removed - within footprint of Block 6.	S x 3
T250	Rowan	90	4	Y	2	2	2	2	2	B	A young tree located within grass area with reasonable form. Low vigour.	n/a	10+	C1	3.66	1.08	1.17	1.91	Tree removed - within L 5m of proposed façade of Block 5..	S
T251	Pine	360	8	EM	4	5	3	4	2	B	A young co-dominant tree within group. Good vigour.	n/a	20+	B2	58.63	4.32	18.66	7.66	Tree removed - within footprint of Block 5.	M
T252	Pine	330	8	EM	3	3	3	4	2	B	A young co-dominant tree within group. Good vigour.	n/a	20+	B2	49.27	3.96	15.68	7.02		M
T253	Pine	190	7	EM	2	3	2.5	3	2	B	A young tree within group. A suppressed specimen on the edge.	n/a	10+	C2	16.33	2.28	5.20	4.04	Trees removed - within 1m of facade of Block 5.	S
T254	Rowan	150	6	SM	4	2	3	3	4	B/C	A young tree within grass area. Previous stem and basal damage present, low vigour.	n/a	10+	C2	10.18	1.80	3.24	3.19		S
T255	Tibetan Cherry	120	4	SM	2	2	3	3	2	A/B	A young tree within cobbled platter. Memorial tree. Root disturbance to cobbles.	**Consider removing cobbles and mulch area.**	10+	C1	6.51	1.44	2.07	2.55	Trees removed - within footprint of Block 5. Memorial tree MOVE?	S
T256	Robinia	530	12	M	5	7	7	7	3	B	A previously pollarded specimen within shrub area. Good re-growth.	n/a	20+	B2	127.08	6.36	40.45	11.27	Trees removed in order to construct Block 10.	M
T257	Birch	250	11	EM	3	4	3	4	2	B	A young tree within shrub area with reasonable form.	n/a	20+	B1	28.27	3.00	9.00	5.32		S
T258	Upright Cherry	250	8	EM	3	3	3	3	2	A	A young tree within shrub area with good form.	n/a	20+	B1	28.27	3.00	9.00	5.32		S
T259	Robinia	510	6	OM	3	2	4	4	3	C	A previously pollarded specimen of 3m within shrub area now in decline with poor re-growth and stem decay present. Profuse suckering around base.	**Fell, grind stump and replace.**	0-5	U	117.67	6.12	37.45	10.85	Trees removed in order to construct Block 10.	M
T260	Robinia	600	12	M	5	5	5	5	4	C	A co-dominant specimen within shrub area with poor form. Significant crown decline and major deadwood present. Profuse suckering around base.	**Remove significant deadwood.**	10+	C2	162.86	7.20	51.84	12.76	Trees removed in order to construct Block 10.	M
T261	Birch	180	7	SM	3	2	3	3	1.8	B	A young tree within shrub area with reasonable form.	n/a	10+	C1	14.66	2.16	4.67	3.83	Trees removed in order to construct Block 10.	S
T262	Gleditsia	380	10	EM	6	9	9	9	1.5	A/B	A n individual specimen within grass area close to building, resulting in one sided form. Good vigour. Memorial tree.	n/a	20+	B1	65.33	4.56	20.79	8.08	Tree removed in order to construct Block 7. Memorial tree - REPLACE	M

PHASE 2 (33 trees)

BNG Class
12 small
16 medium
3 large
2 very large

Tree No.	Species	Dbh (mm)	Height (m)	Age	N	E	S	W	Crown clearance	Condition rating	Observations & comments	Preliminary recommendations	Estimated remaining contribution	Tree quality category rating	Root Protection Area (m2)	Circle Radius (m)	Radius Squared (m2)	Length of Sides Of Square (m)	Landscape Projects' Commentary	Size for BNG Classification
T20	Lime	300	8	EM	4	4	4	4	2	A/B	A young individual specimen located within shrub area. Close to building.	n/a	20+	B1	40.72	3.60	12.96	6.38	Tree removed to construct E-W access route.	S
G31	Group - 3 Lime	390	<16	EM	6	6	6	6	3	A/B	A close co-dominant group located within raised brick planter approximately 1.2m from ground level. Landscape fabric at base. High crowns form previous pruning with several stem shoots present. Good vigour.	n/a	20+	B2	68.81	4.68	21.9	8.3	Trees removed in order to construct Block 18. Trees approx 1.1m above proposed ground level.	M x 3
T174	Cherry	310	8	EM	5	4	3	6	1.8	B	A minor specimen located within raised shrub bank with one sided form.	n/a	10+	C2	43.47	3.72	13.84	6.59	Tree removed to construct Block 18. RPA sits mainly outside building footprint but levels in this area being dropped by approx 300mm.	M
T175	Lawson Cypress	140	4	SM	2	2	2	2	1.2	B	A minor understorey specimen with poor form.	n/a	10+	C2	8.87	1.68	2.82	2.98	Tree removed to construct Block 18.Tree sits 1m from building footprint and levels in this area being dropped by approx 300mm.	S
T176	Holly	300	7	SM	3	3	3	3	1.8	B	A minor twin-stemmed specimen located within raised shrub bank.	n/a	10+	C2	40.72	3.60	12.96	6.38	Trees removed to construct Block 18.	S
T177	Ash	580	17	M	5	7	8	8	6	B	A large specimen located within raised shrub bank, previously reduced. Crown in decline due to Ash Dieback.	**Fell to ground level.**	5-10	U	152.18	6.96	48.44	12.34	Trees removed to construct Block 18.	M
T178	Lawson Cypress	160	5	SM	2	2	2	2	1.2	B	A minor understorey specimen with poor form.	n/a	10+	C2	11.58	1.92	3.69	3.40	Trees removed to construct Block 18.	S
T179	Alder	250	8	EM	3	6	3	0	3	C	A leaning stem located within raised shrub bank with low potential. Previously topped.	n/a	10+	C2	28.27	3.00	9.00	5.32		S
T180	Sycamore	420	12	EM	5	7	6	7	5	B	A co-dominant specimen located within raised shrub bank with reasonable form.	n/a	20+	B2	79.80	5.04	25.40	8.93	Trees removed to construct Block 18.	M
T181	Sycamore	360	12	EM	7	7	6	6	3	B	A slightly suppressed specimen located within shrub area.	n/a	20+	B2	58.63	4.32	18.66	7.66	Trees removed in order to construct Block 21. Tree L 5m from facade	M
T186	Robinia	370	14	EM	6	2	2	2	6	B	A co-dominant specimen with a high crown and reasonable vigour.	n/a	20+	B2	61.93	4.44	19.71	7.87	Trees removed in order to construct Block 21. Trees within footprint of proposed building	M
T187	Robinia	320	14	EM	4	6	4	6	6	B	A co-dominant specimen with a high crown and reasonable vigour.	n/a	20+	B2	46.32	3.84	14.75	6.81		M
T188	Field Maple	180	6	SM	3	2	3	4	2	B	A young suppressed specimen within shrub area.	n/a	10+	C2	14.66	2.16	4.67	3.83	Trees removed in order to construct Block 21. Trees within footprint of proposed building	S
T189	Field Maple	160	6	SM	3	3	3	4	2	B	A young suppressed specimen within shrub area.	n/a	10+	C2	11.58	1.92	3.69	3.40	Trees removed in order to construct Block 21. Tree within 1m of façade.	S
T190	Ash	920	19	M	7	8	9	9	9	B	A large dominant specimen located within shrub area with good form. Minor signs of Ash Dieback.	n/a	10+	C1	382.90	11.04	121.88	19.57	Trees removed in order to construct N-S pedestrian route and Block 21. Tree within 3m of building façade.	VL
G30	Group - 2 Lawson Cypress	180	5	SM	2	2	2	2	1.5	B	A minor group of understorey screen planting.	n/a	10+	C2	14.66	2.16	4.67	3.83	Trees removed in order to construct Block 21.	S x 2
T191	Sugar Maple	660	12	M	6	8	9	5	3	B/C	A co-dominant specimen located within grass bank with reasonable form. Low vigour, decline in upper crown.	**Remove significant deadwood.**	10+	C1	197.06	7.92	62.73	14.04	Trees removed in order to construct fire vehicle access route to Block 22/23.	L
T192	Whitebeam	510	10	M	5	2	5	5	3	B	A co-dominant specimen located within grass bank with good form. High crown and stem wounds from pruning.	n/a	20+	B2	117.67	6.12	37.45	10.85	Trees removed in order to construct fire vehicle access route to Block 22/23.	M
T194	Paper Birch	200	9	EM	3	3	4	4	2	B	A young specimen within grass area with reasonable form. Some basal damage present. Poor fork at 2.5m.	n/a	10+	C1	18.10	2.40	5.76	4.25	Tree proposed to be removed to facilitate the N-S route Oak Walk.. WE COULD POSSIBLY AMEND ROAD LAYOUT TO SAVE THIS TREE?	S
T200	Horse Chestnut	830	14	M	5	7	9	7	6	B/C	An individual specimen located in raised planting area with stem lean toward building. Bleeding Canker present on stem. High crown due to proximity to building.	n/a	10+	C1	311.65	9.96	99.20	17.65	Trees to be removed in order to construct Block 13. Tree sits within building footprint	L
T201	Oak	910	10	OM	7	8	8	7	6	C	An old specimen located within grass area next to building. This tree has severe stem decay present with evidence of previous pruning to remove hazard limbs and deadwood. Low vigour, declining crown.	**Remove significant deadwood.**	10+	C1	374.62	10.92	119.25	19.36	Trees to be removed in order to construct Block 13. Tree sits within 1m building footprint, levels being dropped by 700mm in this area.	VL
T202	Lime	320	11	EM	5	5	4	5	2	A/B	A co-dominant specimen located within grass area with reasonable form.	n/a	20+	B2	46.32	3.84	14.75	6.81		M
T203	Lime	310	11	EM	5	4	4	5	2	A/B	A co-dominant specimen located within grass area with reasonable form.	n/a	20+	B2	43.47	3.72	13.84	6.59		M
T204	Lime	320	11	EM	5	6	5	4	2	A/B	A co-dominant specimen located within grass area with reasonable form.	n/a	20+	B2	46.32	3.84	14.75	6.81		M
T205	Holly	160	5	SM	2	2	2	2	1	B	A minor specimen adjacent to building. Forked at base.	n/a	10+	C2	11.58	1.92	3.69	3.40	Trees to be removed to facilitate construction of Block 12.	S
T206	Lime	600	9	EM	5	6	6	6	2	B/C	A multi-stemmed specimen with poor structural form located in shrub area close to building.	n/a	10+	C1	162.86	7.20	51.84	12.76	Tree removed to construct access route to Block 13, levels in this area being dropped by approx 300mm.	M
T207	Sycamore	450	11	EM	5	6	4	6	5	C	An individual specimen located within grass bank in decline with severe bacal decay.	**Fell and grind out stump.**	5-10	U	91.61	5.40	29.16	9.57	Tree removed on advice of Arboriculturist. Tree sits close to entrance to Block 14 and deemed unsafe for this location.	M
T238	Pear	560	10	OM	6	5	3	6	3	2	An individual specimen located within grass area with reasonable form but has severe stem decay hollowing out at base and within the buttress area. Previous reports of a fungal fruiting body at base. Possibly Honey Fungus.	**Fell to ground level and grind stump.**	5-10	U	141.87	6.72	45.16	11.91	**TREE ALREADY REMOVED ON ADVICE OF ARBORIST**	M
T240	Ash	630	15	M	7	7	7	6	6	C	An individual specimen located within tarmac area close to building. Previous removal of lower branches. Crown touching building. Significant dieback within crown due to disease.	**Fell to ground level and grind stump.**	5-10	U	179.55	7.56	57.15	13.40	Tree removed on advice of Arboriculturist. Tree sits close to entrance to Block 16 and deemed unsafe for this location.	L
T341	Holly										MISSING FROM TOPO/ARB SURVEY. DETAILS TO BE ADDED								Trees to be removed in order to construct Block 13. Tree sits within 1m building footprint.	S

PHASE 3 (2 trees)

BNG Class
2 large

Tree No.	Species	Dbh (mm)	Height (m)	Age	N	E	S	W	Crown clearance	Condition rating	Observations & comments	Preliminary recommendations	Estimated remaining contribution	Tree quality category rating	Root Protection Area (m2)	Circle Radius (m)	Radius Squared (m2)	Length of Sides Of Square (m)	Landscape Projects' Commentary	Size for BNG Classification
T131	Lime	800	17	M	8	7	8	8	6	B	An individual specimen located within grass area adjacent to building with reasonable form. Minor deadwood present. Previously pruned form building.	n/a	20+	B1	289.53	9.60	92.16	17.02	Trees to be removed to facilitate construction of Block 27.	L
T132	Lime	630	18	M	7	8	7	6	6	B	An individual specimen located within grass area adjacent to building with reasonable form. Minor deadwood present. Previously pruned form building.	n/a	20+	B1	179.55	7.56	57.15	13.40		L

Key

Construction phase boundaries.

Tree protective fencing to BS 5837.
Perimeter woodland zone to be protected with tree protection fencing with general management being undertaken throughout contract period.
Layout of protective fencing shown indicative based on existing paths and hardstanding/extent of RPAs.
Layout to be reviewed in line with demolition and construction phases of both buildings and external works.

Existing fencing used as tree protection fencing
Existing site hoarding used as tree protection fencing
Proposed site hoarding

Footprint of existing buildings to be demolished.

Footprint of buildings demolished/in the process of being demolished

Footprint of proposed buildings.

★ Trees with bat roost potential as identified in the *Ecological Constraints and Opportunities Report* by Buro Happold (Feb 2023)

Root Protection Areas of individual trees to be retained - a total of 446 trees

Category A

Category B

Category C & Category U

Tree Exclusion Zone. Temporary interventions, if required, should not compromise health of existing trees within zone.

Removals. See table below

Trees already removed during Phase 1a demolition works - 3 no.

Tree already removed for health reasons on Arborist advice - 1 no.

Trees proposed to be removed - 72
TOTAL OF 76 TREES REMOVED

© All information contained within this document remains copyright of Landscape Projects Ltd. and shall not be reproduced without prior consent.

(1) Do not scale from this drawing - use written dimensions only. (2) All dimensions are in millimeters unless noted. (3) All dimensions shall be verified on site before proceeding with the work. (4) Contractor to report and discreancies or errors before proceeding on site. (5)Landscape Projects shall be notified of any discrepancies. (6) Engineer to specify all sub-bases. Any below ground construction is indicative.

Drawing to be read in conjunction with the *Preliminary Tree Report* by Murray Tree Consultancy (July 2023)

REV P5	RD	2025-02-17	Tree loss table updated
REV P4	RD	2025-02-05	Phase boundaries updated
REV P3	RD	2025-01-28	T146 & 1 tree of G3 retained. B11 updated.
REV P2	RD	2025-01-13	Phasing boundaries updated. Tree removal numbers updated
REV P1	RD	2024-11-26	First Issue

landscapeprojects

31 BLACKFRIARS ROAD
SALFORD
MANCHESTER
M3 7AQ

+44 (0) 161 839 8336

www.landscapeprojects.co.uk
post@landscapeprojects.co.uk

JOB TITLE UoM Residences DBFO

CLIENT University of Manchester

TITLE Tree Removals & Protection

SCALE 1:750 @ A1 DATE 2024-11-25

STATUS S3 PURPOSE For Planning

DRAWN RCD CHECKED NS

REFERENCE UMRF-LAP-XX-00-DR-L-00003 REV P5