Brandhall Urban Village

Bat Survey Report

Sandwell Metropolitan Borough Council

Project number: 60653817

February 2022

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Quality information

Prepared by	Checked by	Verified by	Approved by
SC	SW	MO	LW

Revision History

Revision	Revision date	Details	Authorized	Name	Position
A	7 February 2022	Including hibernation survey findings			

Distribution List

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1. Introduction

Background

1.1 This Bat Survey Report has been prepared by AECOM on behalf of Sandwell Metropolitan Borough Council (SMBC). The reports presents the results of surveys undertaken primarily to determine the presence of bat roosts which might be impacted by developing a new urban village (hereafter referred to as the Scheme) on the site of the former Brandhall Golf Course in Oldbury, West Midlands. All land situated within the red line boundary of the Scheme is hereafter referred to as the Site.

1.2 The Preliminary Ecological Appraisal Report (PEAR) (AECOM, 2021[1]) undertaken to support the Scheme describes the bat roost suitability of 29 trees that were subject to ground level and climbing inspections which were undertaken during April 2021 (AECOM, 2021). Bat emergence/re-entry surveys were carried out of 14 trees with high (four) and moderate (10) roost potential to help determine if they support bat roosts and assess whether those trees are a constraint to the Scheme. Bat activity survey visits were also undertaken because foraging habitat (belts of broadleaved woodland and two minor watercourses) of moderate suitability is present within the Site. All trees with high and moderate roost potential were also subject to a hibernation inspection survey during January 2022. Relevant bat legislation and policy is summarised in Appendix A.

1.3 This Bat Survey Report is intended to inform the Scheme design and site layout. The survey data presented in this report will be used to inform potential impacts and likely mitigation measures required for bats, which will be described in detail in an Environmental Impact Assessment in connection with the planning application for the development of the Scheme.

1.4 The tree codes mentioned in this report and figures include a reference in brackets to the AECOM tree survey report e.g. T1(T526*).

The Site

1.5 The Site is located to the south of Heron Road in Oldbury at Ordnance Survey national grid reference SO992862 and is approximately 36ha in size. The Site is shown below in Plate 1.

Plate 1: Site Boundary

[1] AECOM (2021). *Brandhall Urban Village, Preliminary Ecological Appraisal Report*. AECOM Ltd, Birmingham.

1.6 The Site is a former golf course and mainly comprises amenity grassland, belts of broadleaved woodland with some mature trees and three pools that contain wetland plants. Two minor watercourses are present within the Site which join and drain off-site to the north. The Site is bounded by the M5 motorway to the west and residential housing on the other sides, which are associated with the local urban conurbation.

The Scheme

1.7 The Scheme proposes the development of an urban village including public open space at the Site, which might comprise approximately 550 residential units, care home facility, a few shops and possibly a school. This would necessitate some woodland removal to accommodate the urban village. Where necessary, mitigation measures to reduce impact to important ecological features will be implemented as well as embedded biodiversity enhancements as part of the Scheme. The planning application is expected to be submitted during late-2021.

Scope of the Assessment

1.8 The purpose of the bat surveys, detailed in this Bat Survey Report are to:

- determine the presence of roosts at the Site;
- determine the key routes that are used for commuting/foraging across the Site;
- appraise the foraging value of the Site; and,
- make high level recommendations for mitigation.

2. Methodology

Bat Emergence/Re-entry Surveys

2.1 Trees with high or moderate bat suitability respectively require three and two separate surveys visits to help determine roost presence (Collins, 2016[2]). For high suitability trees this involves at least one dusk emergence and a separate dawn re-entry survey, the third visit can be either a dusk or a dawn. Surveys are required between May to September with at least two of the surveys between May and August. For moderate suitability trees this involves one dusk emergence and a separate dawn re-entry survey. Surveys are required between May to September with at least one of the surveys between May and August 2021. All surveys were undertaken during favourable weather conditions.

2.2 A surveyor was positioned next to each tree in such a way that all suitable Potential Roost Features (PRFs) to support roosting bat species were adequately covered; the surveys either commenced 15 minutes before sunset and continued until 1.5 to 2 hours after sunset or 1.5 to 2 hours before sunrise and finished 15 minutes after sunrise.

2.3 During the dusk and dawn survey periods the surveyors observed potential access/egress points. Surveyors used bat echolocation detectors (Elekon Batlogger M and Echo Meter Touch 2) to detect bats and assist in species identification. Infra-red cameras were also used, to provide supplementary information and more accurate footage of any roosting locations. The time, location, number, species (where possible) and direction of flight were recorded for each bat pass (discrete burst of echolocation heard, or bat activity observed) encountered during the survey.

Bat Activity Surveys

2.4 The Site has moderate habitat suitability for commuting and foraging due to the woodland belts and ponds and their connectivity to woodland and houses that surround the Site (Collins, 2016). The Bat Conservation Trust recommends that sites with moderate habitat suitability are subject to monthly transect surveys supported by static detectors to count bat passes. However, given the Site's location within an urban conurbation and the low diversity of bat species recorded nearby it was decided that transect survey visits were appropriate to observe the key commuting and foraging routes across the Site when there is peak activity between May and August 2021. All surveys were undertaken during favourable weather conditions.

2.5 Each activity survey involved two surveyors walking a pre-determined transect route which included 10 spot counts at potentially important features for bats. At each spot count location, the surveyors remain stationary for 3 minutes and, using bat echolocation detectors, bat activity is noted as well as bat flight direction. Any additional activity encountered whilst walking between spot counts was also noted. The survey route was designed to include potential flight paths or foraging areas at the Site. The starting point and direction of the transect was varied during each survey visit in order to ensure different areas of the transect were walked close to dusk.

2.6 Surveyors used bat echolocation detectors (Elekon Batlogger M and Echo Meter Touch 2) to help determine the species present. Dusk surveys were carried out from sunset to at least 2 hours after sunset, and the dawn survey commenced 2 hours before sunrise. The time, location, number, species (where possible) and direction of flight were recorded for each bat pass (discrete burst of echolocation heard, or bat activity observed) encountered during the survey. Sound files were analysed using Analook W software, where possible down to species level following the call parameters (Russ, 2013[3]).

Site Commuting and Foraging Evaluation

2.7 The commuting and foraging data collected for each bat species group (depending on the level of identification possible from the recordings made) has been used to assess the site's importance using a geographical frame of reference. This assessment uses a range of variables such as species, number of bats, roosts/potential roosts nearby, and the type and complexity of the linear features to derive an overall

[2] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition*. Bat Conservation Trust, London.
[3] Russ, J. (2013). *British Bat Calls. A Guide to species Identification*. Pelagic Publishing, Exeter.

geographical value of the Site for each species in line with Wray *et al* (2010[4]) methodology and updated based on more recent guidance on population sizes and IUCN Red List Status (Matthews *et al*, 2018[5]).

Hibernation Survey

2.8 The trees with high or moderate bat roost potential were subject to tree climbing and ground level inspection survey on 29 January 2022. The survey was undertaken by two licensed surveyors using flexible endoscopes and torches.

Assumptions and Limitations

2.9 The absence of bats from any survey cannot be taken as conclusive proof that they are not present, as bat behaviour changes across the season, with bats moving between different roost sites and foraging areas with regularity.

[4] Wray, S. Wells, D, Long, E Mitchell-Jones, T (2010). *Valuing Bats in Ecological Impact Assessment*. CIEEM In Practice Issue 70 (December 2010), Winchester.
[5] Matthews *et al* (2018). *A review of the Population and Conservation Status of British Mammals*. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough. ISBN 978-1-78354-494-3.

3. Results

Bat Emergence/Re-entry Surveys

3.1 Dusk emergence and/or dawn re-entry surveys were undertaken on trees T1(T526*), T3(G510*), T8((T197), T9(T311), T11(G217), T12(G217), T13(T251), T14(G260), T15(T243), T17(T267), T18(T197), T19(T225), T21(T73) and T28(T83) which are shown on Figure 1. Details of the weather conditions and confirmed bat roosts are provided in Table 1.

Table 1. Emergence/re-entry survey results

Tree number and species	Roost suitability	Survey date and time	Weather Conditions	Roost presence
T1(T526*) Black Italian poplar (*Populus* x *canadensis* var. 'Serotina')	High	1 June 2021 Dusk	F1 NW breeze, cloudless, dry and 23 to 21˚C	Not confirmed
		22 June 2021 Dawn	F2 N wind, 75% cloud cover, dry and 13 to 11˚C	Not confirmed
		13 July 2021 Dusk	F1 NW breeze, 10% cloud cover, dry and 18 to 16˚C	Not confirmed
T3(G510*) Black Italian poplar	Moderate	1 June 2021 Dusk	F1 NW breeze, cloudless, dry and 23 to 21˚C	Not confirmed
		No second visit because tree had fallen to the ground	Not applicable	No longer suitable
T8((T197) Pedunculate oak (*Quercus robur*)	Moderate	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
T9(T311) Pedunculate oak	High	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
		6 July 2021 Dusk	Rain before survey. F1 S breeze, overcast, brief rain shower and 14 to 13˚C	Not confirmed
T11(G217) Black Italian poplar	Moderate	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
T12(G217) Pedunculate oak	Moderate	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
T13(T251) Pedunculate oak	High	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
		6 July 2021 Dusk	Rain before survey. F1 S breeze, overcast, brief rain shower and 14 to 13˚C	Not confirmed
T14(G260) Black Italian poplar	Moderate	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed

Tree number and species	Roost suitability	Survey date and time	Weather Conditions	Roost presence
T15(T243) Goat willow (*Salix caprea*)	Moderate	25 May 2021 Dusk	F2 NW wind, cloudless, dry and 13 to 11˚C	Not confirmed
		15 June 2021 Dawn	F1 NW breeze, cloudless, dry and 11 to 10˚C	Not confirmed
T17(T267) Black Italian poplar	Moderate	1 June 2021 Dusk	F1 NW breeze, cloudless, dry and 23 to 21˚C	Not confirmed
		22 June 2021 Dawn	F2 N wind, 75% cloud cover, dry and 13 to 11˚C	Not confirmed
T18(T197) Pedunculate oak	Moderate	1 June 2021 Dusk	F1 NW breeze, cloudless, dry and 23 to 21˚C	Common pipistrelle (*Pipistrellus pipistrellus*), day roost (4 individuals emerged)
		22 June 2021 Dawn	F2 N wind, 75% cloud cover, dry and 13 to 11˚C	No bat returned to roost
		13 July 2021 Dusk	F1 NW breeze, 10% cloud cover, dry and 18 to 16˚C	Not confirmed
T19(T225) Pedunculate oak	High	1 June 2021 Dusk	F1 NW breeze, cloudless, dry and 23 to 21˚C	Not confirmed
		22 June 2021 Dawn	F2 N wind, 75% cloud cover, dry and 13 to 11˚C	Not confirmed
		13 July 2021 Dusk	F1 NW breeze, 10% cloud cover, dry and 18 to 16˚C	Not confirmed
T21(T73) Sycamore (*Acer pseudoplatanus*)	Moderate	8 June 2021	F1 NW breeze with 10% cloud cover, dry and 21 to 19˚C	Not confirmed
		29 June 2021	F1 N breeze, overcast, dry and 14 to 13˚C	Not confirmed
T28(T83) Pedunculate oak	Moderate	8 June 2021	F1 NW breeze with 10% cloud cover, dry and 21 to 19˚C	Not confirmed
		29 June 2021	F1 N breeze, overcast, dry and 14 to 13˚C	Not confirmed

3.2 The confirmed bat roost location at the Site is shown on Figure 2.

Bat Activity Surveys

3.3 The transect survey route and key commuting and foraging habitats are shown on Figure 1. Details of the weather conditions and bat activity descriptions are provided in Table 2.

Table 2. Activity survey results

Survey date and time	Survey route	Weather conditions	Description of key foraging and commuting and foraging locations
25 May 2021 Dusk	Clockwise from spot count location 9	F2 NW wind, cloudless, dry and 13 to 11˚C	The first common pipistrelle was observed 14 minutes after sunset flying north-west from the residential area to the south-east of the Site. Much common pipistrelle foraging activity (involving <10 individuals in total) was concentrated over the southern pond (spot count location 1) and woodland edges (spot count locations 2, 4, 5 and 10) in the central and western parts of the Site. No bats were recorded from the eastern part of the Site.

Survey date and time	Survey route	Weather conditions	Description of key foraging and commuting and foraging locations
8 June 2021 Dusk	Anticlockwise from spot count location 6	F1 NW breeze with 10% cloud cover, dry and 21 to 19˚C	The first common pipistrelle was observed 11 minutes after sunset flying south over the northern watercourse from the residential area to north of the Site. Much common pipistrelle foraging activity (involving <10 individuals in total) was concentrated over the southern pond (spot count location 1) and woodland edges (spot count locations 2, 4, 5, 8, 9 and 10) in the central part of the Site. A single noctule (*Nyctalus noctula*) was detected once but not seen over the northern part of Site.
20 July 2021 Dusk	Clockwise from spot count location 9	F1 NE breeze, 10% cloud cover, dry and 24 to 22˚C	The first common pipistrelle was observed 19 minutes after sunset flying north-west from the residential area to the south-east of the Site. Much common pipistrelle foraging activity (involving <10 individuals in total) was concentrated over the southern pond (spot count location 1) and woodland edges (spot count locations 2, 4, 5 and 10) in the central and western parts of the Site. No bats were recorded from the eastern or southern parts of the Site.
19 August 2021 Dusk	Anticlockwise from spot count location 6	Rain before survey. F1SW breeze, overcast, humid and 17 to 15˚C	The first common pipistrelle was observed 14 minutes after sunset flying south over the northern watercourse from the residential area to north of the Site. Much common pipistrelle foraging activity (involving <10 individuals in total) was concentrated over the southern pond (spot count location 1) and woodland edges (spot count locations 2, 4, 5, 8 and 10) in the central part of the Site. A single noctule was detected once but not seen over the southern boundary of the Site.

3.4 The key commuting/foraging routes and foraging habitat at the Site is shown on Figure 2.

Site Commuting and Foraging Values for Bats

3.5 The commuting values for each bat species recorded at the Site was assessed and is summarised in Table 3.

Table 3. Site commuting values

Species	National Rarity	Number of bats	Site/nearby roost potential	Type and complexity of linear features	Total Score	Value
Common pipistrelle	Common (2)	Small number of bats (10)	Small number (3)	Well-grown and well-connected hedgerows, small field sizes (4)	19	Local/ parish
Noctule	Common (2)	Individual (5)	None (1)	Well-grown and well-connected hedgerows, small field sizes (4)	12	Local/ parish

3.6 The foraging values for each bat species recorded at the Site was assessed and is summarised in Table 4.

Table 4. Site foraging values

Species	National Rarity	Number of bats	Site/nearby roost potential	Foraging habitat characteristics	Total Score	Value
Common pipistrelle	Common (2)	Small number of bats (10)	Small number (3)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)	19	Local/ parish

Species	National Rarity	Number of bats	Site/nearby roost potential	Foraging habitat characteristics	Total Score	Value
Noctule	Common (2)	Individual (5)	None (1)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)	12	Local/ parish

Hibernation Survey

3.7 No hibernating bats were recorded in the tree with a confirmed a summer day roost or those with high or moderate roost suitability.

4. Discussion and Recommendations

4.1 A common pipistrelle day roost (from which four individuals emerged on the first survey visit but not subsequently) was recorded in tree T18(T197), which is of local/parish value. Four trees that were originally inspected during April 2021 are still considered to have high bat roost potential (T1[T526*], T9[T311], T13[T251] and T19[T225]). Eight trees that were originally inspected during April 2021 are still considered to have moderate bat roost potential (T8[T197], T11[G217], T12[G217], T14[G260], T15[T243], T17[T267], T21[T73] and T28[T83]). Tree T3(G510*) fell to the ground during windy weather which occurred after the first survey visit and this tree therefore no longer has bat roost potential. In addition to the confirmed roost in tree T18(T197) the other 12 trees with high or moderate were inspected and found not to support hibernating bats during January 2022.

4.2 It is recommended that the confirmed roost in tree T18(T197) and the remaining 12 trees with high and moderate bat roost potential are retained as part of the Scheme. If trees supporting bat roosts need to be removed as part of the Scheme, then it would be necessary to apply and obtain a European Protected Species Mitigation Licence from Natural England to ensure that the Scheme's legal obligations can be met. The loss of a roost would need to be compensated appropriately.

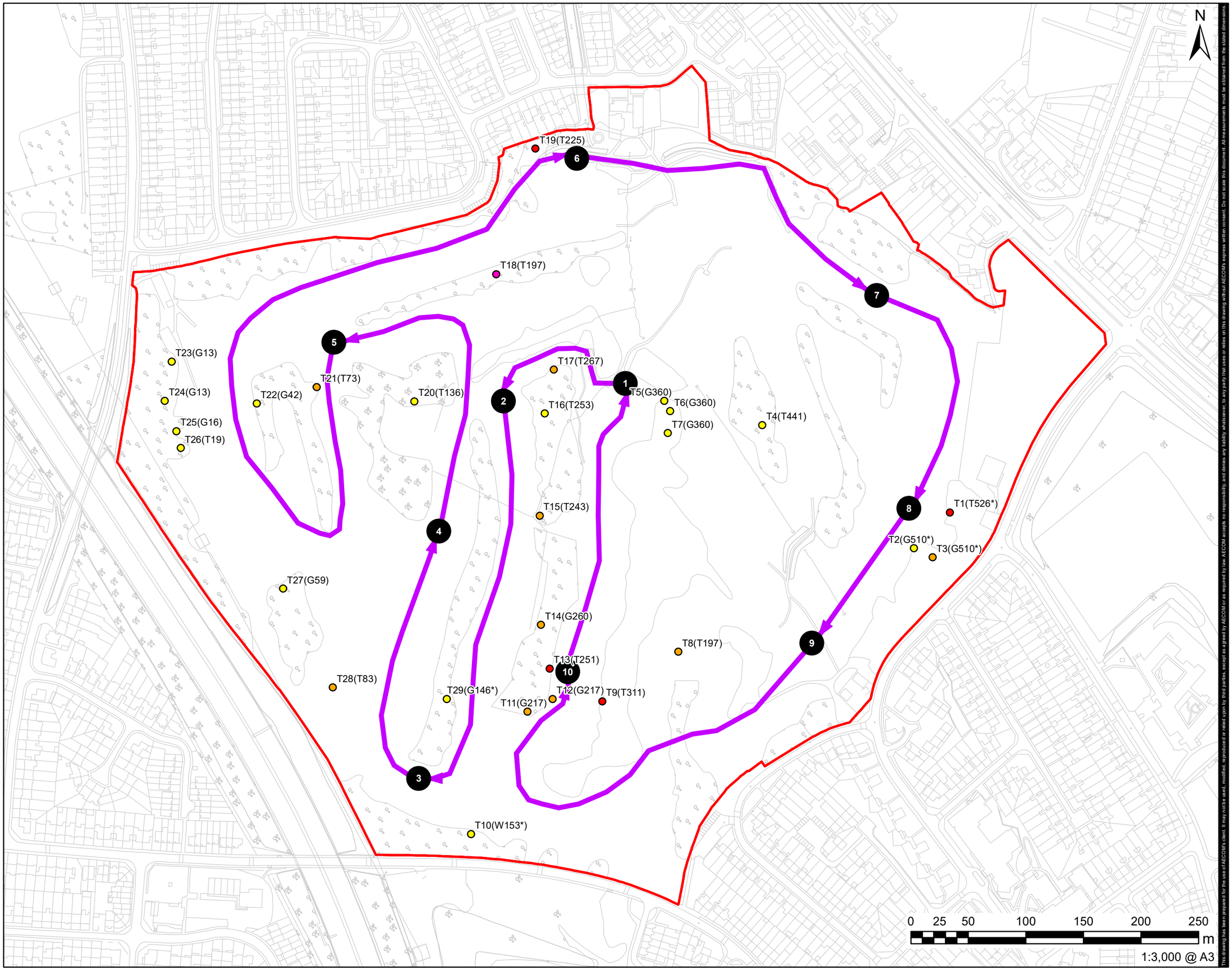
4.3 Common pipistrelles were observed flying to the Site from the north 11 minutes after sunset on 8 June 2021 and from the south-east 14 minutes after sunset on 25 May 2021. The timing of these observations soon after sunset suggests that common pipistrelle roosts are probably located within houses near the north and south-east sides of the Site. The key commuting routes are along the minor watercourse and edges of woodland belts across the central part of the Site. Much common pipistrelle foraging activity (involving <10 individuals in total on each survey visit) was concentrated over the watercourse and woodland edges in the central and western parts of the Site. Single passes of a noctule were detected over the Site on 8 June and 19 August 2021. The Site is assessed to be of local/parish value for commuting and foraging common pipistrelle and noctule.

4.4 It is recommended that as part of the Scheme the watercourses and woodland belts are protected to maintain the commuting routes across the Site from residential areas to the north and south-east. It is also recommended that retained woodland belts and watercourses are enhanced and ponds created to provide a better foraging resource for bats at the Site.

Figures

Figure 1. Bat survey location map

Revision: 01 Drawn: VC Checked: TG Approved: SC Date: 08/02/2022



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LEGEND

- Red Line Boundary
- Spot Count Location
- Bat Transect

Bat Roost Potential

- Confirmed
- High
- Moderate
- Low

NOTES

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SHEET TITLE

Bat Survey Location Map

SHEET NUMBER

Figure 01

Figure 2. Bat roosts, key commuting routes and foraging areas map

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LEGEND

- Red Line Boundary

Bat Roost Potential

- Confirmed
- High
- Moderate
- Low
- Common Pipistelle Commuting / Foraging Routes
- Noctule Presumed Commuting / Foraging Routes

Phase 1 Habitat

- Running water
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Broadleaved woodland - recently felled
- Swamp

NOTES

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SHEET TITLE

Bat Roosts, Key Commuting and Foraging Habitat Map

SHEET NUMBER

Figure 02

Appendix A Legislation and Policy

Bats are protected under Regulation 43 of the Conservation of Habitats and Species Regulations 2017 (as amended). This makes it an offence to deliberately capture, injure or kill a bat; deliberately disturb a bat; or damage or destroy a breeding site or resting place used by a bat.

Deliberate capture or killing is taken to include “accepting the possibility” of such capture or killing. Deliberate disturbance of bats includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) to hibernate or migrate; or b) to affect significantly the local distribution or abundance of bats.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

Bats are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.

A bat roost is defined as ‘any structure or place, which is used for shelter or protection’ or a ‘breeding site or resting place’. Since bats commonly use the same roosts at particular times of the year after periods of absence, the roost is protected whether or not bats are resident.

Seven of the UK bat species are listed as Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: namely, barbastelle (*Barbastella barbastellus*), Bechstein’s bat (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), greater horseshoe bat (*Rhinolophus ferrumequinum*) and lesser horseshoe bat (*Rhinolophus hipposideros*). In addition, a Species Action Plan for bats within the Nottinghamshire Local Biodiversity Action Plan has been prepared. This plan covers all bats known to occur within the county, including Daubenton’s bat (*Myotis daubentoni*), whiskered bat (*Myotis mystacinus*), Brandt’s bat (*Myotis brandtii*), Natterer’s bat (*Myotis natterri*), common pipistrelle (*Pipistrellus pipistrellus*), noctule, Leisler’s bat (*Nyctalus leisleri*), brown long-eared bat and serotine (*Eptesicus serotinus*).