

Ecological Assessments

Environmental Statements (Biodiversity)

Species Surveys

Phase I Habitat Survey

National Vegetation Classification

Planning Guidance

Habitat Regulation Assessment

Protected Species Licensing

42020 CEMP: Biodiversity

BREEAM LE01 - 05

Bat Survey Report



Omega Zone 8

St Helens, WA5 3UG



Consultant Report on behalf of:

REPORT STATUS

Issue/revision	Issue 1: DRAFT TO CLIENT	Issue 2: FINAL	Issue 3: AMENDED FINAL
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Prepared by	JC	AA	
Signature			
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Signature			

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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. The following report has been prepared on behalf of Omega Warrington Ltd and provides the results of bat surveys undertaken at Omega Zone 8, St Helens ('The Site').

1.2 LOCATION

- 1.2.1 The Site forms part of the Omega business estate located west of Warrington, falling just within St Helens Borough. It is immediately south of the M62, west of Junction 8, and immediately west of the Warrington District County boundary and Lingley Mere.

1.3 PROPOSALS

- 1.3.1 This is a hybrid application for full and outline planning permission:

Hybrid Planning Application

- i. Full Planning Permission for the erection of a B8 warehouse, with ancillary offices, associated parking, infrastructure, and landscaping; and
- ii. Outline Planning Permission for Manufacturing (B2) and Logistics (B8) development with ancillary offices and associated car parking, landscaping and infrastructure (detailed matters of appearance; layout and scale are reserved for subsequent approval)

1.4 SITE DESCRIPTION

- 1.4.1 The Site (~75.5 ha) is dominated by arable land with woodland belts, a network of ponds and ditches improved grassland and scrub habitat present. A brook runs through the centre of the Site from the northwest and adjoins to the southern boundary. Off-site woodland is present to the south and west of the Site and a woodland belt forms the eastern boundary.

1.5 LEGISLATION

- 1.5.1 British bats are fully protected within UK Law under Wildlife and Countryside Act 1981 (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:
- Intentional or reckless killing, injury, taking;
 - Damage to or destruction of or, obstruction of access to any place of shelter, breeding or rest;
 - Disturbance of an animal occupying a structure or place;
 - Possession or control (live or dead animals);
 - Selling, bartering or exchange of these species, or parts of.
- 1.5.2 This law is reinforced by the UK's transposition of the EU Habitats Regulations under The Conservation of Habitats and Species Regulations 2017. These Regulations also prohibit:
- the deliberate killing, injuring or taking of great crested newt or bats;
 - the deliberate disturbance of any great crested newt or bat species in such a way as to be significantly likely to affect:
 - their ability to survive, hibernate, migrate, breed, or rear or nurture their young; or the local distribution or abundance of that species.
 - damage or destruction of a breeding site or resting place;
 - the possession or transport of bats or any other part of.
- 1.5.3 Under certain circumstances a licence may be granted by Natural England to permit activities that would otherwise constitute an offence. In relation to development, a scheme must have full planning permission before a licence application can be made.
- 1.5.4 In addition, seven British bat species are listed as Species of Principal Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act, 2006. These are barbastelle (*Barbastellus barbastellus*), Bechstein's (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*).
- 1.5.5 Under the National Planning Policy Framework 2018 the presence of any protected species is a material planning consideration. The Framework states that impacts arising from development proposals must be avoided where possible or adequately mitigated/compensated for and that opportunities for ecological enhancement should be sought.

Figure 1

Location

Omega Zone 8, St Helens

Legend

- Development Site
- Site Location



Drawing No.: 16903-1BBS_A

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2 METHODS

- 2.1.1 Bat surveys were carried out throughout the site in accordance with Collins, J. 2016¹ a ground level tree assessment, bat endoscope surveys, dusk/activity surveys and transect surveys have been undertaken within the application site.

Tree Surveys (Bat Roosts)

- 2.1.2 Trees were categorised in terms of their potential to support roosting bats following guidelines set out by Collins¹. Trees identified as having 'Low' potential were mapped and those with 'Moderate' and 'High' bat roost potential, and which were likely to be affected by the Proposed Development, were subject to Potential Roost Feature surveys to confirm their roost potential status or reclassify their status where necessary. Where 'Moderate' and 'High' roost potential features were confirmed, these trees were climbed and subject to endoscope surveys. For trees identified as having 'Moderate' and 'High' roost suitability but were not suitable to climb or a potential roost feature could not fully be assessed, dawn/dusk bat activity surveys were undertaken.

Table 1. Criteria for bat roost potential assessment of trees

Roost Potential	Description	Surveys Required (Trees)
Confirmed roost	Evidence of roosting bats found during initial daytime inspection.	<i>3 aerial surveys using an endoscope by a licenced surveyor at an appropriate time of the season.</i> Or (e.g. where climbing is unsafe) <i>3 – including 1 dawn as a minimum.</i>
High *	Structures with one or more features suitable for bat roosting, with obvious suitability for larger numbers of bats.	<i>3 aerial surveys using an endoscope by a licenced surveyor at an appropriate time of the season</i> Or (e.g. where climbing is unsafe) <i>3 – including 1 dawn as a minimum</i>

¹ Collins, J. (3rd ed) 2016. Bat surveys for professional ecologists: Good practice Guidelines (3rd edition). Bat Conservation Trust, London

Roost Potential	Description	Surveys Required (Trees)
Moderate	Structure with one or more potential roost sites that could be used due to size, shelter and protection but unlikely to support a roost of high conservation status.	3 aerial surveys using an endoscope by a licenced surveyor at an appropriate time of the season Or (e.g. where climbing is unsafe) 2– including 1 dawn as a minimum
Low	Structure with one or more potential roosting sites used by individual bats opportunistically. Insufficient space, shelter or protection to be used by large numbers of bats.	Precautionary Mitigation Approach, some instances may require further survey
Negligible	No or negligible features identified that are likely to be used by roosting bats	None

Bat Aerial Survey Methodology

- 2.1.3 Following the potential bat roost assessment (PBRA) trees were climbed using appropriate methods to access and inspect the features identified on the ground or during the aerial survey using a torch and endoscope (each endoscope utilised had motion camera and capture capabilities to record evidence of bats. Teams of surveyors were led by a Natural England Level 2 licenced surveyor with other experienced climbers. All visits were separated by at least two weeks apart. Each tree was surveyed according to grade. i.e. a tree with High roost potential was subject to three individual roped access surveys. with surveys conducted during the optimal bat activity period of May to August in line with BCT survey guidance.
- 2.1.4 This survey method according to Andrews. H (2018²) allows for a number of strengths in the survey method. Nocturnal surveys are weak in identifying field signs within the features as they cannot be identified during a nocturnal survey. Often nocturnal surveys of trees are limited as a result of tree canopy and clutter leading to low incidence of

² **Andrews, H.2018.** *Bat Roosts in Trees: A guide to identification and assessment for tree-care and ecology Professionals*, 1st Edition. Pelagic Publishing.

recording bats and / or specific roost site location during low light conditions. Other strengths of this type of survey include confidence in a negative result for the series of visits to that tree thereby demonstrating where the colony “is not” as well as where “it is”. This method also identifies presence of competitors as well as unsuitable features that can be downgraded due to the close inspection.

Unsafe trees

- 2.1.5 If aerial surveys were not possible due to limited access to the feature or health and safety issues with climbing the tree, a nocturnal survey was undertaken. Up to three nocturnal surveys were carried out, dependant on the roosting potential grade (low to confirmed roost) conferred during the PBRA. The surveys were led by a Natural England bat licensed ecologist with a team of surveyors (number depending on site requirements) strategically deployed to view all aspects of the tree which was monitored for one and a half hours from dusk or one and a half hours before sunrise using ultrasonic bat detectors. These surveys were completed between May and mid-September and separated by at least two weeks and were only undertaken in optimal weather conditions. Dusk and dawn activity surveys were carried out between June – August 2019, inclusive. Trees offering ‘Moderate’ potential were surveyed a minimum of two times. Trees offering ‘High’ roosting potential were surveyed a minimum of three times. Survey dates were; 24 June 2019, 25 June 2019, 26 June 2019, 16 July 2019, 23 July 2019, 26 July 2019, 13 August 2019 and 22 August 2019.
- 2.1.6 During the dusk activity surveys, a surveyor was positioned at each tree a minimum of 15 minutes before sunset and approximately 1.5-2 hours after sunset. For dawn activity surveys, a surveyor was positioned at each tree approximately 1.5-2 hours before sunrise until 15 minutes after sunrise.

Bat transect surveys (foraging/commuting habitat)

- 2.1.7 A total of five dusk transect surveys were carried out across the application site. The transect survey dates were; 22 May 2019, 19 June 2019, 4 July 2019, 5 August 2019 and 8 October 2019. The application site was split into two transects, with timed survey counts of three minutes incorporated in each transect to allow spatial and temporal comparisons. At each point, all bat activity was recorded using frequency division or time

expansion bat detectors. Any bats seen or heard between observation points were also recorded. Surveys lasted from 15 minutes before sunset to approximately 2 hours after sunset. The surveys were carried out in accordance with Collins¹.

- 2.1.8 Static bat detectors were deployed at two locations along the transect routes and left in situ for a minimum of five consecutive nights per month during the months of May, June, July, August and October 2019 (a combined period of 36 days). Both static detectors

Survey Rationale

- 2.1.9 The aerial technique above is a non-standard method. The method is pragmatic to the process of undertaking these large sites and brings a number of strengths to the data that nocturnal surveys are limited to, particularly in sites with a deep canopy that would limit visibility such as a good portion of the Omega site. The method is also limited to identification of the species exiting the roost, as if there are other bats flying or the bat leaves/returns to the feature without calling it is likely that it will not be identified. The survey method of nocturnal surveys is also labour intensive in terms of survey particularly with the number of trees on this site.
- 2.1.10 Over the past three years the surveyors have been involved with a list of major infrastructure projects that have used this method to be granted applications as well as licence applications. These have involved acquiring licences from Natural England:
- A82 Road Widening; Tarbert to Inverarnen – 100 tree climbed
 - East West Rail; - 500 trees surveyed and site wide licence granted by Natural England based on this method
 - HS2 Phase 2b; 350 trees surveyed
 - M54 – M6 Toll Link Road; 150 trees surveyed and planning granted utilising climb method and
 - Eat Leeds Orbital Route. 200 trees climbed and planning granted utilising climb method

3 RESULTS

Bat Tree Assessment

- 3.1.1 No built structures currently exist within the application site. Much of the application site is covered by woodland and scattered trees (totalling 79,992 m²) offering potential roosting habitat and foraging and commuting opportunity. During the initial Ground Level Tree Survey, a total of 169 trees were identified as containing either 'Low', 'Moderate' or 'High' potential for roosting bats (See Appendix 1.1abd 4.3). Trees containing 'Moderate' and 'High' potential were subject to further assessment, including endoscope surveys and/or dusk and dawn activity surveys.
- 3.1.2 A total of three confirmed roosts were identified on or near to the application site boundary. Two of these roosts are located offsite but within 30m of the application site, and a single roost was identified within the application site within Duck Wood (see Figure 2). All roosts have been classified in accordance with Bat Conservation Trust guidelines¹.
- 3.1.3 A summary of the identified roosts is detailed below:
- Roost 1 (day roost) was identified in T23 within the eastern woodland belt, offsite. A single common pipistrelle was observed emerging from a bat box during the third and final bat survey of this roost feature.
 - Roost 2 (day roost) was identified in T32 within Finches Plantation to the south of the application site. A single common pipistrelle was observed emerging from a tear-out feature on the tree.
 - Roost 3 (day roost) was identified in T115 within Duck Wood. Two soprano pipistrelles were observed emerging from a tear-out feature during the first bat activity survey. No further evidence of bats using the roost was observed during subsequent visits.

Activity transect results

- 3.1.4 An assessment of the habitat on site was deemed as being of 'Moderate' suitability for commuting and foraging bats. A series of transect surveys were undertaken and found that overall, bat activity was relatively low across the application site when considering its size and extent of woodland.

- 3.1.5 Across five transects, involving two routes, a total of 278 bat passes were recorded. 73% of these passes were common pipistrelle, 17% were soprano pipistrelle, 8% were noctule and 1% were Myotis species.
- 3.1.6 Bat activity was mostly observed at woodland edges, being concentrated towards the central and southern portions of the application site, notably around Woodland 'B' and Big Belt Wood. A limited amount of foraging activity was noted along the northern boundary of Booth's Wood, with only common species being noted. Increased activity was occasionally noted along Whittle Brook, and the southern edge of Booth's Wood exhibited a higher level of activity during some transect surveys.
- 3.1.7 Hedgerows exhibited very little use by bats. Limited bat activity was noted towards the north of the application site and near the M62, again at woodland edges (Plain Plantation and Woodland 'A'). See Appendix 4.3.

Static monitoring surveys

- 3.1.8 Two static bat detectors were deployed in areas perceived to exhibit the highest levels of bat activity within the application site (to the west and east of Woodland 'B'; Figure 1). Static detectors recorded a minimum of eight bat species during the course of deployment.
- 3.1.9 Static detectors were left in situ a total of 43 days between May – August, inclusive, and October 2019. Static Detector 1 recorded an average of 145 bat passes per night during this period. Static Detector 2 recorded an average of 199 bat passes per night during the same period. See Table 2.

Table 2. Static Detector results

Static 1

	Dates	Species												Total number of passes	Total number of nights	Average bats per night (all species)
		PIPI	PIPY	PINA	PIP Sp	NYNO	NYLE	PLAU	MYDA	WHBR	MYNA	Mysp	Bat Sp			
May	22.05.19-31.05.19	1197	5	0	8	4	1	1	0	0	0	5	0	1221	9	135.67
June	19.06.19-25.06.19	647	33	0	0	5	1	6	0	0	0	173	3	868	6	144.67
July	15.07.19-23.07.19	92	13	0	1	50	0	0	1	2	0	34	2	195	7	27.86
August	05.08.19-13.08.19	1942	50	0	25	17	3	0	2	3	0	14	11	2067	8	258.38
	Total passes / species	3878	101	0	34	76	5	7	3	5	0	226	16	4351	30	145.03
	Average passes / species	129.27	3.37	0.00	1.13	2.53	0.17	0.23	0.10	0.17	0.00	7.53	0.53			
	% of bat passes / species	89.13	2.32	0.00	0.78	1.75	0.11	0.16	0.07	0.11	0.00	5.19	0.37			

Static 2



	Dates	Species												Total number of passes	Total number of nights	Average bats per night (all species)
		PIPI	PIPY	PINA	PIP Sp	NYNO	NYLE	PLAU	MYDA	WHBR	MYNA	Mysp	Bat Sp			
May	22.05.19-31.05.19	2513	125	0	43	6	0	0	0	0	0	20	0	2707	9	300.78
June	19.06.19-25.06.19	1173	68	0	28	6	2	0	0	0	0	13	0	1290	6	215.00
July	15.07.19-23.07.19	896	107	0	2	40	0	0	0	11	1	16	0	1073	7	153.29
August	05.08.19-13.08.19	380	209	0	178	69	9	6	0	0	0	48	10	899	8	112.38
	Total passes / species	4962	509	0	251	121	11	6	0	11	1	97	10	5969	30	198.97
	Average passes / species	165.40	16.97	0.00	8.37	4.03	0.37	0.20	0.00	0.37	0.03	3.23	0.33			
	% of bat passes / species	83.13	8.53	0.00	4.21	2.03	0.18	0.10	0.00	0.18	0.02	1.63	0.17			

Figure 2

Bat Roost Locations

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Roost Locations

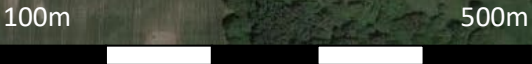


T23 – Confirmed roost in Maternity Box

T115

T32

T23



Drawings are diagrammatic and not to scale. Refer to architect drawings for exact measurements



Drawing No.: 16903-09ES_A

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
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Figure 3

Static Locations

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Static Detector Location

Static 1

The position was on a woodland boundary facing west over arable fields attached to a small sycamore. The Equipment used was and Anabat Express.

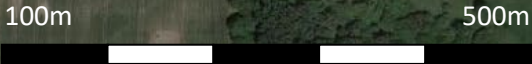
Grid: 354978, 390536.



Static 2

The position was on a fence post on the corner of the woodland edge. The equipment used was an Anabat Express.

Grid: 355194, 390363.



Drawings are diagrammatic and not to scale. Refer to architect drawings for exact measurements



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4 APPENDIX

4.1 TREE POTENTIAL PLAN

- 4.1.1 Trees that are to be removed from the detailed part of the hybrid application are listed in the table below:

Table 3. Trees to be removed from detailed part of the hybrid application

Trees to be removed (TJM)	Potential
T1	Moderate
T2	Climbing needed
T75*	Moderate
T76*	Low
T77*	Low
T78	Moderate
T79	Low
T80	Moderate
T81	Low
T82	Moderate
T83	Low
T84	Negligible
T92	Low
T127	Low
T128	Moderate
T130	Moderate
T136*	Moderate
T137*	High
T154	High
T156	High

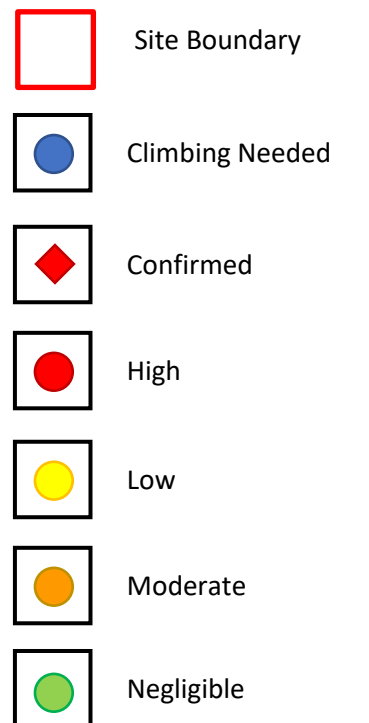
***trees to be confirmed**

Figure 4

Tree Potential Plan

Omega Zone 8, St Helens

Legend



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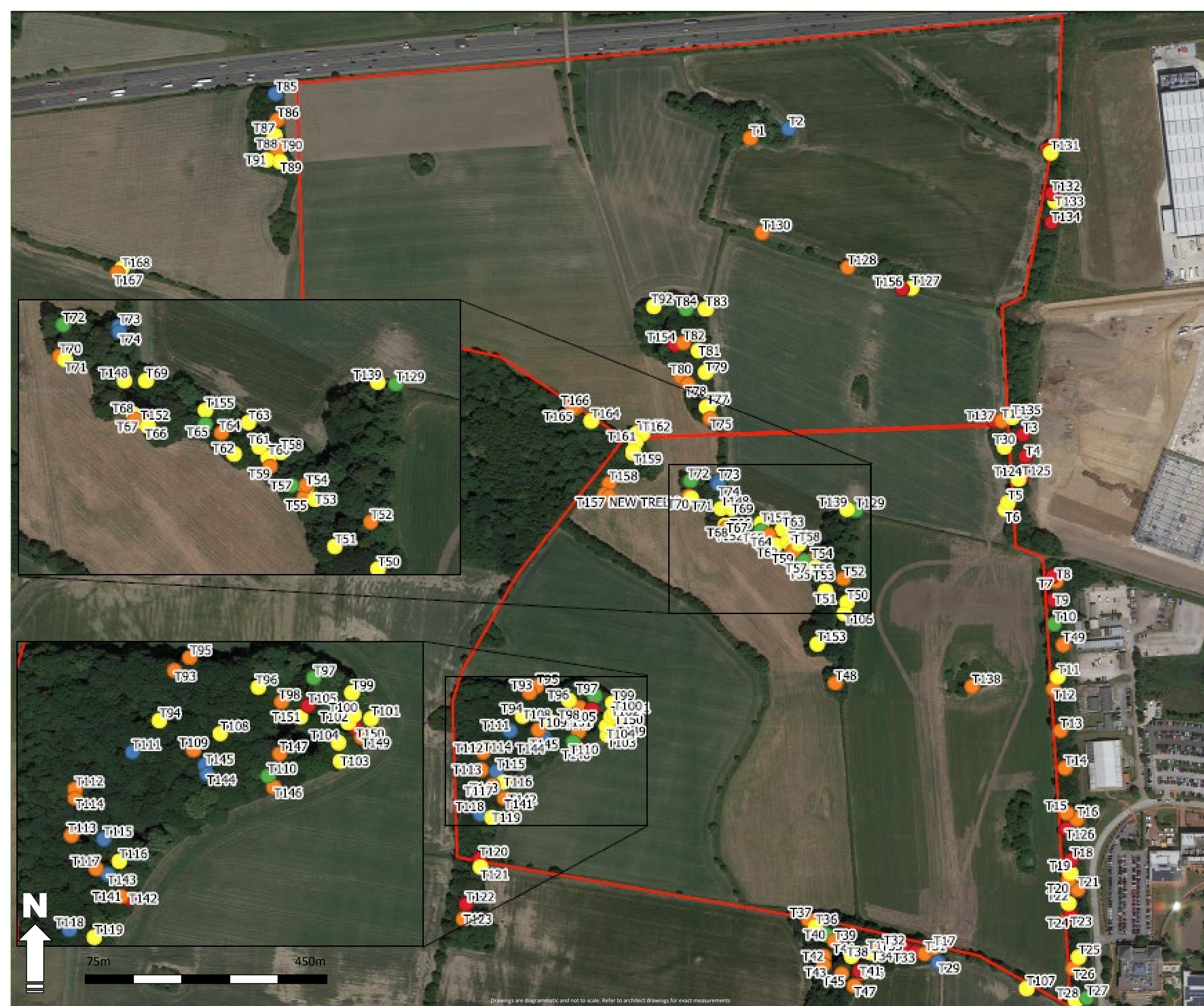
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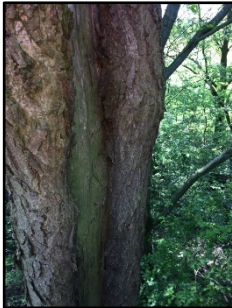
















4.2 TREE POTENTIAL SURVEY RESULTS


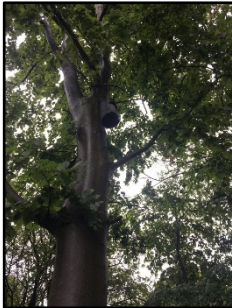






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T1	English Oak	Semi mature oak. Trunk cavity south west facing, 7m above ground level. Feature potentially extends into the tree and would require further inspection.	None	Moderate		20/05/19 – 1st Aerial Survey Trunk cavity inspected. Grading of tree does not change. Bat roost potential remains moderate. No other features observed whilst climbing. 26/06/19 – 2nd Aerial Survey No change to grading.	 
T2	Willow	Mature willow in poor condition, also in close proximity to a pond. Branch cavity on the north east aspect, 5m above ground level, cavity may extend further in. Unable to climb due to pond and cluttered drop zone.	None	Moderate		26/06/19 - Dawn Re-entry survey No bats recorded during the survey. Possibly due to disturbance from road. 23/07/19 – Dusk Emergence Survey Three passes during survey x2 soprano pipistrelle x1 Noctule	N/A
T3	Beech	Semi mature beech. Three bat boxes present on the north west, west and east aspects at 5m above ground level.	None	High		13/05/19 – 1st Aerial Survey Three concrete bat boxes inspected. Bird nesting material present in bat box but no birds observed in bat box. Grading of tree does not change. Bat roost potential remains high. No other features observed whilst climbing. 11/06/19 – 2nd Aerial Survey No change to grading. 15/07/19 – 3rd Aerial Survey No change to grading.	  






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T4	Beech	Young beech. Maternity bat box attached to the south east aspect.	None	High		<p>13/05/19 – 1st Aerial Survey</p> <p>Bat box present on tree inspected. Bat box doesn't open. Old bird dropping and nest debris present inside the box.</p> <p>Grading of tree does not change. Bat roost potential remains high. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>No change to grading.</p>	
T5	English Oak	Semi mature oak. Delamination has occurred at 6m on the south aspect which may provide suitable summer roosting features.	None	Low		<p>13/05/19 – Aerial Survey</p> <p>Branch cavity formed from limb rot/callus roll inspected. Cavity is dry and channelled but almost entirely open to exterior aside from small tuck ups.</p> <p>Grading of tree changes from Moderate to Low. No other features observed whilst climbing.</p>	
T6	English Oak	Mature oak. Tree has potential to have hidden features. Would require a further survey to advise on presence absence.	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Branch split and hazard beam features inspected. Branch split non extending and completely open through. Hazard beam is shallow, wide open and exposed.</p> <p>Grading of tree changes fro moderate to low. No other features observed whilst climbing.</p>	








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T7	English Oak	Semi mature oak. Maternity bat box attached to the east aspect at 5m above ground level.	None	High		<p>13/05/19 – 1st Aerial Survey</p> <p>Bat box present on tree inspected. Bird droppings to the bottom of the box so likely to be used by birds.</p> <p>Grading of tree does not change. Bat roost potential remains high. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>No change to grading.</p>	 
T8	English Oak	Semi mature oak. Bird box attached to the south west aspect at 5m above ground level.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present on tree inspected. No bird signs observed.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Grading of tree not changed</p>	 
T9	English Oak	Semi mature oak. Three bat boxes on the east, south and west aspects at 4m above ground level.	None	High	 	<p>13/05/19 – 1st Aerial Survey</p> <p>3 bat boxes inspected.</p> <p>Grading of tree does not change. Bat roost potential remains high. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>No change to grading.</p>	  






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T10	English Oak	Semi mature oak. Tear out on the north east aspect may provide suitability under rams-horn. Would require thorough survey to advise on presence/absence.	None	Negligible		<p>13/05/19 – 1st Aerial Survey</p> <p>Trunk cavity and tear out features present inspected. Large tear out and ramshorning above and along length of branch. Feature does not extend inward. Feature completely exposed to exterior.</p> <p>Grading of tree changes from moderate to negligible. No other features observed whilst climbing.</p>	
T11	English Oak	Semi mature oak. Transverse snap at 6m on the east aspect providing potential roosting features within the damaged laminations.	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Trunk cavity feature present inspected.</p> <p>Grading of tree changes from moderate to low. No other features observed whilst climbing.</p>	
T12	English Oak	Young oak. Bird box attached at 5m on the north aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present inspected. Active blue tits nest observed in bird box.</p> <p>Grading of tree does not change. Bat roost potential remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p>	
T13	English Oak	Semi mature oak. Bird box attached at 5m on the north aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present inspected. Old birds nest present.</p> <p>Grading of tree does not change. Bat roost potential remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p>	


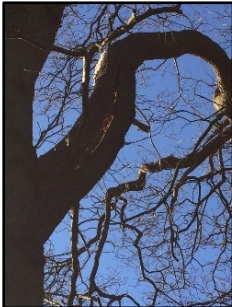


Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T14	English Oak	Young oak. Bird box attached at 4m on the north aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present inspected. Active blue tit nest observed in box.</p> <p>Grading of tree changes from low to moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading.</p>	
T15	English Oak	Young oak. Bat box at 5m on the east aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present inspected. Active blue tit nest observed in box.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading</p>	
T16	English Oak	Semi mature oak. Bird box attached at 5m on the north aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box present inspected. Active blue tit nest observed in box.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>No change to grading</p>	
T17	Sycamore	Sycamore tree with a tear out feature at 6m on the north east aspect.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Tear out feature present on tree inspected.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>12/06/19 – 2nd Aerial Survey</p> <p>Grading not changed.</p>	






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T18	Beech	Semi mature beech. Bat box at 5m on the south aspect.	None	High		<p>13/05/19 – 1st Aerial Survey</p> <p>Grading of tree remains high. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Grading not changed.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Grading not changed.</p>	
T19	English Oak	Young oak. Little owl box at 4m on the north aspect.	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Spotted flycatcher box present inspected. Bird droppings observed inside the bird box.</p> <p>Grading of tree changes from moderate to low. No other features observed whilst climbing.</p>	
T20	Beech	Semi mature beech. Bird box at 5m on the south aspect.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box feature present inspected. No bird signs observed.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Grading not changed.</p>	
T21	English Oak	Semi mature oak. Bird box at 5m on the north west aspect.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Bird box feature inspected. Birds present in box with chicks.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Grading not changed.</p>	






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T22	English Oak	Young oak. Large amount of loose bark on all aspects of the tree providing potential roosting features, the tree is dead.	None	Low	 	<p>14/05/19 – 1st Aerial Survey</p> <p>Loose bark feature inspected. Birds present in box with chicks.</p> <p>Grading of tree changes from moderate to low. No other features observed whilst climbing.</p>	
T23	English Oak	Young oak. Bat box at 5m on the south west aspect.	Confirmed. Common pipistrelle roost on third Aerial. Bat flew out of box upon approach.	Confirmed		<p>14/05/19 – 1st Aerial Survey</p> <p>Maternity bat box feature inspected. Active birds nest with chicks found in maternity box. Species probably blackbird or nuthatch.</p> <p>Grading of tree remains high. No other features observed whilst climbing.</p> <p>20/06/19 – 2nd Aerial Survey</p> <p>Maternity bat box feature inspected. Active nuthatch birds nest not present in the box anymore.</p> <p>Grading of tree remains high. No other features observed whilst climbing.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Single Common pipistrelle emergence from box upon surveyor approach.</p>	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T24	English Oak	Semi mature oak. Bird box located 4m on the north aspect.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Bird box feature inspected. Old birds nest within not currently used.</p> <p>Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Grading not changed.</p>	
T25	English Oak	Young oak. Loose ivy cover spreading height of the tree.	None	Low		<p>Tree not climbed due to low bat roosting potential.</p>	N/A
T26	English Oak	Semi mature oak. Bird box located 3.5m on the north aspect.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Bird box feature inspected. Grading of tree remains moderate. No other features observed whilst climbing.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Bird box feature inspected. Active birds nest. Grading of tree remains moderate. No other features observed whilst climbing..</p>	
T27	English Oak	Semi mature oak. Tear out between the leaders on the main crotch, southern aspect. May provide suitable habitat for roosting. Would require thorough survey to advise on presence/absence.	None	Negligible		<p>14/05/19 – 1st Aerial Survey</p> <p>Tear out feature present inspected. Grading of tree changes to negligible. No other features observed whilst climbing.</p>	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T28	English Oak	Semi mature oak. Ivy cover on all aspects of the tree.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T29	Sycamore	<p>Semi mature sycamore. Open trunk cavity extending up into the tree, on the western aspect.</p> <p>At 5m on the south west aspect is a knot hole. A further knot hole is adjacent on the east aspect at 4m. Would require thorough survey to advise on presence/absence.</p>	None	Moderate		<p>25/06/19 – Dusk Emergence survey</p> <p>No emergence observed. Foraging and commuting bats including common pipistrelle, soprano pipistrelle and myotis.</p> <p>22/08/19 – Dawn re-entry bat survey</p> <p>No re-entries observed. Foraging and commuting bats including common pipistrelle.</p>	
T30	Sycamore	Semi mature sycamore. Tear out on the east aspect at approximately 6m. Unable to phase out as obscured by dead would. Would require thorough survey to advise on presence/absence.	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box that has been extended by squirrel reducing its suitability to low.</p>	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T31	English Oak	<p>Semi mature oak. Deadwood and branch cavity may make tree unsafe for climbing.</p> <p>Branch cavity on the western aspect at 8m providing void in the branch.</p> <p>Dead wood on the south east aspect creating potential cavity at 5m.</p> <p>Trunk cavity also present on the east and west aspect at 6m, potentially open but cavity possibly created through weld. Further inspection required.</p>	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Hazard beam and split features inspected.</p> <p>Grading remains moderate.</p> <p>12/06/19 – 2st Aerial Survey</p> <p>Hazard beam and split features inspected.</p> <p>New features observed and inspected whilst climbing included a weld and a hole straigh through between 2 stems. Grading remains moderate.</p>	
T32	Deadwood	<p>Tree is dead, potential structure weakness.</p> <p>Woodpecker hole possibly enters a hollow stem at 12m on the southern aspect.</p> <p>Second woodpecker hole possible enters a hollow stem at 13m on the eastern aspect.</p>	Common pipistrelle emergence 22/05/19	Confirmed		<p>25/05/19 – Dusk emergence bat survey</p> <p>Common pipistrelle and noctule foraging and commuting. A common pipistrelle emerged at 22:11 from tear out feature on tree.</p> <p>22/08/19 – Dawn re-entry bat survey</p> <p>No re-entries observed. Mostly foraging and commuting activity of common pipistrelle as well as commuting activity of myotis, noctule and soprano pipistrelle.</p>	








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T33	English Oak	<p>Semi mature oak. Knot hole at 12m on the southern aspect. Further endoscope survey required as appears to create suitable cavity.</p> <p>Large woodpecker hole at 10m on the south aspect, endoscope survey required.</p>	None	High		<p>14/05/19 – 1st Aerial Survey</p> <p>Woodpecked hole , trunk cavity and branch cavity features inspected. Bird nest present in trunk cavity.</p> <p>Grading remained high.</p> <p>19/06/19 – 2nd Aerial Survey</p> <p>Features inspected and bird nest no longer present.</p> <p>Feature inspected. Grading remained high.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Feature inspected. Grading remained high.</p>	
T34	English Oak	Semi mature oak. Tear out that may provide some suitability around rams horning.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>19/06/19 - 2st Aerial Survey</p> <p>Feature inspected. Grading not changed.</p>	
T35	English Oak	Semi mature oak. Lifted and loose bark on all aspects of the tree.	None	Low		Tree not climbed due to low bat roosting potential.	N/A








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T36	English Oak	Semi mature oak. Desiccated branch on the western aspect at 8m, possibly used for single bats.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T37	English oak	Semi mature oak. Hazard beam with repairs on the western aspect at 8.5m providing very suitable roosting features.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Hazard beam feature inspected.</p> <p>Grading changed from high to moderate.</p> <p>12/06/19 - 2st Aerial Survey</p> <p>New tear out feature observed and inspected. Grading not changed.</p>	
T38	English oak	Young oak. Woodpecker hole on the south west aspect at 12m. Would require thorough survey to advise on presence/absence.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Knot hole feature inspected.</p> <p>Grading changed from high to moderate.</p> <p>19/06/19 - 2st Aerial Survey</p> <p>Feature inspected. Grading not changed.</p>	


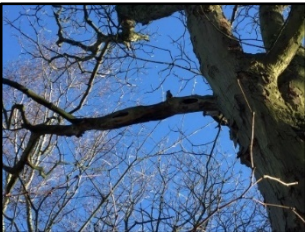






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T39	Sycamore	Semi mature sycamore. Basal cavity that may extend up the stem at ground level on the south west aspect.	None	Moderate		<p>14/05/19 – 1st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>12/06/19 - 2st Aerial Survey</p> <p>Feature inspected. Grading not changed.</p>	
T40	English Oak	Semi mature oak. Bottom of limb expanded out suggesting damage to the other side that isn't visible, on the north east aspect at 12m. Would require climbing to phase out tree.	None	Negligible		<p>14/05/19 – 1st Aerial Survey</p> <p>Tree inspected. No features observed. Grading changed from moderate to negligible.</p>	
T41	Deadwood	<p>Young dead tree, unsuitable for climbing.</p> <p>Loose bark on all aspects of tree. Woodpecker hole of north east aspect at 8m. Nocturnal survey required.</p>	None	High		<p>Outside of the site boundary</p>	
T42	English Oak	Semi mature oak. Large frost crack with cavities behind the dead wood on the north west aspect at 1m, may provide suitable roosting feature.	None	Moderate		<p>Outside of the site boundary.</p>	







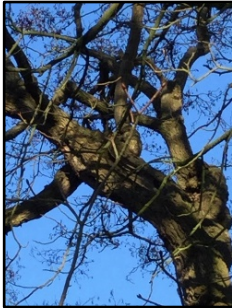
Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T43	Sycamore	Young sycamore. Cavity from frost damage followed by a large wound on the eastern aspect at 7m. Cavities also present around repaired sections.	None	Moderate		Outside of the site boundary.	
T44	Dead wood	Mature dead tree. Loose bark on all aspects of tree. Trunk cavity on the east aspect from the ground extends throughout the tree however is open from the top and therefore unsuitable for roosting.	None	Low		Outside of the site boundary.	
T45	Dead wood	Semi mature dead tree. Potential structure weakness, unsuitable for climbing. Numerous areas of woodpecker damage with the most prominent at 8m on the south aspect that may provide suitability for roosting bats.	None	Moderate		Outside of the site boundary.	
T46	English Oak	Young oak. Tree is dead and unsafe to climb. Branch cavity on the western aspect at 4m, has the potential to extend into the tree and suitable for several bats. Branch cavity on the western aspect at 6m, potentially extends into branch to provide roosting for a single bat. Nocturnal survey required.	None	Moderate		Outside of the site boundary.	













Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T47	Sycamore	Semi mature sycamore. Basal cavity that extends up the stem a minimum of 1m to a knot hole above the cavity on the south west aspect at 1.5m.	None	Moderate		Outside of the site boundary.	
T48	English Oak	Mature oak. Tree noted due to age and size. Dead wood present on limb of tree on the south west aspect at 10m. Further features may be found through an aerial climb.	None	Moderate		Outside of the site boundary.	
T49	English Oak	Semi mature oak. Bird box situated on the north aspect at 3m.	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Bird box feature inspected. Active blue tit nest found in bird box.</p> <p>Grading changed from high to moderate.</p> <p>11/06/19 - 2st Aerial Survey</p> <p>Bird box feature inspected no change to the feature.</p>	
T50	Sycamore	Semi mature sycamore. Potential structure weakness. On all aspects plates of bark are present, suitable for tuck ups.	None	Low		Tree not climbed due to low bat roosting potential.	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T51	English Oak	<p>Large mature oak tree with possible features higher up that were not able to be observed from the ground.</p> <p>Various deadwood limbs on the north west and south aspects at 8m.</p>	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Features suitable for single bats downgraded from moderate to low.</p>	
T52	Horse chestnut	<p>Semi mature sycamore. Large cavity in stem tear out on the northern aspect at 7m with other smaller tuck ups.</p>	None	Moderate		<p>21/05/19 – 1st Aerial Survey</p> <p>Trunk cavity and hole feature inspected. Active birds nest observed at base of cavity.</p> <p>Grading remained moderate.</p> <p>20/06/19 - 2st Aerial Survey</p> <p>Trunk cavity and hole feature inspected.</p> <p>Grading remains moderate.</p>	 
T53	English Oak	<p>Semi mature oak. Trunk cavity on the south west aspect at 6m that appears to extend the length of the trunk downwards and therefore exposed to the elements reducing roosting potential.</p>	None	Low		<p>Tree not climbed due to low bat roosting potential.</p>	






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T54	Alder	Semi mature tree. Branch cavity on the south west aspect at 5m. Potentially unsuitable and would require thorough survey to advise on presence/absence.	None	Moderate		<p>21/05/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected. Active birds nest observed on tree.</p> <p>Grading remained moderate.</p> <p>20/06/19 - 2st Aerial Survey</p> <p>Branch cavity feature inspected. Birds nest is no longer present.</p> <p>Grading remained moderate.</p>	
T55	English Oak	Young oak. Large trunk cavity that is welding back together on the western aspect at 1m. Second cavity on east aspect at 5m which potentially stems to features.	None	Moderate		<p>21/05/19 – 1st Aerial Survey</p> <p>1m feature surveyed with endoscope still moderate suitability. The 5m feature was surveyed and was deemed negligible.</p> <p>20/06/19 - 2st Aerial Surveyt</p> <p>Trunk cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T56	Hazel	Young hazel. Trunk cavity on the south west aspect at 1m, endoscope survey required.	None	Low		<p>Tree not climbed due to low bat roosting potential.</p>	N/A
T57	Alder	Stem spit at the crotch, possibility that the feature allows access into the limbs and therefore further inspection is needed.	None	Negligible		<p>21/05/19 – 1st Aerial Survey</p> <p>Split and rot hole features inspected.</p> <p>Grading changed from moderate to negligible.</p>	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T58	English Oak	<p>Semi mature oak. Two branch cavities on the north aspect at 6m, require endoscopic inspection.</p> <p>Loose bark also presents on all aspects of the tree.</p>	None	Low		Tree not climbed due to low bat roosting potential.	
T59	Ash	<p>Semi mature ash. Basal cavity at 4.5m on the western aspect. The feature extends into limb.</p> <p>Large basal cavity likely from previous wound, extends into stem, starts at ground level and extends up.</p>	None	Moderate		<p>21/05/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>20/06/19 - 2st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T60	Dead wood	<p>Young dead tree. Loose bark on all aspects of the tree. Downward facing trunk cavity and therefore less suitable for bats as exposed to the elements.</p>	None	Low		Tree not climbed due to low bat roosting potential.	
T61	Alder	<p>Semi mature alder. Broken branch on the south aspect at 10m, potentially superficial damage only. Would require thorough survey to advise on presence/absence.</p>	None	Low		Tree not climbed due to low bat roosting potential.	






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T62	English Oak	Semi mature oak. Growth at 8m that could potentially be hiding roosting features.	None	Low		Tree not climbed due to low bat roosting potential.	
T63	Alder	Young alder. Branch cavity on north aspect at 8m through dead limb.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T64	English Oak	Semi mature oak. Large cavity on the south east aspect at 1.5m possibly from a wound that has extended up the tree. Heart wood has rotted in some sections providing a cavity.	None	Moderate		20/06/19 1st Aerial Survey Trunk cavity feature inspected. Grading remained moderate. 15/07/19 2nd Aerial Survey Trunk cavity feature inspected. Grading remained moderate.	
T65	Alder	Young alder. Branch cavity at 10m on the southern aspect, requires endoscopic inspection.	None	Negligible		21/05/19 - 1st Aerial Survey Tear out and knot hole feature inspected. Grading changed from moderate to negligible.	



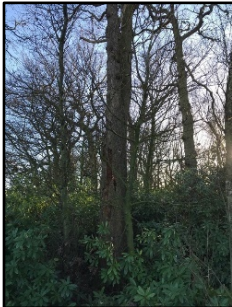



Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T66	Beech	Mature beech. Cavities up the stem with 4 egress points on the south aspect at 2m.	None	Low		Tree not climbed due to low bat roosting potential.	 
T67	Deadwood	Young dead tree. Tree can be climbed from T36 to assess features. Trunk cavity at 5m on the south aspect, would require thorough survey to advise on presence/absence.	None	Moderate	 	22/05/19 – 1st Aerial Survey Trunk cavity feature inspected. Grading remained moderate. 20/06/19 - 2st Aerial Survey Trunk cavity feature inspected. Grading remained moderate.	 
T68	English Oak	Young oak. Unsafe for climbing. Trunk cavity present on the south east aspect at 8m. Requires nocturnal survey to advise on presence/absence.	None	Low	 	21/05/19 – 1st Aerial Survey Trunk cavity feature inspected. Grading changed from moderate to low.	
T69	Willow	Mature willow. Loose bark present on the north east aspect between 3 and 5m. Potentially superficial only but would require thorough survey to advise on presence/absence.	None	Low		Tree not climbed due to low bat roosting potential.	





Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T70	Horse Chestnut	Mature horse chestnut. Branch cavity in dead limb on south west aspect at 4m. Would require thorough survey to advise on presence/absence.	None	Moderate		<p>21/05/19 – 1st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>26/06/19 - 2st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T71	Sycamore	The feature is a knot hole at 4m high facing south, possibly extends into the stem of the tree.	None	Low		<p>21/05/19 – 1st Aerial Survey</p> <p>Knot hole feature inspected.</p> <p>Grading changed from moderate to low.</p>	
T72	Horse Chestnut	Semi mature horse chestnut. Low trunk cavity on the south west aspect at 2m. Would require thorough survey to advise on presence/absence.	None	Negligible		<p>21/05/19 – 1st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading changed from moderate to negligible.</p>	
T73	Sycamore	Mature Sycamore, unsuitable for climbing. Two woodpecker holes on the north aspect at 10m, likely to extend into the same feature.	None	Moderate		<p>26/06/19 – Dawn re-entry bat survey</p> <p>No re-entries observed. Single passes from a noctule and a myotis. Common pipistrelle foraging and commuting.</p> <p>23/07/19 – Dusk emergence bat survey</p> <p>Several foraging passes of common pipistrelle as well as one commuting pass from Noctule. No emergence identified.</p>	







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T74	Sycamore	<p>Mature beech. Not suitable for climbing; potential structure weakness. Major deadwood in canopy. Fungal fruiting bodies. Damaged stems/branches with cracks and splits. Cavities, asymmetry of lower main stem.</p> <p>Basal cavity on the eastern aspect at ground level extending into first major limb.</p> <p>Woodpecker damage on the north aspect at 8m and 10m.</p>	None	Moderate		<p>26/06/19 – Dawn re-entry bat survey</p> <p>Single passes from a noctule and a myotis. Common pipistrelle foraging and commuting. No re-entries observed.</p> <p>23/07/19 – Dusk emergence bat survey</p> <p>Several foraging passes of common pipistrelle as well as one commuting pass from Noctule. No emergence identified.</p>	
T75	Sycamore	<p>Trunk cavity potentially extends up into tree from ground level on the south aspect. Endoscope survey needed.</p>	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Butt-rot cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>20/06/19 – 2st Aerial Survey</p> <p>Butt-rot cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T76	Deadwood	<p>Young dead tree. Trunk cavity on north east aspect at 7m facing downwards.</p>	None	Low		<p>Tree not climbed due to low bat roosting potential.</p>	N/A








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T77	Sycamore	Semi mature tree. Tear out from stem at crown on the south aspect at 9m.	None	Low		<p>20/06/19 – 1st Aerial Survey</p> <p>Trunk cavity and tear out feature inspected.</p> <p>Grading changed from moderate to low.</p>	
T78	English Oak	Mature oak. Failed hazard beam at 8m on the west aspect.	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>20/06/19 – 2st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T79	Sycamore	Trunk cavity at 2m, on the south west aspect. Exposed to elm nets.	None	Low		<p>Tree not climbed due to low bat roosting potential.</p>	
T80	Sycamore	Mature sycamore. Large tear out on the north aspect at 8m providing moderate roosting suitability.	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>13/06/19 – 1st Aerial Survey</p> <p>Branch cavity feature inspected.</p> <p>Grading remained moderate.</p>	





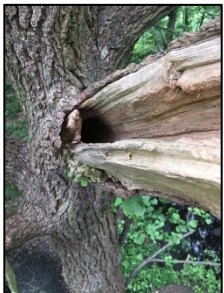




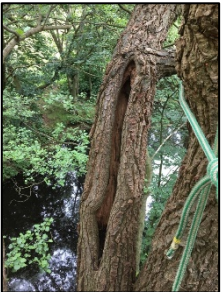


Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T81	Alder	Semi mature alder. Trunk cavity on the south aspect at 4m. Feature is open and exposed to the elements and therefore has low roosting potential.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T82	Sycamore	<p>Semi mature sycamore with following features:</p> <p>Basal cavity extending up the tree from ground level on the north aspect.</p> <p>Extension of the basal cavity at 8m on the east aspect. Two cavities likely to attach.</p>	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Butt-rot cavity feature inspected. Unable to fully survey the tree as the main areas of the feature are being used as nests.</p> <p>Grading remained moderate.</p> <p>13/06/19 – 2st Aerial Survey</p> <p>Butt-rot cavity feature inspected.</p> <p>Grading remained moderate.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Butt-rot cavity feature inspected.</p> <p>Grading remained moderate.</p>	
T83	Sycamore	<p>Semi mature sycamore. Callus roll at 5m on the north aspect that requires endoscope survey.</p> <p>Second callous roll at 6 m on the north aspect that requires further inspection.</p> <p>Third callus roll at 5.5m on the north east aspect. Would require thorough survey to advise on presence/absence.</p>	None	Low		<p>20/05/19 – 1st Aerial Survey</p> <p>The three callus roll features were inspected.</p> <p>Grading changed from moderate to low.</p>	









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T84	Beech	Mature beech. Knot hole at 8m on the south aspect.	None	Negligible		<p>20/05/19 – 1st Aerial Survey</p> <p>Trunk cavity feature inspected.</p> <p>Grading changed from moderate to negligible.</p>	
T85	English Oak	Mature oak, unsuitable for climbing due to basal cavity damage. Wound on the north east aspect of the tree that has rotted out. Wound has likely extended up the stem providing cracks in the bark.	None	Moderate		<p>26/06/19 – Dawn re-entry bat survey</p> <p>Two myotis passes and one common pipistrelle pass. No re-entries.</p> <p>23/07/19 – Dusk emergence survey</p> <p>Noctule and common pipistrelle passes no emergence during the survey</p>	
T86	English Oak	Young oak. Tear out on the north aspect at 8m requiring endoscope survey.	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Feature inspected fully, remaining moderate potential. No evidence.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Feature remains moderate, no evidence observed.</p>	







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T87	English Oak	Young oak. Trunk cavity on the south aspect extending from ground level up to 10m. Potential tuck ups for single bats.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T88	English Oak	Semi mature oak. Unsafe to climb due to potential structure weakness. Desiccation fissures from ground level to 7m.	None	Low		Tree not climbed due to low bat roosting potential.	
T89	Sycamore	Young sycamore. Trunk split on the north west aspect at 1m. Endoscope survey required for potential cavities.	None	Low		Tree not climbed due to low bat roosting potential.	N/A







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T90	English Oak	<p>Mature oak. Trunk cavity on the south west aspect at 4m, low potential feature but potential for tuck ups.</p> <p>Woodpecker hole on the north east aspect at 8m. Endoscope survey required to confirm presence/absence.</p>	None	Moderate		<p>20/05/19 – 1st Aerial Survey</p> <p>Tear out confirmed as low potential feature, no evidence seen. Woodpecker hole inspected with no evidence, remains moderate potential.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence and remains moderate suitability.</p>	
T91	Sycamore	Semi mature sycamore. Knot hole on the north aspect at 8m.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T92	English Oak	Young oak. Tuck up on the south east aspect at 10m. Low potential for roosting.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T93	Sycamore	Semi mature sycamore. Cavity at 12m on the north west aspect. Cavity appears to extend in. Endoscope survey required to confirm presence/absence.	None	Moderate		<p>22/05/19 – 1st Aerial Survey</p> <p>Feature extends inward, investigated with no evidence seen. Woodlice competitors, remains moderate potential.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Features resurveyed and remains moderate potential</p>	



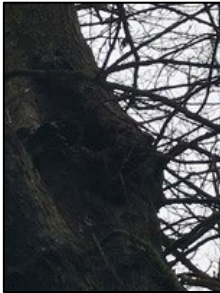
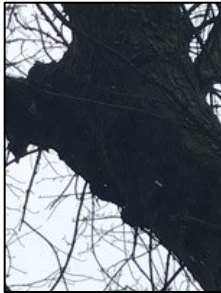
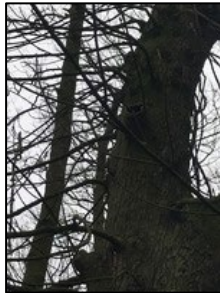





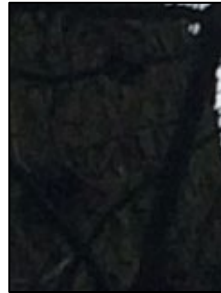

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T94	Deadwood	Semi mature dead wood tree, unsuitable for climbing due to potential structure weakness. Three woodpecker foraging holes in stem on the south aspect at 6m.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T95	Sycamore	Semi mature sycamore. Knot hole on the east aspect at 10m. Knot hole appears to extend in, further survey required to confirm presence/absence.	None	Moderate		<p>22/05/19 – 1st Aerial Survey</p> <p>Feature contains an active birds nest, remains moderate potential.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Nest appears to not be present anymore, remains moderate potential.</p>	
T96	English Oak	Semi mature oak. Woodpecker hole in transverse snap at 7m on the east aspect.	None	Low		<p>22/05/19 – 1st Aerial Survey</p> <p>Feature has rotted through from the rear so downgraded to low potential due to exposure.</p>	
T97	Sycamore	Semi mature sycamore. Woodpecker hole at 10m on the eastern aspect. Feature potentially extends in and requires further survey to confirm presence/absence.	None	Negligible		<p>24/05/19 – 1st Aerial Survey</p> <p>Feature does not extend inward, negligible potential.</p>	














Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T98	English Oak	Mature oak. Tear out on the western aspect at 4m. Knot hole on the western aspect at 5m. Second knot hole on the western aspect at 10m.	None	High	 	<p>22/05/19 – 1st Aerial Survey</p> <p>Upgraded to high potential due to number of and size of features present. All fully investigated with no bats present.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>As previous survey, no evidence present.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>As previous surveys, no evidence present</p>	       
T99	Sycamore	Semi mature sycamore. Branch cavity at 10m on the south west aspect with potential room for a single bat.	None	Low		<p>22/05/19 – 1st Aerial Survey</p> <p>Feature is very open and therefore exposed. Unlikely to be used so downgraded to low potential.</p>	







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T100	Sycamore	Young sycamore. Callus roll on the south west aspect at 3m. Feature is potentially too exposed for bats but will require endoscope survey to confirm presence/absence.	None	Low		<p>22/05/19 – 1st Aerial Survey</p> <p>Feature is very open therefore unlikely to be used. Downgraded to low potential.</p>	
T101	Sycamore	Semi mature sycamore. Trunk cavity on the north east aspect at 4m. Feature is exposed to the elements but possibility for use by single bats.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T102	English Oak	Mature oak. Tear out present on the north east aspect at 9m. Second tear out on the north east aspect at 4m.	None	Low	 	<p>22/05/19 – 1st Aerial Survey</p> <p>Both features exposed with little shelter, therefore downgraded to low potential.</p>	 
T103	Alder	Young alder. Trunk cavity on the north aspect extending from 1m to 5m in height. Potential roosting feature for single bats.	None	Low		Tree not climbed due to low bat roosting potential.	N/A







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T104	Alder	Young alder. Trunk cavity on the west aspect extending from 1m to 6m in height. Potential roosting feature for single bats.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T105	Alder	Young alder with a hazard stem that goes from 0m-8m high on the western aspect	None	Moderate		<p>22/05/19 – 1st Aerial Survey</p> <p>Entire tree forms chimney shaped feature with some suitability for roosting bats. Unable to inspect fully due to birds nest. Moderate potential</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Nest still present in feature, remains moderate potential</p>	
T106	Sycamore	Semi mature sycamore. Tear out on the east aspect at 5m providing a number of small tuck ups in the stem.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T107	English Oak	Mature oak requires further surveys to establish presence/absence of features.	None	Low		<p>14/05/19 – 1st Aerial Survey</p> <p>Feature is sheltered but very small, downgraded to low potential.</p>	








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T108	English Oak	Semi mature oak. Small tuck up on the north east aspect at 12m.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T109	English Oak	Semi mature oak. Knot hole on the west aspect at 9m providing potential roosting factor.	None	Low		<p>23/05/19 – 1st Aerial Survey</p> <p>Feature extends upward with suitable shelter however many competitors.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Feature now very wet ththerefore currently unsuitable for roosting. Downgraded to low potential</p>	
T110	Sycamore	A tear out 5m high and east facing providing the potential roosting feature	None	Negligible		<p>23/05/19 – 1st Aerial Survey</p> <p>Feature does not extend therefore downgraded to negligible potential.</p>	
T111	English Oak	Tear out on the southern aspect. Approximately 9m high. A woodpecker hole was also present on the western aspect approximately 8m high.		Moderate		<p>24/06/19 – Dusk emergence survey</p> <p>Three noctule passes and two soprano pipistrelle commuting records. No emergence records.</p> <p>23/07/19 – Dawn re-entry bat survey</p> <p>Two common pipistrelle passes recorded no re entry during the survey.</p>	N/A





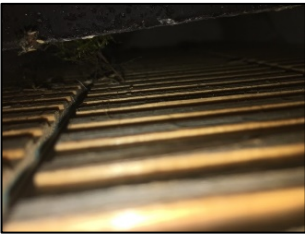



Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T112	English Oak	Three features on the four provide suitable roosting features. A knot hole is located 2.5m high facing south is of low potential due to the size of the feature. The second feature is a rotted out flush cut that is moderate potential and the third feature is a wound with access into the tree located 5m high facing east and finally a knot hole is present 7m high facing south east and has possible access into the stem	None	Moderate	    	<p>23/05/19 – 1st Aerial Survey</p> <p>All features downgraded to low or negligible potential except trunk cavity at 5m E due to exposure and moisture within features.</p> <p>19/06/19 – 2nd Aerial Survey</p> <p>Features remain unchanged however trunk cavity is wetter than previous survey so possible water ingress nearby. Remains moderate potential however.</p>	   
T113	English Oak	The feature is a large woodpecker hole on the western aspect, approximately 6m high.	None	Moderate	 	<p>23/05/19 – 1st Aerial Survey</p> <p>Feature is heavily cobwebbed with slug competitors, remains moderate potential. Likely not used but still suitable. Inspected fully with no evidence.</p> <p>19/06/19 – 2nd Aerial Survey</p> <p>Remains moderate potential. No evidence present.</p>	



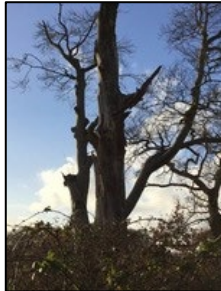





Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T114	English Oak	A knot hole 10m high on the northern aspect, further inspection needed.	None	Moderate	 	<p>23/05/19 – 1st Aerial Survey</p> <p>Moderate potential feature, fully inspected with no evidence seen.</p> <p>19/06/19 – 2nd Aerial Survey</p> <p>Feature re-inspected with no evidence, remains moderate potential.</p>	 
T115	English Oak	A tear out from the stem of a significant branch on the eastern aspect, 10m high	Two soprano pipistrelle recorded emerging from the feature at 21:48	Confirmed	 	<p>24/06/19 – Dusk emergence survey</p> <p>Two Soprano pipistrelle recorded emerging from the feature at 21:48. Additional records included commuting noctule and common pipistrelle</p> <p>16/07/19 – Dawn re-entry bat survey</p> <p>Records of common pipistrelle commuting along the woodland edge. No re entry records</p>	
T116	English Oak	A knot hole on the northern aspect, 7,5m high. The tree is snapped at the main trunk and therefore unsafe for climbing surveys.	None	Low	 	Tree not climbed due to low bat roosting potential.	N/A
T117	English Oak	Two knot holes on the northern aspect of the tree approximately 9.5m high	None	Moderate	 	<p>24/05/19 – 1st Aerial Survey</p> <p>Active birds nest in lower feature, remains moderate potential. Upper feature downgraded to low potential.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Fully inspected on return visit with no evidence seen. Tree remains moderate potential.</p>	 



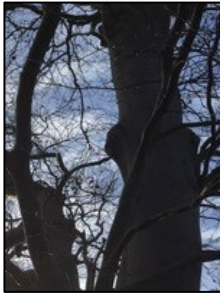








Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T118	English Oak	The first feature is a large woodpecker hole on the western aspect, 9m high. The second feature is another woodpecker hole on the eastern aspect, 7m high. Possible structural weakness makes the tree unsafe to climb.	None	Moderate	  	<p>24/06/19 – Dusk emergence survey</p> <p>Commuting soprano pipistrelle and noctule observed. No records of emerging bats identified</p> <p>16/07/19 – Dawn re-entry bat survey</p> <p>Records of common pipistrelle commuting along the woodland edge. No re entry records</p>	N/A
T119	Sycamore	The first feature is a knot hole on the eastern aspect at 1.5m high, the second feature is another knot hole at 4m high on the south eastern aspect.	None	Low	  	Tree not climbed due to low bat roosting potential.	N/A







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T120	Sycamore	The feature is a trunk cavity that extends up into the tree on the northern aspect, the feature was examined from the ground.	None	High	<div></div>	<p>22/05/19 – 1st Aerial Survey</p> <p>Feature extends upward from butt rot cavity in trunk of tree, suitable habitat for a number of bats. Good shelter, high roosting potential. No evidence present.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence. Remains high potential</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Remains high potential as per previous surveys, no evidence present.</p>	
T121	Sycamore	A woodpecker hole on the southern aspect. 3m high	None	Low	<div></div>	Tree not climbed due to low bat roosting potential.	N/A









Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T122	English Oak	The first feature is a knot hole with access to the heart wood on the north west aspect, 8m high. The second feature is basal trunk cavity on the western aspect.	None	High	<div></div>	Feature outside the survey area	N/A
T123	Sycamore	A trunk cavity that extends u p into the tree, however not able to determine how large the cavity is.	None	Moderate	<div></div>	Feature outside the survey area	N/A
T124	Beech	Bird box located on the north aspect at 5m high.	None	Low	<div></div>	<p>13/05/19 – 1st Aerial Survey</p> <p>Feature is a Pied flycatcher box, inspected with no evidence and downgraded to low roosting potential.</p>	



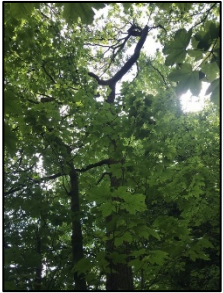



Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T125	English Oak	Three bat boxes located on the south western aspect of the tree, 7m high.	None	High	 	<p>13/05/19 – 1st Aerial Survey</p> <p>Features comprise three bat boxes, each inspected with no evidence present. Remains high potential.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Features reinspected with no evidence, remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Features reinspected with no evidence, remains high potential.</p>	  
T126	English Oak	Bat box located on the southern aspect off the tree 5m high	None	High	 	<p>13/05/19 – 1st Aerial Survey</p> <p>Bat box inspected with no evidence. Remains high potential.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Bat box inspected with no evidence. Remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Bat box inspected with no evidence. Remains high potential.</p>	

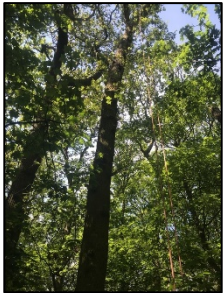




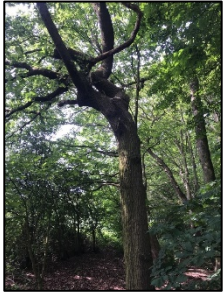



Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T127	Alder/Beech	Two trees located in an area of scrub that have high potential with features including woodpecker holes 6m northwest, deadwood and rot holes 7m east and 8m north east. Climbing of these trees are unsafe due to deadwood.	None	Low	  	<p>15/05/19 – 1st Aerial Survey</p> <p>Standing deadwood therefore not climbed, downgraded to low potential upon closer inspection due to greater access to tree than previous inspection.</p>	
T128	Beech	A basal cavity on the north west aspect of the tree at 2m high that leads high into the stem with a complex structure.		Moderate	  	<p>15/05/19 – 1st Aerial Survey</p> <p>Feature forms large tube with smaller, flatter cavity beneath, both have good shelter, however low to the ground. Moderate roosting potential. Endoscoped with no evidence</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence. Remains moderate potential</p>	







Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T130	Beech	Several knot holes on east and south eastern elevation of the tree between 3 and 5m high.	None	Moderate	  	<p>15/05/19 – 1st Aerial Survey</p> <p>All knot holes surveyed during the survey and downgraded. Cavities identified at 6m near damaged crown providing moderate suitability for roosting bats.</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence. Remains moderate potential</p>	 
T131	English Oak	A weld that is on the southern aspect of the tree, that has the potential to provide suitability for a number of bats	None	Low	 	<p>15/05/19 – 1st Aerial Survey</p> <p>Tree downgraded to low roosting potential due to size of feature. No evidence present.</p>	
T132	Beech	Three bat boxes grouped together on the southern aspect of the tree at 6m high.	None	High	 	<p>13/05/19 – 1st Aerial Survey</p> <p>Active birds nest in each box. High roosting potential.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence present. Remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Re-inspected with no evidence present. Remains high potential.</p>	


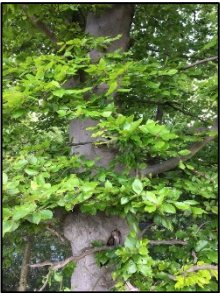






Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T133	Beech	A bird box located 3m high on the northern aspect of the tree	None	Low		<p>15/05/19 – 1st Aerial Survey</p> <p>Survey allowed closer inspection and identified the feature as an open bird box.</p>	
T134	Beech	A maternity bat box located at 7m high on the western aspect	None	High		<p>15/05/19 – 1st Aerial Survey</p> <p>Feature contains active birds nest, remains high roosting potential.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Nest no longer present but box still full of nesting material, no bat evidence.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Reinspected with no evidence, remains high potential.</p>	
T135	English Oak	A hazard stem that would require additional surveys to advise on suitability.	None	Low		<p>13/05/19 – 1st Aerial Survey</p> <p>Feature downgraded to low potential due to exposure and light levels within feature. Feature is suitable however for individuals/emergency use.</p>	





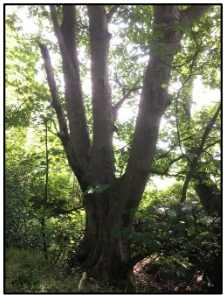

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T136	Alder	A large stem cavity that may provide suitability for a number of bats	None	Moderate		<p>13/05/19 – 1st Aerial Survey</p> <p>Inspected with no evidence seen, feature comprises two cavities, upper is wedge-shaped and sheltered with lower more exposed. Moderate roosting potential.</p> <p>11/06/19 – 2nd Aerial Survey</p> <p>Re-inspected with no evidence seen, remains moderate potential.</p>	
T137		A large tear out from the leader that provides possible suitable habitats for a large number of bats or large bats.	None	High		<p>13/05/19 – 1st Aerial Survey</p> <p>Large cavity from trunk into limb. Provides suitability for a number of bats. Currently has a nest with chicks. Remains high potential but no evidence seen.</p> <p>26/06/19 – 2nd Aerial Survey</p> <p>Feature same as previous survey other than nest at end, remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Remains high potential upon re-inspection, no evidence present.</p>	
T138	English Oak	The first feature is a tear out that has the potential to extend in, and the second feature is a knot hole that has the potential to extend in.	None	Moderate	 	<p>26/06/19 – 1st Aerial Survey</p> <p>Knot hole remains moderate potential, inspected fully with no evidence seen. Tear out is non-extending feature.</p> <p>15/07/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	 



Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T139	Deadwood	Deadwood with loose bark and dead limbs on the north west aspect/	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T140	English Oak	Deadwood with the potential for a cavity that extends into the tree	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T141	English Oak	Mature oak with large callus roll on the north aspect at 10m.	None	Moderate		<p>23/05/19 – 1st Aerial Survey</p> <p>Callus roll remains moderate potential, inspected fully with no evidence seen. Feature remains moderate suitability.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T142	English Oak	Two branch cavities at 7 and 10 m both facing east. The 7m feature provides moderate suitability and the 10m feature provides high suitability.	None	High		<p>23/05/19 – 1st Aerial Survey</p> <p>Both features confirmed as providing suitability for roosting bats and therefore is still considered high.</p> <p>19/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p>	

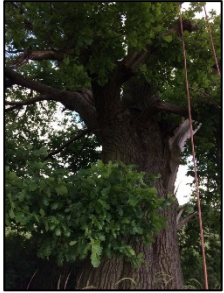



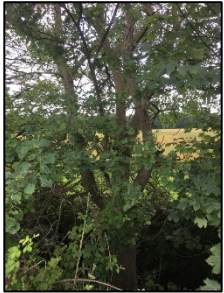
Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T143	English Oak	Large woodpecker holes within the stem of the tree in several areas providing suitable roosting features	None	Moderate		<p>24/06/19 – Dusk emergence survey</p> <p>No emergences. Six records of commuting coctule and two records of soprano pipistrelle recorded.</p> <p>15/07/19 – Dawn re-entry bat survey</p> <p>No re entry records. Records of common pipistrelle commuting along the woodland edge.</p>	N/A
T144	English Oak	Large woodpecker holes within the stem of the tree in several areas providing suitable roosting features	None	Moderate		<p>25/06/19 – Dusk emergence survey</p> <p>No emergences. Records of noctule and common pipistrelle recorded commuting during the survey.</p> <p>22/08/19 – Dawn re-entry bat survey</p> <p>No re-entries. Records of common pipistrelle, noctule, and soprano pipistrelle commuting.</p>	
T145	English Oak	Large woodpecker holes within the stem of the tree in several areas providing suitable roosting features.	None	Moderate		<p>25/06/19 – Dusk emergence survey</p> <p>No records of emergence. Records of noctule and common pipistrelle recorded commuting during the survey.</p> <p>22/08/19 – Dawn re-entry bat survey</p> <p>No re-entries. Records of common pipistrelle, myotis and soprano pipistrelle commuting.</p>	
T146	English Oak	A branch cavity located on the tree with two entrance points into a tube which allows a lot of light exposure during the day and provides suitable roosting features.	None	Moderate		<p>23/05/19 – 1st Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T147	English Oak	A branch cavity was located on the north of the tree at 3m height and provides suitable roosting features.	None	Moderate		<p>22/05/19 – 1st Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T148	Common Ash	A trunk cavity was located on the north of the tree at 4m height and provides suitable roosting features.	None	Low		Tree not climbed due to low bat roosting potential.	N/A
T149	Horse Chestnut	A woodpecker hole and a callus roll were located up the tree with the feature extending up and down the tree. These provide suitable roosting features.	None	Moderate		<p>22/05/19 – 1st Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p> <p>18/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T150	Horse Chestnut	Trunk cavity which extends into the stem and widens to a large chamber providing suitability for roosting bats.	None	High		<p>22/05/19 – 1st Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p> <p>15/07/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p>	
T151	Common Alder	Knot holes in the crown of the tree providing possible suitability for roosting bats	None	Low		Feature downgraded from moderate to low.	N/A

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T152	Common Beech	Three knot holes in the stem providing possible suitability for roosting bats	None	Low		Feature downgraded from moderate to low.	
T153	English Oak	Large Crown split with possible suitability for roosting bats at 6m on the north aspect	None	Low		Feature downgraded from moderate to low.	
T154	Crack Willow	Large basal cavity on the southern aspect that extends 45cm into the stem.	None	High		<p>20/05/19 – 1st Aerial Survey</p> <p>Feature confirmed as high suitability for roosting bats</p> <p>13/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p>	
T155	Common Ash	Large trunk cavity at 1.5m with some suitability for roosting bats	None	Low		Feature downgraded from moderate to low	

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T156	Common Beech	Large basal cavity extending approximately 35cm into the stem in the tree from a wound caused by barbed wire on the stem. The cavity is dry and provides high suitability for roosting bats	None	High		<p>15/05/19 – 1st Aerial Survey</p> <p>Feature endoscoped and confirmed to provide high suitability for roosting bats.</p> <p>26/06/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p> <p>15/07/19 – 3rd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains high potential.</p>	
T157	Common Ash	Trunk cavity on the northern aspect. Aspect of feature may reduce exposure	None	Moderate		<p>12/07/19 – 1st Aerial Survey</p> <p>Feature endoscoped and confirmed to provide moderate suitability for roosting bats.</p> <p>05/08/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T158	Sycamore	Dead branch on northern aspect as well as split at 4m providing suitability	None	Moderate		<p>12/07/19 – 1st Aerial Survey</p> <p>Feature endoscoped and confirmed to provide moderate suitability for roosting bats.</p> <p>05/08/19 – 2nd Aerial Survey</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T159	English Oak	Some evidence of dead branches near crown although no cavities observed.	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A
T160	Dead Wood	A snag on the woodland edge. Some small rot holes near the trunk terminal, although unlikely to lead to a sizeable feature.	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A

Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T161	English Oak	Mature oak 1 foraging woodpecker hole on the trunk 15m north	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A
T162	Common Lime	Large amount of epicormic growth may conceal small limited features	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A
T163	Common Ash	Some cracks on flush cut 10m on north aspect Knot hole 9m south east. Unlikely to lead into the stem.	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A
T164	Common Ash	Rotten branch 2m south east aspect.	None	Low	No photograph currently available	Tree not climbed due to low bat roosting potential.	N/A
T165	Sycamore	Rotten trunk with central cavity	None	Moderate	No photograph currently available	26/07/19 –Dawn re-entry bat survey Records of noctule and common pipistrelle recorded commuting through the survey with records of two soprano pipistrelle commuting. No records of re-entry 13/08/19 – Dusk emergence survey Records noctule, common pipistrelle and soprano pipistrelle primarily foraging along the boundary. No records of emergence.	N/A
T166	Crack Willow	Delamination within hazard beam. Multiple splits and cracks in crown.	None	Moderate		26/07/19 –Dawn re-entry bat survey Records of noctule and common pipistrelle recorded commuting through the survey with records of two soprano pipistrelle commuting. No records of re-entry 13/08/19 – Dusk emergence survey Records noctule, common pipistrelle and soprano pipistrelle primarily foraging along the boundary. No records of emergence.	










Tree Ref	Species	Potential Roosting Features (PRFs)	Evidence	Grading	Photographs	Survey Results	Feature Photograph
T167	English Oak	Two trunk cavities as well as a branch cavity providing moderate suitability for roosting bats	None	Moderate		<p>18/06/19 – 1st Aerial</p> <p>Majority of features within the tree provide low suitability apart from one moderate suitability trunk cavity 5m up the east aspect. The feature extends 20 cm into the stem providing suitability for several bats. No evidence of bats recorded.</p> <p>15/08/19 – 2nd Aerial</p> <p>Features remain as per previous surveys, no evidence seen, remains moderate potential.</p>	
T168	English Oak	Trunk cavity through the trunk with limited tuck ups	None	Low		Tree not climbed due to low bat roosting potential.	
T169	Aspen	Mature tree with cavities but deemed negligible	None	Negligible		Tree not climbed due to negligible bat roosting potential.	N/A

4.3 BAT TRANSECT SURVEY RESULTS

Figure 5
Route 1 Transect
May 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle
-  Noctule
-  Myotis Species



Drawing No.: 16903-01BT_A

Revision Dates			
A	B	C	D
06/12/19			

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









Drawings are diagrammatic and not to scale. Refer to site visit drawings for exact measurements

Figure 6
Route 2 Transect
May 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle
-  Noctule
-  Myotis Species



Drawing No.: 16903-06BT_A

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Figure 7
Route 1 Transect
June 2019

Omega Zone 8, St Helens

Legend

- Development Boundary
- Route 1
- Start/Finish
- Point count
- Flight Direction
- Common Pipistrelle
- Soprano Pipistrelle
- Noctule
- Myotis Species



Drawing No.: 16903-02BT_A

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Figure 8
Route 2 Transect
June 2019

Omega Zone 8, St Helens

Legend

- Development Boundary
- Route 1
- Start/Finish
- Point count
- Flight Direction
- Common Pipistrelle
- Soprano Pipistrelle
- Noctule



Drawing No.: 16903-07BT_A

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








Drawings are diagrammatic and not to scale. Refer to on-site drawings for exact measurements

Figure 9
Route 1 Transect
July 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle
-  Noctule



Drawing No.: 16903-03BT_A

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


Figure 10

Route 2 Transect

July 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle



Drawing No.: 16903-08BT_A

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Drawings are diagrammatic and not to scale. Refer to field drawings for exact measurements

Figure 11
Route 1 Transect
August 2019

Omega Zone 8, St Helens

Legend

- Development Boundary
- Route 1
- Start/Finish
- Point count
- Flight Direction
- Common Pipistrelle
- Soprano Pipistrelle
- Noctule



Drawing No.: 16903-04BT_A

Revision Dates			
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





Drawings are diagrammatic and not to scale. Refer to sketch drawings for exact measurements

Figure 12
Route 2 Transect
August 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle
-  Noctule



Drawing No.: 16903-09BT_A

Revision Dates

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








Drawings are diagrammatic and not to scale. Refer to ground drawings for exact measurements

Figure 13
Route 1 Transect
October 2019

Omega Zone 8, St Helens

Legend

-  Development Boundary
-  Route 1
-  Start/Finish
-  Point count
-  Flight Direction
-  Common Pipistrelle
-  Soprano Pipistrelle
-  Noctule



Drawing No.: 16903-05BT_A

Revision Dates

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Figure 14

Route 2 Transect

October 2019

Omega Zone 8, St Helens

Legend

- Development Boundary
- Route 1
- Start/Finish
- Point count
- Flight Direction
- Common Pipistrelle
- Soprano Pipistrelle



Drawing No.: 16903-10BT_A

Revision Dates			
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