

Activity Survey Results

January 2026

Birch Business Park

Moss Hall Road

Heywood

OL10 2SX

National Grid Reference: SD 8426 0869



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Executive Summary

As part of a proposed planning application with Rochdale Borough Council concerning Birch Business Park, Heywood, E3P carried out a Preliminary Ecological Appraisal (PEA) in February 2025.

Included within the PEA was an assessment of the habitats within the site boundary in relation to bat suitability. Based on this assessment the habitats were adjudged to pertain to '**High**' suitability in regard to foraging and commuting bats. As such, activity surveys were conducted in July and September 2025, based on assessment that the site held '**High**' suitability in relation to commuting and foraging habitat for bats.

Results:

A total of 3074 bat calls were recorded throughout the NBW surveys, comprising common pipistrelle and noctule bats.

A total of 7677 calls were recorded by static detectors during the survey period; these almost entirely consisted of common pipistrelle (99.88%), with rare recordings of noctule (0.07%), soprano pipistrelle (0.04%), and whiskered / Brandt's (0.01%).

Evaluation of the number of calls and quality of habitat present identified the site as of District level importance for small numbers of common pipistrelle, and individual soprano pipistrelle, whiskered/Brandt's, and noctule. The species assemblage is not of geographical significance.

Recommendations:

An illustrative landscape masterplan has been produced for the development which indicate some retention of habitats, notably the pond in the south-western corner of the site along with the associated mixed scrub and broadleaved woodland habitats, a partial retention of the willow scrub and reedbeds in the north-eastern section of the site, and the hedgerow and line of trees linear habitats along the north-western and south-eastern borders. However, given the proposed works, the following broad impacts have been identified:

- Permanent loss of foraging habitat to the due to encroachment of development into these areas,
- Permanent loss of linear commuting features to allow for permanent access for vehicles,
- Increased lighting and disturbance levels of foraging and commuting habitats.

*Mitigation measures have been provided in **Section 5.0** in line with the mitigation hierarchy and informed by the landscaping plan. Measures include the avoidance of loss of key commuting / foraging routes, the implementation of a bat sensitive lighting plan, the implementation of pollution control measures to protect the wetland habitat, the replanting of individual trees and scrub to compensate for loss of foraging and commuting habitat, and the erection of new bat boxes to enhance the value of the site and to provide roosting opportunities, all of which should be taken into consideration in the relevant BNG scheme for the site.*

Survey Validity:

Bat surveys are typically **valid for a period of 12-18 months**; Ideally, the survey data should be from the most recent optimal survey season before a planning application is submitted, however this is at the discretion of the Local Planning Authority. Should your planning application not achieve consent within this time period, updated surveys may be required.

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- *Birch Business Park – Preliminary Ecological Appraisal Report Ref: 82-299-R1-1 (E3P, February 2025)*

1.0 Background & Introduction

- 1.1 As part of a proposed planning application with Rochdale Borough Council concerning Birch Business Park, Heywood, E3P carried out a Preliminary Ecological Appraisal (PEA) in February 2025 (see **External Appendices**).
- 1.2 The survey was commissioned by Yeargate Limited; proposals are understood to involve the erection of an industrial unit with associated access and carparking within an existing area of semi-natural habitat bordering the north of the business park. See **Figure 1.1** for an indicative proposed site plan.



Figure 1.1 – Illustrative Masterplan of site (© Fletcher-Rae)

- 1.3 Included within the PEA was an assessment of the habitats within the site boundary in relation to bat suitability. Based on this assessment the habitats were adjudged to pertain to '**High**' suitability in regard to foraging and commuting bats. Tyrer Ecological Consultants Ltd were therefore commissioned by Yeargate Limited to undertake the recommended activity surveys in relation to bats at the site in July and September 2025 in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) (see **Figure 1.2** overleaf).
- 1.4 The surveys aimed to identify how the habitats on site are being used by bats through Nighttime Bat Walkover (NBW) surveys with additional information provided by automated / static bat detector surveys in line with appropriate guidance.

Table 8.3. Minimum recommended number of repeats for activity surveys.			
Survey type	Low suitability habitat for bats ^a	Moderate suitability habitat for bats	High suitability habitat for bats
NBW	One survey visit ^b per season (spring – April/May, summer – June/July/August, autumn – September/October) ^c . Further surveys may be required if these visits, or the results of static detector surveys, reveal activity of interest that requires more observation on site.		
Automated/static bat detector surveys ^d The same locations should be used for each survey for comparison.	Data to be collected for a minimum of five consecutive nights per season (spring – April/May, summer – June/July/August, autumn – September/October) ^e in appropriate (or the best available) weather conditions for bats.	Data to be collected for a minimum of five consecutive nights per month (April to October) ^f in appropriate (or the best available) weather conditions for bats.	

Figure 1.2 – Extract from BCT guidelines 2023 on activity surveys

- 1.5 This report should be read, understood, and presented to the local authority as an additional document to **Appendix I** (see Contents page) and other ecological outputs associated with the application.

2.0 Bats – Legislation & Policy

2.1 All British bats and their ****roosts**¹ are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of a site by Bats

- a) Summer breeding roost (May – August)
- b) Hibernation roost (October – March)
- c) Swarming sites (September – October)
- d) Transitional or temporary roost (Mainly spring/summer months)

2.3 Bats can use a variety of habitats throughout the active season, and therefore activity surveys are valuable where the proposals are likely to impact on habitats suitable for bats and establish their flight-paths, foraging and social behaviour (such as calling for mates in the mating season or swarming in the autumn).

2.4 Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance; climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

*** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a breeding site or resting place of such an animal” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.*

2.5 Up to ten bat species have been recorded in Greater Manchester, many of which use built structures, notably occupied residential buildings, for roosting. Bats also utilise multiple trees, often ‘roost switching’ between suitable trees in a given area, though typically returning to the same trees each year. A variety of tree features are utilised by bat species at different times of year, with larger cavities required for maternity roosting and smaller cracks, splits and rot holes for day or transitional roosting; some species of bat also utilise tree cavities for hibernation purposes. The most frequently encountered species is the common pipistrelle bat (*Pipistrellus pipistrellus*); its abundant status in Greater Manchester is mirrored throughout the UK.

Policy

2.6 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister – Circular 06/2005:

¹ ******The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a breeding site or resting place of such an animal” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision”.

2.7 Paragraph 193 of the National Policy Planning Framework (as revised in December 2024) states:

“When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons² and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

2.8 This national focus on the conservation of biodiversity and the natural environment is further echoed in Policy G7 of the Rochdale Core Strategy, adopted in October 2016, titled ‘Increasing the value of biodiversity and geodiversity’, which states:

“We will ensure that sites and features of biodiversity and geodiversity importance are given full and appropriate recognition and protection. Opportunities for enhancing biodiversity and geodiversity, creating new sites and features of interest and improving opportunities for public enjoyment will be supported. No development should result in a net loss of biodiversity or geodiversity interest in the borough and overall development in the borough should result in a net gain.”

This policy goes on to state:

“It is important to ensure that statutorily protected sites are given very strong protection e.g. the borough’s SSSI’s, SPA and SAC’s. Details in respect of requirements for new developments on or adjacent to the European Protected Sites will be contained within the Allocations DPD.

Where a development has the potential to affect the conservation interests of a site protected by European legislation, we will require full assessment of any impacts and mitigation measures, including Habitats Regulations Assessment as well as any required Environmental Assessment.

² For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat

For non-statutorily designated sites, development should not adversely affect its core ecological value and extent and wherever possible avoid and fully mitigate any impacts. Proposals should also take full account of protected species interest and the need to maintain existing population levels and minimize unavoidable impacts on either protected species or their habitats. It should be noted that 'brownfield' sites can be of significant biodiversity interest, and can also contribute to wider ecological networks, and this must be taken into account."

3.0 Survey Methods

- 3.1 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) edition states:

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate... The guidance should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”

- 3.2 Relative to the above the survey protocol has been determined using the collective and long-standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.
- 3.3 Bat activity surveys incorporate both manual and automated static bat detectors deployed at fixed locations to record bats remotely to establish species' richness and abundance. Many suggest that static surveys are more efficient (Stahlschmidt and Bruhl (2012), Braun de Torrez *et al.* (2017) and Teets *et al.* (2019)), whilst others conclude that a combination of both methods is important (Perks and Goodenough (2021)).

NBW Survey Protocol

- 3.4 The bat activity period is generally considered as being April – October inclusive. Typically, a total of three surveys would be undertaken, with one survey per season of Spring, Summer and Autumn. However, due to the period in which Tyrer were commissioned, the spring season had been missed. It was thus decided that the two remaining surveys would be undertaken, one in the summer season and the second within the autumn season. It is considered that this was a suitable effort to obtain sufficient survey data, alongside the data obtained from the automated static monitoring, to inform how bats are using the site and any mitigation measures required.
- 3.5 Therefore, timing of the surveys took place in July and September 2025 within the main active period of bats which covered the summer and autumn seasons of the 2025 bat active period, in accordance with guidance set out in the BCT Good Practice Guidelines (2023) (see **Figure 3.1** below). Surveys were completed when weather conditions were considered suitable (sunset temperature 10°C or above, no rain or strong wind).

Table 8.2. Recommended start and end times for activity surveys.		
Survey type	Start time	End time
Automated bat detector survey ^a	30 minutes before sunset	30 minutes after sunrise
NBW surveys	Sunset ^b	2/3 hours after sunset
Vantage point survey	Sunset ^b	When surveyors can no longer see bats due to falling light levels, unless supported by NVAs
^a Set detectors with location to track sunset/sunrise as the season progresses. ^b Adjust to earlier if in darker habitats such as woodland or if data justifies (e.g. if bats are already out by sunset on previous surveys or automated detectors show pre-sunset activity).		

Figure 3.1 – Extract from BCT guidelines 2023

- 3.6 The number, timing and arrangement of the manual and automatic surveys aim to determine the following factors:
- Likelihood of bats being present,
 - Likely species concerned,
 - Levels of activity / relative abundance,
 - Type and diversity of habitats affected,
 - Predict impact of the proposed development on bats,
 - Type and scale / size of proposed development.
- 3.7 The frequency that bats are encountered during nighttime bat walkovers will depend upon several factors.
- 1) Number of roosts within or in close proximity to the survey area and the number of individuals in the roost,
 - 2) The availability of quality foraging habitat and the distance to which it is located from a roost,
 - 3) The quantity and diversity of invertebrates. Where an abundance of quality or similar habitat is present then the distribution of bats tends to be greater, which will avoid competition for food and the frequency that bats are encountered may be reduced, which can give the impression that bat populations are low.
- 3.8 Furthermore, although there is often an overlap of species at some feeding sites, there can be a slight variation in actual foraging by each species, which is often subtle, and the peak feeding time is generally up to two hours post emergence and approximately an hour before dawn.
- 3.9 Use of foraging places will vary at different times of the year and will depend upon insect densities which in turn can be affected by climatic conditions both within the general and localized area; for example, around ponds which receive partial or no shelter at all or around woodland edge. Therefore, the optimum time to undertake habitat surveys for bats is May – October³ which covers the main activity period.
- 3.10 The surveys were undertaken by two ecologists from **Table 3.1** per transect. At the start of the activity surveys, the surveyors arrived on site and commenced vantage point observations just before sunset and were stationed on potential flight lines to note any commuting onto site by bats from potential nearby roost locations.
- 3.11 Surveyors then commenced the nighttime bat walkover (NBW) 30 minutes after sunset, following a pre-determined route. The route incorporated the habitats on site and those immediately adjacent that are likely to support commuting and foraging bat species, predominantly following linear features through and around the site.
- 3.12 All bat activity and echolocation calls were noted and recorded in respect to activity and genus.

³ April, September and October surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in Scotland, which may reduce the length of the survey season.

Table 3.1 – Surveyor credentials

Surveyor(s)	Experience	Surveyor Credentials
Miss K. Judson ACIEEM	4 years	- Consultant Ecologist with a range of training and experience, - BSc (Hons.) Biology and MSc Conservation Management (a CIEEM accredited course), - Accredited agent on the Class 2 Natural England bat licence of Mrs. K. Wilding (2025-84395-CL18-BAT).
Mr. H. Mulligan ACIEEM	3 years	- Consultant Ecologist and BNG Lead with a range of training and experience, - MBiolSci in Biological Sciences (Zoology), - Accredited agent on the Natural England Class 2 Bat Licence (2025-84395-CL18-BAT) of Mrs. K. Wilding.
Miss. H. McGlynn Qualifying CIEEM	1 year	- Junior Ecologist with a range of experience and currently undergoing extensive training, - BSc (Hons) in Ecology and Conservation and MSc in Conservation Management (a CIEEM accredited course), - Accredited agent on the Natural England Class 2 Bat Licence (2025-84395-CL18-BAT) of Mrs. K. Wilding.

Automated Static Monitoring

3.13 In line with BCT guidelines (2023), three automated bat detectors (Song Meter 2 Mini) were deployed on the site, in proximity to suitable foraging and commuting habitat; **Table 3.2** highlights the statics' locations (national grid reference and **Figure 3.2 – 3.3** show a visual representation of the static placement).

Table 3.2 – Static detector locations

Season	Static Detector	National Grid Reference
Summer (31 st July – 5 th August)	SM 1	SD 84279 08625
	SM 2	SD 84422 08833
	SM 3	SD 84238 08747
Autumn (23 rd – 29 th September)	SM 1	SD 84315 08654
	SM 2	SD 84412 08836
	SM 3	SD 84249 08742



Figure 3.2 – Location of Static Devices highlighted by ‘Song Meter’ (SM) numbers (Summer)



Figure 3.3 – Location of Static Devices highlighted by ‘Song Meter’ (SM) numbers (Autumn)

Valuing commuting and foraging areas

- 3.14 The framework for valuing bat roosts, commuting routes and foraging areas, Valuing Bats in Ecological Impact Assessment (Wray, *et al* 2010) was utilised to determine the geographic frame of reference for the significance of activity identified at the site. The rarity and number of bats was considered on a per-species basis in accordance with the updated information contained within the UK Bat Mitigation Guidelines: Version 1.2 (Reason & Wray, 2025), whilst the number of roosts or potential number of roosts nearby and characteristics of foraging and commuting habitat present was considered across the site (see **Figure 3.4** below).

Table 4: Valuing commuting routes			
Species	Number of bats	Roosts/potential roosts nearby	Type and complexity of linear features
Common (2)	Individual bats (5)	None (1)	Absence of (other) linear features (1)
-	-	Small number (3)	Unvegetated fences and large field sizes (2)
Rarer (5)	Small number of bats (10)	Moderate number/Not known (4)	Walls, gappy or flailed hedgerows, isolated well-grown hedgerows, and moderate field sizes (3)
-	-	Large number of roosts, or close to a SSSI for the species (5)	Well-grown and well-connected hedgerows, small field sizes (4)
Rarest (20)	Large number of bats (20)	Close to or within a SAC for the species (20)	Complex network of mature well-established hedgerows, small fields and rivers/streams (5)

Table 5: Valuing foraging areas			
Species	Number of bats	Roosts/potential roosts nearby	Foraging habitat characteristics
Common (2)	Individual bats (5)	None (1)	Industrial or other site without established vegetation (1)
-	-	Small number (3)	Suburban areas or intensive arable land (2)
Rarer (5)	Small number of bats (10)	Moderate number/Not known (4)	Isolated woodland patches, less intensive arable and/or small towns and villages (3)
-	-	Large number of roosts, or close to a SSSI for the species (5)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)
Rarest (20)	Large number of bats (20)	Close to or within a SAC for the species (20)	Mosaic of pasture, woodlands and wetland areas (5)

Figure 3.4 – Tables 4 & 5, extracted from Framework for valuing bat roosts, commuting routes and foraging areas

- 3.15 The overall score per-species was calculated, and the geographic frame of reference for the importance of the site for commuting and foraging, for each species, determined based on the Table 3 of the Wray *et al.* framework (see **Figure 3.5** below).

Table 3: Scoring system for valuing commuting and foraging bats	
Geographic frame of reference	Score
International	>50
National	41 - 50
Regional	31 - 40
County	21 - 30
District, local or parish	11 - 20
Not important	1 - 10

Figure 3.5 – Table 3, extracted from Framework for valuing bat roosts, commuting routes and foraging areas

- 3.16 Advice has been provided in Wray, *et al* (2010) pertaining to how the formula should be ran:

“For both commuting routes and foraging habitats, a scoring system has been developed to determine the appropriate geographic frame of reference. Usually, several bat species are present on a site, in which case each species should be valued individually, and the highest value obtained (usually for the rarest species present)”.

Valuing bat assemblage

- 3.17 CIEEM published updated guidance in 2023, the “UK Bat Mitigation Guidelines” (since updated as Reason and Wray, 2025)⁴, which includes a similar methodology to that detailed within Wray *et al.* (2010) to assess the importance of a bat species assemblage, through scoring species present based upon their rarity in a given region. The total score is then considered as a percentage of the maximum total score of that region, and a level of importance assigned based upon this percentage.

Survey Limitations

- 3.18 As stated in section 3.4 previously, due to the late stage at which Tyrer were commissioned, the Spring season of NBW surveys could not be undertaken. This is accepted as a limitation, however robust recommendations have been made using the available data, which includes a consideration, and thus a precautionary approach, to the absence of spring data at the site.
- 3.19 Within the autumn survey period, the automated statics were installed for a longer period in comparison to the summer period. Therefore, this could indicate a higher proportion of activity given the longer time frame in which to record calls. This is not considered to be a significant limitation with the additional calls not considered to have affected the results in an influential way given the analysis which breaks down the number of calls to a nightly average for direct comparison, though has been highlighted for the reader’s understanding regardless.
- 3.20 Following the completion of the further surveys, having carefully considered the results and conclusions derived from all surveys to date, no significant constraints were experienced that might hinder the gathering of ecological data on which to base sound conclusions and recommendations.

⁴ Reason, P.F. and Wray, S. (2025). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation, and compensation for development affecting bats. Version 1.2.* Chartered Institute of Ecology and Environmental Management, Ampfield.

4.0 Results

- 4.1 Two transect surveys were undertaken on 31st July and 23rd September 2025 by a total of two surveyors at a time. **Table 4.1** shows survey timings and weather conditions, whilst **Table 4.2** alongside **Figures 4.1 – 4.2** document the results of the nighttime bat walkover surveys.

Table 4.1 – Survey dates, times and weather conditions

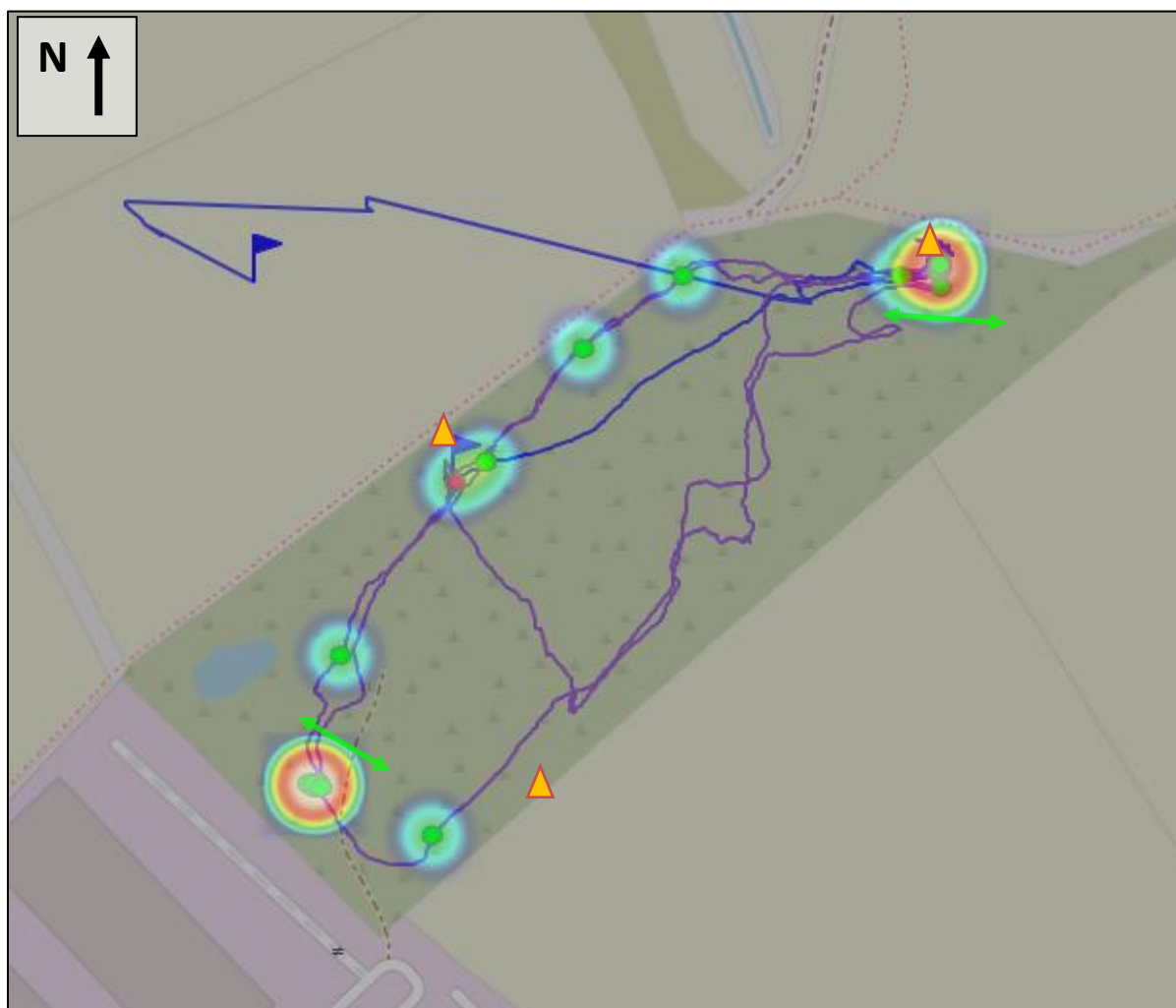
Date	Time	Weather Conditions
31 st July 2025	2107 – 2320	Sunset: 2107: Dry, Gentle breeze (2/12 Beaufort), 50% cloud cover Start temp: 12°C End temp: 11°C
23 rd September 2025	1905 – 2105	Sunset: 1905: Dry, Light air (1/12 Beaufort), 0% cloud cover Start temp: 10°C End temp: 8°C

Table 4.2 – NBW Survey results summary

NBW Season	Time	Activity
Summer 31 st July 2025	2107 – 2320	A total of 794 calls were recorded across the survey, with two species being recorded, as follows: - 788 common pipistrelle, between 2130 – 2316 - 6 noctule (<i>Nyctalus noctula</i>), all at 2140 2130 hrs: First recording – A common pipistrelle commuting at the north-eastern end of the site. 2316 hrs: The last call of the survey, comprised of a common pipistrelle foraging at the south-western end of the site. Key areas of activity for common pipistrelle included the north-eastern end of the site within the willow scrub area adjacent to linear tree and shrub features at the border of the site, and the mixed scrub and woodland area adjacent to the pond at the south-western end of the site. Noctule activity was recorded in one location in an area of wetland along the northern border. Activity during the survey comprised of occasional foraging and commuting by a single / small number of common pipistrelles with a single pass by a noctule. See Figure 4.1 for the key areas of activity.
Autumn 23 rd September 2025	1905 – 2105	A total of 2280 calls were recorded across the survey, a notable increase in activity, with only a single species being recorded: - 2280 common pipistrelle, between 1930 – 2053

Birch Business Park, Moss Hall Road, Heywood, OL10 2SX
Activity Survey Results in Relation to Bats

NBW Season	Time	Activity
		1930 hrs: First recording – A common pipistrelle foraging at the south-western corner of the site. 2053 hrs: The last call of the survey, comprised of a common pipistrelle foraging at the south-western corner of the site. Key areas of activity included the north-eastern end of the site within the willow scrub area adjacent to linear tree and shrub features at the border of the site, and the mixed scrub and woodland area adjacent to the pond at the south-western end of the site. Activity during the survey comprised of frequent foraging and commuting by small numbers of common pipistrelle. See Figure 4.2 for the key areas of activity.



Transect survey 1 – 31/07/2025

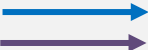
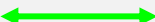
Key			
	Directional compass		Common pipistrelle calls
	Transect route		Noctule calls
	Key areas of activity		Location of song meters

Figure 4.1 – Visual Aid – Transect survey 1 results with Key (adapted ©OpenStreetMap 2018)



Transect survey 2 – 23/09/2025

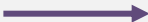
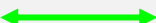
KEY			
	Directional compass		Common pipistrelle calls
	Transect route		Location of song meters
	Key areas of activity		

Figure 4.2 – Visual Aid – Transect survey 2 heatmap results with Key (adapted ©OpenStreetMap 2018)

Automated Static Monitoring

- 4.2 Static monitoring detectors, in this case Song Meter 2 Mini bat detectors, were deployed for a minimum of six days over the 2025 summer and autumn seasons, covering six days in July/August and seven days in September 2025. A total of 7677 calls were recorded over the survey period, with four species of bat recorded in total. These consisted almost entirely of common pipistrelle (**Pippip**) (99.88%), with rare recordings of soprano pipistrelle (*Pipistrellus pygmaeus*) (**Pippyg**) (0.04%), whiskered / Brandt's (*Myotis mystacinus* / *brandtii*) (**Myobra/Myomys**) (0.01%) and noctule (**Nycnoc**) (0.07%). Given the small percentages of soprano pipistrelle, whiskered / Brandt's and noctule, which totalled 0.12%, these species have been grouped as 'Others' for total records results and split by species for other sp. records results, for visual purposes on **Figures 4.3 – 4.5**.

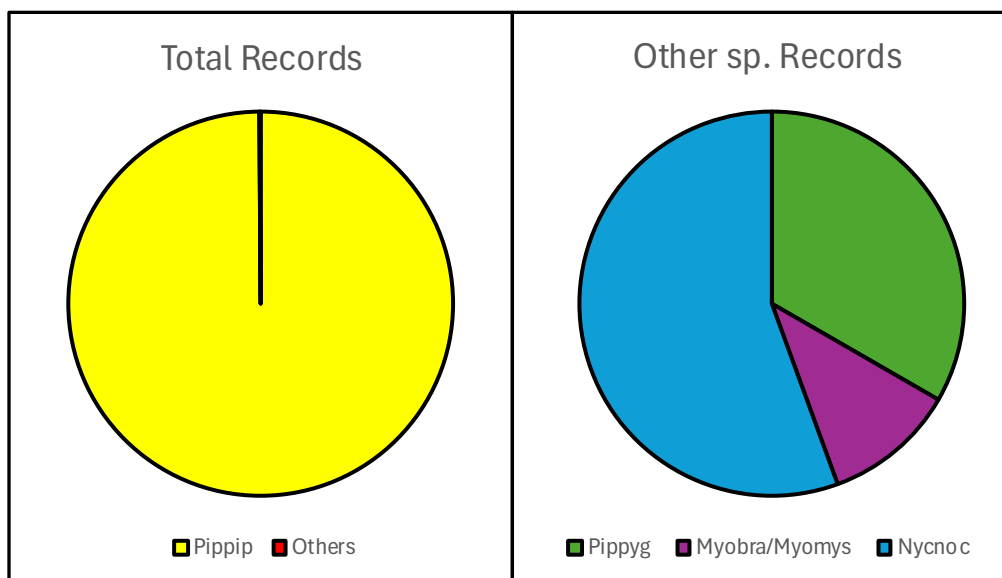


Figure 4.3 – Proportion of calls divided by species – total (left) and species forming less than 0.12% of the records (right) across the full survey period

- 4.3 Over the course of the two static monitoring periods, the SM1 static detector recorded the greatest number of calls, totalling 4898 calls, followed by the SM2 with 1739 calls and SM3 with 1040 calls.

Summer Static Summary

- 4.4 The summer static results included 5926 calls solely comprised of common pipistrelle (100%). Given that all calls were from the same species, no visual aid has been produced for the summer period.
- 4.5 The SM1 static detector, located along the south-western end of the site along the southern border, recorded the greatest number of calls, totalling 4407 calls. This was followed by SM2 and SM3 which recorded totals of 999 calls and 520 calls respectively.
- 4.6 The average daily total for the summer period across all static detectors on the site is 986 calls.

Autumn Static Summary

- 4.7 The data from the Anabat Expresses over the autumn period included 1751 calls throughout the survey period. These calls were almost completely comprised of common pipistrelle (99.49%),

with the remaining calls comprising of soprano pipistrelle (0.17%), whiskered / Brandt's (0.06%) and noctule (0.29%) (**Figure 4.4** overleaf).

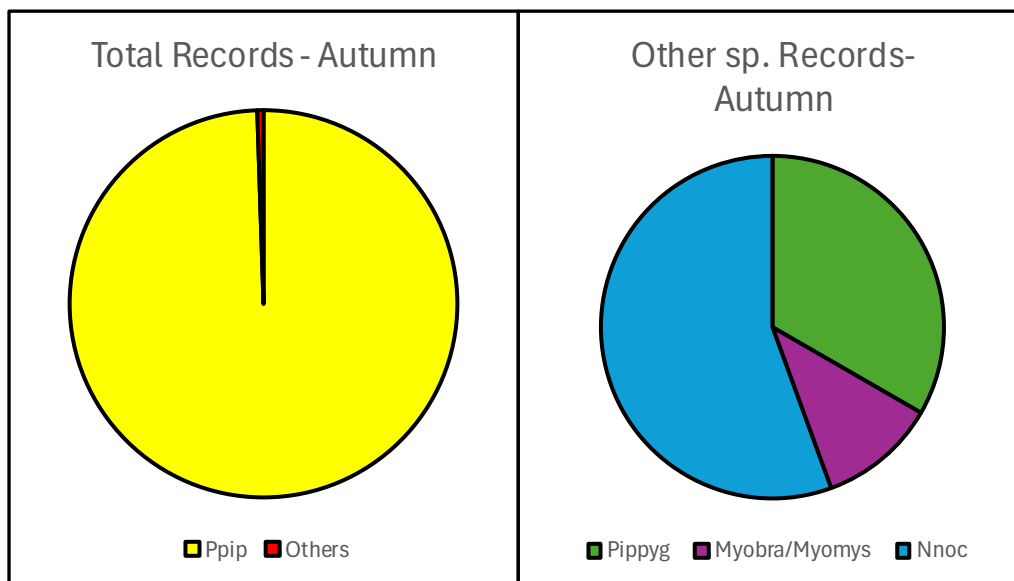


Figure 4.4 – Proportion of calls divided by species – total (left) and species forming less than 1% of the records (right)

- 4.8 The SM2 static detector, located at north-eastern end of the site within the willow scrub area, recorded the greatest number of calls, totalling 738 calls. This was followed by SM1 and SM3 which recorded totals of 485 calls and 519 calls respectively.
- 4.9 The average daily total for the autumn period across all static detectors on the site is 250 calls.

Valuing commuting areas

- 4.10 Utilising the *Wray et al.* framework for valuing bat roosts, the significance of the site for commuting bats was determined on a per-species basis. Where species share rarity within England and occurred in comparable numbers, they have been grouped (see **Table 4.3** below):

Table 4.3 – Evaluation of commuting routes for species recorded at the site

Species	Rarity (score)	Numbers (score)	Roosts nearby (score)	Type and Complexity of Linear Features (score)	Value (score)
Common pipistrelle	Common (2)	Small number of bats (10)	Small number (3)	Walls, gappy or flailed hedgerows, isolated well grown hedgerows, and moderate field sizes (3)	District, local or parish (18)
Whiskered / Brandt's, Noctule	Rarer (5)	Individual bats (5)	Not known (4)	Walls, gappy or flailed hedgerows, isolated well grown hedgerows, and moderate field sizes (3)	District, local or parish (17)

Species	Rarity (score)	Numbers (score)	Roosts nearby (score)	Type and Complexity of Linear Features (score)	Value (score)
Soprano pipistrelle	Common (2)	Individual bats (5)	Not known (4)	Walls, gappy or flailed hedgerows, isolated well grown hedgerows, and moderate field sizes (3)	District, local or parish (14)

Valuing foraging areas

- 4.11 The same methodology was applied in respect of foraging habitat to determine the geographic frame of reference for importance (see **Table 4.4** overleaf):

Table 4.4 – Evaluation of foraging habitat for species recorded at the site

Species	Rarity (score)	Numbers (score)	Roosts nearby (score)	Foraging Habitat Characteristics (score)	Value (score)
Common pipistrelle	Common (2)	Small number of bats (10)	Small number (3)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)	District, local or parish (19)
Whiskered / Brandt's, Noctule	Rarer (5)	Individual bats (5)	Not known (4)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)	District, local or parish (18)
Soprano pipistrelle	Common (2)	Individual bats (5)	Not known (4)	Larger or connected woodland blocks, mixed agriculture, and small villages/hamlets (4)	District, local or parish (15)

- 4.12 In line with the guidance within the framework, the highest score obtained through the analysis should be considered for the project. In this case, this is the '**District, local or parish level significance**' of the site obtained in relation to both commuting and foraging common pipistrelle, soprano pipistrelle, whiskered / Brandt's and noctule bats.
- 4.13 From the above data, it can be concluded that a minimum of four species of bat are utilising the site including the north-eastern section of the site where willow scrub is located adjacent to hedgerow and reedbeds, with further activity concentrated in the south-western section of the site where habitat containing broadleaved woodland and mixed scrub borders a large pond. Areas along the north-western border where hedgerow and wetland are present, and along the south-eastern border where grassland and a line of trees are present, are also being utilised by bats. The vast majority of activity belongs to common pipistrelle, a widespread species within Northern England, with isolated instances of soprano pipistrelle, whiskered / Brandt's bats and noctule being recorded.

- 4.14 No confirmed roosting behaviour was observed during the transect surveys, although the PEA (see **External Appendix**) noted several roosts associated with an industrial estate 820m to the north, a single roost associated with a residential building 710m to the north-east and a single roost associated with a farmhouse 460m south of the site, all of which were day roosts for common pipistrelle bats. In addition to this, there are several trees and small woodland patches to the south, south-east, south-west and north-west of the site which could contain features suitable for roosting bats. The combination of known roosts and possible roosting opportunities available in the surrounding landscape places the site as a potentially important central area from which small numbers of bats commute to for foraging, given its valuable foraging habitats.



Figure 4.5 – Map indicating approximate locations of bat roosts (yellow circles) in relation to the site boundary (red line) © Google Earth Pro 2025/26

Valuing assemblage importance

- 4.15 As per section 3.0, the importance of the bat species assemblage at the site was also considered; in this case, given the location of the site, the designated region is Northern England.
- 4.16 Two species classified as widespread in all geographies and thus scoring 1 point were recorded at the site: common pipistrelle and soprano pipistrelle. Two species classified as widespread in many geographies but not as abundant in all and thus scoring 2 points were recorded at the site: whiskered/Brandt's and noctule.
- 4.17 The maximum possible score for Northern England is given as 22; thus, the application site scores 6 out of a possible 22 points or 27.3%. The species assemblage recorded at the application site is therefore of **not of geographical significance**, being below the county level threshold.

N.B. *During assessment of the bat call recordings taken during the activity surveys and the static detector deployment, it was not possible to conclusively attribute calls to either whiskered or Brandt's bats, two very similar species which were only taxonomically separated in 1970. Since then a further species of bat, the Alcahroe (Myotis alcathoe), has been confirmed as a separate species, evidencing the cryptic nature of these bats. For the purposes of this assessment, it has been assumed that one of the two species was recorded, and all valuations carried out on this basis. It is acknowledged that it is possible both species occurred at the site, though this would have no impact on the importance of the assemblage given the low diversity of species recorded.*

5.0 Conclusions & Recommendations

- 5.1 Based on the combined nighttime bat walkover and automated static monitoring results, the site is considered to be of be significant at **District, local or parish level** for both commuting and foraging common pipistrelle, soprano pipistrelle, whiskered / Brandt's and noctule bats.
- 5.2 The site provides a foraging area comprised of willow scrub and hedgerow, adjacent to reedbeds, in the north-eastern section of the site and of broadleaved woodland and mixed scrub adjacent to a large pond in the south-western section of the site, all interspersed with grassland and wetland habitat across the site, providing a variety of habitats which act as valuable foraging resources for bats. The hedgerow along the north-western boundary and line of trees along the south-eastern boundary provide linear features that act as corridors for commuting. As such, the site provides valuable habitat for known roosts located to the north and south of the site.
- 5.3 An assessment of the range of species present on site indicates that the site is not of geographical importance for its bat species assemblage.
- 5.4 Based on the increased number of calls recorded by the SM1 static detector across the two survey periods, the line of trees and associated grassland along the southern border towards the south-western corner of the site represent important habitats for commuting and foraging bats relative to the site. Whilst the SM2 and SM3 static detectors recorded considerably less activity over the survey periods, their associated habitats of willow scrub in the north-eastern section of the site and of wetland and individual trees along the northern border still represent key areas of use by bats relative to the site, confirmed from the results of the nighttime bat walkover surveys.
- 5.5 Proposals for the site include the erection of an industrial unit with associated access and carparking within an existing area of semi-natural habitat bordering the north of the business park. Ecological documentation produced for the site, such as the PEA report produced by E3P (see **External Appendix I**) and the Illustrative Masterplan by Fletcher-Rae Ltd (see **Figure 5.1** overleaf), have been utilised to assess the relative impact of the development in relation to bats; it is acknowledged that these plans are indicative and are not yet finalised. Thus, the impact assessment outlined below will likely require updating following completion of the plans to ensure that recommendations remain applicable.
- 5.6 Based upon these plans some habitats on site are to be retained, including the pond in the south-western corner of the site along with the associated mixed scrub and broadleaved woodland, a partial retention of the willow scrub and reedbeds in the north-eastern section of the site, and the linear boundary features including hedgerow and line of trees habitats along the north-western and south-eastern borders, all of which were identified to support bat foraging and commuting activity. See **Figure 5.2** for an overlay of the illustrative masterplan and the key areas of bat activity within the site.

Birch Business Park, Moss Hall Road, Heywood, OL10 2SX
Activity Survey Results in Relation to Bats

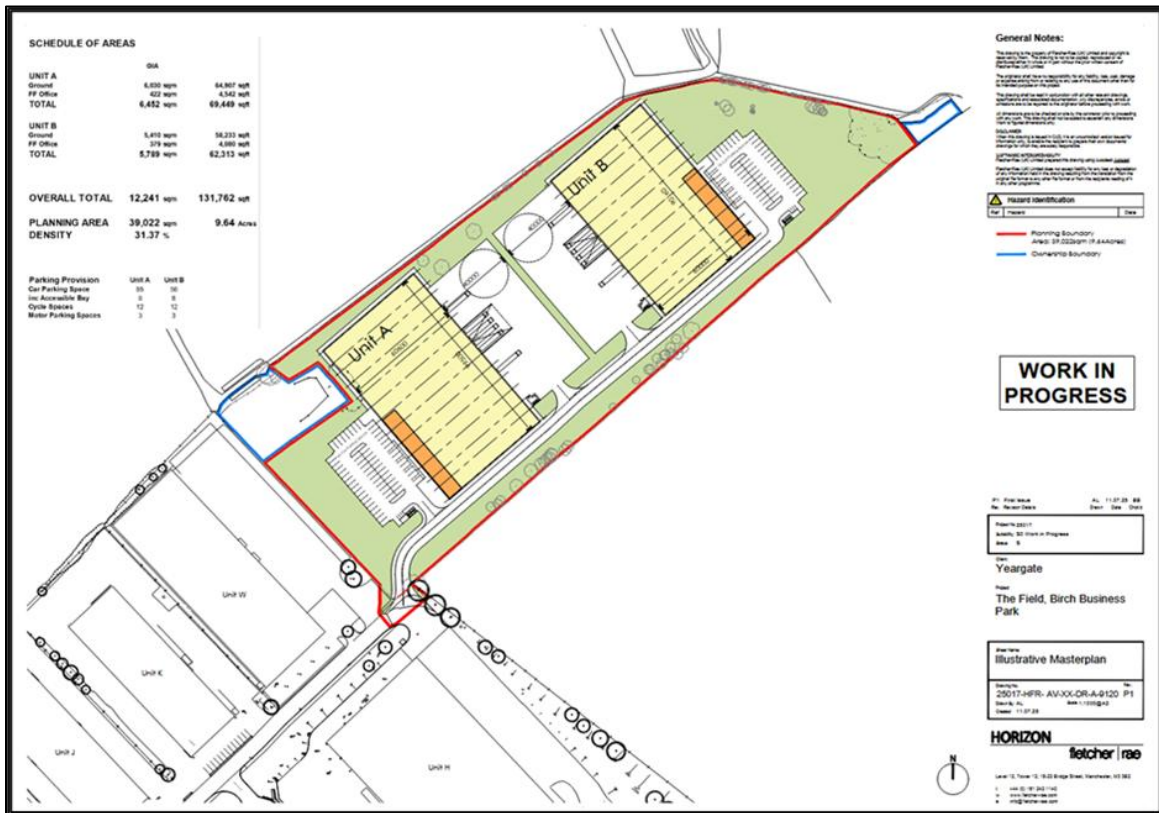


Figure 5.1 – Illustrative Masterplan of site (© Fletcher-Rae)

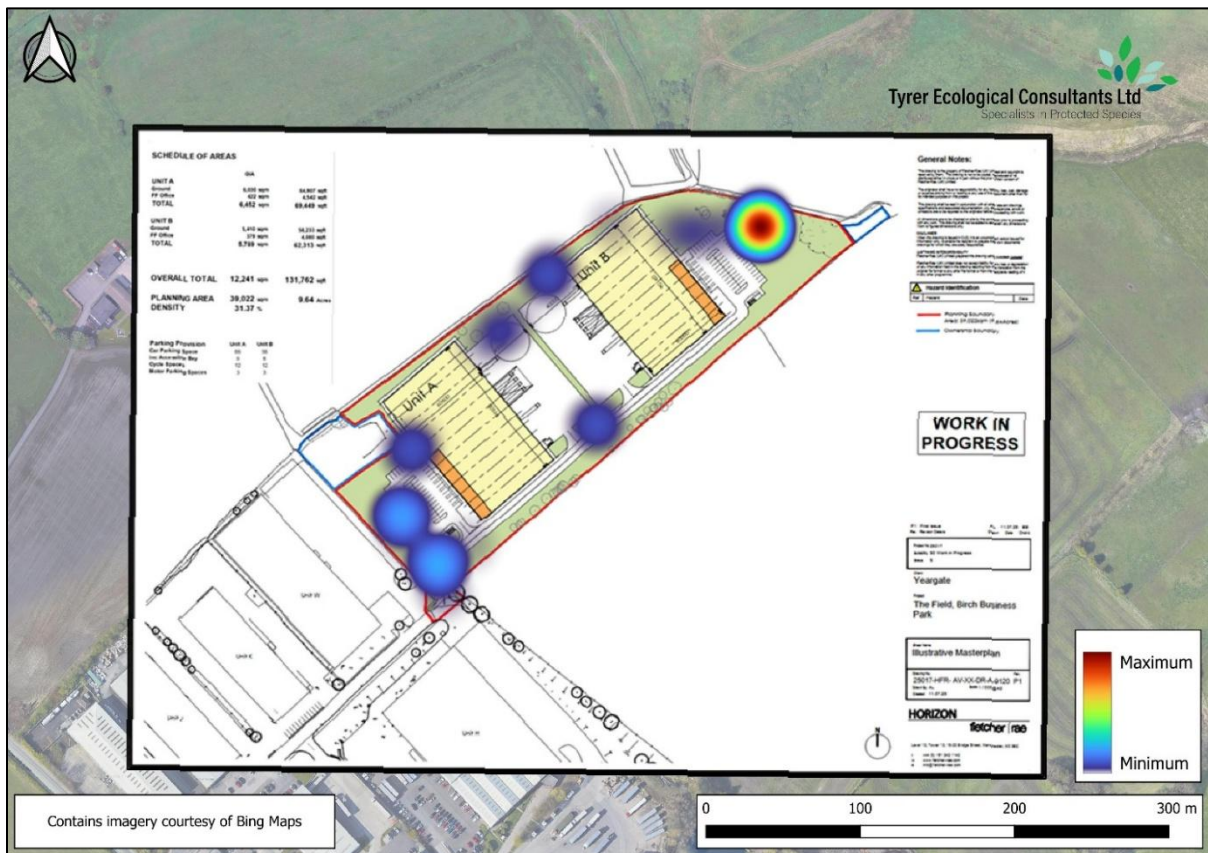


Figure 5.2 – Heatmap showcasing key areas of bat activity relative to illustrative masterplan

- 5.7 Despite the retention, the proposed development encroaches upon the wetland area along the north-western border and the grassland and mixed scrub areas along the south-eastern border, reducing the openness and available habitat of these areas. Additionally, whilst important areas of habitat are retained in the south-western and north-eastern sections of the site where high levels of bat foraging activity were concentrated, there is still encroachment onto these areas which will likely increase their levels of light and disturbance, as well as reducing the extent of open areas being used for foraging. Therefore, the following broad potential impacts have been identified:
- Permanent loss of foraging habitat to the due to encroachment of development into these areas,
 - Permanent loss of linear commuting features to allow for permanent access for vehicles,
 - Increased lighting and disturbance levels of foraging and commuting habitats.
- 5.8 No trees were identified to host PRFs that may be able to support bats and as such all trees on site were categorised as pertaining to a bat roost suitability of 'None' in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) in the PEA produced by E3P (see **External Appendix**). As such, there is not considered to be any loss of potential roosting habitat at the site itself.
- 5.9 To minimise the negative effects of potential impacts upon bats utilising the site, the following mitigation measures should be applied in a stepwise approach and in line with the mitigation hierarchy.

Avoidance

- 5.10 Key areas of bat activity along linear corridors and within habitat features as identified in section 4.0 should be retained as much as possible, beyond the currently projected loss of habitat from the proposed development. According to the proposed plans, considerable areas of key habitat are being lost, whilst retained areas are being significantly reduced in openness. The majority of linear boundary features are being retained, although the adjacent habitats forming corridors for foraging and commuting bats are being reduced in extent and will be confined to a much narrower area. Therefore, habitat features acting as focal points to commuting and foraging bats are significantly impacted by the proposed works. If this loss cannot be avoided in the finalised plans for the site, then mitigation and compensation will be required to account for both the loss and reduction in extent of valuable habitat features.
- 5.11 Habitats within the central aspect, namely species-poor and species-rich neutral grassland, in association with sections of other habitats including mixed scrub, reedbeds, willow scrub, wetland (awaiting further surveys for possible lowland fen priority habitat) and individual trees, are all indicated to be lost during development as per the relevant plans. Further to this, several log and brash piles in the north-eastern section of the site will also be lost. As mentioned above, areas to be lost where bat activity was concentrated will require mitigation and compensation but since activity during the NBW surveys was not recorded in the central grassland area, mitigation and compensation for this loss will not be required in relation to bats.
- 5.12 Habitat protection as outlined in the relevant ecological documentation (see **External Appendix**) aim to avoid degradation to certain habitats. This includes areas of wetland such as reedbed and 'lowland fen' which will require adherence to best practice guidelines in relation to pollution to avoid spillage of fuels or chemicals that could run off from the site works, and the production of dust, that could damage these habitats. Additionally, any trees or scrub retained should be demarcated with fencing to protect them from development and any areas that are lost should be replanted as soon as practicable on the same aspect from which they are lost.

Mitigation

- 5.13 During the operational phase of the development, impacts on retained habitats to the south-west and north-east of the site, as well as areas to the northern and southern borders, due to the potential increased lighting from new industrial units and associated car parks should be minimised through the implementation of a sympathetic lighting scheme (as indicated overleaf in **Figure 5.3**).
- 5.14 To mitigate for the loss of habitat in the south-western corner of the site, it is recommended that taller woody species are planted to maintain favourable connectivity and all bats to continue to traverse the landscape around the site.

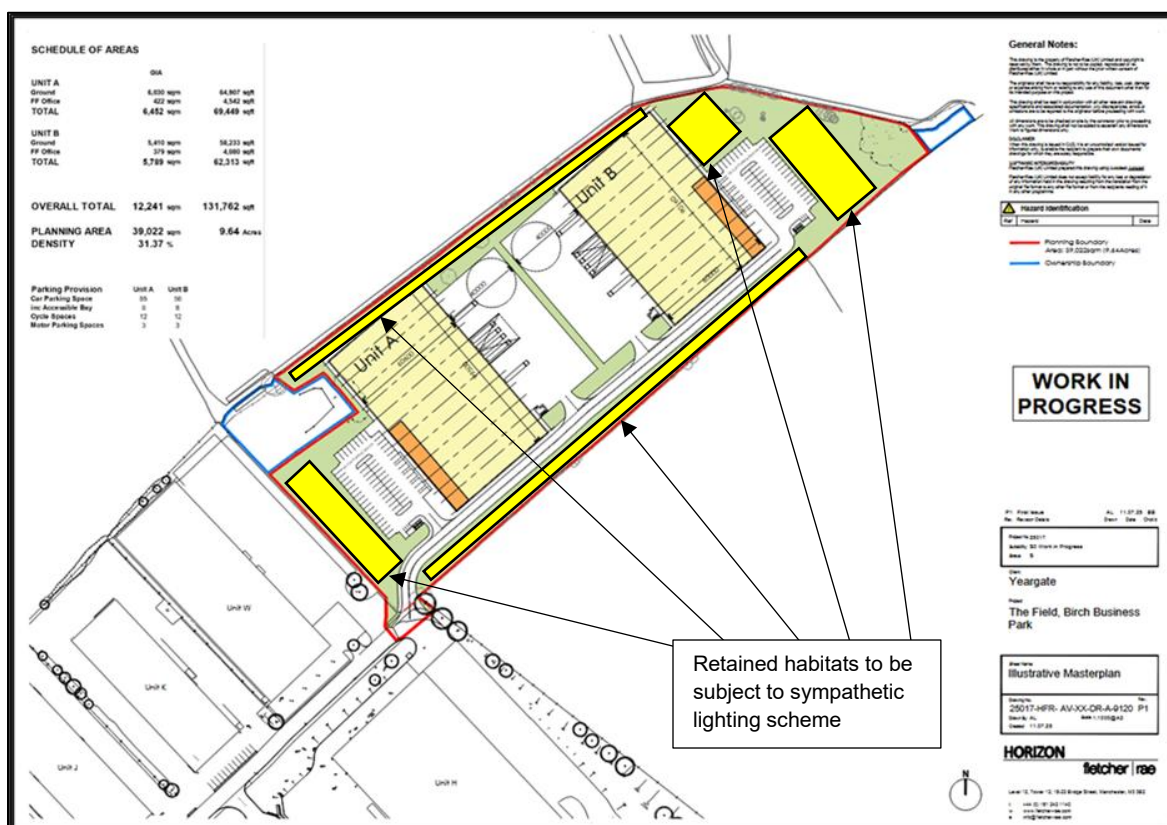


Figure 5.3 – Illustrative Masterplan of site (adapted © Fletcher-Rae) showing areas of retained habitats to be subject to sympathetic lighting scheme

- 5.15 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, particularly if increased light spillage occurs in areas of that are currently free from illumination. **A bat-sensitive lighting plan will be required for the site** in order to avoid potential impacts to bats that may use the site. The lighting plan should include the minimisation of light spillage on the boundaries of the site where favourable habitat is to be retained, and additional habitat creation measures implemented. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information.

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill.
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand.
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Enhancement

- 5.16 Some key areas, including wetland, log and brash piles, and individual trees along the north-western border, grassland and mixed scrub along the south-eastern border, and sections of willow scrub and reedbeds to the north-east of the site, are deemed as not being possible to be retained, given the scale of works and as indicated by the Illustrative Masterplan. As such, the loss of these areas will need to be adequately mitigated through enhancement; it is therefore recommended that favourable management of retained habitats including the area of wetland along the north-eastern border, the area of grassland and scrub along the south-eastern border, and the areas of willow scrub and reedbeds to the north-east of the site, is carried out to retain the value of foraging habitats and commuting corridors for bats utilising the site. It is also recommended that the planting of taller woody species is carried out along the western, southern and northern borders to maintain habitat connectivity and ensure that bats can continue to use the boundaries of the site to traverse through the landscape.

- 5.17 Since biodiversity net gain (BNG) is applicable to the site, it is recommended that the BNG scheme considers the use of the site by bats, includes appropriate botanical species for planting and incorporates measures to enhance the foraging value of the site for bats.
- 5.18 Habitat protection and creation work as outlined in the relevant ecological documentation (see **External Appendix**) aim to provide new foraging and commuting opportunities to compensate for habitats lost during development. The habitat creation works within the site boundary are determined to present a range of foraging and commuting opportunities to bats which should aim to sufficiently compensate for lost habitats and retain the sites overall value to bats, preserving the sites role as a foraging area and commuting corridor through the landscape. To ensure that these habitats are of good value for bats, these areas should be incorporated into the lighting plan to minimise light spillage.
- 5.19 Areas for enhancement or creation of scrub that are recommended to be included in the BNG scheme should aim to plant native species that attract invertebrates and provide a food resource for foraging bats. This could include plant species that support nocturnal insects like moths, such as hawthorn (*Crataegus monogyna*), dog-rose (*Rosa canina* agg.), blackthorn (*Prunus spinosa*) and willow (*Salix* spp.). Where stands of trees have been lost, the species which have been felled should be considered for replanting; alternatively, species such as pedunculate oak (*Quercus robur*), field maple (*Acer campestre*), alder (*Alnus glutinosa*), downy birch (*Betula pubescens*) and wild cherry (*Prunus avium*) may be suitable depending upon the specific soil conditions.
- 5.20 Despite the fact that no bat emergence/re-entry has been recorded or potential roost features on individual trees identified, and whilst no European Protected Species Mitigation Licence is likely required to damage or destroy any trees, roosting opportunities should be created as an enhancement measure for the site. This could include the erection of integrated and wall-mounted bat boxes on the newly created buildings and incorporation tree-mounted bat boxes on individual trees to be retained.
- 5.21 Examples of appropriate boxes and plants to be included within the landscaping plans of the site have been provided in **Appendix I**. All mitigation measures should be established during creation of the post-development plans for the site, to ensure they can be integrated with the plans at the earliest stage.

6.0 References

- **Bat Conservation Trust (BCT)**, 2023. *Bats and Artificial Lighting at Night, Guidance Note GN08/23*. Available from: <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>
- **Bat Tree Habitat Key**, 2018. *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Pelagic Publishing.
- **Braun de Torre, E.C., Wallrichs, M.A., Ober, H.K. & McCleery, R.A.**, 2017. *Mobile acoustic transects miss rare bat species: implications of survey method and spatio-temporal sampling for monitoring bats*. PeerJ 5:e3940.
- **British Standards Institution (BSI)**, 2020. *BS 8683 Process for designing and implementing Biodiversity Net Gain – Specification*. Available from: <https://standardsdevelopment.bsigroup.com/projects/2018-02413#/section>
- **CIEEM et al**, 2019. *Biodiversity Net Gain: Good practice principles for development*. Available from: www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf
- **CIEEM**, 2016. *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Available from: www.cieem.net/data/files/Publications/Guidelines_for_Preliminary_Ecological_Appraisal_Jan2018_1.pdf
- **CIEEM**, 2015. *Guidelines for Ecological Impact Assessment in the UK and Ireland*, 2nd edition. Available from: www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2015.pdf
- **CIEEM**, 2015. *UK Guidelines for Accessing and Using Biodiversity Data*. Available from: www.cieem.net/data/files/Publications/Guidelines_for_Accessing_and_Using_Biodiversity_Data.pdf
- **Collins, J (ed.)** 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust, London.
- **Communities & Local Government (C&LG)**, 2024. *National Planning Policy Framework*. Available from: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- **Magic Maps Application**, 2025. Available from: www.natureonthemap.naturalengland.org.uk/MagicMap.aspx
- **Mitchell-Jones, A. J.**, 2003. *Bat mitigation guidelines*. External Relations Team, English Nature, Northminster House, Peterborough, PE1 1UA.
- **Mitchell-Jones, A. J. (ed.)**, 1986. *The bat worker's manual*. Dept. BWM, Nature Conservancy Council, Northminster House, Peterborough, PE1 1UA.
- **Perks, S.J. & Goodenough, A.E.** 2022. *Comparing acoustic survey data for European bats: do walked transects or automated fixed-point surveys provide more robust data?* Wildlife Research, 49. pp. 314-323.
- **Reason, P.F. & Wray, S.** 2025. *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2*. Chartered Institute of Ecology and Environmental Management, Ampfield
- **Stahlschmidt, P. & Brühl, A.**, 2012. *Bats as bioindicators – the need of a standardized method for acoustic bat activity surveys*. Methods in Ecology and Evolution volume 3, issue 3, pp. 503-508.

- **Teets, K.D., Loeb, S.C. & Jachowski, D.S.**, 2019. *Detection probability of bats using active versus passive monitoring*. *Acta Chiropterol* 21:205-213.
- **Wray, S., Wells, D., Long, E. & Mitchell-Jones, T.**, 2010. "Valuing Bats in Ecological Impact Assessment." *In Practice*, no. 70, pp. 23–25.

Appendix I: Enhancing a development site for bats

Numerous integrated bat boxes are available commercially, including both smaller boxes suitable for individual/low numbers of bats, larger boxes which would be appropriate for maternity colonies, and boxes which provide access to the wall cavity. Frequently they can be refaced with the chosen cladding/external material for the new dwellings/buildings, and due to their integrated nature can often secure longer-term compensation/enhancement for bats than externally fitted boxes. One example is the Istock Enclosed Bat Box 'B'.



The 2F is the standard and most popular Schwegler bat box. It is ideal as a starter box to see if there are bats in your area or to provide much needed secure roosting space. It has been designed as a summer roosting space for bats and has a simple entrance hole at the front. The 2F is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects. Woodcrete is breathable and maintains a stable temperature inside the box and the 2F is painted black to absorb warmth. It also provides a rough surface for bats to cling to and climb up. The 2F bat box can be sited on a tree or building and is best positioned at a height of between 3m to 6m in an open sunny position. A group of 3 to 5 boxes facing in different directions will provide a variety of micro-habitats.



An alternative to the above is the Eco Kent Bat Box, which is suitable for crevice-dwelling species. The two crevices inside the box are approximately 18mm wide, ideal for common and soprano pipistrelles. The FSC-certified spruce wood is rough on the inside providing good grip for bats once inside the box. This box is self-cleaning and does not require any maintenance, as the droppings fall straight down out of the bottom entrance.



These bat boxes can be mounted on either a tree or building using the 3 concealed keyhole fixings located at the top of the box. If possible, site the box at a height of between 4m and 6m in a sheltered sunny place, away from artificial light sources. The box should not be positioned in direct sunlight. Ideally, several boxes should be placed facing different directions, as this provides a choice for roosting bats. A clear path to the entrance of the box is essential.

Native Planting and/or Landscaping

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*), Rowan (*Sorbus aucuparia*), Guelder-rose (*Viburnum opulus*) and Hawthorn (*Crataegus monogyna*) are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shield-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils - suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils - suitable for rockeries
	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
Aquatic/marginal plants	Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Ponds
	Marsh Marigold	<i>Caltha palustris</i>	Marginal vegetation
	Ragged Robin	<i>Silene flos-cucculi</i>	Marginal vegetation
	Water Mint	<i>Mentha aquatica</i>	Marginal vegetation
	Water-violet	<i>Hottonia palustris</i>	Ponds
	White Water-lily	<i>Nymphaea alba</i>	Ponds
Climbers	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
Woody Shrubs	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
	Holly	<i>Ilex aquifolium</i>	-
	Blackthorn	<i>Prunus spinosa</i>	-
Trees	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-

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	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
	Wych Elm	<i>Ulmus glabra</i>	-

External Appendix I – *Birch Business Park – Preliminary Ecological Appraisal Report Ref: 82-299-R1-1 (E3P, February 2025)*