

Ecological Impact Assessment

Land off Trowbridge Road, Bradford-on-
Avon

22 April 2026

Ecology
Arboriculture
Land Management



Report Details

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Site Details

Site Name and Location	Land off Trowbridge Road, Bradford-on-Avon
Central OS Grid Reference	ST838600
Client	Waddeton Park Ltd

Boundary



Executive Summary

Site Location	The Site is located in the southern extent of the town of Bradford-on-Avon, directly east of Trowbridge Road. Existing residential development is present to the north-west, with the River Avon Local Wildlife Site (LWS) c.10m to the north-east, Wid Brook and Widbrook Woods LWS c. 10m to the east and broadleaved woodland to the south.
Proposals	Outline application (with all matters reserved except for access) for the erection of up to 224 residential dwellings (Class C3), 72-bed care home (Class C2), with sports pitch provision, country park, landscaping and open space.
Survey Work	Desk-based study, UK Habitat Classification survey, bat activity survey, bat automated detector survey, badger monitoring survey, breeding bird survey, dormouse survey, great crested newt eDNA survey and riparian mammal survey.
Designated Sites with Potential Impacts	Bath and Bradford-on-Avon Bats Special Area of Conservation (SAC) and all non-statutory sites within 1km.
Baseline Habitats	The Site comprises one arable field and several fields of modified grassland, which are bound by a network of native species-rich hedgerows, native species-rich hedgerows with trees, native species-poor hedgerows, native species-poor hedgerow with trees, and tree lines. One of these tree lines (LOT6) contains a veteran field maple at its southern extent. Furthermore, a pond is present in the east of the Site alongside a number of individual trees and discrete areas of bramble scrub, tall forbs and buildings and developed land; sealed surface.
Protected/ notable Species	The Site supports commuting and foraging bats (including Annex II species), an assemblage of breeding birds and [REDACTED]. The Site is considered likely to support a population of common reptile species within the hedgerow bases, tall forbs and pond habitats. A breeding population of beaver are present c.15m off-site to the north within the River Avon, and evidence of foraging/commuting beaver and otter were recorded c.10m off-site to the east in Wid Brook. Great crested newt and dormouse are both considered to be absent from the Site.
Mitigation and Compensation	👉 Significant open-space provision comprising c. 14.25ha of other neutral grassland, c. 3.45ha of other broadleaved woodland, c. 3.51ha of modified grassland and c. 0.07ha of traditional orchard to provide habitats of intrinsic ecological value and offset potential visitor pressures on nearby designated sites. 👉 Retention and protection of the majority of hedgerows, tree lines and individual trees through establishment of Root Protection Areas (RPA), with five hedgerows to be enhanced. 👉 Retention and protection of pond. 👉 Establishment of 10m buffer between the Site boundary, and both the River Avon and Wid Brook, to avoid impacts on their riparian zones, beaver and otter. Adherence to Pollution Prevention for Businesses (2024) during construction will also mitigate impacts. 👉 Retention and protection [REDACTED] (MS1; main sett and OS4; outlier sett) with 20m buffer. Closure of one outlier set (OS3 within proposed area of built environment. 👉 Provision of 2no. skylark plots within undisturbed, central area of other neutral grassland POS. 👉 Sensitive timings of works and production of sensitive lighting strategy to protect commuting and foraging bats, breeding birds and reptiles, and precautionary measures to protect hedgehog. 👉 Production of CEMP and HMMP to mitigate impacts during construction and detail methods and strategies to create and manage habitats in the long-term.

Biodiversity Net Gain	A separate BNG Statement and Assessment Report is provided (GE Consulting, 2026a)).
Enhancements	- Integrated bird boxes to be installed on the new dwellings. - Integrated bat boxes to be installed on the new dwellings. - Bee bricks to be installed on the new dwellings. 4 no. hibernaculum/habitat piles within sheltered areas of suitable habitat. - Hedgehog highways within gardens.

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1 Introduction

This report presents the results of an Ecological Impact Assessment (EcIA) at Land off Trowbridge Road, Bradford-on-Avon in relation to an outline planning application. The surveys were commissioned by Waddeton Park Ltd.

The area within the application boundary is hereafter referred to as the 'Site'.

1.1 Site Context

The Site is located in the southern extent of the town of Bradford-on-Avon, directly east of Trowbridge Road. Existing residential development is present to the north-west, with the River Avon LWS to the north-east, Wid Brook and Widbrook Woods LWS to the east and broadleaved woodland to the south.

1.2 Description of Proposed Development

Proposals consist of an outline application (with all matters reserved except for access) for the erection of up to 224 residential dwellings (Class C3), 72-bed care home (Class C2), with sports pitch provision, country park, landscaping and open space.

1.3 Aims

The aims of this report are to:

-  Identify and describe the habitats and species likely to be affected by the proposed development and assess the ecological value of these features;
-  Identify key ecological constraints to the proposed development and evaluate the significance of any potential effects; and,
-  Provide recommendations for mitigation and enhancement opportunities in accordance with relevant planning policy, legislation and other published guidance (see **Appendix 2**).

2 Methods

2.1 Ecological Scoping and Baseline Data Collection

2.1.1 Desk Study

A desk-based study was undertaken in January 2025 whereby:

- ✎ Wiltshire & Swindon Biological Records Centre (WSBRC) was contacted for records of protected/ notable species and sites designated for nature conservation value within a 2km radius of the Site boundaries.
- ✎ MAGIC (www.magic.gov.uk) was searched for international designated sites (SAC, SPA and Ramsar) within 10km, Habitats of Principal Importance (HPI) and EPS Mitigation Licences within or adjacent to the Site; and
- ✎ Aerial photography of the wider area was reviewed to identify possible important habitat features.

2.2 Field Surveys

Table 1 summarises the surveys undertaken to provide ecological baseline information for the Site. Full details are provided in the appendices.

Table 1: Summary of Baseline Data Collection Surveys

Survey Type	Date (s)	Relevant Appendix
Extended UK Habitat Classification Survey	January 2025	Appendix 3
Grassland Survey and Biodiversity Net Gain (BNG) condition assessment	May 2025	Appendix 3
Badger Monitoring Survey	May – June 2025	Appendix 4
Bat Activity Survey	May – September 2025	Appendix 5
Bat Automated Detector Survey	April – October 2025	Appendix 5
Breeding Bird Survey	April – June 2025	Appendix 6
Dormouse Survey	April – October 2025	Appendix 7
Great Crested Newt eDNA Survey	May 2025	Appendix 8
Riparian Mammal Survey	May – September 2025	Appendix 9

2.3 Biodiversity Net Gain Assessment

A baseline BNG assessment was undertaken using the statutory biodiversity metric (released in July 2024) to assess the pre-development and indicative post-development value of the habitats on Site following current guidance (Defra, 2024). Further details are provided in the BNG Statement and Assessment Report (GE Consulting, 2026a).

2.4 Baseline Evaluation and Impact Assessment

Determining the importance of ecological features was undertaken in accordance with the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment in

the UK and Ireland (CIEEM, 2018). The guidelines recommend a scale of significance from International to Local ecological importance as a frame of reference, however notes that it can be adapted to suit local circumstances. As such, where ecological receptors are assessed to be of less than Local value, an additional valuation of 'Site value' has been included.

An assessment was then made of possible ecological impacts of the proposed development on each feature within the development's likely 'Zone of Influence' (Zoi). Where uncertainty exists, a precautionary approach has been adopted.

Measures are described to ensure that any impacts can be avoided, minimised or compensated for by applying the mitigation hierarchy in accordance with NPPF (2024) paragraph 193(a) which states:

"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."

2.5 Limitations

Care has been taken to ensure that balanced advice is provided on the information available and collected during the study period (s), and within the resources available for the project. However, the possibility of important ecological features being missed due to survey timings, absence during surveys or the year of survey cannot be ruled out. In addition, the lack of evidence or records of protected species on Site does not preclude their presence from Site.

2.5.1 Automated bat detector surveys

During the July survey, the detector at Location 5 suffered a hardware failure and didn't record any data throughout the survey. Furthermore, the detector at Location 3 only recorded four out of five nights due to a hardware failure. However, considering a total of seven automated bat detector surveys have been undertaken, it is considered that sufficient data has been collected to provide an accurate assessment of the use of the Site by foraging and commuting bats. The above limitations therefore do not represent significant limitations that have affected the overall assessment.

3 Baseline Conditions & Evaluation

3.1 Designated Sites

A summary of designated sites within the search area is provided in **Table 2**.

The Site is within the consultation zone for Bath and Bradford-on-Avon Bats SAC. In addition, the Site is situated within a number of SSSI IRZs.

Table 2: Designated sites records within 2km of Site boundary, 10km for European sites

Site Name	Proximity to Site	Description
<i>National Site Network</i>		
Bath and Bradford-on-Avon Bats SAC	3.8km west	Annex II species that are a primary reason for selection of this site: 1304 Greater horseshoe bat <i>Rhinolophus ferrumequinum</i> 1323 Bechstein's bat <i>Myotis bechsteinii</i> Annex II species present as a qualifying feature, but not a primary reason for site selection: 1303 Lesser horseshoe bat <i>Rhinolophus hipposideros</i>
<i>Statutory Designated Sites</i>		
Gripwood Quarry SSSI	1.1km north-west	Geological designation.
<i>Local Wildlife Sites</i>		
Widbrook Wood	Adjacent to east	A stretch of mixed young mixed broadleaf planation with meadow between the River Avon and Kennet and Avon Canal.
Bristol Avon River	Adjacent to north-east	One of the main river systems draining north-west Wiltshire.
Great Bradford Wood	0.3km north-east	A large ancient woodland site with semi-natural broadleaved woodland and broadleaved and conifer plantation on a limestone plateau overlooking the River Frome.
Kennet and Avon Canal	0.13km south	A restored canal used for recreation.
Lynwood Drive Pond	1.56km south	Old field pond surrounded by public open space.

3.2 Habitats and Flora

The distribution of habitats is shown on **Figure 1** and full details with photographs are provided in **Appendix 3**.

The Site comprises one arable field and several fields of modified grassland, which are bound by a network of native species-rich hedgerows, native species-rich hedgerows with trees, native species-poor hedgerows, native species-poor hedgerow with trees, and tree lines. One of these tree lines (LOT6) contains a veteran field maple at its southern extent. Furthermore, a pond is present in the east of the Site alongside a number of individual trees and discrete areas of bramble scrub, tall forbs and buildings and developed land; sealed surface.

The veteran tree is considered to be of **National** importance. The tree lines, pond and hedgerows, some of which qualify as 'important', are considered to be of **Local** importance. The modified grassland, bramble scrub and individual trees are considered to be of **Site** importance. The arable, tall forbs and buildings and developed land; sealed surface are considered to be of **Negligible** importance.

3.3 Fauna

Full survey results are included in the relevant appendix.

3.3.1 Amphibians

WSBRC returned 15 records of great crested newt within 2km of the Site in the last ten years, the nearest being 0.5km south. However, no granted EPS licences were present within 2km of the Site.

In addition, WSBRC returned 1 record of common toad within 2km of the Site. This record dates to 2021 and was recorded 1.3km north-west of the Site.

The Site is situated within a 'Amber Zone' of Natural England's District Level Licensing Scheme, which are zones that contain "*main population centres for GCN and comprise important connecting habitat that aids natural dispersal*".

Within the Site, suitable aquatic habitat comprises one pond (Pond 1, see **Figure 6**), with terrestrial habitat limited to the hedgerow bases and tall forbs. In addition, four ponds (Ponds 2-5) are present within 250m of the Site. All five ponds were subject to a great crested newt eDNA survey in May 2025. All ponds returned a negative result for great crested newt, indicating the absence of great crested newt within the waterbodies.

Therefore, given the absence of great crested newt in ponds within the Site and wider area, and the limited suitable terrestrial habitat within the Site, great crested newt are considered to be **absent** from the Site. However, it is considered likely that common amphibian species utilise the pond within the Site and the Site is therefore considered to be of **Site** level importance for common amphibians.

3.3.2 Badger

WSBRC returned 16 records of badgers within 2km of the Site in the last ten years, the nearest being 0.24km east of the Site.

The grassland, scrub, hedgerows and tree lines within the Site provide optimal habitat for badgers to commute, forage and build setts. To this end, a total of five setts were recorded throughout the Site. Between May-June 2025, monitoring surveys were undertaken on these setts to determine whether they were in active use. Three of the setts were confirmed to be in active use at the time of survey, comprising one main sett and two outlier setts (see **Figure 1**). The main sett (MS1) is situated in the western extent of the Site adjacent to H1 and LOT 1 and comprises 11 entrances, with latrine pits, bedding, prints and hairs also recorded. One of the outlier setts (OS3) is present on the eastern extent of H11 and comprised three entrances, whilst the other (OS4) is situated within a complex of rabbit warrens and comprised a total of three entrances.

Badgers are not listed as a species of principal importance for the conservation of biodiversity in England and have therefore not been assigned a scale of importance in this case but will be considered further in this assessment in relation to their legal protection only.

3.3.3 Bats

WSBRC returned 255 records of bats within 2km of the Site in the last ten years. This included serotine, *Myotis* spp., Bechstein's bat, Brandt's bat, Daubenton's bat, whiskered bat, Natterer's bat, *Nyctalus* spp., Leisler's bat, noctule, Nathusius' pipistrelle, soprano pipistrelle, *Plecotus* spp., and greater horseshoe bat. The closest record comprises a brown long-eared bat that was recorded within the Site.

WSBRC also returned 64 records of bat roosts within 2km of the Site, comprising serotine, *Myotis* spp., Bechstein's bat, Brandt's bat, Daubenton's bat, Whiskered bat, Natterer's bat, soprano pipistrelle, brown long-eared bat, including three maternity roosts, and greater horseshoe bat. Exact locations were not provided owing to sensitivity.

Five granted EPS licences were recorded within 2km of the Site, with the closest (2015-10621-EPS-MIT-1) situated 0.6km north-west and granted for disturbance to greater horseshoe, lesser horseshoe and Daubenton's bats.

3.3.3.1 Roosting bats

Five trees within the Site have Potential Roost Features (PRFs) for roosting bats (T1-T6; **Figure 1**). These PRFs comprised dense ivy, lifted bark, knot holes, cavities and sheer-offs. No further surveys were undertaken on these trees as they are set to be retained and suitably buffered and protected within the scheme proposals.

3.3.3.2 Commuting and foraging bats

Within the Site, the hedgerows and associated trees, tree lines, modified grassland and adjacent watercourses and woodland edge habitat provide suitable commuting and foraging habitat for a variety of bat species, which are connected to a network of suitable habitat (hedgerows, watercourses and woodland) within the wider area. The Site is considered to be of **high** suitability for commuting and foraging bats.

Three night-time bat walkover surveys (NBWs) have been undertaken within the Site in May, August and September 2025. During these surveys, activity was dominated by soprano pipistrelle (257 passes) and common pipistrelle (182 passes), with moderate levels of *Myotis* spp. (25 passes), lesser horseshoe (24 passes), *Nyctalus* spp. (17 passes) and serotine (17 passes), and low levels of greater horseshoe activity (2 passes) also recorded. Although bat activity during the NBWs was recorded throughout the Site, activity levels were concentrated on the northern and eastern Site boundaries adjacent to the River Avon and Wid Brook respectively (see **Figure 3**).

Seven automated detector surveys have been undertaken within the Site between April – October 2025. During these surveys, at least ten species have been recorded. These are shown below in order of frequency:

- 🦇 Common pipistrelle (44.62%; 10707 passes)
- 🦇 Soprano pipistrelle (25.39%; 6632 passes)
- 🦇 *Nyctalus* spp. (14.13%; 3126 passes)
- 🦇 Serotine (6.68%; 1477 passes)
- 🦇 *Myotis* spp. (5.32%; 1280 passes)
- 🦇 Greater horseshoe (2.28%; 551 passes)
- 🦇 Lesser horseshoe (0.72%; 210 passes)
- 🦇 *Plecotus* spp. (0.68%; 200 passes)
- 🦇 Barbastelle (0.11%; 29 passes); and
- 🦇 Nathusius' pipistrelle (0.06%; 14 passes).

Static detector locations and average numbers of passes per species for each location are shown in **Figure 4**.

Location 2 (southern boundary of F1 adjacent to Widbrook Wood) saw the highest levels of bat activity throughout the surveys, comprising 32.17% of the total passes recorded. Location 4 (northern extent of LOT5 adjacent to the River Avon) saw the next highest levels of activity (31.93%), with Locations 3, 1 and 5 comprising 16.50%, 10.03% and 8.37% respectively. Annex II species were most frequently recorded at Locations 2 and 3. These surveys appear to show that although bats utilise all the boundary features throughout the Site for commuting and foraging, they showed a clear preference for those adjacent to the River Avon and the north-western boundary of Widbrook Wood.

The assemblage of bats recorded during the surveys is considered to be fairly typical given the Site's geographic location and habitats available both on Site and within the wider landscape. The vast majority of activity within the Site was attributed to common pipistrelle and soprano pipistrelle, both of which are considered to be common and widespread within the UK and are light-tolerant. Three Annex II species, namely lesser horseshoe, greater horseshoe and barbastelle were also recorded on site. Greater horseshoe and lesser horseshoe were recorded in modest numbers, and barbastelle in very low numbers, thus suggesting that the Site provides an important foraging or commuting resource for Annex II species. It is also important to note that there is an inherent difficulty in identifying Bechstein's acoustically and it is considered likely that a proportion of the *Myotis* spp. recorded during the surveys can be attributed to Bechstein's, albeit in smaller proportions to the more common and widespread *Myotis* species, such as Natterer's and Daubenton's. Overall, and based on the above, the Site is considered to be of **Local** importance for commuting and foraging bats.

3.3.4 Birds

WSBRC returned 2491 records of birds within 2km of the Site in the last ten years. This included swift (red-listed), sparrowhawk (amber-listed), barn owl, Cetti's warbler and peregrine falcon (all Schedule 1). Many exact locations were not provided owing to sensitivity.

In addition, the hedgerows, tree lines, individual trees and pond within the Site provide suitable habitat for breeding birds. To this end, a suite of breeding bird surveys have been undertaken within the Site between April-June 2025. A total of 31 species were recorded during the surveys, of which 11 species were notable and recorded within the Site boundary (**Figure 5**). These comprised mistle thrush, skylark, house sparrow (all red-listed), dunnoek, wren, rook, sedge warbler, woodpigeon, song thrush, mallard and moorhen (all amber-listed). With the exception of rook, all the notable species recorded were considered to be possible, probable or confirmed breeders.

One ground nesting bird species, namely skylark (peak count of three), was recorded within the grassland in the centre of the Site (F2). The wetland/aquatic bird species, comprising moorhen and mallard, were recorded on the southern bank of the River Avon and within the grassland in the southernmost field respectively. All remaining species were considered to be hedgerow and/or tree nesting. Furthermore, the cropped, short sward of the grassland (with a negligible thatch layer) renders the Site largely unsuitable for foraging barn owl, although it is possible they utilise the hedgerow bases opportunistically.

The Site is considered to be of **Local** importance for breeding birds.

3.3.5 Dormouse

No records of dormouse and no granted EPS licences were present within 2km of the Site.

The hedgerows, tree lines, individual trees and bramble scrub within the Site provide suitable dormouse habitat, which is connected to further suitable habitat (hedgerows, mixed scrub and woodland) beyond the Site boundary. A suite of dormouse surveys were undertaken between April – October 2025, and no dormice or evidence of dormice was recorded. Therefore, dormice are considered to be **absent** from the Site and have been scoped out of further assessment.

3.3.6 Invertebrates

WSBRC returned 312 records of invertebrates within 2km of the Site in the last ten years. This included small heath butterfly, knot grass moth, and oak hook-tip moth as well as a number of other species of principal importance. The nearest being a scarce chaser dragonfly, located within the adjacent Widbrook Wood in 2023.

The hedgerows, tree lines, individual trees, pond, bramble scrub and modified grassland provide suitable habitat for a range of invertebrates, especially deadwood-associated and aquatic species. However, these habitats are relatively common and widespread in the local area and the Site is therefore considered to be of **Site** importance for invertebrates.

3.3.7 Reptiles

WSBRC returned six records of slow worm and two records of grass snake within 2km of the Site within the last ten years. One record of grass snake was returned for the Site, within the arable field in 2015.

The hedgerow and tree line bases, tall forbs and pond provide optimal reptile habitat. However, the cropped sheep-grazed nature of the grassland renders it unsuitable to support a population of reptiles. It is therefore considered likely that common reptile species populations could be supported within the hedgerow and tree line bases, tall forbs and pond habitat throughout the Site. However, no further surveys were undertaken with regards to reptiles as the suitable habitats are set to largely retained and protected within the scheme proposals.

Given the small extent of suitable habitat within the Site and the fact that these habitats are relatively common and widespread in the local area, the Site is considered to be of **Site** importance for reptiles.

3.3.8 Riparian mammals

WSBRC returned 11 records of otter within 2km of the Site, the nearest being 0.1km east within the River Avon. No granted EPS licences for otter within 2km of the Site.

WSBRC returned 19 records of beaver within 2km of the Site, the nearest being adjacent to the Site, along the river Avon. No granted EPS licences for beaver within 2km of the Site.

WSBRC returned seven records of water vole within 2km of the Site, the nearest being 0.1km south of the Site, along the Kennet and Avon canal.

The adjacent River Avon and Wid Brook, which bound the Site to the north-east and south-east respectively, provide suitable habitat for otter, beaver and water vole. Therefore, a suite of riparian mammal surveys were undertaken between May – September 2025. A beaver lodge was recorded c.15m off-site on the northern bank of the River Avon and evidence of beaver foraging, in the form of bark stripping, was found along the Wid Brook which is c. 10m off-site to the east of the Site (see **Figure 7**). Evidence of otter, in the form of spraints, was also recorded along Wid Brook. No evidence of water vole was recorded, and no evidence of beaver or otter was recorded within the Site itself.

According to the '*Wild beaver population assessment on the River Avon and tributaries*' report published by Natural England in March 2023, the beaver population within the Avon catchment in 2022 was

considered to comprise approximately 55 individuals. Although the beaver population within the catchment has undoubtedly increased since 2022, beavers are still a relatively uncommon and localised species. Therefore, as the adjacent watercourses support a suspected breeding population of beaver, which are likely to use the Site for foraging, they are considered to be of **County** importance. Furthermore, the Site is considered to be of **Local** importance for otter, and water vole are considered to be **absent**.

3.3.9 Other Notable Species

WSBRC returned 37 records of hedgehog within 2km of the Site in the last ten years. The nearest record is situated 0.03km south-west of the Site. No records of brown hare were returned within 2km of the Site.

All habitats within the Site provide suitability for foraging, commuting and sheltering hedgehog and other mammals such as fox. Evidence of mole, in the form of molehills, was recorded throughout the modified grassland and evidence of rabbit, in the form was recorded in the hedgerow bases. The Site is considered to be of **Site** importance for hedgehog, fox, rabbit and mole.

4 Further Survey Work

No further ecological survey work is considered necessary for this application; however any changes to the proposed masterplan or if any significant amount of time has passed since the date of this report, a re-appraisal may be required.

5 Impact Assessment And Mitigation

5.1 Designated Sites

5.1.1 Bath and Bradford-on-Avon Bats SAC

The Site is situated 3.8km west of a component of Bath and Bradford-on-Avon Bats SAC (Winsley Mines SSSI).

The Bath and Bradford-on-Avon Bats SAC is made up of 4 component Sites of Special Scientific Interest (SSSIs):

-  Winsley Mines SSSI;
-  Brown's Folly SSSI;
-  Combe Down, Bathampton Down Mines SSSI; and
-  Box Mine SSSI.

The Site Improvement Plan¹ for the SAC states that:

“The SAC as a whole supports 15% of the UK population of greater horseshoe bats, internationally significant populations of lesser horseshoe and Bechstein's bats. The SAC comprises four component sites: Brown's Folly, Box Mine, Winsley Mines, and Combe Down and Bathampton Down Mines. These are distributed over a wide geographical area to the south and east of Bath and have different known bat usages, which over the whole of the SAC include breeding, hibernation, swarming and dispersal. The sites are all abandoned limestone mines, and some include areas of supporting habitat: broadleaved woodland and species rich calcareous grassland. The surrounding landscape provides feeding and commuting opportunities between the component SSSIs, other SAC sites and other undesignated

¹ Available at: <https://publications.naturalengland.org.uk/publication/6279810384920576?category=5374002071601152>

roosts which is vital in supporting the bats throughout their life cycle. Features of significance within the wider landscape are watercourses, woodland, grazed pasture, hay meadows, hedgerows, linear trees and scrub.”

Greater Horseshoe Bats (GHS): This site in south-west England is selected on the basis of the size of population represented (up to 15% of the UK population). The Winsley Mine SSSI recorded counts of up to 100 hibernating GHS, representing c. 5% of the UK population in this site alone. In 1985, according to the Supplementary Advice on Conserving and Restoring Site Features (Natural England, 2019), a peak count of 56 bats was counted (1985).

Roost choice, and the presence of bats within the SAC, is likely to be influenced by the SAC's ability to provide bats with food and shelter. The woodland surrounding the underground mines is important for the maintenance of optimal humidity conditions inside the mine system and also as foraging areas.

Beyond this, GHS rely on the maintenance of supporting offsite habitats (functionally linked land). The provision of rich feeding areas around a roost, and the commuting routes (or flight-lines) to them, are an important element in sustaining the SAC population. Flightlines extend beyond the designated site boundary into the wider local landscape and are especially important as a link between summer and winter roost sites. GHS commute and forage along linear features, over grazed pasture and in woodland. Permanent pasture and ancient woodland linked with an abundance of tall bushy hedgerows is ideal supporting habitat for this species. GHS tend to forage within 2.5km of their summer roost, though they can travel up to 4km from these roosts to suitable foraging grounds (Schofield, 2008). In winter, their foraging range is reduced, with a mean foraging radius of 1.2 km around hibernation sites reported.

The bats are vulnerable to the loss of insect food supplies due to insecticide use, changing farming practices and the loss of broadleaved tree-cover, and to the loss or disturbance of underground roost sites.

Lesser Horseshoe Bats (LHS): The main population of LHS is at Box Mine SSSI, with a hibernating population of 197 (peak count – Jan 2014) (Natural England, 2019). A smaller population is present at Winsley Mine SSSI, c. 6 individuals recorded (peak count – Dec 1984) (Natural England, 2019).

As with GHS, roost choice and the presence of bats within the SAC, is likely to be influenced by the SAC's ability to provide bats with shelter and food (supporting habitat). LHS tend to forage within 2-3km of their roost, though they can travel up to 4km from their roosts to suitable foraging grounds. LHS commute and forage along linear features over grassland and woodland. They feed on flies (mainly midges), small moths, caddis flies, lacewings, beetles, small wasps and spiders. The species prefers sheltered valleys with extensive deciduous woods or dense scrub, close to roost sites. Where habitat is fragmented, linear features such as hedgerows are important corridors between roosts and foraging areas. During the winter, their foraging range is reduced, with a mean foraging radius of 1.2 km around hibernation sites reported. Summer and winter roosts are usually less than 5-10 km apart.

LHS are vulnerable to the loss or disturbance of both summer and winter roost sites and the removal of linear habitat corridors.

Bechstein's Bats: The main populations of Bechstein's bat are at Box Mine SSSI and Brown's Folly SSSI, although recorded numbers are low (Natural England, 2019). There are no records of Bechstein's bats at either Winsley Mines SSSI or Combe Down and Bathampton SSSI.

Similarly to the horseshoe bats, roost choice and the presence of bats within the SAC, is likely to be influenced by the SAC's ability to provide bats with shelter and food (supporting habitat). Roosts are usually tree holes during the summer and exposed sites with caves, cellars or tree holes during the

winter². Bechstein's bats tend to forage near to their roost sites and rarely travel more than 1.5km to find suitable foraging grounds³. They forage largely in enclosed vegetation such as woodland and feed mainly by gleaning flies, earwigs and moths. The species prefers damp, deciduous woodland although they may be found in parkland and coniferous woodland. Where habitat is fragmented, linear features such as hedgerows are important corridors between roosts and foraging areas.

Bechstein's bats are vulnerable to the loss or disturbance of suitable habitat, e.g. by removal of dead/ dying trees, habitat fragmentation and drainage of wet woodlands.

The Site Improvement Plan states that the main pressures and threats are:

- 🦇 Planning permission - loss of foraging habitat, loss of minor roost sites, and disruption of flightpaths (the latter particularly through light pollution).
- 🦇 Change in land management – loss of foraging habitat through inappropriate management in terms of bats.
- 🦇 Direct impact from third party – vandalism and impacts of recreational activities.
- 🦇 Feature location/ extent/ condition unknown (Bechstein's bat only) – lack of knowledge regarding location and extent of Bechstein's bats.
- 🦇 Offsite habitat availability/ management – use of surrounding habitats.
- 🦇 Public access/ disturbance – damage disturbance from public access.
- 🦇 Change to site conditions – Unstable mines at risk of collapse may no longer be used by bats.
- 🦇 Inappropriate designation boundary – new sites being considered for designation.

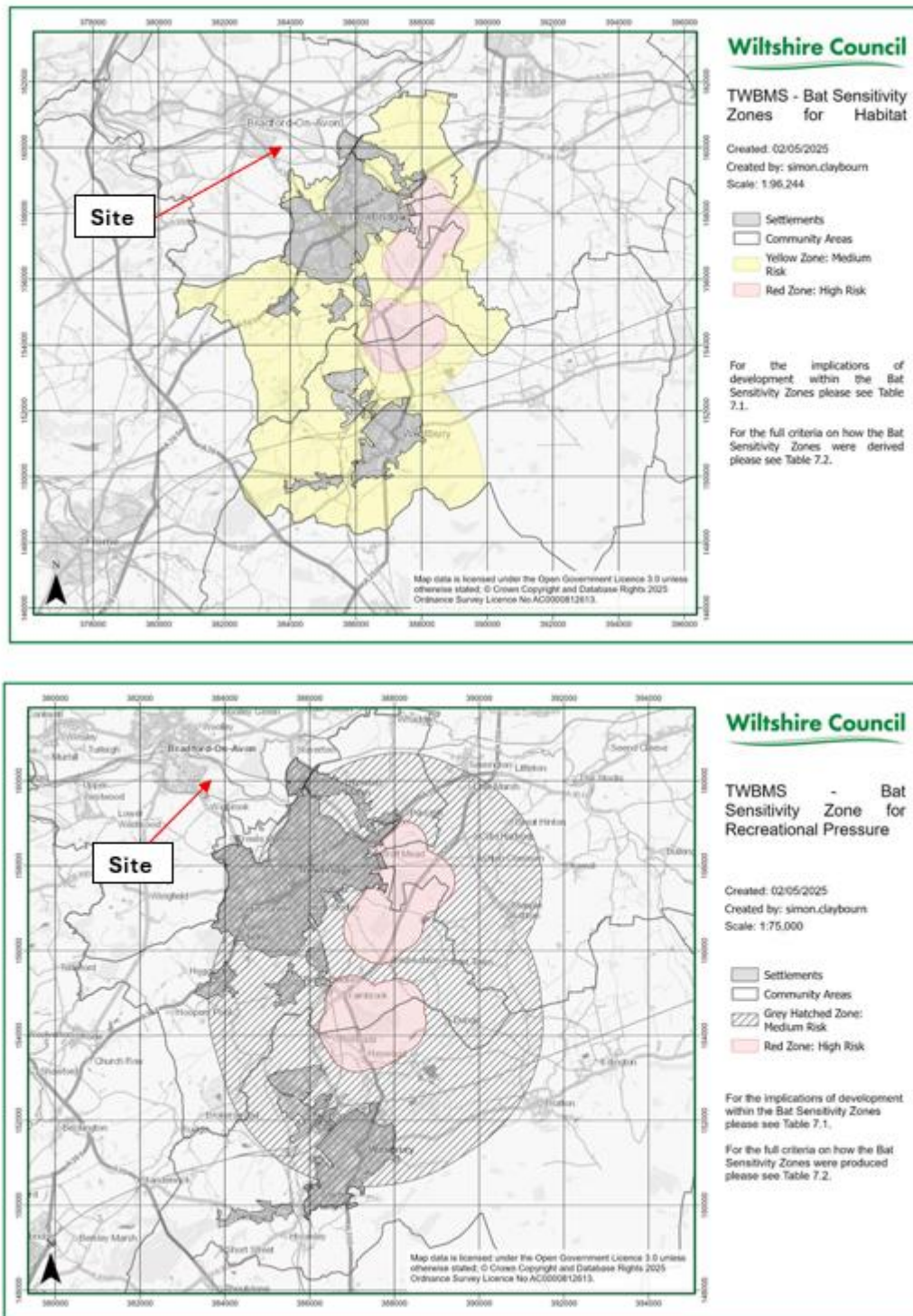
5.1.1.1 *Trowbridge and Westbury Bat Mitigation Strategy (TWBMS)*

As part of the Trowbridge and Westbury Bat Mitigation Strategy⁴, Bat Sensitivity Zones have been developed with regards to habitat suitability and recreational pressures. The Site is not situated within a Bat Sensitivity Zone for either habitat suitability or recreational pressure (see **Plate 1** below).

² <https://www.bio.bris.ac.uk/research/bats/britishbats/batpages/bechsteins.htm>

³ <https://cdn.bats.org.uk/uploads/pdf/Bechsteins-bat-species-account.pdf?v=1642079639>

⁴ https://www.wiltshire.gov.uk/media/18096/Trowbridge-and-Westbury-Bat-Mitigation-Strategy/pdf/TWBMS_v4_Final_July_2025.PDF?m=1758027614863



Furthermore, the strategy states that: “Significant potential effects to the SAC therefore include impacts to the foraging areas and commuting routes in the surrounding landscape used by the bats as well as roosts and can include:

- 🔥 *Habitat degradation - alteration / demolition / removal of a potential roost feature including changes to environmental conditions (temperature, humidity, internal light levels etc); loss, damage or change of management of potential foraging habitat; or removal / fragmentation / modification of habitats in a potential commuting corridor;*
- 🔥 *Lighting – increased artificial lighting affecting potential roosting, foraging, commuting features as well as insect availability;*
- 🔥 *Noise and vibration – construction / demolition activities close to potential roost features;*

- 🦉 *Recreational disturbance – increasing the risk of recreational visits, both organised and informal. This can result in impacts such as: trampling of vegetation, leading to changes in species composition, loss of vegetation and erosion; disturbance from the presence of people and their activities; ‘general’ urban effects: dumping of waste, damage, vandalism, fires; and spread of plants including alien species.*
- 🦉 *Pollution – dust and fumes close to potential roost features; and*
- 🦉 *Mortality – e.g. predation by domestic cats at roost entrances, collision risk from road traffic and wind turbines.”*

5.1.1.2 Identification of Potential Pathways

Considering the vulnerabilities of GHS, Bechstein’s and LHS bats as described above, the development may result in potential effects to the Bath and Bradford-on-Avon SAC as identified in the Bats Special Areas of Conservation (SAC): Planning Guidance for Wiltshire (2015) by:

- 🦉 Direct loss of foraging/commuting habitat;
- 🦉 Loss/disruption of commuting/foraging routes (flight lines) through indirect impacts such as lighting; and
- 🦉 Disturbance during construction works.

5.1.1.3 Loss of Roosting Habitat

The scheme will not directly impact upon the Bath and Bradford-on-Avon Bats SAC and its integral roosts as all PRFs will be retained, buffered and protected as part of the scheme.

5.1.1.4 Loss and Fragmentation of Foraging/Commuting Habitat

In the absence of mitigation, the proposed development has the potential to affect commuting and foraging bats through the severance of commuting/foraging routes due to hedgerow and tree line removal resulting in bats using less energy-efficient routes (Russ & Montgomery 2002) or abandoning roosts/ foraging areas altogether.

The scheme has been designed to retain and enhance unlit green corridors around the Site which can be used by foraging and commuting bats, allowing them to continue to move through and around the Site between offsite roosts and foraging grounds.

The majority of hedgerows and tree lines will be retained within the scheme. The pond will also be retained and the majority of individual trees will also be retained and protected. Furthermore, the retained hedgerow network will be enhanced and a substantial amount of modified grassland will be retained and enhanced to other neutral grassland (c. 13ha). In addition, significant areas of new habitat will be created within the Site to provide additional commuting and foraging habitat. Habitats to be created will comprise new other neutral grassland (c. 1.25ha), other broadleaved woodland (c. 3.45ha), individual trees (c. 350 no.), traditional orchard (c. 0.07ha), SuDS basins (c. 0.54ha) and species-rich native hedgerow (0.31km); all of which will provide additional commuting and foraging resource for bats. The enhancement of the existing modified grassland to other neutral grassland will be undertaken through harrowing and sowing with a species-rich seed mix containing yellow rattle, a hemi-parasitic species, which will reduce the dominance of competitive grass species and allow the growth of a wider variety of species including forbs/ wildflowers. The area of other neutral grassland north of the footpath and adjacent to the River Avon will be sown with a damp-tolerant species-rich seed mixture to ensure it can withstand the periodic flooding from the River Avon, which will provide an increase in extent and quality of the riparian habitats within the Site and associated invertebrate prey. The hedgerows, tree lines and POS habitats will all remain unlit (see **Section 5.4.4**).

A Habitat Mitigation and Monitoring Plan (HMMP) will be produced detailing the methods and strategies to manage these habitats, as well as providing details of the funding mechanisms and timescales for management. As required by the 'Guidance on Development Document', habitats will be managed for horseshoe bats in perpetuity.

5.1.1.5 *Loss/Disruption of Foraging/Commuting Habitat through Lighting*

All three species associated with the Bath and Bradford-on-Avon SAC are generally light-averse woodland specialists, preferring to commute/forage within woodlands, along the edges of woodland or along woodland glades/rides. Lighting levels of under 0.5lux are required to ensure continued use of commuting routes (Stone, 2013) (unless baseline conditions already exceed this level). Lighting can cause avoidance of commuting routes and a change in the abundance of available insect prey. Fragmentation via lighting can cause bats to fly further to reach foraging grounds which could result in increased energetic costs, higher risk of predation and roost abandonment (Stone, 2013). In the absence of mitigation, lighting within the new development has the potential to cause disruption or loss of these commuting/foraging routes and as such it is considered that, in the absence of mitigation, the development could have a permanent adverse effect on the local populations of all three species.

During operation, no lighting is to be directed at the hedgerows, tree lines, POS habitats or adjacent watercourses and woodland, thus allowing continuous corridors for bats to be maintained. Whilst a certain level of lighting throughout the Site is necessary for the health and safety of future residents, a strategy will be produced to include measures to reduce the impact of this lighting on local fauna including the identification of sensitive zones to ensure darker areas are maintained/created to protect important commuting and foraging routes. Lighting within these areas will be kept to an absolute minimum. Best practice technology should be employed to reduce light-spill, for example LED lighting, luminaires with peak wavelengths higher than 550nm, no upward light-spill and/or a part-night lighting regime, in line with current guidelines (Bat Conservation Trust/ Institute of Lighting Professionals, 2023). Key bat habitats, namely the boundary vegetation, POS habitats and adjacent watercourses and woodland, should be maintained at no more than 0.5 lux (or baseline light levels).

Any necessary lighting throughout the Site will be designed with no spill to exceed the boundaries and will be connected via either a centralised control system or with a luminaire-to-luminaire onboard system to allow brightening and dimming of the lights when a person is detected and has subsequently passed. Where brighter lighting is necessary, i.e. around parking spaces and primary footpaths, luminaires will be directional with no upward, sideways or outward spill and fitted with shields where necessary to maintain darker areas along and within the sensitive habitats.

5.1.1.6 *Disturbance during Construction Works*

There is potential for LSEs due to disturbance through noise, vibration and construction lighting during construction and enabling works.

Construction will be restricted to daylight hours, finishing at least 30 minutes before sunset and commencing at least 30 minutes after sunrise throughout the year. If this is not possible, no construction lighting will be allowed to spill onto boundary hedgerows, tree lines or adjacent watercourse and woodland habitats, ensuring light averse species can continue to utilise the Site and wider area during the construction period.

A Construction Ecological Management Plan (CEMP) will be produced providing details and mechanisms through which this area will be protected during construction.

5.1.1.7 *Summary*

These measures are considered sufficient to ensure that the construction and operation of the proposed development does not, either alone or in-combination with other plans or projects, give rise to any adverse effects on the integrity of Bath and Bradford-on-Avon Bats SAC. Full details can be found within the Shadow HRA (2763-sHRA-RY).

5.1.2 *Non-statutory designated sites*

Two non-statutory designated sites, comprising Bristol Avon River LWS and Widbrook Wood LWS, are situated c. 10m off-site to the north and east respectively. Furthermore, two non-statutory designated sites, comprising Great Bradford Wood LWS and Kennet and Avon Canal LWS, are within close proximity (1km) of the Site. Standard airborne and water pollution prevention measures and buffers, in line with the Pollution Prevention for Businesses (2024) guidance, will be followed throughout construction to avoid negative impacts through pollution and run-off. Furthermore, in the absence of mitigation there is a risk of indirect impacts on publicly accessible designated sites through an increase in visitor pressures, in particular Widbrook Wood LWS. To mitigate these impacts, significant areas of accessible public green space will be created as part of the development, including c. 14.25ha of other neutral grassland, c. 3.45ha of other broadleaved woodland, c. 3.51ha of modified grassland and c. 0.07ha of orchard. The provision of these areas will provide new and existing residents in the area with new opportunities for dog walking and recreation alleviating pressure on adjacent and nearby designated sites. Furthermore, broadleaved woodland buffer planting has been proposed along the south-western boundary to prevent unauthorised access into Widbrook Wood LWS from the south-west corner, with the aim of focusing access through the existing right of way. In combination, these measures will ensure that there are no significant impacts to non-statutory designated sites as a result of the proposals.

5.2 *Habitats and Flora*

In the absence of mitigation there is some risk of degradation to retained habitats during enabling and construction from unsympathetic pruning, and root zone damage/ compaction during construction. To avoid such impacts, Root Protection Areas (RPAs) will be identified, and suitable protective fencing installed where required in line with best arboricultural practice during construction (BS5837:2012). Standard airborne and water pollution prevention measures will be employed during construction. Such measures should be detailed within a Construction Environmental Management Plan (CEMP) which could be secured by an appropriately worded planning condition.

The loss of habitats within the Site do not pose an 'in principle' constraint to the development. Measures to restore and enhance existing habitats, to ensure successful establishment of new habitats, and to maintain the value of all ecological features in the long-term will be detailed within a Habitat Management and Monitoring Plan (HMMP) which will be controlled through the Biodiversity Gain condition. Specific measures in relation to existing habitats are detailed below. Some of the habitats present within the Site require further consideration in relation to supporting protected and notable species as further discussed below in **Section 5.3**.

5.2.1 *Modified grassland*

To compensate for the loss of modified grassland, approximately 13ha will be enhanced to other neutral grassland. This other neutral grassland will form the majority of the substantial area of POS in the south-east of the Site and will be created through harrowing and sowing with a species-rich seed mix containing yellow rattle, a hemi-parasitic species, which will reduce the dominance of competitive grass species and allow the growth of a wider variety of species including forbs/ wildflowers. The area of other

neutral grassland north of the footpath and adjacent to the River Avon will be sown with a damp-tolerant species-rich seed mixture to ensure it can withstand the periodic flooding from the River Avon.

In addition, as part of the proposals, c 1.25ha of new other neutral grassland and c. 3.51ha of modified grassland will be created within the development, forming the basis of green corridors and amenity areas respectively.

With the proposed mitigation and compensation measures no significant impacts are anticipated on modified grassland, with the habitats proposed considered to represent a significant enhancement.

5.2.2 Hedgerows and tree lines

The majority of hedgerows and tree lines within the Site will be retained and protected as part of the proposals. However, to facilitate the development, it will be necessary to remove H7 and breach H1, H3, H4, H5, H6, H11 and LOT2 to facilitate access into and throughout the development. The amount of hedgerow and tree line loss has been kept to the minimum required and based on the proposals a total length of 0.28km will be removed out of a total Site resource of 2.51km.

In addition, five of the retained hedgerows (H4, H5, H9, H10 and H13) will be enhanced to species-rich native hedgerows with trees, a habitat of higher ecological value.

In addition, new species-rich native hedgerow (H14; c. 0.31km) will be planted as part of the proposals.

With the proposed mitigation and compensation measures no significant impacts are anticipated on hedgerows and tree lines.

5.2.3 Pond

The pond will be retained and protected within the development.

In addition, two SuDS basins (c. 0.54ha) will also be created within the Site and although they will not be permanently wet, they will still hold water and comprise a variety of aquatic and marginal vegetation.

With the proposed mitigation and compensation measures no significant impacts are anticipated on ponds, with the measures proposed considered to represent a significant enhancement for pond habitat within the Site.

5.2.4 Bramble scrub

All of the bramble scrub (c. 0.09ha) will be lost to facilitate the development. To compensate, significant areas of traditional orchard (c. 0.07ha) and broadleaved woodland (c. 3.45ha) will be created within the development.

Although new bramble scrub won't be included within the development, new habitats of a higher intrinsic ecological value (traditional orchard and woodland) will be created in its place. Therefore, with the proposed compensation measures no significant impacts are anticipated on bramble scrub, with the habitats proposed considered to represent a significant enhancement for the biodiversity value of the Site.

5.2.5 Trees

The majority of the trees (6 no.) will be retained and protected as part of the proposals, with one tree associated with H6 to be lost. The veteran tree within LOT6 will also be retained and protected with new broadleaved woodland buffer planting. To compensate for the loss of one tree, there is scope to plant c.350 new trees within the development.

With the proposed mitigation and compensation measures no significant impacts are anticipated on trees, with the measures proposed considered to represent a significant enhancement for tree habitat within the Site.

5.3 Fauna

5.3.1 Badger

[REDACTED] Prior to a Reserved Matters application, and prior to commencement, the badger survey should be updated to establish any change in status of setts, and identify any new setts which could be created in the future.

In the absence of mitigation, there is a risk of disturbance to badger within their setts and/or damage to the setts themselves during construction. To mitigate for this, MS1(main sett, see **Appendix 4** and **Figure 1**) and OS4 (outlier sett) will be retained and protected, with a minimum 20m buffer to be established around the setts during construction. This buffer will be marked out with Heras fencing (or similar) and any landscaping works that need to be undertaken within this zone will need to be carried out using hand tools only.

However, BS4 (outlier sett) is situated within an area of proposed built environment. Therefore, to mitigate impacts, this sett will be closed down under licence.

Given the mobile nature of badgers, an update badger walkover will be undertaken 3 months prior to the commencement of construction activities to check for any fresh signs of sett building. If evidence of fresh sett building is identified, monitoring may be required.

Notwithstanding the above, to protect any badgers that may be utilising the Site for commuting and foraging, the following precautionary measures will be followed during construction:

- 🦡 Trenches will be covered at the end of each working day and any temporarily exposed pipes will be capped to prevent badger gaining access during the night;
- 🦡 Any trenches or deep pits which must be left open overnight will be provided with a means of escape should a badger enter. This would simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface;
- 🦡 Any trenches/pits will be inspected each morning to ensure no badgers have become trapped overnight. Should a badger become trapped in a trench it may attempt to dig itself into the side of a trench and form a temporary sett. Should a trapped badger be encountered, the advice of an ecologist must be sought immediately. If necessary, the ecologist will contact the RSPCA or a vet who will move the badger to safety or provide treatment if required;
- 🦡 The storage of topsoil or other 'soft' building material within the construction site will be given careful consideration. Badgers may readily adopt such mounds as setts. To avoid this, mounds will be kept to a minimum and any essential mounds will be subject to daily inspections;
- 🦡 Food and litter are not to be left within the working area overnight to minimise the potential for any roaming badgers to be attracted to the construction site; and
- 🦡 The storage of any chemical within the construction site will be contained in such a way that they cannot be consumed or knocked over by any wildlife.

The mitigation measures outlined above will also serve to protect hedgehogs and other mammals from harm. In addition, any features with potential to support hedgehog will be removed sensitively either by a check prior to removal, or by sensitive removal to ground level to allow a visual check for hedgehog. If a hedgehog is found at any point during construction works then works must stop immediately and an ecologist contacted in the first instance.

With the proposed mitigation and compensation measures no significant impacts are anticipated for badger or hedgehog. The retained hedgerow network will be enhanced and a substantial amount of modified grassland will be retained and enhanced to other neutral grassland. In addition, the creation of new habitats such as traditional orchard, other neutral grassland, broadleaved woodland and hedgerows will provide an increase in foraging opportunities for badger and hedgehog. The provision of hedgehog highways will maintain Site permeability/connectivity throughout the Site for hedgehog.

5.3.2 *Bats*

5.3.2.1 *Roosting bats*

Without appropriate mitigation, the loss and/or lighting of trees T1-T6 has the potential to adversely impact roosting bats (should they be present).

To mitigate for this, the trees are set to be retained within the scheme and protected from light spill (see below). It is also anticipated that the habitat enhancement and creation measures detailed previously will serve to improve the quality of the commuting/foraging habitats that connect these potential roosts to the wider landscape.

With the proposed mitigation and compensation measures no significant impacts are anticipated on roosting bats.

5.3.2.2 *Commuting and foraging bats*

As discussed above in respect to the Bath and Bradford-on-Avon Bats SAC, there is the potential for unmitigated impacts to bats (including those associated within the SACs via direct loss of foraging/commuting habitat; loss/disruption of commuting/foraging habitat through indirect impacts; and disturbance during construction works. Please see **Sections 5.1.1.2 – 5.1.1.6** for details on how the proposals will mitigate impacts on commuting and foraging bats.

5.3.3 *Birds*

The Site supports a total of 11 notable bird species, 10 of which were considered to be breeding within the Site. This includes one ground-nesting species, skylark.

In the absence of mitigation, there is a risk that the loss/fragmentation of hedgerows and associated trees, tree lines, individual trees, pond, bramble scrub and modified grassland will lead to a negative impact on the bird assemblage that utilises the Site. In addition, if construction takes place during the breeding bird season, increased disturbance caused by construction noise, dust and vibration is likely to affect the ability of any birds present to hold territory and breed successfully within habitats adjacent to the works area.

To mitigate for this, the majority of hedgerows and tree lines will be retained within the scheme. The pond will also be retained and the majority of individual trees (including the veteran tree) will be retained and protected. Retained hedgerows and trees will be clearly marked through Heras fencing (or similar) and will be subject to regular checks throughout construction to ensure they are still intact. Furthermore, any vegetation clearance, including the future management of habitats, should be undertaken outside of the breeding bird season (March to August inclusive). If this is not practicable, then works should be preceded by a nesting bird check by a suitably qualified ecologist within 48 hours of the commencement of works. If nesting birds are found to be present then an appropriate buffer will be implemented around the nest, in which no works can take place until all birds have fledged.

Furthermore, the existing hedgerow network will be enhanced and a substantial amount of modified grassland will be retained and enhanced to other neutral grassland. In addition, new habitats will be created within the Site to compensate for the loss of suitable breeding bird habitat. Habitats to be created will comprise new other neutral grassland, other broadleaved woodland, individual trees, traditional orchard and hedgerows; all of which will provide a number of new opportunities for birds once established.

It is also proposed that two no. skylark plots will be established within the other neutral grassland in the south-east of the Site (see **Figure 2**). These plots will be protected from disturbance and will provide additional opportunities for ground-nesting birds such as skylark.

With the proposed mitigation and compensation measures no significant impacts are anticipated for on birds, with the measures proposed considered to represent a significant enhancement for birds within the Site.

5.3.4 *Invertebrates*

Although a notable invertebrate assemblage hasn't been recorded within the Site, the habitats within the Site do provide optimal habitat for invertebrates.

Without appropriate mitigation, the loss and/or fragmentation of the hedgerows and associated trees, tree lines, individual trees, pond, bramble scrub and modified grassland has the potential to negatively impact any invertebrate assemblage that is present within the Site. To mitigate for this, the majority of hedgerows and tree lines will be retained within the scheme. The pond will also be retained and the majority of individual trees (including the veteran tree) will be retained and protected.

The retained hedgerow network will be enhanced and a substantial amount of modified grassland will be retained and enhanced to other neutral grassland. In addition, new habitats will be created within the Site to compensate for the loss of suitable habitat. Habitats to be created will comprise new other neutral grassland, other broadleaved woodland, individual trees, traditional orchard, hedgerows, allotments and a network of swales and attenuation basins associated with the SUDs.

With the proposed mitigation and compensation measures no significant impacts are anticipated for on invertebrates, with the measures proposed considered to represent a significant enhancement for invertebrates within the Site.

5.3.5 *Reptiles/common amphibians*

It is considered likely that a population of common species of reptile and amphibian could be supported within the hedgerow bases, tall forbs and pond within the Site.

As such, during construction and enabling works, there is considered to be a low risk of common species of reptile to be killed or injured which would be an offence under the Wildlife and Countryside Act 1981 (as amended).

In order to protect reptiles which could be present onsite during construction and enabling works, the following outline Method Statement will be followed when removing any habitat considered suitable for reptiles (tall forbs and hedgerow bases):

- 🦋 Sensitive clearance of hedgerow and tall forbs will be undertaken under the supervision of an ecologist;
- 🦋 Habitat manipulation will be undertaken to encourage reptiles to disperse to substantial areas of retained and enhanced grassland habitat within the proposed POS in the south-east of the Site;
- 🦋 Any reptiles that are encountered during the works will be translocated to the retained and enhanced grassland habitat within the POS; and

- 🦎 These works will only be undertaken during the reptile active season of April to October inclusive, in suitable weather conditions when temperatures exceed 10°C.

The mitigation measures outlined above will also serve to protect common amphibian species from harm, should they be present.

The retained hedgerow network will be enhanced and a substantial amount of modified grassland will be retained and enhanced to other neutral grassland. In addition, new habitats will be created within the Site to compensate for the loss of suitable habitat. Habitats to be created will comprise new other neutral grassland, traditional orchard, hedgerows, allotments and a network of swales and attenuation basins associated with the SUDs.

With the proposed mitigation and compensation measures no significant impacts are anticipated for on reptiles or common amphibians, with the measures proposed considered to represent a significant enhancement for both species groups.

5.3.6 *Riparian mammals*

Although no evidence of beaver or otter were recorded within the Site, a suspected breeding population of beaver were recorded c.15m off-site on the northern bank of the River Avon and evidence of commuting/foraging beaver and otter were recorded c. 10m off-site east within Wid Brook.

In the absence of mitigation, there is the potential for beaver and otter to be negatively impacted through pollution and run-off into the River Avon and Wid Brook. Therefore, to mitigate for this, the standard Pollution Prevention for Businesses (2024) guidance will be followed throughout construction to prevent pollution and run-off into the River Avon and Wid Brook.

There is also the potential for negative impacts associated with the loss of suitable foraging and resting habitat within the riparian zone and adjacent habitats on-site. To mitigate this, the Site boundary has been brought in 10m from both watercourses (excepting <5m for outfall on the northern boundary) to exclude the riparian zones from the Site.

Furthermore, a substantial amount of habitat creation will be undertaken adjacent to the riparian zone which will provide additional opportunities for beaver and otter to forage and/or shelter. This will comprise extensive areas of other neutral grassland (enhanced from modified grassland), new tree planting and other broadleaved woodland. As discussed in **Section 5.2.1**, the areas of other neutral grassland adjacent to the River Avon will be seeded with a damp-tolerant seed mixture to ensure it can withstand periodic inundation, which will provide an increase in extent and quality of the riparian habitats within the Site.

With the proposed mitigation and compensation measures no significant impacts are anticipated for on beavers or otters, with the measures proposed considered to represent a significant enhancement for both species.

6 **Summary of Assessment and Mitigation**

Figure 2 summarises and illustrates the avoidance, mitigation and compensation measures required to minimise significant impacts to ecological features. This demonstrates that the mitigation hierarchy has been adhered to by focusing on the **avoidance** of ecological features of greatest importance, mitigating unavoidable impacts and, as a last resort, providing **compensation**.

7 **Biodiversity Net Gain**

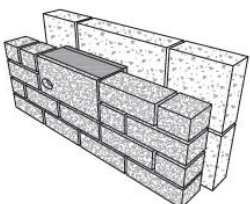
The baseline units for the Site comprise 85.69 habitat units, 16.69 hedgerow units and 0 watercourse units. An indicative BNG assessment suggests that the Site is likely to be capable of delivering in excess

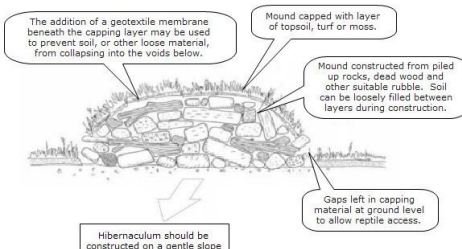
of 10% onsite. Further details are provided in the BNG Statement and Assessment Report (GE Consulting, 2026a), which provides the BNG information required to support the planning application under Article 7 of The Town and Country Planning (Development Management Procedure) (England) Order 2015 as well as local information required by Wiltshire Council, and in the submitted statutory biodiversity metric (GE Consulting, 2026b).

8 Enhancements

In addition, the enhancements detailed in **Table 3** are required in line with national guidance and local planning policy. Locations are shown in **Figure 2**.

Table 3: Enhancement Features

Quantity & Type	Illustrations	Description & Installation
Integrated bat boxes	 Vivaro Pro Build-in Woodstone Bat Box and Habibat Bat Box  Installation	- Density: one box per two dwellings. - Fully integrated boxes to be built into the fabric of the building. Install within the cavity of house walls. The entrance hole can sit flush to a course of bricks. - Suitable models include the Vivaro Pro Build-in Woodstone Bat Tube, Habibat Bat Box or similar approved which can be chosen to suit the finishing of the building. Suppliers include www.nhbs.com and www.wildcare.co.uk. - Position a minimum of 3m above the ground. - Locate where there is a clear, unlit flight path for bats to linear vegetation (e.g. hedgerows) and away from windows. Install away from any lighting.
Integrated bird nest boxes	 WoodStone Build-in Swift Nest Box Deep (nhbs.com)  Installation – integral nestbox installed in outer leaf of brickwork in a traditional cavity wall construction	- Density: one box per dwelling. N.B. Swifts and house sparrows are colony nesters so multiple can be put on same building as long as >50cm apart. - Fully integrated boxes to be built into the fabric of the building. - Suitable models include the PRO UK Rendered Build-in Swift Box or the WoodStone Build-in Swift Nest Box Deep which can be chosen to suit the finishing of the building. Suppliers include www.nhbs.com and www.wildcare.co.uk. - Swift boxes are recommended as they are considered a universal box suitable not only for swifts but also for house sparrows and other small birds (CIEEM, 2021).

Quantity & Type	Illustrations	Description & Installation
		- Install at the highest point of the building, ideally at least 5m above ground level. - To be sited under the shelter of eaves or overhanging roofs where possible. - Entrance out of direct sun and the prevailing weather and away from perches/ledges where birds are at risk from predators. See swift-conservation.org for additional advice.
4no. hibernaculum / habitat piles	 The addition of a geotextile membrane beneath the capping layer may be used to prevent soil, or other loose material, from collapsing into the voids below. Mound capped with layer of topsoil, turf or moss. Mound constructed from piled up rocks, dead wood and other suitable rubble. Soil can be loosely filled between layers during construction. Gaps left in capping material at ground level to allow reptile access. Hibernaculum should be constructed on a gentle slope to prevent flooding. Example hibernacula design	- Provide hibernacula/ resting places for fauna such as reptiles, mammals and invertebrates. - Constructed from dead wood and rubble, topped with loose soil and turf. Dimensions to be a minimum of 2m length x 1m width x 1m height. Located in suitable locations such as within undisturbed areas of other neutral grassland.
Bee/ insect bricks	 Bee Brick - (Greenandbluebuild) Bee brick incorporated into an external wall	- Density: one brick per four dwellings - Fully integrated bee brick to be positioned within a southerly elevation, in a location that receives part or full sun. - Place at a minimum height of 1m above ground level. - Bricks should ideally face garden or other vegetated habitats but not be obscured by vegetation. - Available in different colours to match building materials from suppliers such as www.nhbs.com and www.wildcare.co.uk.
Hedgehog holes		- Include 13cm x 13cm cut out through close-boarded fences (or equivalent gaps under fences) to allow hedgehog movement throughout site. - These can be holes created during fence construction, or purpose made products such as the Durapost Hedgehog Hole and Hedgehog Gravel Boards (or similar) available from suppliers including www.jacksons-fencing.co.uk or www.wickes.co.uk.

Quantity & Type	Illustrations	Description & Installation
		🦔 To reduce the risk of these being blocked by future residents, a small 'Hedgehog Highway Sign' should be attached. Available from www.nhbs.com. 1 Further information is available at: https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/

9 Monitoring

Monitoring should be undertaken to ensure that the mitigation described in this report has been undertaken to a satisfactory standard. This applies to both the construction and operation phases of the development.

10 Conclusions

In summary the Site is considered to be of moderate ecological interest. Avoidance, mitigation and compensation measures have been incorporated into the design to ensure that the proposals have minimal adverse impacts on designated sites, habitats and protected species.

Mitigation and compensation have been incorporated into the design to ensure that the proposal and work programme is designed to minimise adverse impacts on ecological features.

Enhancement features have also been described with the aim of providing an increase in wildlife opportunities on Site post-development, contributing to the aims of National Planning Policy Framework and local policy. An indicative Biodiversity Metric has been supplied which shows that the development as proposed will deliver a substantial 46.63% net gain for habitats and a 33.91% net gain for hedgerows. The assessment will be updated based on final plans for the development, as part of the pre-commencement BNG condition.

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GE Consulting (2026b). *Statutory Biodiversity Metric*. Trowbridge Road, Bradford-on-Avon. 2763-SBM-RY.

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Key:

- Site Boundary
- Tall forbs
- Pond (non-priority)
- c1c - Cereal crops
- g4 - Modified grassland
- h3d - Bramble scrub
- u1b - Developed land, sealed surface
- u1b5 - Buildings
- Line of Trees
- Line of Trees (Ecologically Valuable)
- Native Hedgerow
- Native Hedgerow with trees
- Native Species Rich Hedgerow
- Native Species Rich Hedgerow with trees
- Rural Tree (Broadleaved)
- Active Main Badger Settle with 20m buffer
- Active Outlier Badger Settle with 20m buffer
- Inactive Outlier Badger Settle
- ◆ Potential Roost Feature - Multiple Bats
- ◆ Potential Roost Feature - Individual Bats
- Irreplaceable Habitats



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Figure 1:
UK Habitat Classification Survey and Protected Species Findings

Project:

Trowbridge Road, Bradford on Avon

Client:

Waddeton Park Ltd

Date:

4/2/2026

Ref:

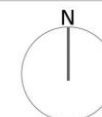
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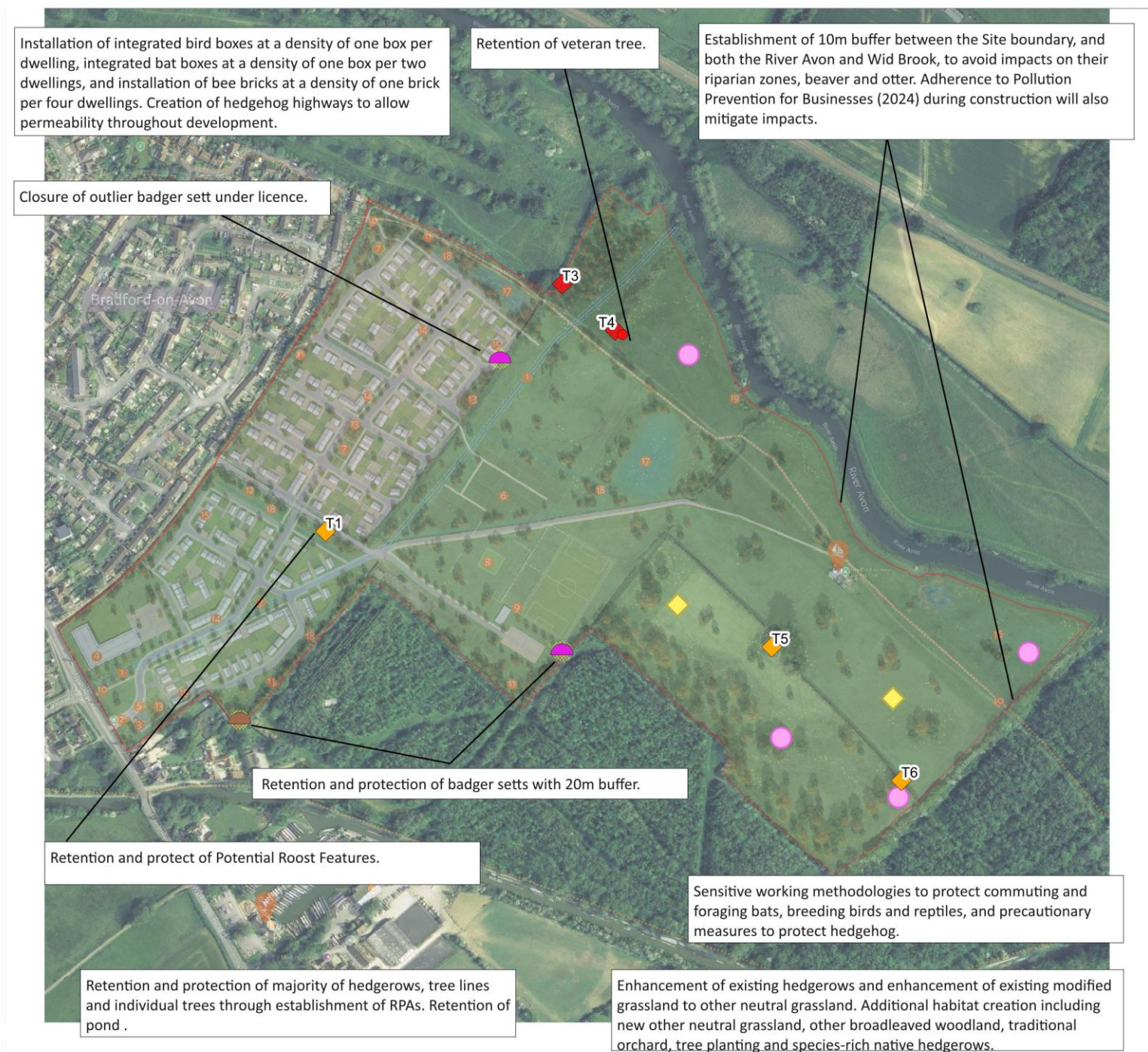
Drawn:

RY

Revision:

-





Key:

- Irreplaceable Habitats
- Habitat piles
- ◆ Skylark plots
- ◆ Potential Roost Feature - Multiple bats
- ◆ Potential Roost Feature - Individual bats
- Active Main Badger Sett with 20m buffer
- Active Outlier Badger Sett with 20m buffer



Illustrative Masterplan- Clifton Emery Design (2026)

Figure 2:
Mitigation and Enhancements Plan

Project:
Trowbridge Road, Bradford-on-Avon

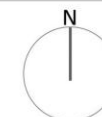
Client:
Waddeton Park Ltd

Date:
22/4/2026

Ref:
2763-EclA-F2

Drawn:
RY

Revision:
1





Key:

Site Boundary

Transect Start Points

① 1 (May)

② 2 (August)

③ 3 (October)

Bat Transect

NBW Results

Common pipistrelle

Soprano pipistrelle

Greater horseshoe

Lesser horseshoe

Myotis species

Serotine

Nyctalus species

Key Foraging Areas



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Figure 3:
Bat Transect Survey Results

Project:

Trowbridge Road, Bradford-on-Avon

Client:

Waddeton Park Ltd

Date:

27/1/2026

Ref:

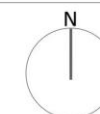
2763-EclA-F3

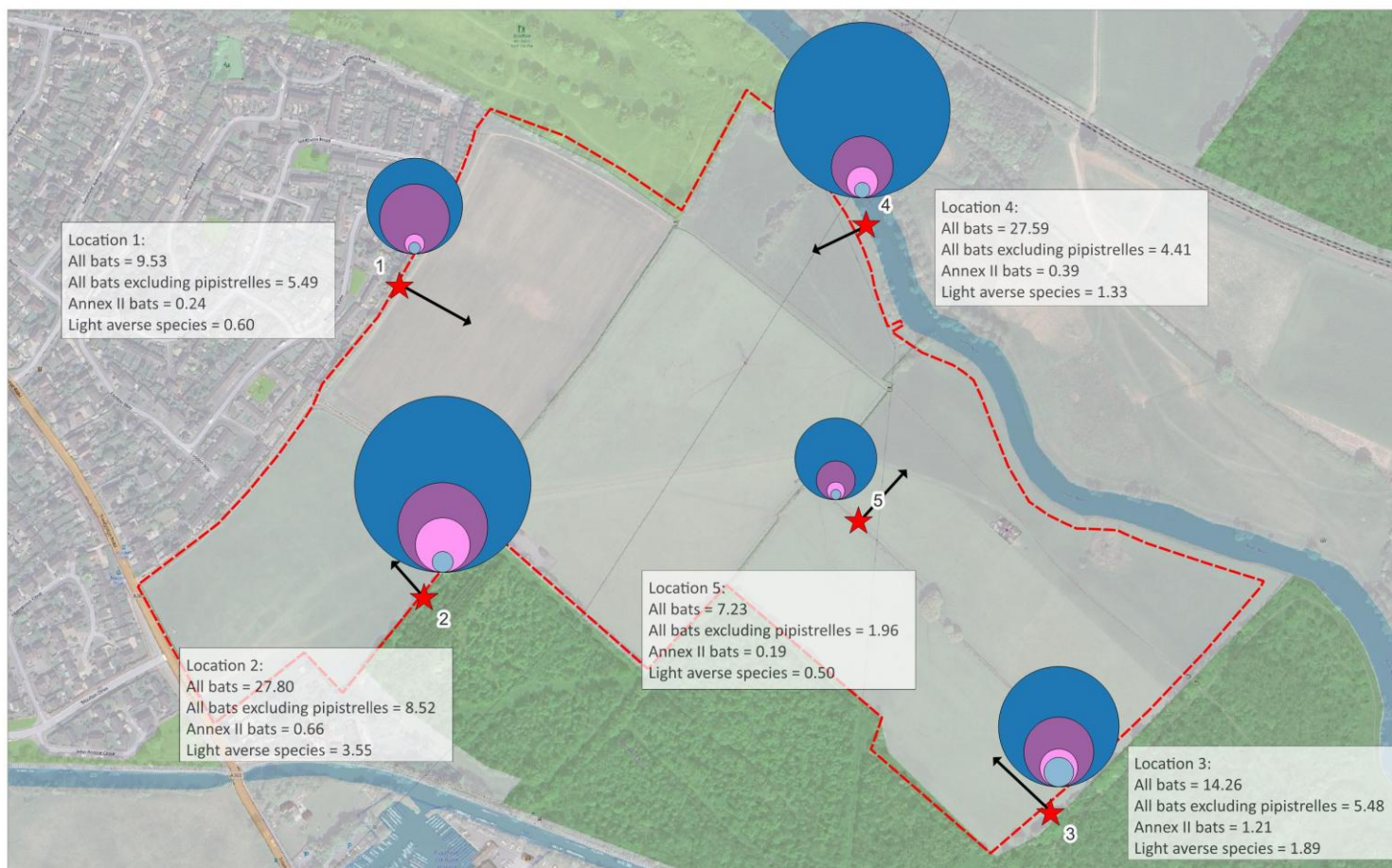
Drawn:

ET

Revision:

-





Key:

 Site Boundary

★ Static Locations

→ Static Direction

Static Results

● All Bats

● Annex II

● Light averse species

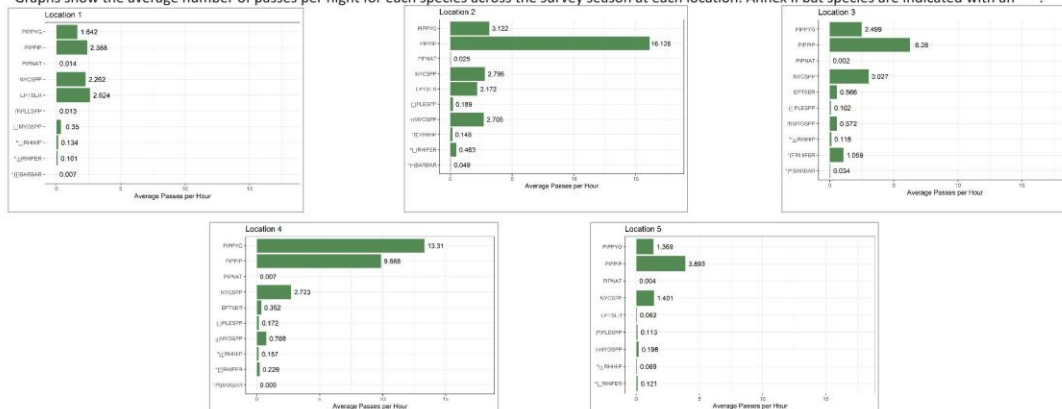
● Excluding Pipistrelle species

Circles are indicative of the average number of bat passes per hour for monthly surveys conducted between April and October



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Graphs show the average number of passes per night for each species across the survey season at each location. Annex II bat species are indicated with an "H".



Graph Key:

PIPYPG - Soprano pipistrelle (*Pipistrellus pygmaeus*)

PIPIP - Common pipistrelle (*Pipistrellus pipistrellus*)

PIP NAT - Nathusius's pipistrelle (*Pipistrellus nathusii*)

NYCSPP - Noctule species (*Nyctalus*)

EPTSER - Serotine (*Eptesicus serotinus*)

PLESPP - Long eared species (*Plecotus*)

MYOSPP - Myotis species (*Myotis*)

RHIHIP - Lesser horseshoe (*Rhinolophus hipposideros*)

RHIFER - Greater horseshoe (*Rhinolophus ferrumequinum*)

Figure 4:
Automated Bat Detector Survey Results

Project:

Trowbridge Road, Bradford-on-Avon

Client:

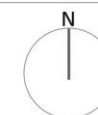
Waddeton Park Ltd

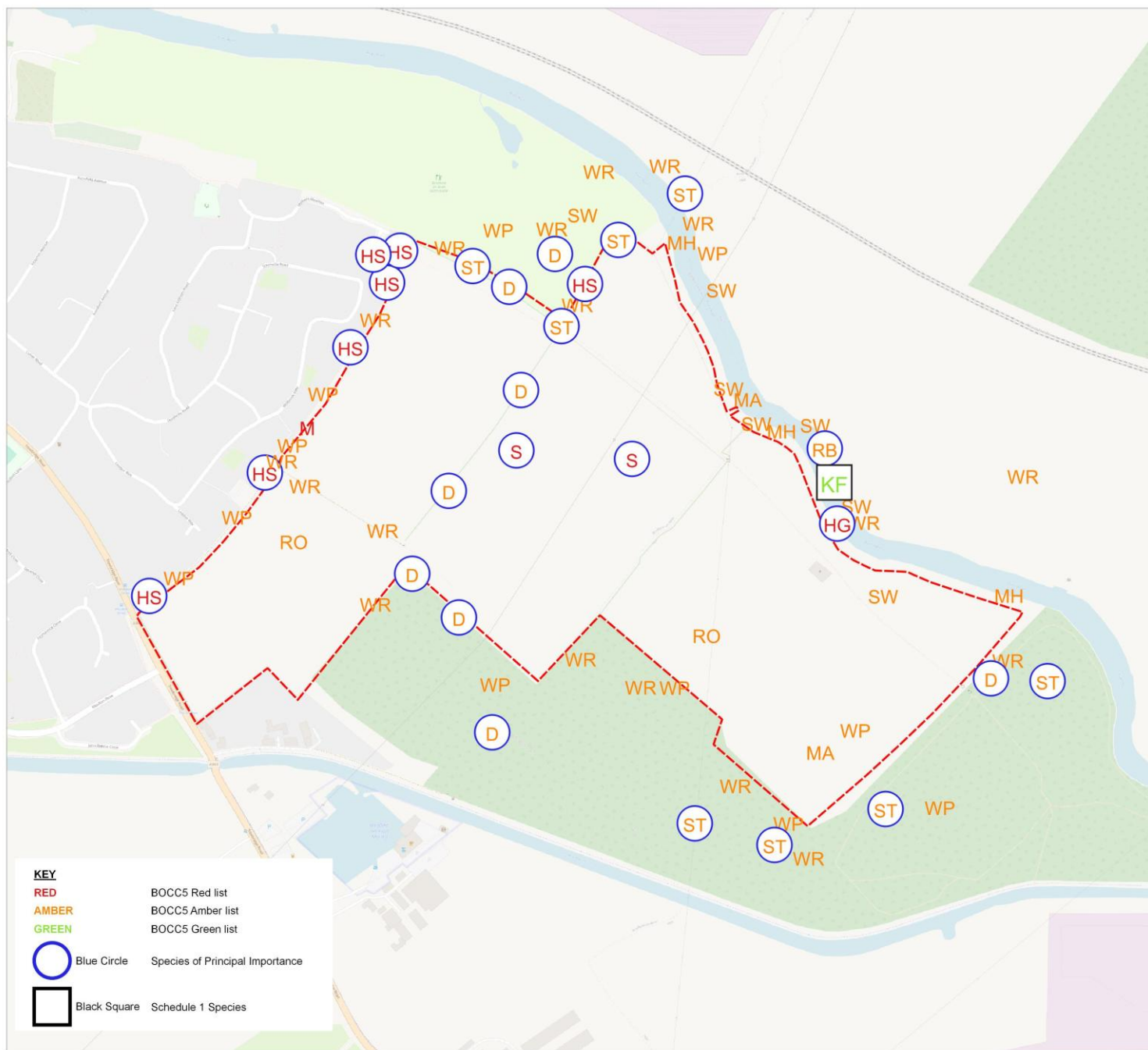
Date:
27/1/2026

Ref:
2763-EclA-F4

Drawn:
ET

Revision:
-





Key:

- | | |
|---------------------------------|--------------------|
| [Red dashed line] Site Boundary | [RB] Reed Bunting |
| [D] Dunnock | [RO] Rook |
| [HG] Herring Gull | [SW] Sedge Warbler |
| [HS] House Sparrow | [S] Skylark |
| [KF] Kingfisher | [ST] Song Thrush |
| [MA] Mallard | [WP] Woodpigeon |
| [M] Mistle Thrush | [WR] Wren |
| [MH] Moorhen | |



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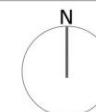
Figure 5:
Breeding Bird Survey Results

Project:
Trowbridge Road, Bradford-on-Avon

Client:
Waddeton Park Ltd

Date:
27/1/2026
Ref:
2763-EclA-F5

Drawn:
HD
Revision:
-



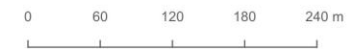


Key:

 Site Boundary

 250m Buffer

 Pond



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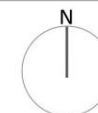
Figure 6:
Pond Locations

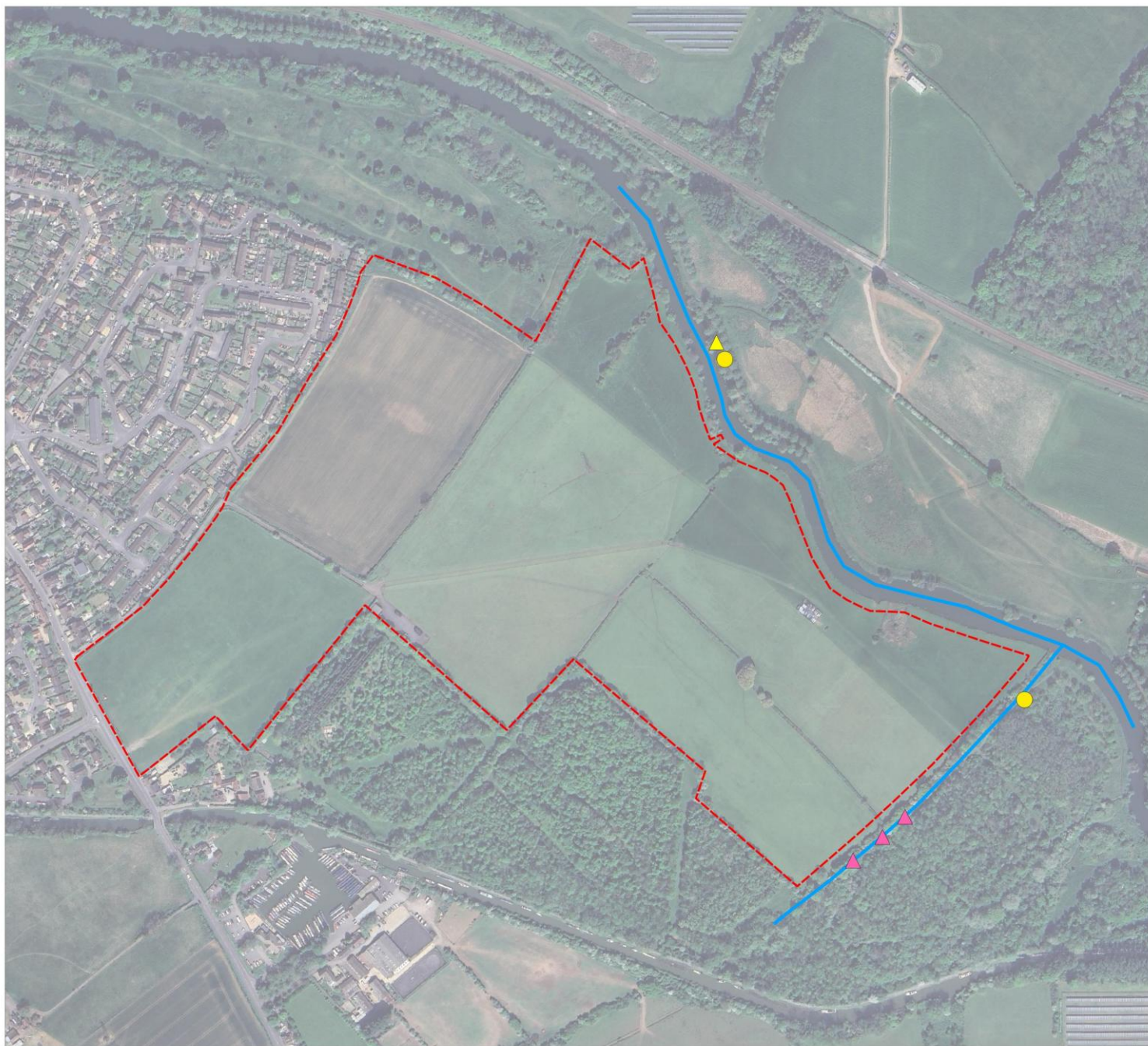
Project:
Trowbridge Road, Bradford-on-Avon

Client:
Waddeton Park Ltd

Date:
4/2/2026
Ref:
2763-EclA-F6

Drawn:
ET
Revision:
-





Key:

- Site Boundary
- ▲ Otter Spraint
- ▲ Beaver Lodge
- Evidence of beaver activity including felling and foraging
- Watercourse



Imagery ©2026 CNES / Airbus, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies. Map data ©2026 Google

Figure 7:
Results of Riparian Mammal Survey

Project:
Trowbridge Road, Bradford-on-Avon

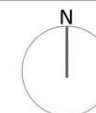
Client:
Waddeton Park Ltd

Date:
4/2/2026

Ref:
2763-EclA-F7

Drawn:
ET

Revision:
-



Appendix 1 – General Glossary of Terms

Annex I	Threatened bird listed on Annex I of the EC Birds Directive/ Habitats listed on Annex I of the EC Habitats Directive
Annex II	Species of community interest whose conservation requires the designation of SACs
BAP	Biodiversity Action Plan
BMCL	Bat Mitigation Class Licence
BNG	Biodiversity Net Gain
BoCC	Bird of Conservation Concern
CEMP	Construction Environmental Management Plan
CWS	County Wildlife Site
DBW	Daytime Bat Walkover
EPS	European Protected Species
GLTA	Ground Level Tree Assessment
HPI	Habitat of Principal Importance required under Section 41 of the NERC Act 2006
HSI	Habitat Suitability Index
IRZ	Impact Risk Zone
GCN	Great crested newt
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LEMP	Landscape and Ecology Management Plan
LWS	Local Wildlife Site
NBW	Night-time Bat Walkover
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
NVA	Night Vision Aid
NVC	National Vegetation Classification Survey
OSWI	Other Site of Wildlife Interest
pCWS	Potential County Wildlife Site
PRA	Preliminary Roost Assessment

PRF	Potential Roost Feature
Ramsar	A wetland site designated to be of international importance under the Ramsar Convention
SAC	Special Area of Conservation
SPA	Special Protection Area
SPI	Species of Principal Importance required under Section 41 of the NERC Act 2006
SSSI	Site of Special Scientific Interest
UWS	Unconfirmed Wildlife Site
WCA	Wildlife and Countryside Act 1981(as amended)
ZOI	Zone of Influence

Appendix 2 – Planning Policy and Legislation

Habitat and Species Legislation

Species and habitats receive legal protection in the UK under various legislation, including:

- 🦋 The Wildlife and Countryside Act (WCA) 1981 (as amended);
- 🦋 The Conservation of Habitat and Species Regulations 2017 (as amended);
- 🦋 The Countryside Rights of Way (CROW) Act 2000;
- 🦋 The Hedgerows Regulations 1997;
- 🦋 The Protection of Badgers Act 1992; and
- 🦋 The Natural Environment and Rural Communities (NERC) Act 2006.

Where relevant, this report takes into account the legislative protection afforded to specific habitats and species.

Environment Act 2021

The Environment Act 2021 operates as the UK's legal framework for environmental protection and provides legislation on environmental governance, principles, targets and improvement plans, waste and resource efficiency, nature protection, and water and air quality.

Part 6 of the Environment Act 2021 requires a minimum 10% biodiversity net gain for all new developments (with specified exemptions), and amends Schedule 7a (Biodiversity Gain in England) of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021) to mandate this in England. This will apply to most major developments from 12th February 2024 and to small sites from 2 April 2024.

The biodiversity net gain regulations most directly relevant to planning are:

- 🦋 The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations (2024)
- 🦋 The Biodiversity Gain Requirements (Exemptions) Regulations (2024)
- 🦋 The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations (2024)
- 🦋 The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024).

In addition, there are regulations for the Biodiversity Gain Site register established under section 100 of the Environment Act 2021 for registered off-site biodiversity gains.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how local planning authorities should incorporate them into their own policies and plans. Section 15 of the NPPF contains several policies targeted at enhancing the natural environment and requires local authorities to consider how impacts on biodiversity can be minimised and provide net gains in biodiversity. Paragraph 187 (a-f) states that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”*

In addition, paragraph 192 (b) ensures that to protect and enhance biodiversity and geodiversity, plans should:

“b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

Additional Planning Practice Guidance (PPGs) supports the NPPF and includes guidance on:

-  Agricultural land, soil and brownfield land of environmental value;
-  Green infrastructure;
-  Biodiversity, geodiversity and ecosystems; and
-  Landscape.

Regional/ Local Planning Policy

The Wiltshire Core Strategy Development Plan Document ('the plan') was formally adopted in January 2015. The plan provides a positive and flexible overarching planning policy framework for Wiltshire for the period up to 2026. It contains the relevant planning policies:

-  Core Policy 50 – Biodiversity and Geodiversity
-  Core Policy 52 – Green Infrastructure

Neighbourhood Plan

The Bradford on Avon Neighbourhood Plan 2013-2026 was made in October 2017. Policies with relevance to ecology and biodiversity are listed below:

-  Policy GS1 - The Neighbourhood Plan strongly supports the enhancement of Bradford on Avon's biodiversity. Development will be expected to provide net gains in biodiversity where possible.
-  Policy GS2 - Development within the Neighbourhood Area that affects known or potential bat habitats should be accompanied by a bat survey. Where found necessary appropriate mitigation will need to be provided, having regard to the Wiltshire Council Habitats Regulations Guidance Document.
-  Policy GS4 – The following will be supported: enhancement of biodiversity, landscape character and the recreational value of open spaces in the town.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP) was succeeded in 2012 by the 'UK Post-2010 Biodiversity Framework' which demonstrates a whole-environment strategy on how the UK contributes to achieving the Convention on

Biological Diversity's (CBD) 20 Aichi Biodiversity Targets. In England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' (Defra, 2011) sets out the strategic direction for biodiversity policy in the future. The former UK BAP was used to draw up lists of species and habitats of 'principal importance' which continue to be regarded as priorities under the Post-2010 Biodiversity Framework and are identified under Section 41 of the NERC Act 2006; these species have been considered throughout this report.

Local Biodiversity Action Plan

The latest available Wiltshire Biodiversity Action Plan (BAP) was produced by the Wiltshire Biodiversity Partnership in 2008. The plan includes a Generic Action Plan, ten Habitat Action Plans and a Bat Species Action Plan, which covers all bat species in Wiltshire. The Wiltshire and Swindon Biodiversity Action Plan Steering Group have since published Landscape Biodiversity Areas which provides an additional framework for landscape-scale conservation with which to coordinate conservation efforts in Wiltshire and Swindon. The Site lies within Area 4: Cotswolds Limestone Lowlands, which highlights woodland, limestone grassland, neutral grassland and rivers as priorities for conservation.

Appendix 3 – Extended UK Habitat Classification Survey

Method

A Site walkover was undertaken on 28 January 2025 by Ryan Yeates BSc (Hons) MCIEEM and Kit Owen BSc when weather conditions were dry with good visibility. An update grassland survey was undertaken on 28th May 2025 by Ryan Yeates BSc (Hons) MCIEEM when weather conditions were dry with good visibility.

All habitats within the Site were identified, described and mapped during the field survey in accordance with the UK Habitat Classification (UKHab) (UKHab Ltd., 2023 (V2.0)) and Statutory Biodiversity Metric (Defra, 2024) classifications for hedgerows), with other linear and point features mapped using Phase 1 Habitat Survey symbology (JNCC, 2010).

Primary habitats have been mapped to a minimum mapping unit (MMU) of 25m², although where features of note of a smaller scale are present, these have also been recorded and mapped. Any habitats (e.g. traditional orchard) with no appropriate primary habitat label were assigned a secondary habitat code. Other secondary UKHab codes were recorded where relevant, although they are described qualitatively within this report for ease of reading. A non-exhaustive botanical species list was compiled, with plant names following Stace (2019).

Hedgerow species richness was defined in accordance with the Hedgerow Survey Handbook (Defra, 2007).

A walkover of each grassland parcel was undertaken, followed by detailed sampling using 1m² quadrats, to collect detail on species and sward composition, the number of which was determined by the characteristics of each parcel. Where it became rapidly apparent that grasslands were clearly species poor modified grassland, three quadrats per parcel were sampled to evidence this. In parcels which were more diverse, six quadrats were sampled. For any parcel which could have potentially qualified as a HPI, ten quadrats were sampled.

Estimated percentage cover of the below features were assessed based on a qualitative overall assessment of each parcel, along with data collected from quadrats:

-  Ryegrass and white clover;
-  Herbs, sedges and rushes;
-  'Undesirable species' (as defined within Defra, 2024a); and
-  Bare ground.

The survey was extended to highlight the potential presence of protected and notable species in accordance with CIEEM's Guidelines for Preliminary Ecological Appraisal (2017). This involved a search to identify the presence or potential presence of species such as breeding birds, bats, badger, dormouse, riparian mammals, reptiles and amphibians. Target Notes (TNs) were used to record any features or habitats of ecological interest. Where access allowed, adjacent habitats were also considered in order to assess possible impacts of the proposal in a wider context.

A digital map was produced using QGIS (QGIS.org, 2024. *QGIS Geographic Information System*. QGIS Association. Available from: www.qgis.org). The habitat map is shown in **Figure 1**.

Habitat Descriptions

Table 3.1: Habitat Summaries

Habitat Summary	Photograph
Modified Grassland that dominates the Site. Sheep grazed with homogenous, cropped sward length/structure. Average species diversity per quadrat ranges between parcels; F1 and F5 support >6 sp/m², whilst F2, F4 and F6 support < 6sp/m². Some areas of bare ground and species recorded include creeping buttercup, Yorkshire fog, white clover, cock's foot. Perennial-rye, sweet vernal grass and dandelion.	
Area of arable cropland in north of Site.	
Example of broadleaved tree found within the Site. All trees within the Site are native; species recorded include oak, ash, field maple and elm.	

Pond in north-east of the Site. Good water quality, no evidence of duckweed, filamentous algae or invasive non-native species and >50% cover of emergent, submerged and aquatic plants in areas where the pond is <3m deep.



Example of **native hedgerow** (H5). Species recorded comprise hawthorn, elm, elder, dog rose and field maple. Heavily managed and over 1.5m high and 1.5m wide.



Example of **native hedgerow with trees** (H9). Species recorded comprise hawthorn, elm, elder, blackthorn and ash. Heavily managed, significant vertical gappiness and over 1.5m high and 1.5m wide.



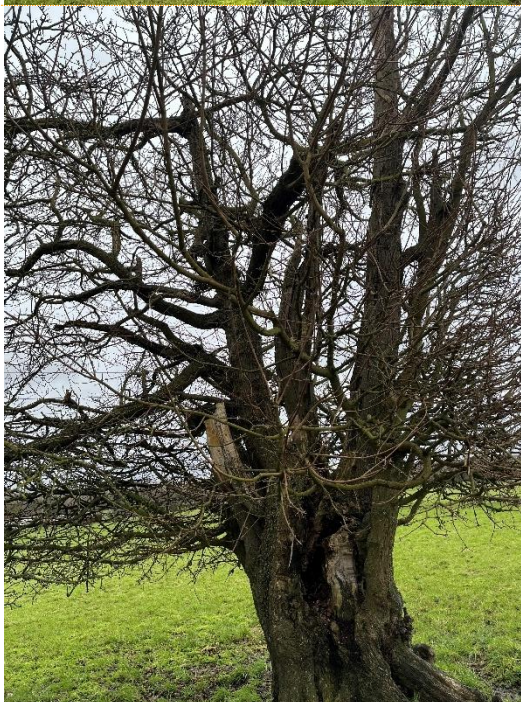
Example of **native species-rich hedgerow** (H6). Species recorded comprise blackthorn, elm, ash, elder and field maple. Lightly managed and over 1.5m high and 1.5m wide.



Example of **tree line** (LOT6). All trees are native; species recorded comprise hawthorn, elder, blackthorn, hazel, field maple, willow, ash and elm. All trees (excluding the veteran – see below) are in healthy condition.



Veteran field maple within southern extent of LOT6.



Adjacent River Avon.



Appendix 4 – Badger Survey

Methods

A badger survey was undertaken on 28 January 2025 by Ryan Yeates BSc (Hons) MCIEEM.

The survey involved a thorough search of the Site for evidence of badger activity based on the methodology outlined by Harris, Creswell and Jefferies (1991). A search was made for:

- 🦡 Setts, including earth mounds/ spoil, evidence of bedding and runways between setts;
- 🦡 Latrines, often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- 🦡 Prints and paths;
- 🦡 Hairs within sett entrance or caught on nearby fencing; and,
- 🦡 Other evidence including snuffle holes, feeding and playing areas and scratching posts.

All burrows on site were inspected to identify badger setts, with a torch where necessary to confirm dimensions of at least 25cm wide by 17cm high in both the entrance and visible tunnel sections (these are the minimum dimensions of badger setts under normal circumstances; Natural England 2009 ; Neal & Cheeseman 1996, Roper 2010). This included inspection of all burrows in and around rabbit warrens, as badgers often start new setts by extending from an entrance of a pre-existing rabbit warren and the two species often coinhabit even in main setts.

Where setts were observed, their status and the level of activity were noted. Sett status can be broadly classified as:

Main sett – Sett with at least five entrances and a high level of activity. Main setts always have active badger runs leading away from them and are normally marked by latrines. Social groups usually only have one main sett, which is the most important sett in the territory. It is used throughout the year and is the breeding sett used by the dominant boar and sow.

Annexe sett – Setts are categorised as annexe setts where they are assumed to form part of the main sett area but where the sett is unlikely to be directly linked by an underground passage to the main sett either due to a barrier (e.g. separated by a watercourse or ditch) or by distance. Annexe setts are normally linked to the main sett by a well-used path and lie within 150m of a main sett entrance.

Subsidiary sett – Setts that offer an alternative sett complex to the main sett are categorised as subsidiary setts. Subsidiary setts are normally, at least, 50m from the main sett and are not always obviously linked by a well-used path to the main sett (unlike annexe setts). Subsidiary setts often exhibit moderate levels of activity, are larger than outlier setts but smaller than main setts. They can be used intermittently, and are normally unoccupied throughout winter, when all members of a social group will usually sleep together at the main sett to save body heat. Subsidiary setts are often marked by latrines.

Outlier sett – These setts only have one or two entrances, and tend to have much simpler internal architecture than the other sett categories – often having only one or two blind-ended tunnels with associated sleeping chamber/s. They are normally unoccupied throughout winter when all members of a social group will usually sleep together at the main sett to save body heat , and will often go unoccupied for more than a month between spring and autumn. Often found at the boundaries of a badger social group's territory.

Activity levels were noted as either active or inactive based on field signs around entrances, including freshly-excavated spoil outside any entrances, entrances with little accumulation of leaf litter, other debris or weeds, prints, bedding (on sunny days), fresh droppings in any nearby latrines. Badgers often only use one small area of the sett for a period, and therefore the entrance/s with the highest activity levels determine the overall sett

activity rating. Subsequent monitoring of all potential setts was undertaken through trail cameras for four weeks between May-June 2025.

Results

A total of five setts were recorded throughout the Site. Between May-June 2025, monitoring surveys were undertaken on these setts to determine whether they were in active use. Three of the setts were confirmed to be in active use at the time of survey, comprising one main sett and two outlier setts (see **Figure 1**). The main sett is situated in the western extent of the Site adjacent to H1 and LOT 1 and comprises 11 entrances, with latrine pits, bedding, prints and hairs also recorded. One of the outlier setts is present on the eastern extent of H11 and comprised three entrances, whilst the other is situated within a complex of rabbit warrens and comprised a total of three entrances.

Photographs of the setts are provided below in **Table 4.1**.

Table 4.1: Badger survey results

Sett ref.	Description	Photograph
MS1	Active main sett in south-western corner of F1 comprising 11 entrances. Latrine pits, bedding, prints and hairs also recorded.	
OS1	Inactive outlier sett in north-eastern corner of F1 comprising two entrances. Snuffle holes also recorded.	
OS2	Inactive outlier sett at the western extent of H11	No photo available.

	comprising three entrances. Snuffle holes were also recorded.	
OS3	Active outlier sett at the eastern extent of H11 comprising three entrances.	
OS4	Active outlier sett comprising three entrances. The sett is situated within a complex of rabbit warrens.	

Appendix 5 – Bat Activity Surveys

Methods

Survey Effort

During the walkover the Site was assessed as having High suitability for bats in accordance with best practice guidance (Collins, 2023), based on the presence of continuous, high quality habitat that is well-connected to the surrounding habitat and known roosts which is likely to be used regularly by bats, for example tree-lined water courses, hedgerows, broadleaved woodland and parkland.

Considering the predicted impacts of the proposed development on bats it was therefore proportionate to undertake automated detector surveys once a month between April and October 2025, in accordance with Collins (2023) and BS42020 (BSI, 2013). These surveys were supplemented by three seasonal night-time bat walkover surveys.

Night-time Bat Walkover Surveys

Night-time bat walkover (NBW) surveys comprised one-two experienced surveyors observing and recording bat behaviour on Site. Surveys commenced 15 minutes before sunset, with surveyors positioned on potential flyways, or close to potential roost features, previously identified as part of the walkover survey. Starting locations were altered between surveys to assess the importance of different features to bats. Surveyors initially remained in place to record early emerging behaviour and commuting bats - tracking the bat movement towards a roost, if appropriate. After 30 minutes to an hour from sunset, surveyors then walked a pre-defined transect route (no more than 3km) covering all suitable foraging and commuting habitats within the Site. During the walked survey surveyors responded dynamically to bat activity on Site, occasionally stopping or detouring to observe bat behaviour. The survey concluded two hours after sunset.

Surveyors walked the transects equipped with a manual hand-held detector and recorder (Elekon BatLogger M2). When a bat was encountered the time, species and flight behaviour, direction and height was noted.

Surveys were completed during optimal weather conditions, as detailed in Table 5.1. Exceptions are discussed further in **Limitations (Section 2.6)**.

Table 5.1: Bat activity transect survey dates and personnel

Date	Sunset/ start time	End time	Transect length (time)	Weather	Personnel
14/05/25	20:37	22:52	2 hours 15 minutes	Dry, 17°C	CH, LB
06/08/25	20:33	22:48	2 hours 15 minutes	Dry, 16-18°C, 90-100% cloud cover, Beaufort 1	ET, LT
07/10/25	18:18	20:33	2 hours 15 minutes	Dry, 10-16°C, 50-80% cloud cover, Beaufort 1	CH, NC

LT = Lindsay Taylor MSc ACIEEM (NE Level 1 bat class licence 2017-32853-CLS-CLS), CH = Cameron Hard BSc, ET = Emma Thornton MBiol, LB = Lauren Baker MSc, NC = Nicke Cooke BSc

Automated Detector Surveys

Night-time bat walkover surveys were supplemented with the use of static automated detectors to increase survey effort.

This involved the deployment of five static detectors (Titley Scientific Anabat Express/Chorus or Wildlife Acoustics Song Meter Mini), in hedgerows around the site, on vegetation along the River Avon and the

Widbrook woodland edge. Locations were chosen through a “*judgmental*” strategy, considering features of greatest interest and those most likely to be impacted by proposals. Detectors were positioned on the leeward side of hedges and habitats, facing into the field, to avoid noise from wind and vegetation. Statics were deployed for a minimum of five nights per month between April and October 2025, on the following dates:

- 🦇 17th – 21st April 2025
- 🦇 14th – 18th May 2025
- 🦇 12th - 16th June 2025
- 🦇 9th – 13th July 2025
- 🦇 6th – 10th August 2025
- 🦇 9th – 13th September 2025
- 🦇 7th – 11th October 2025.

Bat Data Analysis

Recordings from NBW surveys were analysed through Wildlife Acoustics Kaleidoscope Pro software and processed through Microsoft Excel, R Statistical Software (R Core Team, 2021) and QGIS to produce a point map showing locations at which bat passes were recorded. The map was annotated to provide qualitative information about bat use of the Site, including key foraging areas and commuting routes.

The latest version of Wildlife Acoustics Kaleidoscope Pro software was used for processing and analysing static bat data. The confidence settings used were “liberal (this will produce more identifications but have more false positives)” with an audit of all recordings, including “noise” files. Batches of noise files and pipistrelle calls were checked depending upon their characteristics which are grouped by a range of variables including background noise and strength of calls. *Myotis*, long-eared (*Plecotus*) and *Nyctalus* species were identified to genus level. All bat calls other than common, soprano pipistrelle and *Nyctalus* species were verified manually in full, with at least 10% of calls checked again to confirm verification. A three-stage quality assurance process was undertaken, focusing on cryptic species. Where necessary further identification of more cryptic species such as *Myotis* and long-eared was undertaken using Titley Scientific Analook software.

Data from the automated surveys was then analysed and presented, using R Statistical Software (R Core Team, 2021). A bat pass is defined as a sequence of echolocation calls separated from another call by a minimum of 2 seconds. The number of bat passes per hour for each species was calculated (bat pass/night length), allowing comparison between different seasons and locations on Site.

QGIS was used to produce a map showing static locations and Euler graphs of bat activity showing the passes per hour for all bat species, all bat species excluding pipistrelles, light averse species and Annex II species. Light averse species are defined as showing no positive or negligible effect from artificial light at night as shown in Table 1 of Bats and Artificial Lighting at Night Guidance Note 08/23 (ILP, 2023).

As they are a cryptic species, and are not recorded in proximity to the Site, any potential Bechstein’s have been aggregated with the other *Myotis* species and are not considered along with the Annex II species.

Night-time Bat Walkover Survey Results

During the NBW surveys, soprano pipistrelle was the most frequently recorded species, followed by common pipistrelle and *Myotis* species. Relatively high numbers of lesser horseshoe (Annex II species) passes were recorded, particularly on the October survey. Other species recorded on Site in moderate numbers include serotine, *Nyctalus* species and the Annex II bat species’ greater horseshoe (**Table 5.2**).

Table 5.2: Summary of total bat passes recorded during NBW surveys

Survey Month	PIPIIP	PIPPYG	EPTSER	MYOSPP	NYCSPP	RHIFER	RHIHIP	Grand Total
May	60	60	1	9	6	0	3	139
August	32	99	16	2	9	0	3	161
October	90	98	0	14	2	2	18	224
Grand Total	182	257	17	25	17	2	24	524

PIPIIP = common pipistrelle; PIPPYG = soprano pipistrelle; NYCSPP = *Nyctalus* species; EPTSER = Serotine; MYOSPP = *Myotis* species; RHIHIP = lesser horseshoe bat.; RHIFER = greater horseshoe bat

Bat activity was distributed throughout the Site, with particular focus on the boundary abutting Widbrook Wood and the River Avon (see **Figure 3**). Pipistrelle activity was concentrated on the northeastern boundary of the Site adjacent to the River Avon watercourse. High numbers of bats were consistently recorded foraging in this area. In addition, *Pipistrelle* and *Nyctalus* species were also observed commuting in various directions over the watercourse. Commuting passes within 30 minutes after sunset suggest that there could be nearby roosts.

Myotis species were recorded in highest abundance adjacent to Wid Brook. Most serotine recordings were situated at the vegetated boundaries of the westernmost fields of the Site. Relatively high level of the Annex II species' lesser horseshoe were recorded, these were concentrated around the Eastern point of Widbrook Wood and at the northern boundary of the site abutting the golf course and joining the River Avon. It is also important to note that there is an inherent difficulty in identifying Bechstein's acoustically and it is considered likely that a proportion of the *Myotis* spp. recorded during the surveys can be attributed to Bechstein's, albeit in smaller proportions to the more common and widespread *Myotis* species, such as Natterer's and Daubenton's. These were recorded both foraging and commuting across the Site. The earliest lesser horseshoe recorded was 30 minutes after sunset and therefore there is a possibility of a nearby roost.

Automated Detector Survey

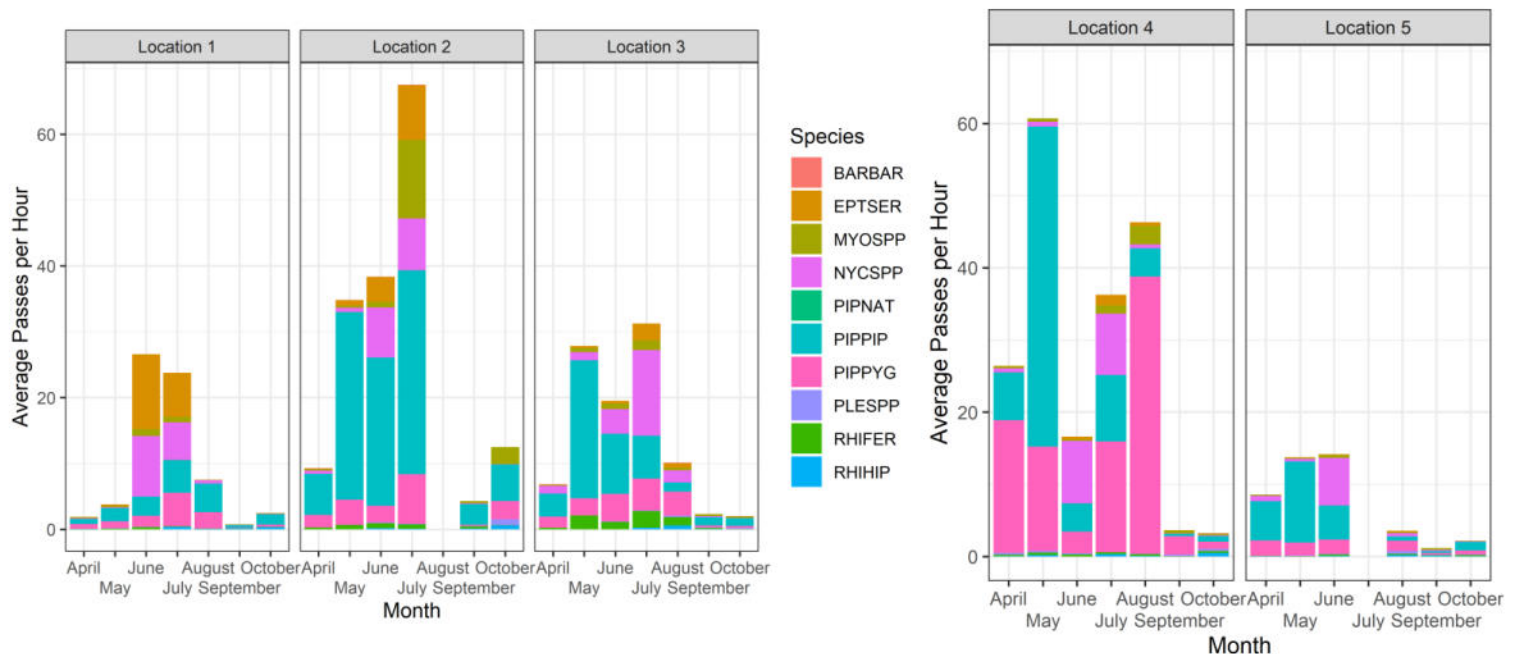
During the automated detector surveys, statics were placed at the following locations (illustrated in **Figure 4**):

-  Location 1 – northwestern boundary hedgerow of F3 backing onto Widbrook View
-  Location 2 – along southern boundary of F1 adjacent to Widbrook Wood
-  Location 3 – at the southern boundary of F6 adjacent to Wid Brook and Widbrook Wood
-  Location 4 – at the northern extent of LOT5 adjacent to the River Avon
-  Location 5 – on hedgerow H11 which partitions F5 and F6

Graph 1 below illustrates the relative abundance of bat activity recorded during the survey period. Location 2 and 4 supported the highest number of bats passes per hour overall, though Location 2 recorded the most passes from species considered to be more light-averse.

Common pipistrelle was the most frequently recorded bat species (44.6% of recorded bat passes; 38.5 passes per hour across all surveys) followed by soprano pipistrelle (25.4%; 21.9 passes/hour). Common pipistrelles showed a greater affinity to Location 2, whereas Soprano pipistrelle showed a greater affinity to Location 4. The number of passes per hour also reflects this preference.

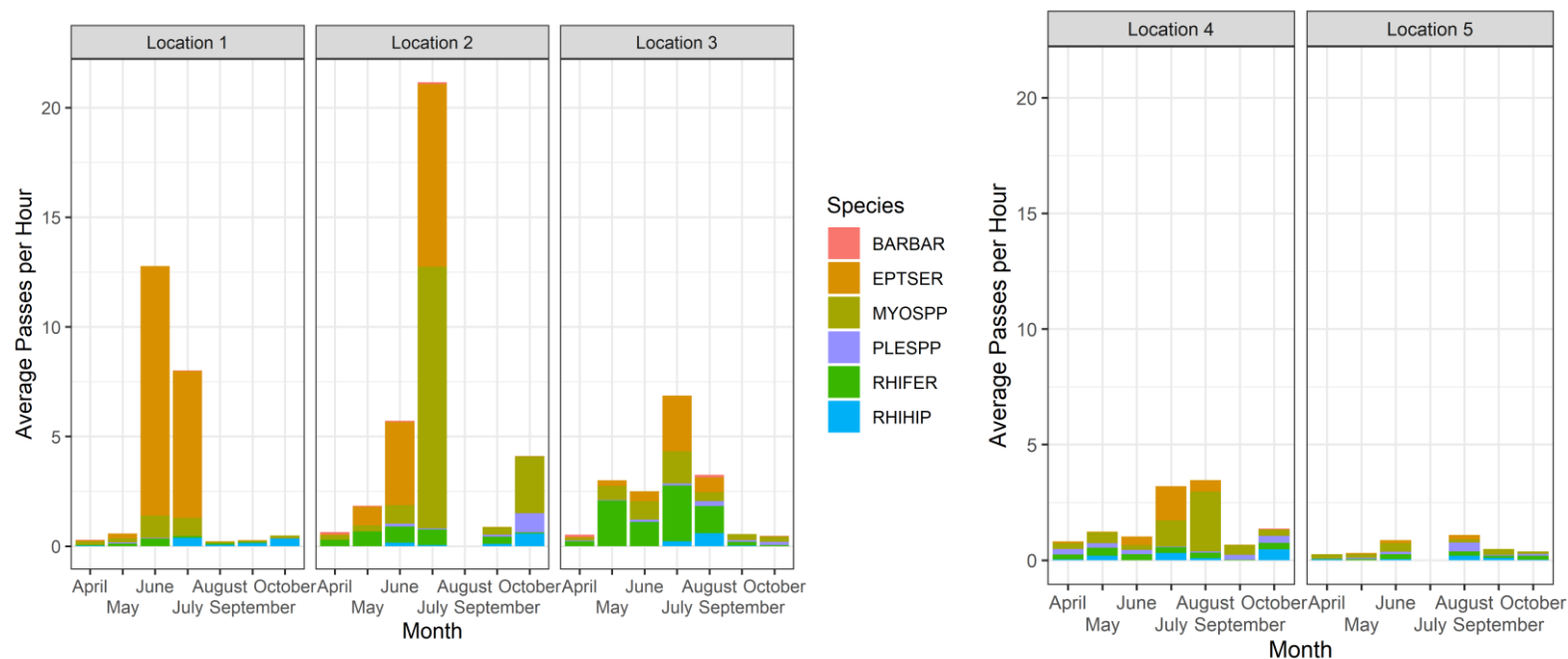
Nyctalus activity was also frequently recorded (14.1%; 12.2 passes/hour) with highest levels of activity at Location 3. However, it should be noted that due to the strength of noctule calls, this species can be detected from >100m and they also commute and forage over open habitat; therefore, it indicates that bats are using this general area of the Site, not necessarily the hedgerow itself. *Nyctalus* species have been removed from the graph below.



Graph 1: Average bat passes per hour during the automated detector survey period

PIPPIP = common pipistrelle; **PIPPYG** = soprano pipistrelle; **PIPNAT** = Nathusius' pipistrelle; **NYCSPP** = *Nyctalus* species; **EPTSER** = Serotine; **MYOSPP** = *Myotis* species; **RHIHIP** = lesser horseshoe bat.; **RHIFER** = greater horseshoe bat; **BARBAR** = barbastelle; **PLESPP** = Long-eared bat species.

Graph 2 below excludes pipistrelles and noctules for a clearer picture of activity for other species⁵. Serotine were recorded on Site at all Locations though show a strong preference for Location 1 and 2 (6.68%; 5.78 passes/hour). *Myotis* species (5.32%; 4.59 passes/hour), which are considered to be more light averse, were recorded at all locations, but with highest levels of activity recorded at Location 2. Long-eared bats were recorded at each location but at low numbers (0.68%; 0.59 passes/hour).

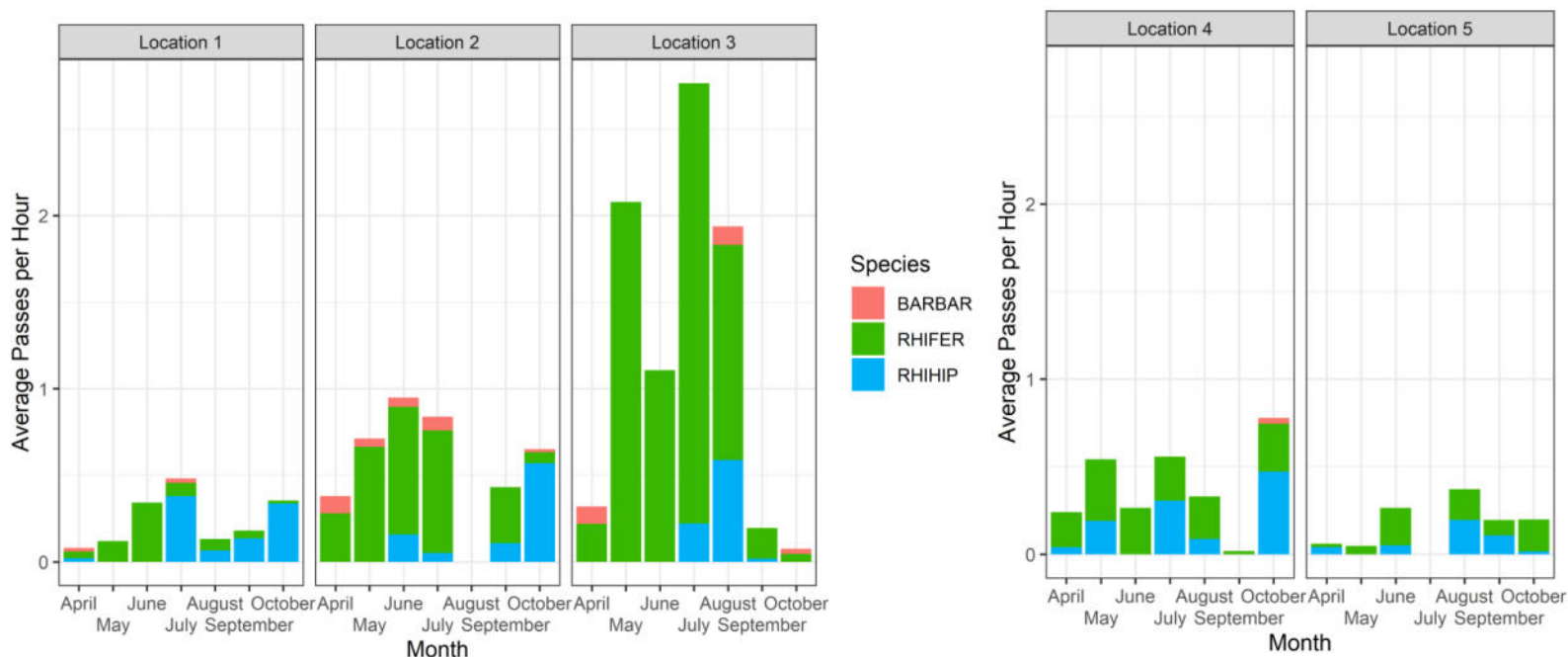


Graph 2: Average bat passes per hour during the automated detector survey period, excluding pipistrelles and *Nyctalus* sp.

NYCSPP = *Nyctalus* species; **EPTSER** = Serotine; **MYOSPP** = *Myotis* species; **RHIHIP** = lesser horseshoe bat.; **RHIFER** = greater horseshoe bat; **BARBAR** = barbastelle; **PLESPP** = Long-eared bat species.

⁵ Pipistrelles are excluded due to the abundance of calls recorded, and noctule are excluded as they have strong calls that can be detected from >100m away and therefore do not specifically reflect levels of bat activity at the specific location of the detector.

Graph 3 illustrates the abundance of activity by Annex II species only. Very low levels of activity by barbastelle were recorded on Site (0.11%; 0.10 passes/hour). Greater horseshoe (2.28 %; 1.97 passes/hour) and lesser horseshoe (0.72%; 0.63 passes/hour) were both recorded at all locations, with the greater activity from Greater horseshoe at Location 3 (1.23%).

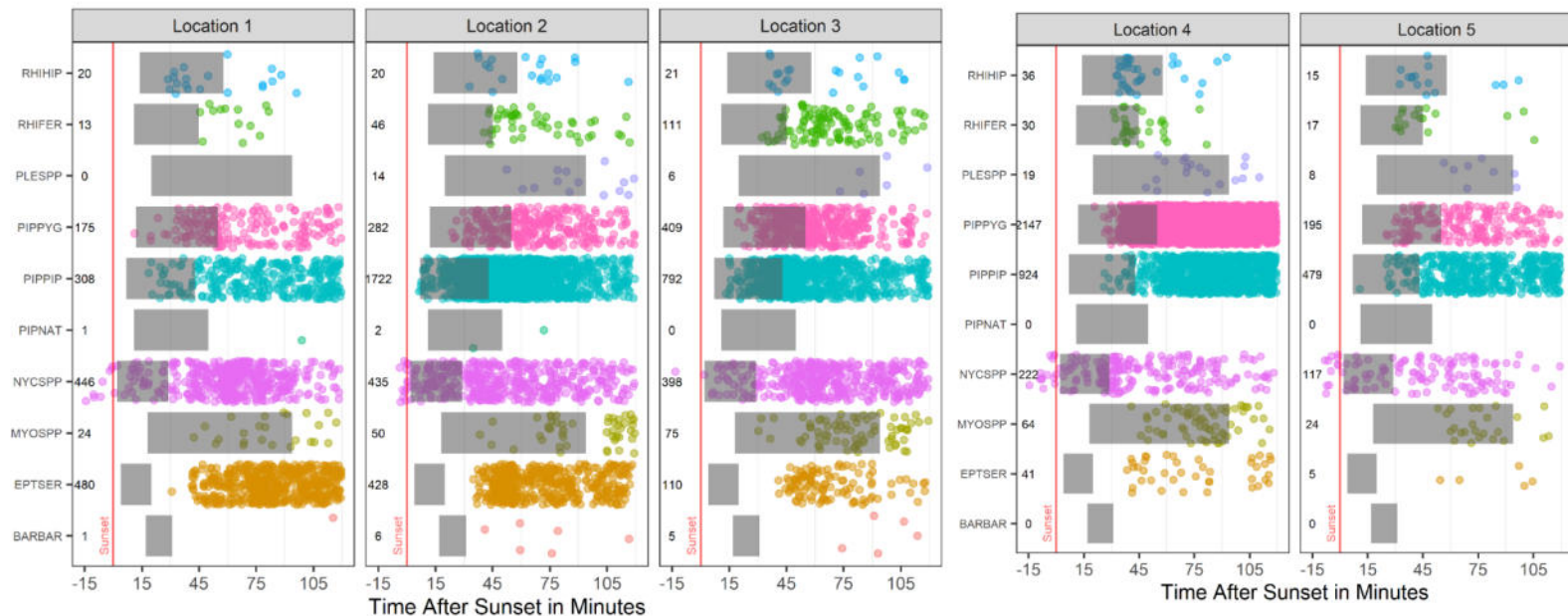


Graph 3: Average bat passes per hour during the automated detector survey period, for Annex II species

RHIHIP = lesser horseshoe bat.; RHIFER = greater horseshoe bat; BARBAR = barbastelle.

Graph 4 shows passes of species in relation to expected emergence times from Andrews and Pearson 2022, included on pg. 34-35 in the BCT survey guidelines. The graph shows that common pipistrelle, soprano pipistrelle, *Nyctalus* species, *Myotis* species, lesser horseshoe, greater horseshoe and long-eared bats were recorded on Site during their expected emergence period and therefore may be emerging from a roost nearby and commuting through the Site. These species are highly likely to be using the Site for foraging close to their roosting site or commuting through the Site before heading further afield.

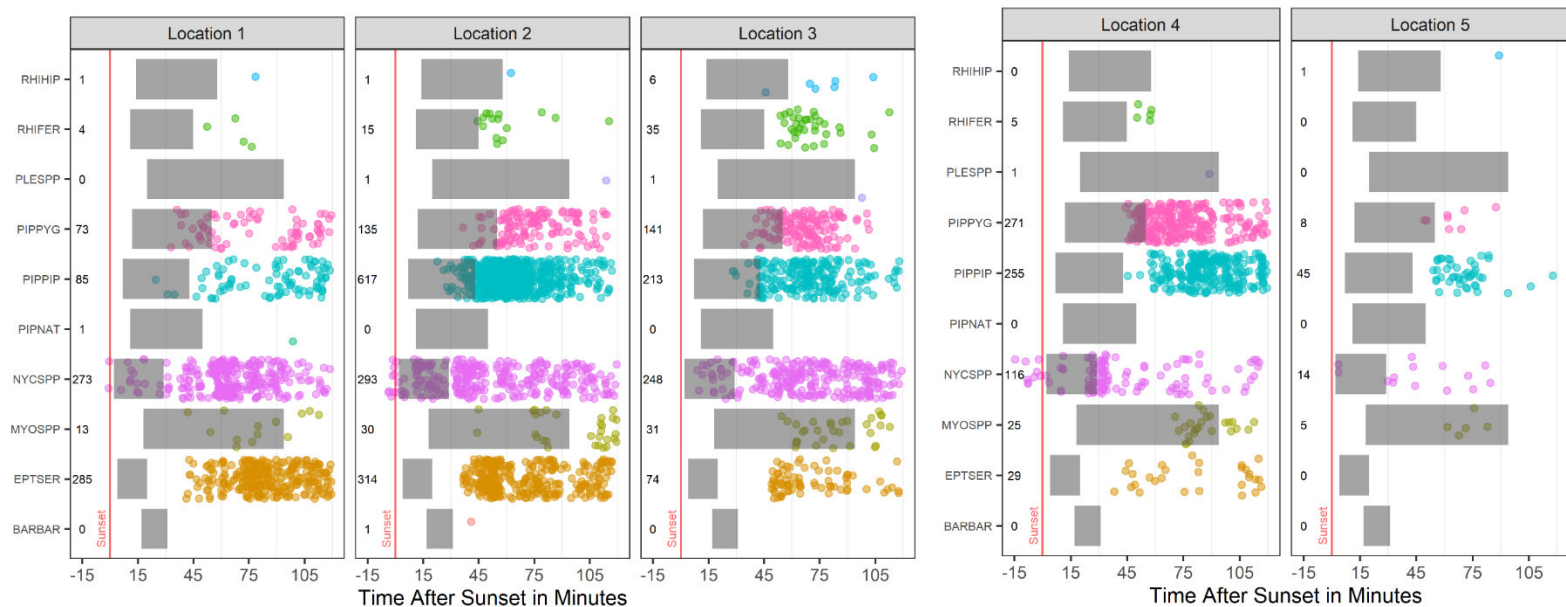
Low numbers of serotine and barbastelle at emergence indicates that either there may be a roost in the vicinity, but that the Site does not appear to be of high importance as a commuting route, or that there are no roosts nearby.



Graph 4: All bat passes in relation to emergence periods for each species

PIPPIP = common pipistrelle; **PIPPYG** = soprano pipistrelle; **PIP NAT** = Nathusius' pipistrelle; **NYCSP** = *Nyctalus* species; **EPTSER** = Serotine; **MYOSPP** = *Myotis* species; **RHIHIP** = lesser horseshoe bat.; **RHIFER** = greater horseshoe bat; **BARBAR** = barbastelle; **PLESPP** = Long-eared bat species.

Graph 5 shows passes of species in relation to expected emergence times from Andrews and Pearson 2022, included on pg. 34-35 in the BCT survey guidelines during the maternity period of 15th June – 30th July. The graph shows that significant numbers of passes by common pipistrelle, soprano pipistrelle, *Nyctalus* species and *Myotis* species were recorded on Site during their expected emergence period during the maternity period and therefore indicate the possibility of a maternity roost nearby or on Site.



Graph 5: All bat passes in relation to emergence periods for each species within the maternity period (15th June – 30th July)

PIPPIP = common pipistrelle; **PIPPYG** = soprano pipistrelle; **PIP NAT** = Nathusius' pipistrelle; **NYCSPP** = *Nyctalus* species; **EPTSER** = Serotine; **MYOSPP** = *Myotis* species; **RHIHIP** = lesser horseshoe bat.; **RHIFER** = greater horseshoe bat; **BARBAR** = barbastelle; **PLESPP** = Long-eared bat species.

Appendix 6 – Breeding Bird Survey

Methods

A breeding bird survey was undertaken in spring 2025 according to an adapted Common Bird Census (CBC) methodology (Bibby *et al*, 2000; Gilbert *et al*, 1998), consisting of a walked transect route encompassing the entire Site, starting within 30 minutes of sunrise in suitable weather conditions (avoiding cold, windy and wet days, although showery days make acceptable survey weather). Survey dates and weather conditions are summarised in **Table 6.1**.

Table 6.1: Dates, times and weather conditions for breeding bird survey

Visit	Date	Surveyor	Time	Weather
1	01/05/2025	LA	06:05 – 08:10	8-15°C, 2-3 Oktas, Beaufort 1, 2km+ Visibility
2	22/05/2025	LA	05:34 – 07:23	7-10°C, 2-4 Oktas, Beaufort 1, 2km+ Visibility
3	25/06/2025	LA	05:14 – 07:18	15-17°C, 8 Oktas, Beaufort 1, 2km+ Visibility

LA = Lawrence Armstrong BSc

Notable bird species were recorded during the breeding bird survey, including WCA 1981 Schedule 1 species, birds listed on the UK Red-list of Birds of Conservation Concern 5 (BoCC; Stanbury *et al.*, 2021), species listed in Section 41 of the NERC Act 2006 and Local BAP species. During the survey, information on species, their locations and behaviour was mapped and recorded.

Results

A total of 31 species were recorded during the breeding bird survey of the Site. Of these, 14 were notable species (at least Amber-listed BoCC 5, SPI, Local BAP or Sch1 WCA). Results of notable species are detailed in **Table 6.2** and a full species list is provided in **Table 6.3**.

All of the notable species recorded as possible, probable and confirmed breeders within the Site were recorded in association with hedgerows, modified grassland and riparian habitats.

Low numbers of ground nesting species skylark were recorded within the grassland habitats in the centre of the Site. A pair of skylark (Red, WBAP and SPI) were observed during the first breeding bird survey performing territorial behaviour. The species is considered a **Probable** breeder within the Site.

Notable hedgerow species dunnock, house sparrow and wren were observed singing in established territories on each survey. These species are considered **Probable** breeders on Site.

Amber-listed (BOCC5) species sedge warbler was observed on each breeding bird survey in and around the riparian habitats along the northwestern boundary of the Site. During the third visit in late June, a pair of adults with juveniles was recorded, indicating a family. The species is considered a **Confirmed** breeder.

Notable wetland species moorhen and mallard were observed in pairs during the survey period. Both species are considered **Possible** breeders on Site.

The Site supports more than 25 species of breeding bird and therefore is considered to be of **Local** importance for species richness (Fuller, 1980).

Table 6.2: Breeding bird survey results – notable species

Species and Status				Number of birds				
Species	Scientific Name	Conservation Status	Breeding Status	01/05/25	22/05/25	25/06/25	Peak Count	Recorded within Site Boundary
Dunnock	<i>Prunella modularis</i>	Amber, S41	Probable	4	2	2	4	✓
Herring Gull	<i>Larus argentatus</i>	Red, S41, WBAP	Non-breeding	0	0	1	1	
House Sparrow	<i>Passer domesticus</i>	Red, S41, WBAP	Probable	15	6	9	15	✓
Kingfisher	<i>Alcedo atthis</i>	Sch 1, WBAP, Annex 1	Non-breeding	0	0	1	1	
Mallard	<i>Anas platyrhynchos</i>	Amber	Possible	3	0	0	3	✓
Mistle Thrush	<i>Turdus viscivorus</i>	Red	Possible	0	1	0	1	✓
Moorhen	<i>Gallinula chloropus</i>	Amber	Possible	0	3	1	3	✓
Reed Bunting	<i>Emberiza schoeniclus</i>	Amber, S41, WBAP	Non-breeding	0	1	0	1	
Rook	<i>Corvus frugilegus</i>	Amber	Non-breeding	6	0	13	13	✓
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	Amber	Confirmed	1	3	4	5	✓
Skylark	<i>Alauda arvensis</i>	Red, S41, WBAP	Probable	3	0	0	3	✓
Song Thrush	<i>Turdus philomelos</i>	Amber, S41, WBAP	Probable	2	1	3	3	✓
Woodpigeon	<i>Columba palumbus</i>	Amber	Probable	7	2	5	7	✓
Wren	<i>Troglodytes troglodytes</i>	Amber	Probable	8	3	7	8	✓

Red = Red listed Bird of Conservation Concern 5 (BoCC5) (Stanbury et al., 2021); **SPI**= Species of Principal Importance under S41 of NERC Act 2006; **Amber** = Amber listed BoCC5; **Sch1**= listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended). **WBAP** = Wiltshire Biodiversity Action Plan species

Table 6.3: Breeding bird survey results – complete species list

Common Name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Buzzard	<i>Buteo buteo</i>
Carion Crow	<i>Corvus corone</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Periparus ater</i>
Dunnock	<i>Prunella modularis</i>
Goldcrest	<i>Regulus regulus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Spotted Woodpecker	<i>Dendrocopos major</i>
Great Tit	<i>Parus major</i>
Green Woodpecker	<i>Picus viridis</i>
Grey Heron	<i>Ardea cinerea</i>
Herring Gull	<i>Larus argentatus</i>
House Sparrow	<i>Passer domesticus</i>
Jackdaw	<i>Coloeus monedula</i>
Kingfisher	<i>Alcedo atthis</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Moorhen	<i>Gallinula chloropus</i>

Common Name	Scientific Name
Mute Swan	<i>Cygnus olor</i>
Nuthatch	<i>Sitta europaea</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>
Skylark	<i>Alauda arvensis</i>
Song Thrush	<i>Turdus philomelos</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Appendix 7 – Dormouse Survey

Methods

A dormouse tube survey was undertaken in accordance with The Dormouse Conservation Handbook (Bright *et al.*, 2006). 98 tubes were deployed on 02 April 2025 by Adam Jefferies BSc at approximately 20m intervals. Tubes were checked on 14/07/25, 11/08/25, 07/10/25, and by Adam Jefferies BSc and Harry Dyer BSc.

A survey must score a minimum probability score of 20 to provide sufficient survey effort to determine presence/likely absence of the species on a given site (based on 50 tubes). **Table 7.1** details the months in which tubes were in-situ and the probability score.

Table 7.1: Index of probability of finding dormice present (based on best practice guidelines) and months nest tubes were present

Month	Index of Probability (Bright <i>et al.</i> , 2006) for 50 tubes	Probability Score for Site
April	1	1
May	4	4
June	2	2
July	2	2
August	5	5
September	7	7
TOTAL SCORE		21

Results

No evidence of dormouse was recorded on any of the survey visits, and accordingly this species is considered absent from the Site.

Appendix 8 – Great Crested Newt Survey

Methods

Pond Scoping

A review of OS maps and aerial imagery identified five water bodies within 250m of the Site boundary: four off-site ponds and one pond within the Site boundary as shown in **Figure 6**.

It is considered surveys beyond 250m from the Site boundary are not necessary as the Site does not meet the criteria detailed by Natural England within the EPS Licence Method Statement, namely:

- maps, aerial photos, walk-over surveys or other data do not indicate that the pond(s) has/have potential to support a large great crested newt population.

Environmental DNA (eDNA) Survey

All ponds within 250m of the Site were sampled for eDNA. This method involved taking water samples from each water body within Natural England's accepted sampling period of 15 April to 30 June following the methodology described in the Defra Report WC1067 (Biggs *et al.*, 2014a) and the subsequent Technical Advice Note (Biggs *et al.*, 2014b).

Twenty 30ml water samples were taken from each pond on 08 May 2025 by Hamish Kidd BSc (accredited under Natural England Great Crested Newt Class 1 licence (Lindsay Taylor; Registration No. 2016-24978-CLS-CLS)) using sterile field equipment supplied by SureScreen Scientifics. Sample locations were selected based on accessibility and suitable GCN egg laying and displaying areas, with as much of the margin being sampled as possible. The surveyor wore sterile gloves whilst taking the sample and did not enter the water. The water column was mixed gently before taking the sample, with care taken not to disturb the sediment at the bottom of the pond. The samples from each pond were mixed and 15ml added to six sterile tubes containing 35ml ethanol. Ponds containing less than 5cm depth of water were not sampled.

Samples were stored overnight in a refrigerator and then sent to SureScreen Scientifics for analysis. The methodology for laboratory analysis can be provided by SureScreen Scientifics on request.

Results

eDNA Results

All ponds returned a negative eDNA result for great crested newt, indicating the absence of great crested newt within the waterbodies. Pond locations are shown on **Figure 6**.

Appendix 9 – Riparian Mammal Survey

Methods

Riparian mammal surveys were undertaken on 08 May 2025 and 11 September 2025 by Hamish Kidd BSc (Hons), Ryan Yeates BSc (Hons) MCIEEM and Eliane Bornoff MbyRES. The surveys involved a walkover of the watercourse and a survey of both riverbanks where accessible for the length of the Brook from the River Avon to the Kennet and Avon Canal, and the section of the River Avon adjacent to the site. In sections where habitats were generally unsuitable for these species, extra attention was paid to ledges and other accessible areas beneath bridges and within culverts.

Physical characteristics of the watercourse were recorded such as aspect, slope and substrate, along with any evidence of recent and ongoing management. A detailed search was made along the river following current best practice methodologies (NatureScot, 2024 (beaver), National Rivers Authority, 2001, Highways Agency, 1999 (otter) and Dean *et al.*, 2016 (water vole)) for evidence of:

- 🦫 Beaver, including dams, burrows, lodges, feeding signs, food caches and slides;
- 🦫 Otter, including footprints, spraints, holts, runs, slides and feeding remains;
- 🦫 Water vole, including burrows, droppings, footprints and feeding remains;
- 🦫 American mink, including footprints and droppings.

The survey included each riverbank, emergent fringe vegetation and overhanging trees/exposed tree roots close to the water surface. During the survey, the main habitat type of each section of bank was recorded, and the locations of any evidence marked on a map.

Results

Habitat Description

The River Avon on the northern boundary of the site was approximately 25m across maintaining a moderate flow during the spring and autumn. The southern side of the riverbank consisted of short sheep-grazed grassland with a small area (approximately 0.5m along the length) of riparian vegetation. Banks were moderately steep, approximately 60° slope, with the northern bank supporting a long, diverse sward of rough wet grassland.

The Wid Brook to the east of the proposed development site was approximately 1m across and was slow flowing. To the east of the Brook was Widbrook Wood and to the west was sheep-grazed pasture. Due to the heavy level of shading by adjacent trees, very little aquatic vegetation was supported. Banks were steep, in places approaching 90° slope, with thick scrub covering the eastern bank and some marginal riparian vegetation and scrub supported on the western bank, however due to grazing, the marginal vegetation was minimal.

Summary of Results

During the surveys no evidence of water vole was recorded and they are considered to be absent.

Confirmed evidence of **otter** was recorded associated with Wid Brook, with spraints and feeding signs located within the southern section of the Brook on ledges and raised areas such as fallen branches and stones (see below photographs and locations in **Figure 7**), outside the site boundary. The watercourse is considered to provide suitable commuting and foraging opportunities for otter. The associated woodland may provide suitable habitat for an otter holt but no indication of the presence of this was identified during the surveys.



Otter spraint located in southern section of Widbrook



Otter spraint located in southern section of Widbrook

Confirmed evidence of **beaver** was recorded on the northern bank of the River Avon to the north of the Site (see **Figure 7**), comprising a lodge. Furthermore, evidence of beaver foraging, in the form of bark stripping, was found along the Wid Brook which runs adjacent to the Site.



Evidence of bark stripping adjacent to Wid Brook



Construction of a beaver lodge on the northern bank of the River Avon

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