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BAT SURVEY REPORT

Client

Avant Homes Yorkshire

Project

Thurnscoe Bridge Lane,

Thurnscoe

Date

November 2024

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TABLES

FIGURES

Rev	Issue Status	Prepared/Date	Approved/Date
-	Final	SJH/16.10.24	KJB / 18.10.24

1.0 INTRODUCTION

1.1 The following report has been prepared by FPCR Environment and Design Ltd. on behalf of Avant Homes Yorkshire and provides the results of a suite of bat surveys at a Site on land off Thurnscoe Bridge Lane, Thurnscoe (Ordnance Survey Grid Reference SE 45397 04894), herein referred to as the 'Site'.

1.2 The surveys included a preliminary assessment to determine the suitability of the Site for bats and subsequent surveys to determine the presence or absence and characterisation of any bat roosts and to determine the use of the Site for foraging and commuting bats.

Site Context

1.3 The Site is approximately 9.92ha and located on land off Thurnscoe Bridge Lane to the south of Thurnscoe and northwest of Goldthorpe, Barnsley. The Site is surrounded by residential development to the north and south, a railway line, industrial buildings and Phoenix Park to the east, and arable land to the west. Further afield, to the southwest, lies RSPB Deane Valley.

1.4 The Site consists predominantly of arable land with a large parcel of modified grassland in the west of the Site, whilst tall forbs, mixed scrub and modified grassland are present at the north and eastern Site boundaries, associated with hedgerows and trees.

Site Proposals

1.5 Proposals for the Site entail the construction of a residential development comprising 296 dwellings with associated gardens, car parking, access roads, footpaths, cycle paths and a Local Area of Play (LAP). Green infrastructure proposed includes the creation of a sustainable urban drainage systems (SuDS) and public open space (POS) which will comprise semi-natural habitats, native tree and hedgerow planting.

2.0 LEGISLATION

2.1 All bats and their roosts are afforded legal protection under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife & Countryside Act 1981 (as amended). The purpose of the legislation is to maintain and restore protected species to a situation where their populations are favourable.

2.2 Under Regulation 43 of the Conservation of Habitats and Species Regulations 2017 (as amended) it is an offence to deliberately capture, injure or kill; deliberately disturb (including intentionally or recklessly) all UK bat species. This includes disturbance which impairs their ability to: breed and rear young; migrate; and hibernate; or affects their local distribution and abundance.

2.3 Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to:

- Recklessly or intentionally kill, injure or take any wild animals included in Schedule 5;
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; and/or
- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

2.4 Foraging habitat and commuting routes used by bats are not protected as such but impacts that could prevent bats from using a resource or commuting to or from a valued roosting site may be considered as an indirect impact on a roost or a significant disturbance effect and would therefore also need to be avoided or prevented.

2.5 Several bat species are listed as species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006. These species are Barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros*, noctule *Nyctalus noctula* and soprano pipistrelle *Pipistrellus pygmaeus*.

2.6 Several bat species, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle, Nathusius' pipistrelle *Pipistrellus nathusii*, Daubenton's bat *Myotis daubentonii*, brown-long eared, Natterer's bat *Myotis nattereri*, noctule, whiskered bat *Myotis mystacinus*, Leisler's bat *Nyctalus leisleri* and Brandt's bat *Myotis brandti*, are considered local priority species according to the Barnsley Biodiversity Action Plan. Of this list, Leisler's bat is also listed under the IUCN Criteria as a 'Near Threatened' species in which it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

2.7 Bats are recognised in the National Planning Policy Framework (NPPF)[1] which advises that when determining planning applications, Local Planning Authorities should aim to conserve and enhance biodiversity by applying a set of principles including:

[1]Department for Communities and Local Government. (2019). National Planning Policy Framework. Available from: https://www.gov.uk/government/publications/national-planning-policy-framework--2

- *"If significant harm resulting from a development cannot be avoided……., adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."*

3.0 METHODOLOGY

Desk Study

3.1 A desk study was undertaken to collate existing information for the Site and its surroundings in relation to bat species. This included a review of:

- Biological records requested from Sheffield Biological Records Centre (SBRC) and Doncaster Local Records Centre (DLRC);
- Granted EPS licences for bats from https://magic.defra.gov.uk/magicmap.aspx
- Statutory designated sites that include bat species as part of their designation from https://magic.defra.gov.uk/magicmap.aspx; and
- Publicly available aerial imagery showing connectivity across the Site and to the wider landscape.

3.2 Bat records were searched for at a resolution of 2km around the Site and were limited to records from within the last 20 years.

3.3 Bat records are provided in Figure 1.

Roost Assessment

Trees

Preliminary Roost Assessment (ground level)

3.4 Preliminary Roost Assessments (PRA) were undertaken from ground level, with the aid of binoculars on 11th January 2024 by a suitably experienced ecologist from FPCR. Potential Roosting Features (PRFs) (based on p.16, British Standard 8596:2015 Surveying for bats in trees and woodland, October 2015) which were sought included:

- Natural holes (e.g. knot holes) arising from naturally shed branches or branches previously pruned back to a branch collar;
- Man-made holes (e.g. cavities that have developed from flush cuts or cavities created by branches tearing out from parent stems;
- Woodpecker holes;
- Cracks/splits in stems or branches (horizontal and vertical);
- Partially detached, loose or platy bark;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt rots;
- Compression of forks with occluded bark, forming potential cavities;
- Crossing stems or branches with suitable roosting space between;
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk); and

- Bat or bird boxes.

3.5 Certain factors such as orientation of the feature, its height from the ground, the direct surroundings, and its location in respect to other features may enhance or reduce the potential value.

3.6 Using professional judgement, the ground-based PRA assessment classified any trees identified based upon the presence of suitable features as set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Bat Conservation Trust (BCT), 4th Edition, 2023[2]) in which the general bat roost potential groups are defined (refer Table 4.2 of the guidelines) and provided in Table 1 below.

Table 1: Suitability of trees for bats

Suitability	Description
NONE	Either no potential roost features or highly unlikely to be any.
FAR	Further Assessment Required to establish if Potential Roost Features are present.
PRF	A tree with at least one Potential Roost Feature.

Aerial Inspection Surveys

3.7 Any trees that were categorised as Further Assessment Required (FAR) or Potential Roost Feature (PRF) were subject to further aerial inspection if they were considered to be impacted by the proposals. This survey included a detailed inspection of trees for the presence of further PRF's and also for the level of suitability provided by PRF's.

3.8 This assessment was led by a licensed bat ecologist (Natural England Class Licence Registration Number: 2022-10185-CLS18-BAT) and assisted by a suitably experienced ecologist on the 5th of April 2024, meeting the BCT competency requirements.

3.9 The survey involved accessing the tree using arborists tree climbing techniques (certified to Climb Trees (J/101/2449) and Perform Aerial Rescue (A/101/2450) – Level 2 (NPTC). The climbing methodology used follows that detailed within the Arboriculture and Forestry Advisory Group (AFAG) Tree Climbing Operations Leaflet (AFAG401) and included inspecting each PRF for suitability and evidence of current or past occupation by bats using endoscopes, mirrors, torches and cameras as necessary.

3.10 Each PRF was then categorised as outlined in Table 2.

[2] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Table 2: Bat Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey work / Actions
Negligible/ No potential	Negligible/no habitat features likely to be used by roosting bats	None.
PRF-I	A tree with one or more Potential Roosting Features that are suitable for only individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey is required but appropriate compensation must be provided in advance of impacts and a precautionary working method statement must be applied. [A]
PRF-M	A tree with PRF's which could support multiple bats and may therefore be used by a maternity colony. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Three aerial assessments[B] of PRF's by appropriately licensed/ accredited tree climbers to determine presence or likely absence of roosting bats. Surveys were undertaken between May and September (with at least two surveys between May and August and spread at least three weeks apart). [C] If roost sites are confirmed and the roost is affected by proposals, a licence from Natural England will likely be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary pre-felling survey or working method statement may still be appropriate.

[A] In circumstances where there are lots of trees grouped together with PRF-I then further surveys may still be appropriate.

[B] Nocturnal surveys using NVA's may be appropriate if a tree or PRF cannot be sufficiently accessed or fully assessed.

[C] If the initial aerial inspection was undertaken during the optimum survey period, this can count as one of the three surveys

3.11 For the purposes of this assessment and ease of interpretation, PRF-I is classified as being of 'limited' potential and PRF-M is of 'significant' potential. This is in line with the categories shown above.

Bat Activity

Habitat Assessment

3.12 This assessment was undertaken to identify the suitability of the Site to foraging and commuting bats or areas which may be important for exhibiting various social behaviours. This was informed by the results of the initial UKHab survey and also from information gathered in the desk study to ensure that potential effects are considered in the context of the onsite habitats within the wider area.

3.13 The Site was also categorised for its habitat suitability for bats, which would inform the necessary survey effort. The habitat suitability was assessed using guidance from 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (BCT, 2023). Table 4.1 of those guidelines provides an outline for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape. This should be applied using professional judgement. This groups a site into five categories based on habitat

suitability for foraging and commuting bats which has been further summarised in Table 3, below:

Table 3: Criteria for Assessing Habitat Suitability for Commuting and Foraging Bats - Based on table 4.1 (Collins, 2023)

Suitability	Potential Flight Paths and Foraging Habitat	Proposed Further Survey Requirements
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).	No further surveys required
Negligible	No obvious habitat features on site likely to be used as flightpaths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.	
Low	Habitat that could be used by small numbers of bats as flightpaths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.	Automated static detector monitoring and nighttime bat walkover surveys (flight path and transect) on a seasonal* basis.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flightpaths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.	Automated static detector monitoring on a monthly basis and nighttime bat walkover surveys (flight path and transect) on a seasonal* basis.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.	
*Seasonal surveys should be increased to monthly where Annex II species are expected/ detected or if significant commuting routes are identified.		

Bat Activity Surveys

3.14 Bat activity surveys were undertaken because the Site was considered to provide Low suitability for bats. These surveys were undertaken to identify the value of the Site to foraging and commuting bats or areas which may be important for exhibiting various social behaviours so that the effects of the proposals can be assessed.

3.15 In order to inform an impact assessment, where possible the bat activity surveys aim to identify:

- The presence or absence of bats, abundance and species using the Site whilst away from the roost;
- The usage of the habitats on the Site by bats;

- The temporal (both seasonally and nightly) and spatial distribution of recorded bat activity on Site and any associations in terms of timings or particular features;
- Any connectivity in terms of habitats within the Site and/or the surrounding area;
- The effect of any existing lighting on the existing bat population.

3.16 Bat activity surveys were designed and led by an experienced ecologist and approved by a Level 2 Bat Survey Licence holder, with expertise meeting the required BCT level of competency in accordance with Table 2.3 and paragraph 8.2.7 of the guidelines.

Static Monitoring

3.17 Static (passive) monitoring was undertaken using an automated logging system (Wildlife Acoustics Inc. Song Meter® SM4BAT FS bat detectors with SMM-U2 microphones). During the survey period two static recording devices were positioned within the Site to record bat registrations for at least five consecutive nights per season. These were deployed to sample the following habitat types; line of trees, native hedgerow, arable land, woodland edge, modified grassland.

3.18 The number of static detectors to be used and location of deployment was determined so that a representative sample of all habitats within the Site could be monitored. The locations were subjectively predetermined using professional judgment to be positioned at least 15m away from any known or likely roosts and also in consideration of likely impacts. In order to provide rigorous analysis, static detectors were placed in the same location during each survey, these are shown on Figure 2.

3.19 The devices were deployed for 5 consecutive nights during suitable weather conditions that were typical for the season of deployment and were programmed to activate 30 minutes before sunset and record continuously until 30 minutes following sunrise.

3.20 Static detectors were deployed during the following periods, with weather conditions summarised in Table 4 below:

Table 4: Static Survey Deployment Timings and Weather Conditions

Survey Period	Sunset Time	Sunrise Time	Weather Conditions
9th to 14th May 2024	20:50-20:57	05:05-05:12	Temperatures ranged from 17°C at sunset, down to 9°C on one morning by sunrise. No rain aside from a two-hour rain shower during the fourth night. Clear or partly cloudy nights in general, with one morning of fog. Wind levels ranged from 1-3 on the Beaufort (BF) scale, with the fifth night at BF3-4
17th to 22nd July 2024	21:03-21:09	04-53-04:59	Temperatures ranged from 24°C at sunset to 13°C by sunrise. Cloud cover was typically partly cloudy, with some periods of clear skies. There was no rain aside from on the fourth night which had showers from sunset until approximately midnight. Wind levels were between BF1-3 most nights, aside from the fourth night which averaged BF4.
4th to 9th September 2024	19:37-19:46	06:22-06:28	Temperatures ranged from 16°C at sunset to 12°C at sunrise. Every night was cloudy and/or foggy. Three out of five nights experienced some periods of drizzle or light rain. The wind on most nights ranged from BF1-4, whilst the 2nd night had high levels of wind between BF4-6.

3.21 The data was analysed as soon as possible after retrieval of the static units using the SonoBat UK software package to assess the amount of bat activity on Site by recording the number of bat registrations. Auto-analysis was undertaken, and subsequent manual vetting was then carried out based on internal statistical analysis to ascertain a robust confidence level in the auto-analysis process. The vetting process took measurements including peak frequency, inter-pulse interval, call duration and end frequency were taken to aid in species identification. This analysis was completed by a suitably experienced ecologist (Analysts are audited internally for quality control purposes and to maintain consistent results).

Night-time Bat Walkover (Flightpath / Transects Surveys)

3.22 In line with current guidance (Collins, 2023) night-time bat walkovers are undertaken in two parts. The first part is undertaken by stationary surveyors positioned on habitat features most likely to be utilised as commuting routes by bats. Once conditions become too dark to see or once commuting activity has been observed and has largely ended, surveyors begin a walked transect sampling all areas and habitats within the Site noting any bat activity that is heard or observed along the way. Whilst this includes two elements it is one survey designed to record information to provide further context to elements that static detectors cannot always identify such as bat behaviour or abundance of bats.

3.23 The first part of the survey to observe flightpaths involved two surveyors being positioned at predetermined locations as shown on Figures 3a, 4a and 5 (in positions along the southern and eastern boundaries). The survey started at sunset and lasted for between 30 minutes and one hour after sunset. After this the walked transect was started and continued until two to three hours after sunset. The route followed during each transect was repeated on each survey occasion, however the starting point was varied throughout the season. Figures 3b, 4b and 5 shows the route of the transect and the start/end points of each survey.

3.24 Surveyors were equipped with Wildlife Acoustics Inc. Echo Meter Touch® bat detectors in conjunction with Echo Meter Touch® app and Samsung Galaxy Tab Active 3® during the transect surveys to detect bats and aid species identification. Bat activity observed was noted during the survey.

Table 5: Night-time Bat Walkover Timings

Survey Date	Sunset Time	Start Time (Flightpath)	Start Transect	End Transect
11.04.24	19:58	19:58	21:05	22:02
17.07.24	21:24	21:24	22:31	23:25
04.09.24	19:47	19:47	20:47	21:47

Table 6: Night-time Bat Walkover Conditions

Survey Date	Start Temp	Wind (Beaufort Scale)	Rain	Cloud Cover (%)
11.04.24	17°C	3	Dry	100%
17.07.24	19°C	1	Dry	45%
04.09.24	14°C	2	Drizzle	100%

3.25 The data from the night-time bat walkover survey was analysed as soon as possible after the survey using the Kaleidoscope Viewer© (Wildlife Acoustics, Inc.) software package to assess the amount of bat activity on Site by recording the number of bat registrations. Measurements

including peak frequency, inter-pulse interval, call duration and end frequency were taken to aid in species identification. This analysis was completed by a suitably experienced ecologist (analysts are audited internally for quality control purposes and to maintain consistent results).

Limitations

3.26 To ensure the security of static detectors, these were not positioned in open habitats.

3.27 Where bat calls could not be identified to species level, for example due to the lower quality of those recordings or where there are similarities between species echolocation calls (particularly for *Myotis* and *Nyctalus* species) making a definite identification difficult, a likely species identification is provided. This is based on the features displayed by the calls when analysed using the Sonobat™ 30.1 data analysis software package and taking into account the geographical location of the site and the habitats present.

3.28 During the summer and autumn flightline surveys, one surveyor was positioned to match the spring survey along the southern boundary, and a second surveyor was positioned at the junction of the northern and eastern boundaries. However, during the spring night-time bat walkover survey there were health and safety concerns from the surveyors during the flightline survey, therefore the surveyors positioned themselves in close proximity to each other. This is not considered to be a limitation to the survey considering static detectors were deployed during the same period and so any quantitative data along the eastern boundary could be picked up in the absence of a surveyor in that location.

3.29 Due to the maturation of the arable field and the modified grassland, the summer transect route slightly differed to the spring and autumn route so the route could follow tramlines/areas more heavily used by the public as not to trample on any vegetation/disrupt plant growth. This is not considered to be a limitation as the route taken only varied slightly and the same habitats were sampled.

4.0 RESULTS

Desk Study

4.1 No statutory sites that are designated for bats were identified within 10km of the Site boundary.

4.2 SBRC and DLRC returned 17 records of bats within 2 km of the Site which are provided on Figure 1. Records received from within 2km of the Site boundary included two records of day roosts for common pipistrelle and noctule (located 775m southeast of the Site); which have since been demolished under a Bat Low Impact Class Licence and mitigated for through bat box installations on a new school building, as well as static detector records and foraging bats observed during surveys for the above species in addition to soprano pipistrelle, Leisler's bat, *Myotis* species and unidentified bat species. No bat records were received from within the Site.

4.3 There was no bat licence records within 2km of the Site boundary recorded on MAGIC.

Preliminary Roost Assessment (ground-level)

4.4 During the ground-based survey, eight trees were identified within the Site as FAR in accordance with Table 1, as shown on Figure 6. These trees were either individual (T14 and T35) or within the line of trees on the eastern boundary (T1-2, T7, T9 and T36-37). The trees were noted to potentially contain the following Potential Roosting Features (PRFs), which may provide suitability for roosting bats (but requires further assessment to confirm): cracks/splits in limbs, lifted/stripped bark, knot holes, tree rot creating crevices, pruning cuts, branch tear outs, deadwood, hazard beams. It was noted however that it is very likely that none of the trees contained features suitable for supporting a roost of high conservation value (e.g. maternity or hibernation roost) and is likely to support individual bats or a very small number of bats only, and therefore has limited value to roosting bats. No evidence of bats was identified during the ground-based survey.

Aerial Inspection Surveys

4.5 Trees T7 and T14 are likely to be impacted by the proposals, either due to felling for the provision of the access road (T7), or likely to be impacted by lighting (T14). These trees have since been inspected in detail (aerially where required) using endoscopes. The result for each tree is shown in Table 7 below and illustrated in Figure 6:

Table 7: Detailed inspection of PRFs within impacted trees

Tree Ref (in reference to Tree Survey Plan, FPCR 2024)	Classification of Tree	Details of PRFs
T7	Negligible	On closer inspection, features identified were concluded to offer no potential to bats. Therefore, no PRFs present.
T14	PRF-I	One PRF-I feature present: knot hole 4m high facing northeast, on a northeast extending limb. The entrance is 5cm in diameter and the feature extends approximately 10cm horizontally into the limb.

4.6 T7 was considered to have no PRFs present and therefore was assessed as negligible for supporting roosting bats, in accordance with Table 2. One feature in T14 was considered suitable for supporting individual or very small numbers of bats, due to the limited size of the feature, and therefore was assessed as PRF-I. No further survey is required for either tree,

however a pre-felling check will be required if T14 is to be removed, as well as sensitive soft-felling techniques established during removal.

4.7 No buildings are present within the Site boundary.

Bat Activity Surveys

Foraging and Commuting Habitat Suitability

4.8 The intensively managed arable habitat within the Site was considered to be of limited value to foraging and commuting bats during the UKHab survey. The trees, hedgerows, grassland and small areas of scrub/tall forbs on the Site boundaries however would provide some opportunity for foraging and commuting, especially along the eastern boundary hedgerow and woodland edge along the southern boundary. It is considered there is more suitable and valuable habitats for bats in the wider area (extensive woodland, intact hedgerows, scrub, the Thurnscoe Dike corridor, etc.) with the Site providing only limited connectivity to these areas.

4.9 Due to the retention of the suitable boundary habitats, and sub optimal value of the arable land, the Site is considered to be of Low suitability for foraging and commuting bats, in which seasonal activity surveys are required to assess bat activity on Site.

Static Bat Detector Surveys

4.10 Two SM4BAT FS bat detectors were deployed on Site, one on the southern boundary and the second on the eastern boundary; the exact locations of which are shown on Figure 2. The detectors were placed along features considered to be of ecological value to bats and aimed to sample each habitat represented on Site. This included sampling the linear habitats: line of trees, native hedgerow, woodland edge; as well as open habitats: cereal crops and modified grassland. The results from the surveys are summarised in Table 8 and 9 below.

Table 8: Summary of SM4BAT Survey Results

Date	Unit location	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
Spring 09/05/2024 – 14/05/2024	Eastern boundary	9.26	426	Common pipistrelle (380)	Soprano pipistrelle (34), noctule (7), *Myotis* species (4), pipistrelle species (1)
	Southern boundary	18.48	850	Common pipistrelle (765)	*Myotis* species (39), soprano pipistrelle (28), brown long-eared (8), noctule (8), *Nyctalus* species (2)
Summer 17/07/2024 – 22/07/2024	Eastern boundary	10.16	444	Common pipistrelle (357)	Soprano pipistrelle (55), noctule (20), *Myotis* species 11), *Nyctalus* species (1)
	Southern boundary	12.59	550	Common pipistrelle (453)	Noctule (48), Soprano pipistrelle (36), *Myotis* species (11), brown long-eared (1), pipistrelle species (1)

Date	Unit location	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
Autumn 04/09/2024 – 09/09/2024	Eastern boundary	8.78	518	Common pipistrelle (387)	Soprano pipistrelle (77), noctule (24), *Myotis* species (12), *Nyctalus* species (12), brown long-eared (5), pipistrelle species (1)
	Southern boundary	5.72	337	Common pipistrelle (270)	Noctule (45), soprano pipistrelle (8), *Nyctalus* species (6), *Myotis* species (5), pipistrelle species (3)

Spring

4.11 Peak bat activity was recorded on most nights along the eastern and southern boundaries between 21:00-22:00, from approximately 20 minutes after sunset; activity was dominated by common pipistrelle (total of 321 counts at the southern boundary, 111 at the eastern boundary), with lower numbers of soprano pipistrelle and noctule (both boundaries), and *Myotis* species (southern boundary only). After this period, activity levels were lower at both boundaries generally until 05:00. However, of note was a morning peak of bat activity of 96 common pipistrelles between 03:00-04:00 across the nights at the southern boundary, up to approximately 2 hours before sunrise.

Summer

4.12 At both boundaries there was a peak in bat activity between 22:00-23:00 which was dominated by common pipistrelle (137 counts at eastern boundary, 87 at southern), with lower registrations of noctule, soprano pipistrelle and *Myotis* species also noted during this period. This peak coincides with bat activity commencing approximately 40 minutes after sunset, although bat activity was also recorded prior to this time at lower frequencies by common pipistrelle, noctule and soprano pipistrelle, corresponding to sunset time, or just after.

4.13 Activity was recorded at both boundaries between 21:00-05:00 at relatively consistent levels, although secondary peaks occurred at the southern boundary between 03:00-04:00 (approximately between 1-2 hours before sunrise), largely by common pipistrelle. Activity between 04:00-05:00 still occurred at the southern boundary at slightly lower levels which is consistent with the level of activity throughout the majority of the night. A secondary peak also occurred at the eastern boundary between 04:00-05:00 (up to approximately 1 hour before sunrise), in which common pipistrelle made up the majority of the activity.

Autumn

4.14 There was a peak in bat activity at both boundaries between 20:00-21:00 in which common pipistrelle made up the majority of registrations. Activity was also recorded between 19:00-20:00, with the earliest registration at 19:26 at the southern boundary and 19:46 at the eastern boundary, which coincides with sunset. Twenty-one noctule registrations were also noted at the southern boundary within this timeframe across all five nights, as well as one *Nyctalus* species and *Myotis* species, whilst five counts of common pipistrelle and two registers of soprano pipistrelle was recorded at the eastern boundary during this time period.

4.15 At the eastern boundary, bat activity was recorded between 19:46-07:00 at relatively consistent levels beyond the peak time and only one soprano pipistrelle and one common

pipistrelle between 06:00-07:00. At the southern boundary, bat activity fluctuated slightly more than previous seasons through the nights, with a second peak largely comprised of common pipistrelle between 04:00-05:00 which corresponds to approximately 1.5-2.5 hours before sunrise.

Summary

4.16 During the SM4BAT surveys the most frequently recorded species was common pipistrelle for all surveys and locations on Site. Other species comprised soprano pipistrelle, noctule, brown long-eared, *Nyctalus* species, *Pipistrellus* species and *Myotis* species, which were recorded at much lower frequencies (Table 9 provides the percentage breakdown).

Table 9: Species recorded during the SM4BAT Surveys

Species	Count	Percentage (%)
Common Pipistrelle	2612	83.58
Soprano Pipistrelle	238	7.62
Noctule	152	4.86
Myotis Species	82	2.62
Nyctalus Species	21	0.67
Brown Long-eared	14	0.45
Pipistrelle Species	6	0.19

4.17 Overall, the peak activity recorded during the static surveys was in the spring along the southern boundary in association with the woodland edge. Whilst generally, higher levels of activity were associated with the southern boundary in spring and summer, during autumn there was slightly more activity at the eastern boundary, although the level of difference in bat activity between the two boundaries is not considered to be significant and overall there was a relatively similar level of bat activity across the seasons at both locations (southern total bat count: 1737; eastern total bat count: 1388).

4.18 Slight variations were noted at each boundary dependent on the time of year, with more variation observed at the southern boundary (337 to 850 registrations) compared to the eastern boundary (426 to 518 registrations). Common pipistrelle registrations accounted for the majority of the calls at all static locations, comprising 83.58% of bat species using the Site in total, whilst all other species comprised between 0.19 to 7.62%.

4.19 No Annex II species were recorded during the surveys.

Night-time Bat Walkover Surveys

4.20 Night-time bat walkover surveys were undertaken in spring, summer and autumn. Survey conditions are provided in Tables 4 and 5 and full details of bats contacts are provided and illustrated in Figures 3-5.

Spring – Figure 3

4.21 Considering the surveyor positions during the flightline survey were relatively close together (marked as positions 1a and 1b on Figure 3a) and broadly sampled the same habitats along the

southern boundary (field margins/woodland edge, arable field and modified grassland), the results of the flightline survey will therefore be considered as one.

4.22 Multiple common pipistrelle bats and one soprano pipistrelle was observed to be commuting/foraging along the field margins/woodland edge between 20:26-20:31, commencing 28 minutes after sunset. Within that timeframe, there was also note of one common pipistrelle pass which was heard but not seen (hereby referred to as a 'non-visual'). At 20:31 a common pipistrelle was observed from around the path which dissects the arable field and modified grassland and then continuously forages around the woodland edge before going off Site into the woodland. Non-visual notes of common pipistrelle, soprano pipistrelle and one record of noctule was registered between 20:32-20:40, likely a mixture of foraging/commuting behaviour with some social calling from common pipistrelle. From 20:35 onwards and until the end of the flightline survey, common pipistrelle was noted to be continuously foraging around the field margins and within the woodland, with a few soprano pipistrelle bats recorded during this period and at times more than one bat present.

4.23 During the walked transect, a total of seven bat contacts were recorded by common pipistrelle, soprano pipistrelle and noctule, comprising a mix of foraging and commuting behaviour, with social calls made by common pipistrelle. All activity was recorded along the woodland edge between 21:08-21:45, of which only 'B' and 'C' registers on the associated Figure 3b were observed.

Summer – Figure 4

4.24 At position 1, noctule bats were observed foraging high across open habitat, as well as foraging around the top of the trees between 21:26-22:03, the activity of which started just after sunset. Common pipistrelle were also observed foraging along the woodland edge/field margins and along the public footpath into the woodland (either entering into or exiting from) between 21:41-22:04, with activity starting 17 minutes after sunset. An additional six non-visuals at position 1 by common pipistrelle and soprano pipistrelle were recorded at 21:44 and 22:05-22:17.

4.25 At position 2, one non-visual noctule was registered at 20:30, shortly after sunset. Activity by common pipistrelle commenced 16 minutes after sunset in which commuting and foraging bats were observed along the line of trees at the eastern boundary between 21:40-22:19 (as well as six non-visual common pipistrelle during this period). Common pipistrelles were also noted commuting/foraging along the northern boundary in association with trees and tall forbs at 21:46 and 22:01, prior to or after utilising the eastern boundary features. One unknown bat species was also seen (but not picked up by the detector) at 21:52 and was noted to commute from the arable field and head east across the top of the hedgerow at the eastern boundary towards the adjacent road. Common pipistrelle and soprano pipistrelle were also observed foraging in the open habitat of the arable field and the trees at 22:22

4.26 During the walkover section of the survey, nine bat contacts were recorded between 22:32-23:21, all of which were non-visuals. The species recorded included common pipistrelle (eight passes), soprano pipistrelle (one pass at 23:13 likely associated with the woodland edge/field margins) and noctule (one pass at 23:21 likely in association with the woodland / open habitat). The common pipistrelle registers were relatively spread around the Site, likely in association with the woodland edge/arable field margins, the trees in the northeast of the Site, the

northern hedgerow/back gardens and within open habitat of the grassland/arable field compartments. The bat contacts during the summer walkover survey are shown on Figure 4b.

Autumn – Figure 5

4.27 The flightline surveyor positions were located along the southern boundary (position 1) and along the northern and eastern boundary intersect (position 2), as shown on Figure 5.

4.28 At position 1, one common pipistrelle was seen commuting west along the field margins at 20:13, 26 minutes after sunset, whilst two non-visual commuting/foraging bats were noted at 20:25 and 20:35.

4.29 Position 2 had slightly more bat activity, in which nine common pipistrelles were noted to commute/forage between 20:12-20:24, commencing 25 minutes after sunset, and including two non-visual passes in this time period. Bats were observed to forage around the eastern boundary, in the arable field and in association with trees, urban development and the northern boundary hedgerows/trees/tall forbs habitats.

4.30 No bat activity was recorded during the duration of the walkover survey, however the transect route and start/finish points are shown in Figure 5.

4.31 No Annex II species were recorded within any of the flightline/transect surveys.

5.0 DISCUSSION

Desk Study

5.1 Seventeen bat records were returned within 2km of the Site, none of which were returned within the Site boundary. The species returned generally comprised of common and widespread species known to be present in Barnsley, including common pipistrelle, noctule, soprano pipistrelle, *Myotis* species, and the less common Leisler's bat.

5.2 Soprano pipistrelle and noctule are both Species of Principal Importance under S41 of the NERC Act (2006). All the above species are listed under the Barnsley BAP, whilst Leisler's bat is additionally listed as 'Near Threatened' under the IUCN Criteria; this species was not recorded within the Site during the surveys.

Bat Roosts

Trees

5.3 Eight trees on Site were initially assessed as FAR, two of which are likely to be impacted by the proposals (T7 and T14) and as such were subject to further assessment through a detailed aerial inspection.

5.4 The aerial inspection survey concluded that T7 had negligible suitability for roosting bats and as such no further surveys were required for this tree, whilst T14 contained one PRF-I feature which had the potential to support individual or very small numbers of bats, no evidence of roosting bats was identified. In accordance with the BCT Bat Survey Guidelines, no further survey is required for T14, however a pre-felling check for the presence of bats and soft-felling techniques would be required if it were to be removed.

5.5 The remaining trees preliminarily assessed as FAR were not subject to further assessment considering they were not likely to be impacted by the proposals, with extended greenspace surrounding the retained trees proposed. It was noted however that the remaining trees were very likely to only support individual bats or very small number of bats at most, due to the size of the features that could be seen from ground-level, with some features potentially superficial. Therefore, these trees are considered very unlikely to support a roost of high conservation value (i.e. maternity or hibernation roost). If any of these trees are to be impacted by the works, they will be subject to further assessment.

5.6 Overall, the trees on Site were considered to offer limited suitability to roosting bats.

Bat Activity

5.7 The static surveys showed that activity peaked along the southern boundary during the spring and summer surveys, whilst autumn activity demonstrated that the eastern boundary was utilised at greater capacity compared to the southern boundary, although the levels of activity were similar across both boundaries overall. Common pipistrelle comprised the majority of the activity, which generally peaked approximately 30 minutes and up to 1 hour 40 minutes after sunset. This timeframe is likely to correlate with commuting/foraging behaviour following roost emergences by the species and indicates the likelihood of a roost in proximity to the Site. Additionally, second peaks were recorded between 0-2.5 hours before sunrise across both the southern and eastern boundaries, which may correspond to foraging/commuting behaviour on

Site prior to re-entering nearby roosts. Common pipistrelle were shown to be active on Site across both boundaries throughout the majority of night, but at much lower frequencies than the peak times.

5.8 Noctule activity peaked in summer during the static surveys at both boundaries around sunset time which strongly correlates to emergence times by the species, as well as in autumn at the southern boundary, indicating the potential presence of a noctule roost near the Site, and more specifically to be likely in or within the vicinity of the southern boundary woodland. However, it should be noted the level of noctule activity was much lower in comparison to common pipistrelle, indicating a lower population of the species using the Site. Considering there was a reasonable amount of noctule using the Site, it was considered likely that the *Nyctalus* species recorded during the static surveys were likely noctule bats rather than Leisler's.

5.9 Other bat species which were recording during the static surveys included soprano pipistrelle, brown long-eared, *Myotis* species and pipistrelle species. Soprano pipistrelle was recorded to be using the Site throughout much of the night at low but reasonably consistent frequencies. There is no obvious pattern in terms of peak times or habitat preferences. The other species were recorded at even lower frequencies, but also did not form any obvious patterns. Therefore, it is considered low numbers of these species used the Site for foraging/commuting, but the habitats overall are not important for commuting or foraging activities by these bats.

5.10 The results of the night-time bat walkover surveys demonstrated that bat activity occurred during the first hour after sunset across all seasons, in which the southern and eastern boundaries were utilised by the local bat population for commuting and foraging, with lower levels of bat activity using the northern boundary features and open habitats. The activity was comprised of common and widespread species, with common pipistrelle being the dominant species. Activity by common pipistrelle coincided with their approximate emergence times (16-28 minutes after sunset). This indicates there are likely common pipistrelle roosts in the vicinity of the Site, reinforcing findings from the static surveys.

5.11 Additionally, noctule bats were recorded to use the woodland and field margins at the southern boundary and adjacent open habitat during the summer survey from just after sunset time, which strongly corresponds to their emergence times and therefore likely indicates the presence of a noctule roost in the vicinity of the Site (consistent with the static survey results). The walkover part of the surveys indicated that bat activity varied throughout the seasons, with all activity recorded along the field margins/woodland edge of the southern boundary in spring, bat contacts around the majority of the Site during the summer survey including open habitat, and no bat activity at all during autumn. Nonetheless, the level of bat activity on Site across all seasons was considered to be low.

5.12 Overall, the results from the bat activity surveys indicates the eastern and southern boundary habitats (including the off-Site woodland) both form a foraging and commuting corridor; however the Site is only utilised by common and widespread, and typically generalist species which would be expected to use the habitats on Site, and the level of activity is not considered to be exceptional. Therefore, the Site is considered to have low suitability to commuting and foraging bats. Due to the patterns of bat activity recorded during the surveys, it is considered likely there are common pipistrelle and noctule roost(s) in the vicinity of the Site, which then use the Site following their emergence or prior to their re-entry to the roosts.

5.13 Overall, the Site is considered to be of Site value for its bat species.

6.0 POTENTIAL IMPACTS AND MITIGATION

Impact Assessment

6.1 Current proposals will result in the partial loss of small areas of mixed scrub, trees and native hedgerow along the eastern boundary to facilitate the construction of an access road. The remaining habitats along the eastern boundary, as well as the trees in the northeast corner of the Site (including T14) are all to be retained and enhanced through the inclusion of species-rich grassland, amenity grassland, mixed scrub planting, and supplementary tree planting which will provide more extensive commuting and foraging habitat to ensure connectivity at the eastern boundary is maintained. Due to the presence of streetlighting along Thurnscoe Bridge Lane it is unlikely that bats currently utilising these areas are deterred by urban lighting; however a sensitive lighting scheme should be applied where suitable to maintain dark areas for light sensitive species such as brown long-eared bats which are known in the area. Given the number of bats using the eastern boundary is considered to be unexceptional, the impacts of constructing the access road through the boundary features is considered to be low.

6.2 The entirety of the woodland on the southern boundary is to be retained. The woodland edge will be enhanced for approximately 60% of its length through the planting of green infrastructure including native scattered tree / scrub planting, and the creation of species-rich grassland, SuDS and native buffer planting. These areas will provide an enhanced dark corridor suitable for bat foraging and commuting activity. The remaining 40% will have residential gardens backing onto the woodland which may lead to an increase in light spill onto the woodland edge. Where lighting is proposed which might impact the woodland, a sensitive lighting scheme should be incorporated to ensure no negative impacts to the woodland occur. The existing path through the central areas of the woodland would also provide an alternative commuting route for light sensitive species.

6.3 The ornamental and non-native hedgerow along the northern boundary is proposed to be retained, whilst the tall forbs and modified grassland along the northern boundary are proposed to be lost to facilitate the development. The hedgerow is sparse with extensive gaps and dominated by non-native species, as a result it was considered to be of low value to bats, however, native hedgerow planting is proposed to extend either side of the non-native hedgerow which will improve connectivity along this boundary. Residential gardens are also proposed along this boundary which may maintain some limited foraging habitat through the planting of trees, hedgerows, shrubs and grassland, and therefore connectivity may be further maintained, although there is no obligation for the residents to retain such features. Given the low levels of bats using the habitats along the northern boundary, as demonstrated by the activity surveys, it is considered the loss of such features is not likely to lead to a detrimental impact on the local bat population.

6.4 The majority of the arable field and modified grassland will be lost to facilitate the development. These areas will be mitigated for through the inclusion of several areas of POS which will support better quality open space for bat species comprising species-rich grassland and tree planting. A green corridor will also be provided to link the northern boundary to the PRoW within the woodland, providing connectivity through the development into the wider landscape. Where streetlighting is required along this corridor, a sensitive-lighting scheme should be incorporated. Additionally, the POS areas ensure there is open habitat on Site, which would benefit species such as noctule, as well as the SuDS which will be designed to hold water

to provide an enhanced foraging feature for bats. Enhancement to the off-site woodland will also be implemented through the inclusion of native mixed scrub planting on the woodland edge, which in combination with the SuDS and species-rich grassland, will benefit a range of edge habitat species including common pipistrelle, soprano pipistrelle, brown long-eared, Leisler's bat and *Myotis* species.

6.5 Overall, based on the level of bat activity on Site, evidence obtained through the activity surveys, and the level of green infrastructure proposed throughout the Site, the loss of the arable field and modified grassland is considered to of low impact to the bats using the Site, with foraging and commuting habitats maintained where possible and/or enhanced.

Mitigation and Compensation

6.6 Measures to prevent pollution and damage to retained habitats during construction including protective fencing, a sensitive lighting scheme and root protection will be outlined in a Construction and Environmental Management Plan (CEMP) for Ecology.

6.7 In the absence of mitigation, the direct lighting of created and retained habitats may reasonably be expected to lead to the avoidance of these areas by the local bat population. It is therefore important to avoid such impacts through the development of a sensitive lighting strategy with a focus on maintaining dark corridors where possible. This will benefit the bat assemblage at their most active foraging periods.

6.8 The lighting and layout of the proposed development will be designed to minimise light-spill onto habitats both within and adjacent to Site that are used by the local bat population for foraging or commuting. This will be achieved by ensuring that the design of lighting is in accordance with the Bat Conservation Trust, Institute of Lighting Professionals and EUROBATS guidance[3, 4, 5]. Therefore, the lighting scheme will include the following:

- The strategic use of landscaping and planting to avoid light spill on sensitive habitats. New planting should aim to buffer retained boundary features and create dark corridors around the Site.
- The avoidance of direct lighting on existing boundary features or proposed areas of habitat creation/landscape planting.
- Unnecessary light spill into these features to be controlled through a combination of LED directional lighting, low lighting columns, hooded/shielded luminaires and/or strategic planting.
- Light free of UV emissions to prevent potential adverse effects on flying insects and bat populations.
- Lighting designed to switch off or be dimmable where possible.
- The use of dynamic lighting where feasible, where lighting is proposed along linear habitat features such as woodland edges.

[3] Bat Conservation Trust. Landscape and urban design for bats and biodiversity (2012)

[4] Institution of Lighting Professionals. Guidance Note GN08/23: Bats and artificial lighting at night (2023)

[5] EUROBATS. Publication Series No. 8 – Guidelines for consideration of bats in lighting projects (2018)

- Lighting should be avoided either side of the hedgerow and line of trees breach to maintain a 'dark corridor' for commuting bats along the eastern boundary.

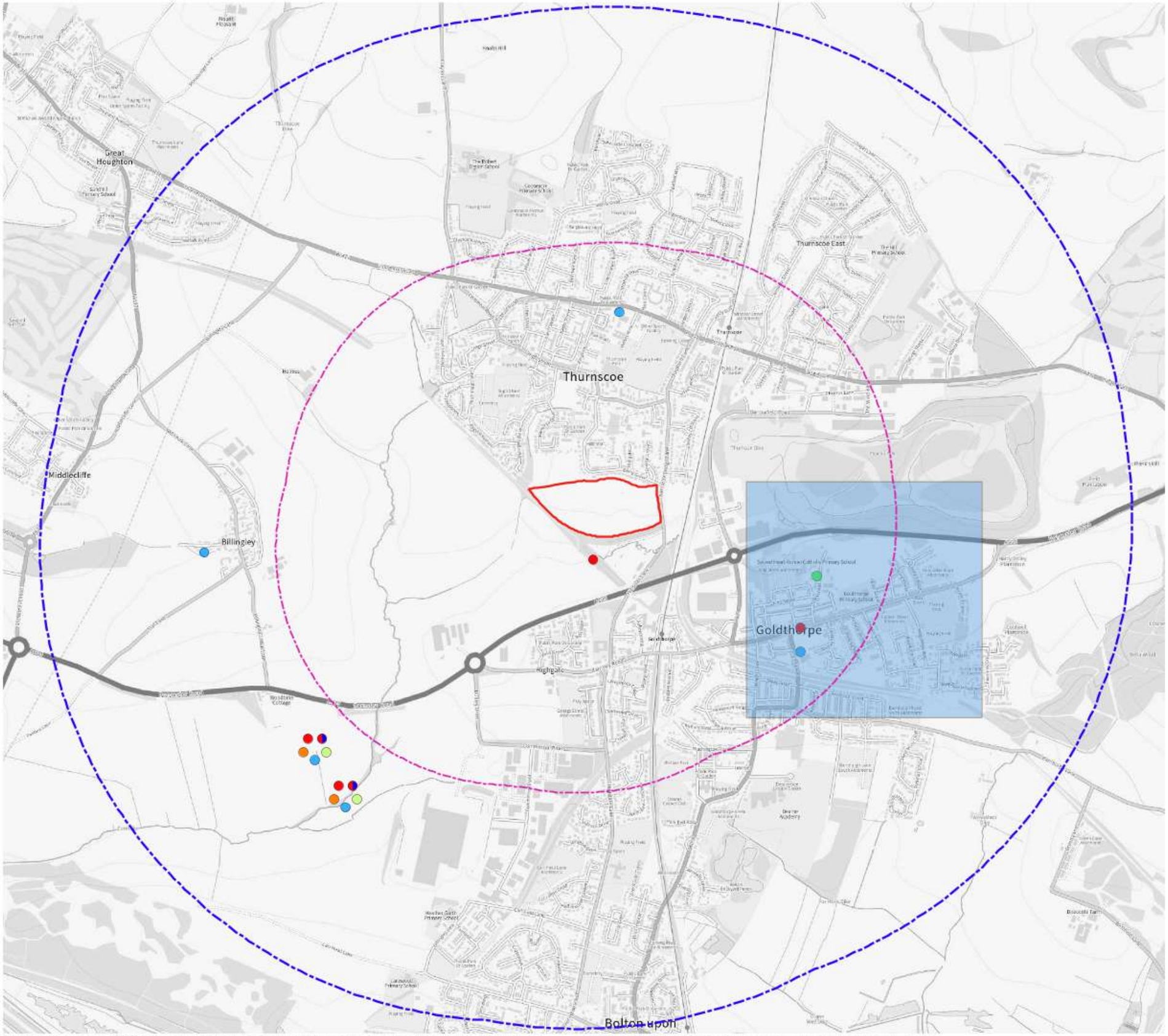
6.9 With mitigation in place and compensation for the loss of foraging/commuting habitat there will be no negative impact on the favourable conservation status of species identified utilising the Site. Impacts following mitigation are therefore considered to be Negligible to Minor Beneficial and not considered to present a significant effect.

Enhancements

6.10 Green infrastructure proposals include the enhancement of the woodland edge and the eastern boundary where feasible, including native tree, hedgerow and mixed scrub planting and the creation of species-rich grassland. SuDS will also be created and planted along the southern boundary which will be planted with native marginal planting including species such as common reed *Phragmites australis* which will grade into a wet grassland seed mix, providing further foraging habitats.

6.11 Where introduced shrub planting is proposed on Site, the species planted should prioritise those which attract invertebrates, and the provision of insect hotels and other invertebrate shelters within the green infrastructure will additionally provide opportunities for invertebrates, and therefore providing further foraging opportunities for bats.

6.12 Currently there are limited opportunities for roosting bats within the Site. The inclusion of artificial bat roost features, such as bat bricks/boxes should be incorporated into the fabric of new buildings (where appropriate), and/or installed on suitable retained mature trees would provide a considerable enhancement for a range of bat species. The provision of such features would be in accordance with NPPF 2023, providing an enhancement for biodiversity within the local area.



N

0 0.5 1 km

Key

Red Line Boundary

1km Buffer

2km Buffer

Bats

Common Pipistrelle

Leisler's

Myotis Bat

Noctule

Soprano Pipistrelle

Unidentified Bat

Bat Species within 1km Accuracy

Species within SE4604: Common Pipistrelle

date 08/10/24

drwn/chkd SJH / XXX

client
Avant Homes Yorkshire

project
Thurnscoe Bridge Lane, Thurnscoe

title
SITE LOCATION AND CONSULTATION RESULTS PLAN - SPECIES

scale 1:16,000 @ A3

number
FIGURE 1

rev -

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N

0 50 100 m

Key

Red Line Boundary

Static Location

date	drwn/chkd
01/11/24	SJH / XXX

client

Avant Homes Yorkshire

project

Thurnscoe Bridge Lane, Thurnscoe

title	scale
STATIC DETECTOR LOCATION PLAN	1:1,850 @ A3
number	rev
FIGURE 2	-

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N

0 30 60 m

Site Boundary

Surveyor Locations

Bat Contacts

Common Pipistrelle

Soprano Pipistrelle

Flight Paths

Ref.	Time	Species	Passes	Activity
A	20:26	Ppip	2	F
B	20:27	Ppip	1	C
NV	20:29	Ppip	1	F/C
C	20:30	Ppip	1	C
D	20:30	Ppyg	1	C
E	20:31	Ppip	1	C
F	20:31	Ppip	1	C
G	20:31	Ppip	CONT	F
NV	20:32	Ppip	1	C
NV	20:33	Ppip (3 bats)	MULTIPLE	F/S
NV	20:33	Ppip	1	C
NV	20:34-20:36	Ppip/Ppyg	CONT	F
NV	20:35	Ppyg	1	F/C
H	20:35-20:58	Ppip & Ppyg	CONT	F
NV	20:38	Ppip	1	C/S
NV	20:40	Ppip	CONT	F
NV	20:48	Nnoc	1	F/C

NV = Non-visual
Ppip = Common Pipistrelle
Ppyg = Soprano Pipistrelle
Nnoc = Noctule

F = Foraging
C = Commuting
S = Social

date: 11/10/24

drwn/chkd: JS / II

client: **Avant Homes Yorkshire**

project: **Thurnscoe Bridge Lane, Thurnscoe**

title: **FLIGHTLINE PLAN 11.04.24**

scale: 1:1,000 @ A3

number: **FIGURE 3a**

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N

0 50 100 m

Site Boundary

Start Point

Finish Point

Bat Contacts

Common Pipistrelle

Common/Soprano Pipistrelle

Noctule

Flight Paths

Transect Route

Ref	Time	Species	Passes	Comments
A	21:08	Common Pipistrelle	CONT	F
B	21:11	Common Pipistrelle	CONT	F&S
C	21:18	Common/Soprano Pipistrelle	1	C
A	21:32	Common Pipistrelle	CONT	F
D	21:34	Noctule	1	C
B	21:41	Common Pipistrelle	CONT	F
E	21:45	Common Pipistrelle	MULT	F

date: 11/10/24

drwn/chkd: JS / II

client: **Avant Homes Yorkshire**

project: **Thurnscoe Bridge Lane, Thurnscoe**

title: **TRANSECT PLAN 11.04.24**

scale: 1:1,850 @ A3

number: **FIGURE 3b**

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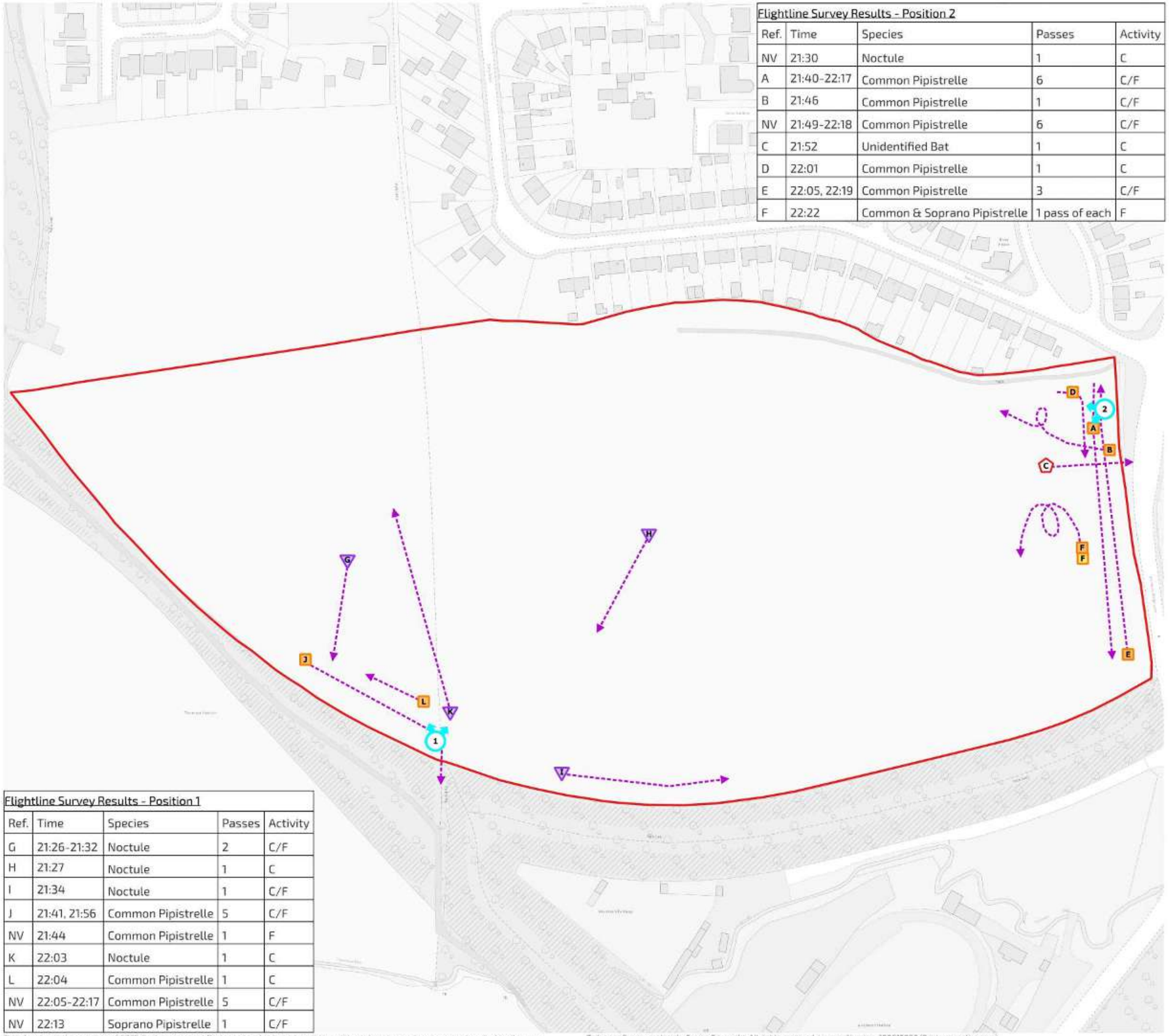

Flightline Survey Results - Position 2				
Ref.	Time	Species	Passes	Activity
NV	21:30	Noctule	1	C
A	21:40-22:17	Common Pipistrelle	6	C/F
B	21:46	Common Pipistrelle	1	C/F
NV	21:49-22:18	Common Pipistrelle	6	C/F
C	21:52	Unidentified Bat	1	C
D	22:01	Common Pipistrelle	1	C
E	22:05, 22:19	Common Pipistrelle	3	C/F
F	22:22	Common & Soprano Pipistrelle	1 pass of each	F

Flightline Survey Results - Position 1				
Ref.	Time	Species	Passes	Activity
G	21:26-21:32	Noctule	2	C/F
H	21:27	Noctule	1	C
I	21:34	Noctule	1	C/F
J	21:41, 21:56	Common Pipistrelle	5	C/F
NV	21:44	Common Pipistrelle	1	F
K	22:03	Noctule	1	C
L	22:04	Common Pipistrelle	1	C
NV	22:05-22:17	Common Pipistrelle	5	C/F
NV	22:13	Soprano Pipistrelle	1	C/F

N

0 50 100 m

Site Boundary

Surveyor Locations

Bat Contacts

Bat Species

Common Pipistrelle

Noctule

Soprano Pipistrelle

Flight Paths

date: 11/10/24

drwn/chkd: HW / IJ

client: Avant Homes Yorkshire

project: Thurnscoe Bridge Lane, Thurnscoe

title: FLIGHTLINE PLAN 17.07.24

scale: 1:1,850 @ A3

number: FIGURE 4a

rev: -

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Ref	Time	Species	Passes	Comments
A	22:32	Common Pipistrelle	1	NV
B	22:41	Common Pipistrelle	1	NV
C	22:48	Common Pipistrelle	1	NV
D	22:50	Common Pipistrelle	1	NV
E	22:55	Common Pipistrelle	2	NV
F	23:05	Common Pipistrelle	1	NV
G	23:11	Common Pipistrelle	1	NV
H	23:13	Soprano Pipistrelle	1	NV
I	23:21	Noctule	1	NV

date: 11/10/24

drwn/chkd: HW / II

client: **Avant Homes Yorkshire**

project: **Thurnscoe Bridge Lane, Thurnscoe**

title: **TRANSECT PLAN 17.07.24**

scale: 1:1,850 @ A3

number: **FIGURE 4b**

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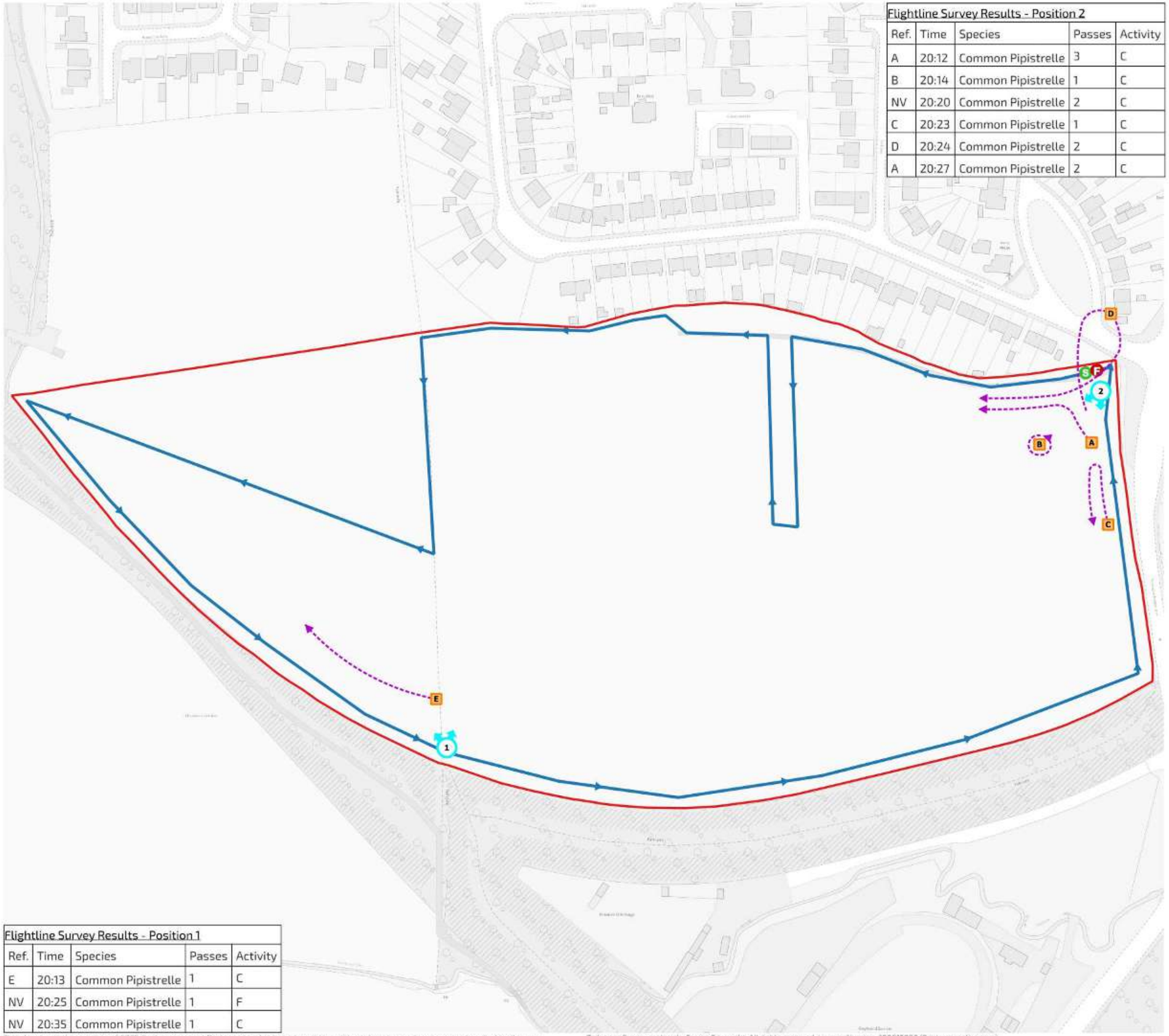

Flightline Survey Results - Position 2				
Ref.	Time	Species	Passes	Activity
A	20:12	Common Pipistrelle	3	C
B	20:14	Common Pipistrelle	1	C
NV	20:20	Common Pipistrelle	2	C
C	20:23	Common Pipistrelle	1	C
D	20:24	Common Pipistrelle	2	C
A	20:27	Common Pipistrelle	2	C

Flightline Survey Results - Position 1				
Ref.	Time	Species	Passes	Activity
E	20:13	Common Pipistrelle	1	C
NV	20:25	Common Pipistrelle	1	F
NV	20:35	Common Pipistrelle	1	C

N

0 50 100 m

Site Boundary

Flightline Survey

Surveyor Locations

Common Pipistrelle

Flight Paths

Transect Survey*

Start Point

Finish Point

Transect Route

* Please note - no bats were observed or detected during the transect survey

date 01/11/24

drwn/chkd JS / II

client
Avant Homes Yorkshire

project
Thurnscoe Bridge Lane, Thurnscoe

title
FLIGHTLINE AND TRANSECT PLAN 04.09.24

scale 1:1,850 @ A3

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FIGURE 5

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N

0 50 100 m

Key

- Red Line Boundary

Baseline Habitats

- Cereal crops
- Mixed scrub
- Modified grassland
- Ruderal/Ephemeral
- Tall forbs
- Bare ground

Baseline Hedgerows

- Non-native and ornamental hedgerow
- Ecologically valuable line of trees
- Native hedgerow

Bat Tree Roosting Suitability

- FAR (if to be impacted by development)
- Negligible
- PRF-I

date: 06/11/24

drwn/chkd: SJH / XXX

client: **Avant Homes Yorkshire**

project: **Thurnscoe Bridge Lane, Thurnscoe**

title: **BAT TREE PLAN**

scale: 1:1,900 @ A3

number: **FIGURE 6**

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