Carpenders Park, Three Rivers

Burlington Developments London Limited

Ecological Assessment

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1. Introduction

1.1. Site Background and Proposed Development

1.1.1. Ecology Solutions was commissioned in July 2024 to undertake an Ecological Assessment of land at Carpenders Park, Three Rivers, hereafter known as the 'site' (see Plan ECO1).

1.1.2. The proposals for the site include a mixed-use development with up to 256 homes, housing with care, a children's home and associated parking, open space, Sustainable Urban Drainage (SUDs), landscaping and vehicular access.

1.2. Site Characteristics

1.2.1. The site measures approximately 12.7ha in size and is located to the east of Carpenders Park, a suburb of Watford. Arable land boarders the site to the immediate north with the A4008 extending along the western site boundary. Carpenders Park Care Home is additionally present to the west of the site, beyond which is housing. Little Hartsbourne Wood which is managed by the Woodland Trust, constitutes most of the eastern site boundary. Grassland fields intersected by scrub extend southwards from the site with a tributary of the River Colne and Grims Dyke Golf Club situated further to the south.

1.2.2. The site is comprised of three fields separated by bands of Blackthorn *Prunus spinosa* scrub (see Plan ECO2). Mature trees are situated along the site's perimeter, in addition to within the central field. Areas of Bramble *Rubus fruticosus* and ruderal vegetation are also present throughout, with a small area of woodland extending into the southeast of the site, connecting to Little Hartsbourne Wood.

1.3. Ecological Assessment

1.3.1. This document assesses the ecological interest of the site. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1] .

1.3.2. Where necessary, mitigation measures are recommended so as to safeguard any significant existing ecological interest within the site and, where appropriate, potential enhancement measures are put forward and reference made to both national and local biodiversity priorities.

1.3.3. This report includes details of bat surveys completed in the 2025 survey season and makes several updates in response to comments received from Herts Ecology on 27 October 2025.

[1] CIEEM (2022). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.2 – Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester.

2. Survey Methodology

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

2.2.1. In order to compile background information on the site and the surrounding area, Ecology Solutions contacted the Hertfordshire Environmental Records Centre (HERC) and the Greenspace Information for Greater London (GIGL) for protected species records and recognised statutory and non-statutory designated sites.

2.2.2. The data search area included a 2.5km radius centred on the site for protected species records. Information on nationally and locally designated sites was also sought.

2.2.3. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)[2] database, which uses information held by Natural England and other organisations.

2.2.4. This information is reproduced at Appendix 1, and where appropriate on Plan ECO1.

2.3. Habitat Survey

2.3.1. The site and wider study area was surveyed in July 2024 based on UK Habitat Classification (UKHab)[3] methodology as recommended by Natural England.

2.3.2. UKHab is a comprehensive system for mapping and recording habitats, designed to provide a simple and robust approach to survey and monitoring, and replaces the Phase 1 survey methods. UKHab comprises of a principal hierarchy ranging from level 1 (ecosystems) to level 5 (defined habitats including Annex 1 habitats) when classifying habitats. For this survey, all primary habitats were recorded to level 4 minimum. Secondary habitats are also used to provide further information on a main primary habitat where appropriate.

2.3.3. Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.

2.3.4. The relative abundance of plant species was assessed according to the DAFOR scale (D=Dominant, A=Abundant, F=Frequent, O=Occasional and R=Rare). The Braun-Blaque scale expresses an abundance score of presence (D=76-100%, A=51-75%, F=26-50%, O=6-25% and R=>1-5%).

[2] https://www.magic.gov.uk
[3] UKHab Ltd (2023) *UK Habitat Classification Version 2.0* (at https://ukhab.org)

2.3.5. It is important to note that all the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons.

2.3.6. The habitat survey was undertaken in July and thus, within the optimal survey period. It is therefore considered that a robust botanical inventory has been collated allowing for the identification and classification of the habitats present.

2.4. Faunal Survey

2.4.1. Obvious faunal activity recorded during the site survey, such as birds or mammals observed visually or by call, was recorded. Specific attention was paid to any potential use of the site by protected species, priority species or other notable species.

2.4.2. In addition to general observations of faunal activity, specific surveys were undertaken in regard to Badger *Meles meles*, bats, Otter *Lutra lutra*, Water Vole *Arvicola amphibius* and reptiles.

Badgers

2.4.3. The site and wider study area were subject to specific surveys for Badgers in July 2024.

2.4.4. The surveys comprised two main elements: firstly, searching thoroughly for evidence of Badger setts. If any setts were encountered, each sett entrance was noted and plotted, even if the entrance appeared disused. The following information was recorded where present:

i) The number and location of well used or very active entrances if present; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.

ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.

iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be, together with the remains of the spoil heap.

2.4.5. Secondly, any evidence of Badger activity such as well-worn paths, run-throughs, snagged hair, footprints, latrines and foraging signs was sought, and if present recorded so as to build up a picture of the use of the site by Badgers.

Bats

<u>Ground-level Tree Assessment</u>

2.4.6. All trees within the site were assessed for their potential to support roosting bats in July 2024. This was done from the ground level using binoculars to visually

search for any Potential Roost Features (PRFs). Features typically favoured by bats, or evidence of past use by bats were searched for, including:

- Obvious holes, e.g. rot holes and old Woodpecker holes;
- Dark staining on a tree below a hole;
- Tiny scratch marks around a hole from bats' claws;
- Cavities, splits and . or loose bark from broken or fallen branches, lightning strikes etc.; and
- Very dense covering of mature Ivy *Hedera helix* over the trunk.

Night-time Bat Walkover (NBW) Surveys

2.4.7. Two NBW surveys were undertaken in August and October 2024 with further surveys conducted in August and September 2025. The NBW survey methodology replaces the previous bat activity survey methodology that was recommended in previous survey guidelines produced by the Bat Conservation Trust. Surveyors were equipped with Echo Meter Touch 2 PRO bat detectors with all recorded data reviewed and analysed via Kaleidoscope software.

2.4.8. Surveyors were on-site prior to sunset and stationed along potential flight lines close to any potential roost structures. The NBW surveys began at sunset. Surveyors remained in position to count, observe behaviour and make recordings of any bats observed for up to an hour after sunset. If streams of commuting bats are observed the surveyor may back track to move towards a roost.

2.4.9. The surveyors then began walking a transect that covered the majority of the site and wider study area with the aim of identifying any bats using the site for foraging or dispersal. In order to maximise the encounter rate of bats (i.e. of both early- and late-emerging species), the walked transect portion of the NBW commenced around 30 to 60 minutes after sunset and continued until approximately two hours after sunset.

2.4.10. The surveyors observed the behaviour of any bat recorded, i.e. foraging or commuting, together with noting the species present and number of bats present at that location.

2.4.11. Surveys were conducted when the night-time temperature was above 10°C. The insectivorous diet of bats means there is little or no food available when temperature falls below this level and consequently levels of activity are low and may not accurately reflect the value of the application site for bats. The weather conditions for the surveys were recorded and any limitations noted.

Remote Surveys

2.4.12. The NBW surveys were complemented by the deployment of four SM4BAT static detectors in August, September and October 2024, with further surveys carried out in July, August, September and October 2025. These remote surveys monitored activity across a minimum of five consecutive nights on each occasion in 2024 and ten consecutive nights on each occasion in 2025. The

extended deployment in 2025 was implemented to compensate for the loss of the spring 2025 data. The placement of the static bat detectors is shown on Plan ECO3.

2.4.13. The detectors were programmed to record from 30 minutes before sunset until 30 minutes after sunset and were deployed for a period of at least five consecutive nights. The recorded data was subsequently analysed with Kaleidoscope software. The total number of bat registrations per species was then calculated to give an impression of the overall level of bat activity on a given survey night, as well as the proportion of activity attributed to a given species or group of species (Myotis species are not generally separated due to the similarity of their echolocations).

Limitations

2.4.14. Spring bat surveys were not undertaken due to scheduling constraints arising during the transition to a new survey management system. To ensure adequate temporal coverage, additional survey effort was implemented during the summer and autumn 2025 seasons. Static bat detectors were deployed for ten consecutive nights (rather than the standard five), and an additional summer and autumn NBW survey were completed.

2.4.15. This enhanced effort provided comprehensive data across key active periods, capturing representative levels of bat activity within the site. Whilst spring data is not available, the extended summer and autumn dataset is considered sufficient to reliably characterise the bat assemblage and activity patterns present. Accordingly, the absence of spring data is not considered to materially affect the robustness or conclusions of this assessment.

2.4.16. During the October 2025 static detector deployment one detector was damaged, and no data was recovered from that position. Despite these limitations, the remaining survey dataset is considered sufficiently comprehensive to support conclusions regarding likely bat use of the site and to inform appropriate mitigation measures.

2.4.17. All field surveys were undertaken with regard to best practice guidelines issued by CIEEM (2023[4]), the Joint Nature Conservation Committee (2012[5]) and the Bat Conservation Trust (2023[6]).

Otters

2.4.18. An Otter survey was undertaken in July 2024 of the off-site tributary of the River Colne, by a suitably qualified ecologist. This survey aimed to identify any characteristic signs of Otters. The following signs were searched for:

[4] Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management (CIEEM).
[5] Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2012). *Bat Workers' Manual*. 4th edition. Joint Nature Conservation Committee, Peterborough.
[6] Collins, J. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London.

- Spraint – irregular, sometimes short, rounded segments containing fish bones, scales or crayfish parts;
- Footprints of otters in soft substrates along the watercourse typically 8cm wide and 10cm long;
- Holts and couches on the banks of the watercourse; and
- Slides on the banks of the watercourse.

Water Voles

2.4.19. The off-site tributary of the River Colne and its immediate vicinity were also subject to specific surveys for Water Vole in July 2024.

2.4.20. As Water Voles are rarely seen, the survey was based around the identification of characteristic signs. The survey followed guidance by Natural England and consisted of a close examination of the tributary and banks up to two metres from the water's edge.

2.4.21. The following signs were sought:

- Faeces – 8 to 12 mm long and 4 to 5 mm wide with blunt ends;
- Latrines – Water Voles will deposit the majority of their droppings at points of their territory boundary;
- Feeding Stations – Water Voles often bring pieces of cut vegetation to favoured feeding stations close to the water's edge;
- Burrows – Typically 4 to 8 cm in diameter and found in the river . ditch bank;
- Footprints of Water Vole in soft substrates along the ditches; and
- Animals . Water Voles that may be observed directly.

Reptiles

2.4.22. Specific surveys for reptiles were carried out between September and October 2024. The methodology utilised was principally derived from guidance given in Froglife Advice Sheet 10[7], the Herpetofauna Workers' Manual[8] , the Herpetofauna Groups of Britain and Ireland's (HGBI) advisory note[9] and Natural England's Standing Advice for Reptiles[10].

2.4.23. Areas of suitable habitat within the site and wider study area were surveyed for the presence of reptiles using artificial refugia (squares of roofing felt). Roofing felt provides shelter and heats up more quickly than the surroundings in the

[7] Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
[8] Gent, T and Gibson, S. (2003*). Herpetofauna Workers' Manual*. JNCC, Peterborough.
[9] Herpetofauna Groups of Britain and Ireland (HGBI). (1998). *Evaluating Local Mitigation / Translocation Programmes: Maintaining Best Practice and Lawful Standards*.
[10] Natural England (2011). Standing Advice for Reptiles.
http://www.naturalengland.org.uk/Images/Reptile%20feb11_tcm6-21712.pdf

morning and can remain warmer than the surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use the felt to bask under and raise their body temperature which allows them to forage earlier and later in the day. A total of 190 0.5m x 0.5m roofing felt squares were deployed across site and surrounding area.

2.4.24. To determine presence absence the refugia was checked for reptile activity over seven visits at appropriate times of the day (avoiding the middle of the day when the ambient air temperature is at its highest) in accordance with Natural England guidance. Optimum weather conditions for reptile surveying are temperatures between 10˚C and 18˚C, intermittent or hazy sunshine and little or no wind.

Amphibians

2.4.25. To determine the presence or absence of Great Crested Newts within the water bodies located near to the site, Ecology Solutions undertook eDNA testing on 3 July 2025. The survey followed the methodology set out in the technical advice note for field and laboratory sampling of Great Crested Newt eDNA[11].

2.4.26. Although the eDNA survey was undertaken on 3 July 2025, slightly after the guideline cut-off date of 30 June, this is not considered to have materially affected the results. Environmental conditions (e.g. temperature, water levels, and amphibian activity) would have remained consistent with those present during the standard sampling window, and eDNA from Great Crested Newts typically persists in water for several weeks after breeding activity. Therefore, any newt presence or absence would still have been reliably detected, and the validity of the results is not compromised.

2.4.27. Whilst residing within a waterbody, Great Crested Newts deposit traces of DNA which can be detected through sampling the pond water and undergoing analysis within the laboratory.

2.4.28. Water samples of any given waterbody are taken in 20 separate locations, with a focus on areas of high suitability for Great Crested Newts. The samples are then pooled together into a self-supporting Whirl-pak Bag.

2.4.29. Once the pooled samples have been mixed thoroughly 15ml of water is removed and transferred into an ethanol filled test tube. This is repeated a further five times leaving six test tubes that contain a mix of the sampled water and ethanol. These are then immediately sent to a laboratory to undergo analysis.

2.4.30. Within the laboratory the samples are pooled together and tested via real time PCR (or q-PCR) in order to amplify select parts of the DNA allowing it to be detected and measured. A result of presence or absence is returned by the

[11] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014). *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt Triturus cristatus environmental DNA*. Freshwater Habitats Trust, Oxford

laboratory. If present (indicating presence of the species) no measure of the population size is obtained through this survey method.

2.4.31. Only one pond (P1) was tested as the other ponds (P2 to P5) were dry at the time of survey. Therefore, no samples could be collected from the other ponds and they were assessed as having negligible breeding potential at the time of survey.

3. Ecological Features

3.1. A UKHab Classification survey was undertaken within the site and wider study area by Ecology Solutions in July 2024. The following habitats were recorded:

- Other neutral grassland;
- Blackthorn scrub;
- Bramble scrub;
- Tall Forbs;
- Lowland mixed deciduous woodland;
- Individual tree;
- Other river and streams (off-site).

3.2. The above habitats are illustrated on Plan ECO2.

3.2. Other Neutral Grassland (UKHab Code: g3c)

3.2.1. The majority of the site consists of other neutral grassland separated into three separate fields by linear bands of Blackthorn scrub (see Photograph 1).

3.2.2. The most northern field (ONG1) is dominated by Yorkshire Fog *Holcus lanatus* with occasional Timothy *Phleum pratense*, Perennial *Ryegrass Lolium perenne*, Rough Meadow Grass *Poa trivialis*, Meadow Barley *Hordeum brachyantherum*, Common Bent *Agrostis capillaris* and Tufted Hair-Grass *Deschampsia cespitosa*. Crested Dog's-tail *Cynosurus cristatus* occurs rarely within the sward, which is generally 1.5m in height. Towards the western boundary and within the shade of mature trees, the sward height reduces to approximately 25cm. A trodden footpath is present leading west to east and is frequented by dog walkers. Creeping Cinquefoil *Potentilla reptans* occurs abundantly. Frequently occurring species include Creeping Thistle *Cirsium arvense*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Ragwort *Senecio jacobaea* and Hogweed *Heracleum sphondylium*. Occasional species include Meadow Buttercup *Ranunculus acris*, Hairy Tare *Vicia hirsuta*, Cut-leaved Cranesbill *Geranium dissectum*, Square-Stalked Willowherb *Epilobium tetragonum*, Hoary Willowherb *Epilobium parviflorum*, Yarrow *Achillea millefolium*, Red Bartstia *Odontites vernus,* Blackthorn, Creeping Buttercup *Ranunculus repens*, Greater Plantain *Plantago major*, Bird's-foot Trefoil *Lotus corniculatus* and Curled Dock *Rumex crispus*. Rarely occurring species include Lords-and-ladies *Arum maculatum* and Prickly Lettuce *Lactuca serriola*.

3.2.3. Grassland ONG2 is similar in structure to ONG1 and is also dominated by Yorkshire Fog with occasional Timothy, Meadow Barley, Perennial Rye Grass and Cocksfoot *Dactylis glomerata*. Hogweed, Bristly Ox-tongue *Helminthotheca echioides*, Willowherb *Epilobium* sp., Curled Dock and Creeping Thistle occur occasionally throughout the sward. An area of tall forbs is present within the northwest of the field, beyond which is grassland of similar species composition to ONG1, with the addition of Vetch *Vicia* sp., Field Bindweed *Convolvulus arvensis*, False-brome *Brachypodium sylvaticum*, Prickly Lettuce *Lactuca serriola*

and Multiflora rose *Rosa multiflora*. Scattered Bramble and Blackthorn scrub are present within the sward.

3.2.4. The southern field (ONG3) extends beyond the red line boundary and to the banks of the tributary of the River Colne. It has a similar structure and species composition to ONG2. The main difference is that ONG3 contains more scattered scrub including Dog Rose *Rosa canina*, Blackthorn and Bramble. Hogweed is locally frequent in the southwest of the field, whilst Yarrow, Field Bindweed and Creeping Cinquefoil occur frequently throughout. Occasionally occurring species include Prickly Lettuce, Creeping Thistle, False-brome and Wild Angelica *Angelica sylvestris*. Curled Dock occurs rarely within the sward.

3.3. Blackthorn Scrub (UKHab Code: h3a)

3.3.1. Blackthorn scrub (BS1 to BS5) generally bounds and intersects the three fields within the site. As the habitat name implies, these areas are dominated by Blackthorn (see Photograph 2).

3.3.2. BS1 forms the northern site boundary and is approximately three to four metres tall. The scrub is dense and is encroaching onto the adjacent grassland. Large mature Oak *Quercus robur* trees and a mature Ash *Fraxinus excelsior* are present within the scrub, in addition to Bramble, Dog Rose and Oak saplings. The scrub has no significant understorey, comprising in the main of leaf litter, Ivy and the adjacent grassland.

3.3.3. BS2 extends along the eastern boundary of Grassland ONG1. The scrub is a continuation of BS1 and transitions into Bramble scrub towards the southeast of the field. Field Maple *Acer campestre* is additionally present (occurring rarely within).

3.3.4. BS3, BS4 and BS5 are the same as BS1 and BS2 in terms of their composition and structure. BS3 is situated along the southern edge of Grassland ONG1 and BS4 the southern edge of Grassland ONG2. BS5 extends along the eastern boundary of Grassland ONG2.

3.4. Bramble Scrub (UKHab Code: h3d)

3.4.1. Several areas of Bramble Scrub are present throughout the site and encroaching on the grassland (see Photograph 3).

3.5. Tall Forbs (UKHab Code: 16)

3.5.1. Two patches of Tall Forbs are located within the west of Grassland ONG2 (see Photograph 4). TF1 is the largest area and is dominated by Common Nettle *Urtica dioica* with occasional Ragwort. TF2 is a smaller patch dominated by Willowherb sp..

3.6. Lowland Mixed Deciduous Woodland (UKHab Code: w1f)

3.6.1. An area of woodland is present within the southeast of the site and connects to Little Hartsbourne Wood, situated off-site to the east. The on-site portion generally comprises Oak and Hawthorn *Crataegus monogyna*. The wider woodland is known to contain Hornbeam *Carpinus betulus*, Wild Cherry *Prunus*

avium, Downy Birch *Betula pubescens*, Silver Birch *Betula pendula*, Ash, Aspen *Populus tremula*, Field Maple, Guelder Rose *Viburnum opulus* and Blackthorn.

3.6.2. The small area of woodland is illustrated as priority deciduous woodland by the online MAGIC database (see Appendix 2). Deciduous woodland is a habitat of Principle Importance under Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006. The NERC Act places responsibility upon public bodies to have regard for the conservation of biodiversity in England.

3.7. Individual Tree (UKHab Code: 200)

3.7.1. Mature and semi mature trees are present throughout the site and generally confined to the site's perimeter and within the bands of Blackthorn scrub. The majority of these trees are Oak, but Ash, Field Maple, Crab Apple *Malus sylvestris*, Hornbeam and Goat Willow *Salix caprea* are also present. Some of these trees are covered with dense Ivy and have features such as woodpecker holes.

3.8. Wider Study Area . Other Rivers and Streams (UKHab Code: r2b)

3.8.1. The remaining portion of Grassland MG3, in addition to two further fields to the south were also surveyed. The grassland and scrub resemble that which is present on-site. The tributary of the River Colne flows through the wider study area, travelling westwards into Carpenders Park Cemetery Woodlands Local Wildlife Site (LWS).

3.8.2. The banks of the watercourse generally comprise bare ground and the channel itself consists of a gravel.pebble substrate with some large cobbles up to 15cm in diameter. The channel is approximately one metre wide for its entire length with some portions being two metres wide. Leaf litter is apparent in the channel on account of leaning trees and shrubs. There is some artificial reinforcement on the banks of the watercourse in the west of the wider study area where it flows underneath a concrete bridge and subsequently becomes culverted.

3.8.3. The watercourse is shadowed by Blackthorn scrub for the majority of its length as it flows through the wider study area. Hawthorn, Dogwood, Bramble and Ivy are additionally present in the riparian zone. Wild Angelica and Great Willowherb co-dominate the bank top with Drooping Sedge *Carex longebrachiata* appearing on the banks. Hedge Bindweed *Calystegia sepium*, Wood Dock *Rumex sanguineus*, Spear Thistle *Cirsium vulgare*, Herb Robert *Geranium robertianum*, Wood Avens *Geum urbanum* and Lesser Burdock *Arctium minus* are also present. Fool's-water-cress *Apium nodiflorum* is abundant in the watercourse.

3.9. Background Records

3.9.1. The desk study returned two records pertaining to species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). Both records relate to Bluebell *Hyacinthoides non-scripta*. The closest and most recent records is located 0.8km north of the site and dates from in 2023.

3.9.2. Five records were returned relating to Invasive Non-Native Species (INNS) listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). These records relate to Yellow Archangel *Lamiastrum galeobdolon* and Rhododendron

Rhododendron ponticum. The closest and most recent record relates to Yellow Archangel, 0.7km northwest of the site in 2023.

4. Wildlife use of the Site

4.1. General observations were made during the 2024 habitat survey of any faunal use of the site, with specific attention paid to the potential presence of protected, priority, or otherwise notable species. Specific surveys have been completed regarding Badgers, bats, Otters, Water Voles and reptiles.

4.2. Badgers

4.2.1. There was no evidence of Badger activity or setts within the site during the July 2024 survey. The site offers foraging and dispersal opportunities for local Badger populations in the form of grassland, scrub and woodland. The soils on-site are loamy and clayey and generally suitable for sett building. The site is well connected to suitable off-site habitat such as the woodland to the east of the site. Whilst at the time of survey, Badgers appeared absent from the site, their presence on-site cannot be discounted.

Background Records

4.2.2. The desk study returned four Badger records. The closest and most recent record dates from 2017 and is located approximately 0.6km south of the site.

4.3. Bats

4.3.1. The site and wider study area was identified as having high suitability for foraging and commuting bats given the presence of mature scrub, trees and woodland, in addition to good connections with off-site woodland habitat to the east.

Ground Level Tree Assessment

4.3.2. All trees within the site and wider study area were appraised for their suitability to support roosting bats during the UKHab survey in July 2024. Several mature trees situated within the site and wider study area have Potential Roosting Features (PRFs). These include woodpecker holes, severed branches, peeling bark, crevices and splits within main stems and occasionally a dense covering of Ivy which may conceal further opportunities beneath.

4.3.3. Three notable trees with bat roosting suitability are present within the site, along the eastern and northern site boundaries.

4.3.4. To the northeast, a mature Oak has a woodpecker hole on the main stem, below which is dark staining (see Photograph 5). Based on this evidence, it is possible that bats may have been roosting within this tree, and it is further possible that this feature could be used as a maternity roost. This Oak has thus been classified as PRF-M (PRF suitable for multiple bats).

4.3.5. An Ash tree is situated along the northwestern site boundary. The most notable PRF here is a large, severed branch (see Photograph 6, but this tree also includes lifted bark, large knot holes and Ivy). The severed branch is a feature potentially suitable for a maternity roost and this tree has similarly been classified as PRF-M.

4.3.6. A third Oak tree with severed branches, fissures, large gaps, holes and splits is present along the eastern site boundary. This has also been classified as PRF-M.

4.3.7. A further fourteen trees situated around ONG1 are classified as PRF-I due to the presence of small knot holes, woodpecker holes and Ivy coverage, presenting possible roost features for individual bats. Additionally, ten trees classified as PRF-I are situated in and around ONG2. These include two dead Oak trees with multiple woodpecker holes and split branches, in addition to a line of mature Oak trees within the west of the field; classified as PRF-I on account of their size and structure. A further five trees with PRF-Is are present in the northeast of ONG3, along the woodland margin.

NBW Surveys

4.3.8. To ascertain the general abundance of foraging and commuting bats across site, Ecology Solutions conducted two NBW surveys in August and October 2024 with further surveys conducted in August and September 2025. The results of these surveys are illustrated on Plan ECO4a, Plan ECO4b, Plan ECO4c, and Plan ECO4d.

4.3.9. The surveys were undertaken in favourable weather conditions. Thes conditions and the timings of the surveys are summarised in Table 4.1 below.

Table 4.1. NBW survey timings and conditions.

Date	27.08.24	07.10.24	26.08.25	22.09.25
Survey Type	NBW	NBW	NBW	NBW
Sunset	19:58	18:25	20:00	18:59
Survey Start	19:58	18:25	20:00	18:59
Survey End	21:58	20:25	22:00	20:59
Cloud cover (%)	25	80	37.5	62.5
Temperature (°C)	20 to 17	14	21 to 18	13 to 10
Weather and Wind	Dry, light breeze	Damp, breezy	Dry, strong breeze	Dry, light air

NBW Survey 27.08.24

4.3.10. The results of the NBW survey completed on 27 August 2024 are summarised below and in Table 4.2[12] and are illustrated on Plan ECO4a.

4.3.11. The survey recorded a low level of bat activity across the site and wider study area. The registrations were largely attributed to Common Pipistrelle *Pipistrellus pipistrellus*, with this species comprising 93% of the recorded bat calls. This species was observed commuting and foraging along the northern site boundary, the trees in the southwest of the site and southern most field of the wider study area. A single registration of Soprano Pipistrelle *Pipistrellus*

[12] In all cases the following abbreviations are used: Ppip – Common Pipistrelle, Ppyg – Soprano Pipistrelle, Pnat – Nathusius' Pipistrelle, Psp – *Pipistrellus* sp., Nn – Noctule Bat, Nl – Leisler's Bat, Es – Serotine, Myo – *Myotis* sp., Pa – Brown Long-eared Bat, Bb – Barbastelle.

pygmaeus was recorded. Several bats were seen during the survey but not recorded, utilising the mature trees and scrub in ONG2 and ONG3 for commuting and foraging.

Table 4.2. NBW Survey results 27.08.24.

Species	Number of Registrations	First Recording after Sunset
Ppip	14	43 mins
Ppyg	1	54 mins
Total	15	N.A

NBW Survey 07.10.24

4.3.12. The results of the NBW survey completed on 07 October 2024 are summarised below and in Table 4.3. The results are illustrated on Plan ECO4b.

4.3.13. This survey also recorded a low level of bat activity with registrations relating primarily to Common Pipistrelle (94% of recorded bat calls). This species was observed commuting and foraging along the tributary of the River Colne located within the wider study area, in addition to within the southwest of the site and eastern site boundary. Two registrations of Soprano Pipistrelle were also recorded during the survey.

Table 4.3. NBW Survey results 07.10.24.

Species	Number of Registrations	First Recording after Sunset
Ppip	30	32 mins
Ppyg	2	33 mins
Total	32	N.A

NBW Survey 26.08.25

4.3.14. The results of the NBW survey completed on 26 August 2025 are summarised below and in Table 4.4. The results are illustrated on Plan ECO4c.

4.3.15. This survey also recorded a low level of bat activity with registrations relating primarily to Common Pipistrelle (91% of recorded bat calls). Three registrations of Soprano Pipistrelle were also recorded during the survey.

Table 4.4. NBW Survey results 26.08.25.

Species	Number of Registrations	First Recording after Sunset
Ppip	32	56 mins
Ppyg	3	51 mins
Total	35	N.A

NBW Survey 22.09.25

4.3.16. The results of the NBW survey completed on 22 September 2025 are summarised below and in Table 4.5. The results are illustrated on Plan ECO4d.

4.3.17. This survey also recorded a low level of bat activity with registrations relating to Common Pipistrelle (60% of recorded bat calls) and Noctule Bat (40% of the recorded bat calls).

Table 4.5. NBW Survey results 22.09.25.

Species	Number of Registrations	First Recording after Sunset
Ppip	3	50 mins
Nn	2	1 hr 2 mins
Total	5	N.A

Remote Surveys

4.3.18. Based on the site's high suitability for foraging and commuting bats and to complement the NBW surveys, static bat detectors were deployed within the site and wider study area during August, September and October 2024. Further surveys were conducted in July, August, September, and October 2025. The locations of detectors are shown on Plan ECO3. The results of the remote surveys are discussed below.

Remote Survey 28.08.24 to 02.09.24

4.3.19. Four static bat detectors were deployed between the evenings of 28 August and 02 September 2024. Position 1 is located along the northern site boundary. Position 2 is situated along the southwest of ONG2. Position 3 is located off-site and within the northeast of the wider study area. Position 4 is located along the southern boundary of the wider study area. The results of the survey are summarised in Table 4.6 below.

Table 4.6. Static Bat Detector Survey Results 28.08.24 to 02.09.24.

Night	Position	Es	Myo	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Psp	Total
28.08.24	1	1	0	3	3	1	256	47	0	4	**315**
	2	1	1	0	0	0	31	10	0	0	**43**
	3	0	0	0	1	0	735	14	0	0	**750**
	4	0	0	0	0	0	69	20	0	0	**89**
Total		**2**	**1**	**3**	**4**	**1**	**1091**	**91**	**0**	**4**	**1197**
29.08.24	1	0	0	1	5	3	76	29	0	1	**115**
	2	1	0	0	2	0	10	3	2	0	**18**
	3	0	0	0	2	0	113	9	0	0	**124**
	4	0	1	0	2	0	39	59	2	0	**103**
Total		**1**	**1**	**1**	**11**	**3**	**238**	**100**	**4**	**1**	**360**
30.08.24	1	1	1	1	0	4	95	21	0	2	**125**
	2	2	0	0	1	0	21	9	2	0	**35**

	3	0	0	2	1	0	280	34	0	0	**317**
	4	0	0	0	0	0	0	69	20	0	**89**
Total		**3**	**1**	**3**	**2**	**4**	**396**	**133**	**22**	**2**	**566**
31.08.24	1	0	0	2	5	4	96	28	0	3	**138**
	2	0	1	0	0	0	29	5	2	0	**37**
	3	0	0	0	0	0	261	28	1	0	**290**
	4	0	0	1	1	0	11	2	1	0	**16**
Total		**0**	**1**	**3**	**6**	**4**	**397**	**63**	**4**	**3**	**481**
01.09.24	1	1	0	16	0	1	45	11	0	4	**78**
	2	1	0	0	1	0	83	25	0	1	**111**
	3	0	0	2	2	1	805	19	1	0	**830**
	4	1	0	1	4	0	244	120	1	17	**388**
Total		**3**	**0**	**19**	**7**	**2**	**1177**	**175**	**2**	**22**	**1407**
02.09.24	1	0	0	0	0	0	8	7	1	0	**16**
	2	1	2	0	1	0	56	12	0	0	**72**
	3	0	0	0	2	0	277	1	0	0	**280**
	4	0	2	0	0	0	188	20	1	4	**215**
Total		**1**	**4**	**0**	**3**	**0**	**529**	**40**	**2**	**4**	**538**
Position 1 total		**3**	**1**	**23**	**13**	**13**	**576**	**143**	**1**	**14**	**787**
Position 2 total		**6**	**4**	**0**	**5**	**0**	**230**	**64**	**70**	**1**	**380**
Position 3 total		**0**	**0**	**4**	**8**	**1**	**2472**	**105**	**2**	**0**	**2592**
Position 4 total		**1**	**3**	**2**	**7**	**0**	**551**	**290**	**25**	**21**	**900**
Grand Total		**10**	**8**	**29**	**33**	**14**	**3829**	**602**	**98**	**36**	**4659**

4.3.20. A combined 4659 bat registrations were recorded over the course of the survey. The majority of registrations (56%) were recorded at Position 3, which is situated off-site and adjacent to both off-site woodland and the tributary of the River Colne. Positions 1, 2 and 4 recorded 17%, 8% and 19% of registrations respectively.

4.3.21. The majority of registrations were attributed to Common Pipistrelle, which form 82% of the bat calls. Soprano Pipistrelle was the next most frequently recorded species, forming 13% of registrations. The remaining 5% of registrations were attributed to Serotine *Eptesicus serotinus*, *Myotis* sp., Leislers' *Nyctalus leisleri*, Noctule *Nyctalus noctula*, Nathusius' Pipistrelle *Pipistrellus nathusii*, Brown long-eared *Plecotus auritus* and *Pipistrellus sp.*

4.3.22. The earliest registration was recorded 20 minutes before sunset and was attributed to Noctule, with registrations from Common Pipistrelle, Nathusius Pipistrelle and Pipistrelle Species all being recorded before 20 minutes after sunset. The latest registration, recorded 17 minutes before sunrise, pertained to Common Pipistrelle, with Soprano Pipistrelle also recorded 19 minutes before sunrise.

Remote Survey 25.09.24 to 29.09.24

4.3.23. Four static bat detectors were deployed between the evenings of 25 September and 29 September 2024. The results of the survey are summarised below within Table 4.7.

Table 4.7. Static Bat Detector Survey Results (24.09.24 to 29.09.24).

Night	Position	Myo	Nn	Pnat	Ppip	Ppyg	Pa	Total
25.09.24	1	0	0	0	135	3	0	**138**
	2	0	19	0	0	0	0	**19**
	3	0	1	0	25	4	0	**30**
	4	0	2	0	146	3	0	**151**
Total		**0**	**22**	**0**	**306**	**10**	**0**	**338**
26.09.24	1	0	0	0	2	0	0	**2**
	2	0	0	0	2	0	0	**2**
	3	0	0	0	1	0	0	**1**
	4	0	0	0	13	0	0	**13**
Total		**0**	**0**	**0**	**18**	**0**	**0**	**18**
27.09.24	1	0	0	0	2	1	0	**3**
	2	1	0	0	1	2	0	**4**
	3	0	0	0	5	1	0	**6**
	4	0	1	0	19	3	0	**23**
Total		**1**	**1**	**0**	**27**	**7**	**0**	**36**
28.09.24	1	0	0	0	3	1	0	**4**
	2	0	1	0	0	2	0	**3**
	3	0	0	0	5	3	0	**8**
	4	1	1	0	9	1	5	**17**
Total		**1**	**2**	**0**	**17**	**7**	**5**	**33**
29.09.24	1	0	0	1	85	3	0	**89**
	2	0	4	0	40	1	0	**45**
	3	1	0	0	240	119	0	**360**
	4	0	3	0	139	6	0	**147**
Total		**1**	**7**	**1**	**504**	**129**	**0**	**641**
Position 1 total		**0**	**0**	**1**	**227**	**8**	**0**	**236**
Position 2 total		**1**	**24**	**0**	**43**	**5**	**0**	**84**
Position 3 total		**1**	**1**	**0**	**276**	**127**	**0**	**406**
Position 4 total		**1**	**7**	**0**	**326**	**13**	**5**	**352**
Grand Total		**3**	**32**	**1**	**872**	**153**	**5**	**1066**

4.3.24. A combined 1078 bat calls were recorded over the course of the survey with 12 calls being social and therefore not designated to a single species, therefore 1066 registration were attributable to recognised species. Positions 1, 2, 3 and 4 comprise 22%, 7%, 38% and 33% of registrations respectively. Activity was again highest at Position 3, adjacent to the River Colne tributary.

4.3.25. The majority of registrations were attributed to Common Pipistrelle, equating to 82% of registrations. Additional species recorded include Soprano Pipistrelle, *Myotis* sp., Noctule, Nathusius' Pipistrelle and Brown Long-eared Bat, with the latter four species recorded in relatively low numbers.

4.3.26. The earliest registration, recorded 25 minutes before sunset, was attributed to Common Pipistrelle with Noctule also being recorded 16 minutes after sunset. The last registration before sunrise pertains Common Pipistrelle and Soprano Pipistrelle both recorded 29 minutes before sunrise.

Remote Survey 07.10.24 to 11.10.24

4.3.27. The static bat detectors were also deployed in Positions 1, 2, 3 and 4 between the evenings of 07 October and 11 October 2024, the results of which are detailed below in Table 4.8.

Table 4.8. Static Bat Detector Survey Results (07.10.24 to 11.10.24)

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
07.10.24	1	0	0	0	1	0	5	0	0	**6**
	2	0	0	1	1	0	105	7	0	**114**
	3	0	1	0	1	0	252	7	0	**260**
	4	0	0	2	3	1	21	9	1	**37**
Total		**0**	**1**	**3**	**6**	**1**	**383**	**23**	**1**	**418**
08.10.24	1	0	0	0	0	0	0	0	0	**0**
	2	0	0	0	0.0	0.0	16	3	0	**19**
	3	0	0	0	0	0	1	1	0	**2**
	4	0	0	0	0	0	33	14	0	**47**
Total		**1**	**0**	**0**	**0**	**0**	**50**	**18**	**0**	**68**
09.10.24	1	1	0	0	0	0	254	24	0	**279**
	2	0	0	0	1	0	3	0	0	**4**
	3	1	0	0	0	1	133	7	0	**142**
	4	1	0	0	0	0	1	0	1	**3**
Total		**3**	**0**	**0**	**1**	**1**	**391**	**31**	**1**	**428**
10.10.24	1	0	0	0	0	0	0	2	0	**2**
	2	0	0	0	0	0	1	0	0	**1**
	3	0	0	0	0	0	3	0	0	**3**
	4	0	0	0	0	0	4	7	0	**11**
Total		**0**	**0**	**0**	**0**	**0**	**8**	**9**	**0**	**17**
11.10.24	1	0	0	0	0	0	0	2	0	**2**
	2	2	0	0	0	0	8	0	0	**10**
	3	1	0	0	0	0	19	0	0	**20**
	4	0	0	0	1	0	2	5	0	**8**
Total		**3**	**1**	**0**	**1**	**0**	**29**	**7**	**0**	**40**
Position 1 total		**1**	**0**	**0**	**1**	**0**	**259**	**28**	**0**	**289**
Position 2 total		**2**	**0**	**1**	**2**	**0**	**133**	**10**	**0**	**148**
Position 3 total		**2**	**1**	**0**	**1**	**1**	**408**	**15**	**0**	**428**

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
Position 4 total		**1**	**0**	**2**	**4**	**1**	**61**	**35**	**2**	**106**
Grand Total		**7**	**1**	**3**	**8**	**2**	**861**	**88**	**2**	**971**

4.3.28. A combined 971 bat calls were recorded over the course of the survey. Position 3 comprised 52% of the registrations whilst Positions 1, 2 and 3 accounted for 12%, 20% and 11% of registrations respectively.

4.3.29. As with the August and September deployments, Common Pipistrelle and Soprano Pipistrelle accounted for the majority of registrations (89% and 9% respectively). Additional species recorded include Serotine, *Myotis* sp., Leisler's Bat, Noctule, Nathusius' Pipistrelle, Serotine and Brown Long-eared Bat, albeit in low numbers.

4.3.30. The earliest registration pertains to Noctule recorded 15 minutes after sunset. Other early registrations were recorded by Soprano Pipistrelle and Common Pipistrelle, recorded at 19 minutes and 22 minutes after sunset respectively. The latest registration recorded 11 minutes before sunrise pertained to Soprano Pipistrelle.

Remote Survey 10.07.25 to 19.07.25

4.3.31. The static bat detectors were also deployed in Positions 1, 2, 3 and 4 between the evenings of 10 July and 19 July 2025, the results of which are detailed below in Table 4.9.

Table 4.9. Static Bat Detector Survey Results (10.07.25 to 19.07.25)

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
10.07.25	1	0	0	0	5	0	419	47	0	471
	2	1	0	0	1	1	476	15	0	494
	3	2	0	0	3	1	251	11	1	269
	4	0	0	0	5	0	95	8	0	108
Total		**3**	**0**	**0**	**14**	**2**	**1241**	**81**	**1**	**1342**
11.07.25	1	3	1	0	3	1	417	226	0	651
	2	2	1	1	2	0	288	11	0	305
	3	0	0	0	1	0	202	25	1	229
	4	1	0	0	2	0	76	6	0	85
Total		**6**	**2**	**1**	**8**	**1**	**983**	**268**	**1**	**1270**
12.07.25	1	0	3	1	1	0	265	40	0	310
	2	2	0	2	3	1	179	9	0	196
	3	1	0	1	3	0	313	22	0	340
	4	0	0	1	1	0	121	21	0	144
Total		**3**	**3**	**5**	**8**	**1**	**878**	**92**	**0**	**990**
13.07.25	1	1	0	0	5	0	148	20	0	174
	2	0	0	0	2	0	140	8	0	150
	3	0	0	3	5	1	280	10	0	299

	4	0	0	0	6	0	59	5	0	70
Total		**1**	**0**	**3**	**18**	**1**	**627**	**43**	**0**	**693**
14.07.25	1	0	0	0	1	0	416	74	0	491
	2	0	0	0	0	0	363	21	0	384
	3	0	0	3	1	0	586	33	4	627
	4	0	0	1	4	0	101	7	0	113
Total		**0**	**0**	**4**	**6**	**0**	**1466**	**135**	**4**	**1615**
15.07.25	1	0	0	0	1	0	110	8	0	119
	2	0	0	0	2	0	61	4	0	67
	3	0	0	0	0	0	174	5	0	179
	4	0	0	1	1	0	99	9	0	110
Total		**0**	**0**	**1**	**4**	**0**	**444**	**26**	**0**	**475**
16.07.25	1	0	0	0	4	0	124	13	0	141
	2	1	0	0	0	0	62	3	0	66
	3	0	0	0	1	0	175	8	1	185
	4	0	0	3	2	0	78	10	0	93
Total		**1**	**0**	**3**	**7**	**0**	**439**	**34**	**1**	**485**
17.07.25	1	1	1	2	1	0	179	23	0	207
	2	0	0	0	2	0	144	16	0	162
	3	1	0	3	3	0	500	29	0	536
	4	0	0	0	3	0	182	6	1	192
Total		**2**	**1**	**5**	**9**	**0**	**1005**	**74**	**1**	**1097**
18.07.25	1	0	0	0	6	0	236	24	1	267
	2	0	0	0	2	0	80	11	0	93
	3	1	0	1	2	0	428	38	0	470
	4	1	1	1	13	0	200	14	2	232
Total		**2**	**1**	**2**	**23**	**0**	**944**	**87**	**3**	**1062**
19.07.25	1	0	0	0	35	0	293	22	0	350
	2	0	0	1	1	0	218	47	0	267
	3	0	0	1	2	0	868	99	0	970
	4	0	0	3	13	0	226	24	0	266
Total		**0**	**0**	**5**	**51**	**0**	**1605**	**192**	**0**	**1853**
Position 1 total		**5**	**5**	**3**	**62**	**1**	**2607**	**497**	**1**	**3181**
Position 2 total		**6**	**1**	**4**	**15**	**2**	**2011**	**145**	**0**	**2184**
Position 3 total		**5**	**0**	**12**	**21**	**2**	**3777**	**280**	**7**	**4104**
Position 4 total		**2**	**1**	**10**	**50**	**0**	**1237**	**110**	**3**	**1413**
Grand Total		**18**	**7**	**29**	**148**	**5**	**9632**	**1032**	**11**	**10882**

4.3.32. A combined 10,882 bat calls were recorded over the course of the survey. Position 3 comprised 38% of the registrations whilst Positions 1, 2 and 4 accounted for 29%, 20% and 13% of registrations respectively.

4.3.33. As with the 2024 deployments, Common Pipistrelle and Soprano Pipistrelle accounted for the majority of registrations (89% and 9% respectively). Additional species recorded include Serotine, *Myotis* sp., Leisler's Bat, Noctule, Nathusius' Pipistrelle, and Brown Long-eared Bat, albeit in low numbers.

4.3.34. The earliest registration pertains to Soprano Pipistrelle recorded six minutes after sunset. Other early registrations were also recorded by Common Pipistrelle recorded at 19 minutes after sunset. The latest registration recorded 27 minutes after sunrise pertained to Noctule Bat.

Remote Survey 14.08.25 to 23.08.25

4.3.35. The static bat detectors were also deployed in Positions 1, 2, 3 and 4 between the evenings of 14 August and 23 August 2025, the results of which are detailed below in Table 4.10.

Table 4.10. Static Bat Detector Survey Results (14.08.25 to 23.08.25)

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
14.08.2025	1	0	0	1	3	0	92	15	0	**111**
	2	0	0	0	3	0	15	2	0	**20**
	3	0	0	0	5	0	14	5	0	**24**
	4	0	0	1	2	0	28	19	0	**50**
Total		**0**	**0**	**2**	**13**	**0**	**149**	**41**	**0**	**205**
15.08.2025	1	0	1	0	8	0	185	37	2	**233**
	2	0	0	0	7	0	40	7	4	**58**
	3	3	0	0	13	0	29	8	3	**56**
	4	1	0	2	9	1	103	61	0	**177**
Total		**4**	**1**	**2**	**37**	**1**	**357**	**113**	**9**	**524**
16.08.2025	1	1	2	3	10	0	158	32	1	**207**
	2	0	0	1	2	0	31	3	2	**39**
	3	1	0	4	14	0	62	10	4	**95**
	4	0	0	3	6	0	25	9	0	**43**
Total		**2**	**2**	**11**	**32**	**0**	**276**	**54**	**7**	**384**
17.08.2025	1	0	1	0	5	0	22	20	3	**51**
	2	0	0	1	4	0	27	2	3	**37**
	3	0	0	1	5	0	7	3	3	**19**
	4	0	0	1	3	0	47	17	1	**69**
Total		**0**	**1**	**3**	**17**	**0**	**103**	**42**	**10**	**176**
18.08.2025	1	0	0	0	1	0	0	0	0	**1**
	2	0	0	1	1	0	30	4	1	**37**
	3	1	0	0	2	0	22	6	1	**32**
	4	1	0	0	3	1	33	8	1	**47**
Total		**2**	**0**	**1**	**7**	**1**	**85**	**18**	**3**	**117**
19.08.2025	1	0	0	0	0	0	0	0	0	**0**
	2	2	0	3	2	0	17	5	1	**30**
	3	3	0	1	13	0	19	12	2	**50**
	4	0	0	0	0	0	0	0	0	**0**
Total		**5**	**0**	**4**	**15**	**0**	**36**	**17**	**3**	**80**
20.08.2025	1	0	0	0	0	0	0	0	0	**0**
	2	0	0	1	2	0	6	2	2	**13**
	3	1	0	1	4	0	23	7	1	**37**

	4	0	0	0	0	0	0	0	0	**0**
Total		**1**	**0**	**2**	**6**	**0**	**29**	**9**	**3**	**50**
21.08.2025	1	0	0	0	0	0	0	0	0	**0**
	2	0	0	1	4	0	6	1	4	**16**
	3	1	0	1	6	0	6	5	1	**20**
	4	0	0	0	0	0	0	0	0	**0**
Total		**1**	**0**	**2**	**10**	**0**	**12**	**6**	**5**	**36**
22.08.2025	1	0	0	0	0	0	0	0	0	**0**
	2	0	0	1	3	0	23	3	1	**31**
	3	0	0	0	0	0	0	0	0	**0**
	4	0	0	0	0	0	0	0	0	**0**
Total		**0**	**0**	**1**	**3**	**0**	**23**	**3**	**1**	**31**
23.08.2025	1	0	0	0	0	0	0	0	0	**0**
	2	0	0	0	5	0	21	9	1	**36**
	3	0	0	0	0	0	0	0	0	**0**
	4	0	0	0	0	0	0	0	0	**0**
Total		**0**	**0**	**0**	**5**	**0**	**21**	**9**	**1**	**36**
Position 1 total		**1**	**4**	**4**	**27**	**0**	**457**	**104**	**6**	**603**
Position 2 total		**2**	**0**	**9**	**33**	**0**	**216**	**38**	**19**	**317**
Position 3 total		**10**	**0**	**8**	**62**	**0**	**182**	**56**	**15**	**333**
Position 4 total		**2**	**0**	**7**	**23**	**2**	**236**	**114**	**2**	**386**
Grand Total		**15**	**4**	**28**	**145**	**2**	**1091**	**312**	**42**	**1639**

4.3.36. A combined 1639 bat calls were recorded over the course of the survey. Position 1 comprised 37% of the registrations whilst Positions 2, 3, and 4 accounted for 19%, 20% and 24% of registrations respectively.

4.3.37. As with the 2024 deployments, Common Pipistrelle and Soprano Pipistrelle accounted for the majority of registrations (67% and 19% respectively). Additional species recorded include Serotine, *Myotis* sp., Leisler's Bat, Noctule, Nathusius' Pipistrelle, and Brown Long-eared Bat. albeit in low numbers.

4.3.38. The earliest registration pertained to Common Pipistrelle recorded 14 minutes after sunset. Other early registrations were recorded by Soprano Pipistrelle and Noctule, recorded at 20 minutes and 36 minutes after sunset respectively. The latest registration recorded 18 minutes before sunrise pertained to Common Pipistrelle.

Remote Survey 12.09.25 to 21.09.25

4.3.39. The static bat detectors were also deployed in Positions 1, 2, 3 and 4 between the evenings of 12 September and 21 September 2025, the results of which are detailed below in Table 4.11.

Table 4.11. Static Bat Detector Survey Results (12.09.25 to 21.09.25)

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
12.09.2025	1	0	0	0	10	0	31	1	0	42
	2	0	0	0	0	0	3	0	0	3

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
	3	0	0	0	0	0	1	1	0	2
	4	1	1	0	1	2	7	16	2	30
Total		**1**	**1**	**0**	**11**	**2**	**42**	**18**	**2**	**77**
13.09.2025	1	0	0	0	3	0	15	5	0	23
	2	0	0	0	1	0	5	0	0	6
	3	0	0	0	2	0	7	0	2	11
	4	1	0	0	0	0	29	15	0	45
Total		**1**	**0**	**0**	**6**	**0**	**56**	**20**	**2**	**85**
14.09.2025	1	0	0	0	2	1	52	1	0	56
	2	0	0	0	0	1	6	0	0	7
	3	0	0	0	0	0	0	1	4	5
	4	0	0	0	0	0	191	8	0	199
Total		**0**	**0**	**0**	**2**	**2**	**249**	**10**	**4**	**267**
15.09.2025	1	0	0	0	0	0	4	1	0	5
	2	1	0	0	0	0	3	0	1	5
	3	0	0	0	0	0	4	1	0	5
	4	0	0	0	0	2	331	7	3	343
Total		**1**	**0**	**0**	**0**	**2**	**342**	**9**	**4**	**358**
16.09.2025	1	0	0	0	7	1	15	0	0	23
	2	1	0	1	3	0	15	2	0	22
	3	1	0	1	4	2	117	2	1	128
	4	1	0	0	3	5	48	17	1	75
Total		**3**	**0**	**2**	**17**	**8**	**195**	**21**	**2**	**248**
17.09.2025	1	0	0	0	2	0	34	2	0	38
	2	0	0	0	2	0	18	4	0	24
	3	0	0	0	2	1	12	0	0	15
	4	0	0	0	0	5	708	14	2	729
Total		**0**	**0**	**0**	**6**	**6**	**772**	**20**	**2**	**806**
18.09.2025	1	0	0	0	5	1	59	4	0	69
	2	1	0	2	10	0	65	3	0	81
	3	0	0	0	0	0	0	0	0	0
	4	0	0	0	6	1	530	26	4	567
Total		**1**	**0**	**2**	**21**	**2**	**654**	**33**	**4**	**717**
19.09.2025	1	0	0	1	4	0	76	4	0	85
	2	1	0	2	34	0	104	3	1	145
	3	0	0	0	0	0	0	0	0	0
	4	2	0	4	4	3	221	27	5	266
Total		**3**	**0**	**7**	**42**	**3**	**401**	**34**	**6**	**496**
20.09.2025	1	0	0	1	6	1	47	6	0	61
	2	0	0	3	7	1	31	2	0	44
	3	0	0	0	0	0	0	0	0	0
	4	1	0	1	1	4	587	11	1	606
Total		**1**	**0**	**5**	**14**	**6**	**665**	**19**	**1**	**711**
21.09.2025	1	0	0	2	1	2	33	0	0	38

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Total
	2	0	0	2	2	2	11	2	1	20
	3	0	0	0	0	0	0	0	0	0
	4	0	0	0	2	1	6	3	5	17
Total		**0**	**0**	**4**	**5**	**5**	**50**	**5**	**6**	**75**
Position 1 total		**0**	**0**	**4**	**40**	**6**	**366**	**24**	**0**	**440**
Position 2 total		**4**	**0**	**10**	**59**	**4**	**261**	**16**	**3**	**357**
Position 3 total		**1**	**0**	**1**	**8**	**3**	**141**	**5**	**7**	**166**
Position 4 total		**6**	**1**	**5**	**17**	**23**	**2658**	**144**	**23**	**2877**
Grand Total		**11**	**1**	**20**	**124**	**36**	**3426**	**189**	**33**	**3840**

4.3.40. A combined 3840 bat calls were recorded over the course of the survey. Position 4 comprised 75% of the registrations whilst Positions 1, 2, and 3 accounted for 11%, 9% and 4% of registrations respectively.

4.3.41. As with previous deployments, Common Pipistrelle and to a lesser extent Soprano Pipistrelle accounted for the majority of registrations (89% and 5% respectively). Additional species recorded include *Myotis* sp., Leisler's Bat, Noctule, Nathusius' Pipistrelle, Serotine and Brown Long-eared Bat. albeit in low numbers.

4.3.42. The earliest registration pertains to Noctule Bat recorded 16 minutes before sunset. Other early registrations were also recorded by Common Pipistrelle and Soprano Pipistrelle at 10 minutes and 19 minutes after sunset respectively. The latest registration recorded 13 minutes before sunrise pertained to Common Pipistrelle.

Remote Survey 10.10.25 to 19.10.25

4.3.43. The static bat detectors were also deployed in Positions 1, 2, 3 and 4 between the evenings of 10 October and 19 October 2025, the results of which are detailed below in Table 4.12.

Table 4.12. Static Bat Detector Survey Results (10.10.25 to 19.10.25)

Night	Position	Myo	Es	Nl	Nn	Pnat	Ppip	Ppyg	Pa	Bb	Total
10.10.2025	1	2	0	2	2	1	55	4	0	0	66
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	2	0	38	6	0	0	46
	4	1	0	0	0	1	10	8	1	0	21
Total		**3**	**0**	**2**	**4**	**2**	**103**	**18**	**1**	**0**	**133**
11.10.2025	1	1	0	0	0	2	11	3	0	0	17
	2	0	0	0	0	0	0	0	0	0	0
	3	1	0	1	1	0	27	8	1	3	42
	4	0	0	1	0	1	19	7	3	1	32
Total		**2**	**0**	**2**	**1**	**3**	**57**	**18**	**4**	**4**	**91**
12.10.2025	1	0	0	1	0	0	4	0	0	0	5
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	9	3	0	3	15

	4	1	0	0	0	0	6	1	0	0	8
Total		**1**	**0**	**1**	**0**	**0**	**19**	**4**	**0**	**3**	**28**
13.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	1	0	0	141	15	0	9	166
	4	0	0	2	1	0	30	4	1	0	38
Total		**0**	**0**	**3**	**1**	**0**	**171**	**19**	**1**	**9**	**204**
14.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	3	0	84	12	1	2	102
	4	0	0	1	1	0	4	3	0	0	9
Total		**0**	**0**	**1**	**4**	**0**	**88**	**15**	**1**	**2**	**111**
15.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	1	1	26	11	0	0	39
	4	1	0	2	1	0	15	5	0	0	24
Total		**1**	**0**	**2**	**2**	**1**	**41**	**16**	**0**	**0**	**63**
16.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	1	0	31	9	1	1	43
	4	1	0	2	1	0	6	0	2	0	12
Total		**1**	**0**	**2**	**2**	**0**	**37**	**9**	**3**	**1**	**55**
17.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	1	0	30	7	0	1	39
	4	0	0	0	0	0	12	4	2	0	18
Total		**0**	**0**	**0**	**1**	**0**	**42**	**11**	**2**	**1**	**57**
18.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	1	0	0	0	0	42	2	0	0	45
	4	0	0	9	0	0	20	13	1	0	43
Total		**1**	**0**	**9**	**0**	**0**	**62**	**15**	**1**	**0**	**88**
19.10.2025	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	48	3	0	0	51
	4	0	0	4	0	0	10	1	1	1	17
Total		**0**	**0**	**4**	**0**	**0**	**58**	**4**	**1**	**1**	**68**
Position 1 total		**3**	**0**	**3**	**2**	**3**	**70**	**7**	**0**	**0**	**88**
Position 2 total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Position 3 total		**2**	**0**	**2**	**9**	**1**	**476**	**76**	**3**	**19**	**588**
Position 4 total		**4**	**0**	**21**	**4**	**2**	**132**	**46**	**11**	**2**	**222**
Grand Total		**9**	**0**	**26**	**15**	**6**	**678**	**129**	**14**	**21**	**898**

4.3.44. A combined 898 bat calls were recorded over the course of the survey. Position 3 comprised 65% of the registrations whilst Positions 1 and 4 accounted for 10%

and 25% of registrations respectively. Due to technical difficulties the detector at position 2 failed to record any bats during the deployment.

4.3.45. As with the previous deployments, Common Pipistrelle and Soprano Pipistrelle accounted for the majority of registrations (76% and 14% respectively). Additional species recorded include *Myotis* sp., Leisler's Bat, Noctule, Nathusius' Pipistrelle, Brown Long-eared Bat, and of particular note Barbastelle *Barbastella barbastellus*.

4.3.46. The earliest registration pertains to Common Pipistrelle recorded seven minutes after sunset, other early registrations were also recorded by Soprano Pipistrelle and Nathusius' Pipistrelle recorded at 13 minutes and 18 minutes after sunset respectively. The latest registration recorded 12 minutes after sunrise pertained to Common Pipistrelle.

Background Records

4.3.47. The desk study returned 13 bat records relating to Common Pipistrelle, Soprano Pipistrelle, Nathusius Pipistrelle, Noctule, Lesser Noctule and Brown Long-eared Bat. The closest records pertain to Common pipistrelle and Soprano pipistrelle located approximately 0.4km east of the site in 2018. The most recent record relates to Soprano pipistrelle, dating from 2019, situated approximately 1.4km east of the site.

4.3.48. Six course resolution bat records were returned by the data search, relating to Common Pipistrelle, Nathusius' Pipistrelle, Noctule, Leisler's Bat, and 'Pipistrelle Bat' *Pipistrellus* Sp. The closest and most recent of these records is of 'Pipistrelle Bat' Sp. recorded in 2021 and located approximately 1km from site.

4.4. Hedgehogs

4.4.1. No evidence of Hedgehog *Erinaceus europaeus* was recorded on-site in July 2024. While no evidence was recorded, the on-site grassland, tall forbs, scrub and woodland are suitable for the foraging, commuting and hibernation. Hedgehogs likely disperse throughout the site and as detailed below, the closest record of a Hedgehog in proximity to the site was situated 32m from the red line boundary.

Background Records

4.4.2. The desk study returned 18 records of Hedgehog. The closest of these records is located approximately 32m west of the site and dates from 2019. The most recent record dates from 2021 and is located approximately 1.4km west of the site.

4.5. Otters

4.5.1. The off-site tributary of the River Colne and surrounding habitat provides suitable habitat for Otter. No evidence of Otter was present along the tributary during the survey completed in July 2024.

Background Records

4.5.2. No records of Otter were returned by the data search.

4.6. Water Voles

4.6.1. As per Otters, the tributary and its surroundings are also suitable for Water Vole, for foraging, commuting and burrowing. No evidence of Water Vole was found in July 2024.

Background Records

4.6.2. No records of Water Vole were returned by the data search.

4.7. Other Mammals

4.7.1. It is considered unlikely that Hazel Dormouse *Muscardinus avellanarius* would be present on-site given the lack of Hazel (a prime food source) present and the fact that the scrub is predominantly species poor. Furthermore, no records of this species in the locality were returned by the data search.

4.7.2. Small mammal footprints were observed in the mud along the banks of the off-site tributary. It is considered that these footprints may be attributable to American Mink *Neogale vision* on account of their shape and size. American Mink is an invasive species, as listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

4.7.3. Unidentified deer droppings were also found within the wider study area and clear mammal pathways were observed heading into the scrub and boundary vegetation across the site and wider study area.

4.7.4. A Fox *Vulpes vulpes* was observed in ONG2, entering the patch of Bramble scrub in the southeast corner of the field. It is possible that there is a den here.

4.7.5. Given the presence of predatory mammals such as Fox and potentially American Mink, it is considered likely that a common assemblage of small prey species such as Field Vole *Microtus agrestis* and Brown Rat *Rattus norvegicus* would be present within the site also.

Background Records

4.7.6. The desk study returned eight records of other mammal species, including Grey Squirrel *Sciurus carolinensis* and Chinese Muntjac *Muntiacus reevesi*. The closest and most recent pertains to Chinese Muntjac located 200m west of the site.

4.8. Birds

4.8.1. The habitats within the site and wider study area offer good foraging and nesting opportunities for a variety of species. The grassland is of some suitability for ground nesting birds, although none were observed during the July 2024 survey.

4.8.2. During the site visit in July 2024, several bird species were recorded. These were Green Woodpecker *Picus viridis*, Magpie *Pica pica*, Woodpigeon *Columba*

palumbus, House Sparrow *Passer domesticus*, Red Kite *Milvus milvus*, Herring Gull *Larus argentatus*, Pheasant *Phasianus colchicus* and Kestrel *Falco tinnunculus*. Additionally, during the October 2025 NBW survey a Barn Owl *Tyto alba* was observed flying over the southern field.

Background Records

4.8.3. The data search returned 185 records of bird species protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and . or listed under Annex I of the Birds Directive. Species include Barn Owl, Black-necked Grebe *Podiceps nigricollis*, Fieldfare *Turdus pilaris*, Redwing *Turdus iliacus*, Hobby *Falco Subbuteo*, Kingfisher *Alcedo atthis*, Avocet *Recurvirostra avosetta*, Mediterranean Gull *Larus melanocephalus*, Little Gull *Hydrocoloeus minutus*, Common Scoter *Melanitta nigra*, Goldeneye *Bucephala clangula*, Pintail *Anas acuta* and Red Kite. The closest and most recent of these records pertains to Red Kite located 0.2km west of the site in 2022.

4.8.4. Sixty-one records of bird species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and . or listed as priority species by the UK Biodiversity Action Plan (BAP) were returned by the data search. Species include House Sparrow, Lesser Redpoll *Carduelis cabaret*, Reed Bunting *Emberiza schoeniclus*, Skylark *Alauda arvensis* and Lapwing *Vanellus vanellus*. The closest of these records relates to a location 0.8km northwest of the site, with observations of House Sparrow in 2014 and Lesser Redpoll in 2016. The most recent record dates from 2018 and pertains to Skylark and Lapwing recorded 2.4km east of the site.

4.8.5. The data search returned a total of 821 records of birds listed as species of principal conservation concern on the IUCN Red List. Species include Song Thrush *Turdus philomelos*, Tawny Owl *Strix aluco*, Lesser Spotted Woodpecker *Dendrocopos minor*, Mistle Thrush *Turdus viscivorus*, Wren *Troglodytes troglodytes*, Whitethroat *Sylvia communis*, Starling *Sturnus vulgaris*, Dunnock *Prunella modularis*, Willow Warbler *Phylloscopus trochilus*, Whinchat *Saxicola rubetra*, Yellow Wagtail *Motacilla flava*, Grey Wagtail *Motacilla cinerea*, Meadow Pipit *Anthus pratensis*, House Martin *Delichon urbicum*, Bullfinch *Pyrrhula pyrrhula*, Linnet *Carduelis cannabina*, Greenfinch *Carduelis chloris*, Sedge Warbler *Acrocephalus schoenobaenus*, Common Moorhen *Gallinula chloropus*, Kestrel, Wood Pigeon, Stock Dove *Columba oenas*, Woodcock *Scolopax rusticola*, Dunlin *Calidris alpina*, Common Sandpiper *Actitis hypoleucos*, Arctic Tern *Sterna paradisaea*, Common Tern *Sterna hirundo*, Kittiwake *Rissa tridactyla*, Lesser Black-backed Gull *Larus fuscus*, Common Gull *Larus canus*, Herring Gull, Caspian Gull *Larus cachinnans*, Black-headed Gull *Chroicocephalus ridibundus*, Swift *Apus apus*, Shelduck *Tadorna tadorna*, Shoveler *Anas clypeata*, Red-breasted Merganser *Mergus serrator*, Gadwall *Anas strepera*, Wigeon *Anas Penelope*, Barnacle Goose *Branta leucopsis*, Pochard *Aythya farina*, Mallard *Anas platyrhynchos*, Teal *Anas crecca* and Sparrowhawk *Accipiter nisus*. The most recent and closest records are located 0.8km west of the site boundary. These relate to Starling, Dunnock and Black-headed Gull in 2018.

4.9. Reptiles

4.9.1. The grassland, scrub and woodland margins present on-site and in the wider study area provide suitable foraging, commuting and refuge opportunities for reptiles. Presence and absence surveys for reptiles were conducted in September and October 2024. The results of the surveys are shown on Plan ECO5 and in Table 4.7 below. During the surveys no reptiles were recorded. A small mammal tail was observed underneath the reptile refugia, likely attributed to Field Vole *Microtus agrestis* or Shrew *Sorex Araneus,* as these species often make nests under the refugia.

Table 4.7 Reptile Survey conditions and Results (September and October 2024).

Date	Survey	Temperature (°C)	Cloud Cover (%)	Reptiles recorded
17.09.24	1	18	40	0
23.09.24	2	15	100	0
25.09.24	3	12	100	0
07.10.24	4	13	70	0
09.10.24	5	16	90	0
11.10.24	6	9	10	0
15.10.24	7	16	70	0

Background Records

4.9.2. Five reptile records were returned by the data search. The records relate to Grass Snake *Natrix Helvetica* and Slow Worm *Anguis fragilis*. The closest and most recent records pertain to Grass Snake, dating from 2020, located approximately 0.2km west of the site.

4.10. Amphibians (Great Crested Newt)

4.10.1. The site provides suitable habitat for amphibians in their terrestrial phase, in the form of grassland, scrub, tall forbs and woodland margins. There is some aquatic habitat within the slower moving portions of the off-site tributary, but this is not suitable for breeding given the overall flow rate.

4.10.2. A single pond, not separated by a major dispersal barrier, is situated within 500m of the site. The pond is located approximately 10m west of ONG1. The pond measures approximately 135 square metres and appears to contain floating . emergent aquatic vegetation. It is possible that amphibians utilising this pond may venture onto the site during their terrestrial phase.

Background Records

4.10.3. No records of amphibians were returned by the data search.

4.11. Invertebrates

4.11.1. Given the presence of grassland and scrub, which include common flowering and fruit-bearing species, it is likely that an assemblage of common invertebrate

species would be present. There is no substantial evidence to suggest the presence of any rare or notable species.

4.11.2. During the habitat survey in July 2024 several invertebrate species were observed including Marbled White Butterfly *Melanargia galathea*, Meadow Brown Butterfly *Maniola jurtina*, Red Soldier Beetle *Rhagonycha fulva*, Western Honeybee *Apis mellifera* and a Hoverfly of the *Eristalis* genus. Several dragonflies, damselflies and grasshoppers were recorded throughout the site and wider study area. A Pond Skater *Gerridae* sp. was observed within the off-site tributary.

Background records

4.11.3. The data search returned 68 records of invertebrate species, of which nine pertained to species listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) . the UK BAP. These records relate to Shaded Broad-bar *Scotopteryx chenopodiata*, White-letter Hairstreak *Satyrium w-album*, Small Square-Spot *Diarsia rubi*, Cinnabar *Tyria jacobaeae* and Small Heath *Coenonympha pamphilus*. The closet and most recent record relates to Small Heath in 2017, located 0.2km east of the site.

4.11.4. Seventeen records of invertebrate species classified as conservation concern on the IUCN Red List were also returned. These records relate to Tree Snipefly *Chrysopilus laetus*, Ruby-tailed Wasp *Chrysis gracillima*, Ladybird Fly *Gymnosoma rotundatum*, Shingle Yellow-face Bee *Hylaeus annularis*, Ridge-saddled Carpenter Bee *Heriades truncorum*, Little Spotted Beetle *Mordellistena parvula*, Little Dark Bee *Stelis breviuscula*, and Orange-spotted Tachinid Fly *Gistogaster globosa*. The closest and most recent record relates to Ridge-Saddled Carpenter Bee in 2020, located approximately 0.9km north of the site.

4.12. Other Fauna

4.12.1. A Three-spined Stickleback *Gasterosteus aculeatus* was observed within the off-site tributary. Field Vole or Shrew tail was observed underneath the reptile refugia during the reptile surveys.

5. Ecological Evaluation

5.1. The Principles of Ecological Evaluation

5.1.1. The guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.

5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe[13] . These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Sites of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.

5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological . geographical units are also incorporated into the ranking procedure.

5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.

5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with a comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.

5.1.6. In addition, habitats of local importance are often highlighted within a BAP. The Hertfordshire BAP has been considered as part of this assessment and is referenced where relevant.

5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the international level.

5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

5.2. Habitat Evaluation

Designated Sites

5.2.1. **Statutory Sites**. There are no statutory designated sites within or directly adjacent to the site.

5.2.2. The nearest statutory site is Harrow Weald Site of Special Scientific Interest (SSSI), located approximately 1.3km southeast of the location (see Plan ECO1).

[13] Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of Biological Sites of National Importance to Nature Conservation in Britain.* Two Volumes. Cambridge University Press, Cambridge.

This site has been designated its SSSI status due its geological interest rather than it being ecologically important. The site is located within the impact risk zone (IRZ) of this SSSI. However, due to the nature of the development, and nature of the designated site itself, Natural England will not need to be consulted to ensure the SSSI is not adversely affected.

5.2.3. Prestwick Road Meadows Local Nature Reserve (LNR) is located approximately 1.4km southwest of the site. This site is designated due to its neutral to acid damp grassland overlaying the London Clay. Shrub, woodland and wetland habitats are also present here. Due to the distance of this LNR, no adverse impacts would occur at this site during the construction phase. Moreover, it is situated within a residential area and likely already subject to significant recreational use. As such, recreational use of this site by new residents is not likely to significantly change the condition of this site in any way and adverse impacts resulting from the proposed development would be negligible.

5.2.4. Overall, the site is considered to be sufficiently removed from the local statutory designated sites. The development proposals are unlikely to result in any significant effect on the features and species of interest.

5.2.5. **Non-statutory Sites**. There are no non-statutory designated sites within or immediately adjacent to site.

5.2.6. The closest such site is Hartsbourne Flood Defence Area, Oxhey Local Wildlife Site (LWS), situated 17 metres southwest of the site boundary at its closest point. It comprises a small (0.11ha) a grassy bank important for Pennyroyal *Mentha pulegium*, a UK BAP Priority species. Owing to its proximity, appropriate preventative pollution measures will be implemented during the construction phase of the development to safeguard it from any adverse effects. Additional measures should include signposting, to ensure new residents are aware of its ecological importance.

5.2.7. Several further LWSs are present in proximity to the proposed development. One such site is Carpenders Park Cemetery Woodland LWS, located approximately 85m west of the site boundary and supporting a semi-natural broadleaved woodland around surrounding a tributary of the River Colne, which itself extends through the wider study area. Mutton Wood LWS adjoins the wider study area to the south, approximately 300m from the application site boundary, comprising deciduous ancient woodland with a semi-natural canopy, notably with Bluebell present in the field layer. Valley View Farm Meadows LWS adjoins the Mutton Wood to the south, approximately 350m from the application site boundary, and comprises of unimproved neutral grassland and small areas of acid grassland.

5.2.8. Due to their proximity to the site, there exists the potential for adverse impacts to arise from the development during the construction phase, such as via pollutants entering watercourses; this is especially notable for the tributary of the River Colne, which is within 30m of the site at its closest point. However, it is considered that this can be appropriately mitigated for by standard preventative measures adhered to during construction. Pollution prevention measures would include, but not be limited to, the erection of temporary fencing, restriction of refuelling and dust-generating operations and the storage of potentially harmful substances, which would protect the tributary and its surrounding environs. This

could be appropriately controlled via condition, such as through the production of a Construction Environmental Management Plan (CEMP) which would detail these pollution prevention measures and any enhancements which can be applied such as the removal of anthropogenic debris from the banks.

5.2.9. Sites of Importance for Nature Conservation (SINCs) are London's equivalent of Local Wildlife Sites. They are designated due to the important habitats they support. They are provided a high level of protection within the planning system. SINCs are organised via a hierarchy; in order of importance, these are: Sites of Metropolitan Importance, Borough Importance (Grades 1 and 2) and Local Importance (the lowest tier).

5.2.10. Grims Dyke Farm Site SINC, a Site of Borough Importance Grade 2 is located 300m southeast of the site boundary. The site is designated due to the presences and acid grassland, wet grassland, large hedgerows, and wet ditches.

5.2.11. Old Redding Complex SINC is a Site of Metropolitan Importance. This site adjoins Grims Dyke Farm SINC to the north and the Harrow Weald SSSI to the east and is located approximately 500m southeast from the site boundary. This site supports important ancient woodland composed of mainly Oak, in addition the ground flora comprises of several regionally rare ferns and horsetails including Wood Horsetail *Equisetum sylvaticum*, Great Horsetail *Equisetum telmateia*, Soft Shield-Fern *Polystichum setiferum*, Scaly Male-Fern *Dryopteris affinis* and Hard-Fern *Blechnum spicant*. Heathland, Pond.lake and a secondary woodland are also present. The site supports significant invertebrate species such as the Green Hairstreak Butterfly *Callophrys rubi* and the Downy Emerald Dragonfly *Cordulia* Aenea.

5.2.12. As specified above, appropriate measures to prevent pollution would ensure no adverse impacts are experienced at these local SINCs.

5.2.13. Further afield is Pinner Wood SINC, which is a site of Borough Importance Grade 1, located 1.9km southwest of the site boundary. This area includes ancient and secondary woodlands, Semi-improved neutral and acid grasslands along with heathland, pond.lakes, scrub, hedges, and wet ditches. The area provides habitat for a variety of fauna including Great-Crested Newts *Triturus cristatus* and Grass Snakes *Natrix helvetica*. Owing to the separating distance and intervening land use, which is largely residential, adverse impacts at this site are considered unlikely.

5.2.14. Woodland present along much of the eastern site boundary and extending into the site to the southeast is priority deciduous woodland habitat. Deciduous woodland is a habitat of Principle Importance under Section 41 of the NERC Act 2006. The proposed built form is to be offset from this habitat by a minimum of 15m to ensure no conflicts with Root Protection Areas (RPAs). Again, standard pollution prevention measures will ensure this habitat is appropriately protected during the construction phase.

5.2.15. Further SINCs and LWSs are present in the surrounding area and are illustrated on Plan ECO1.

Habitats

5.2.16. Overall, the site is of good ecological value, comprising in the main, of neutral grassland, and Blackthorn scrub. The mature trees throughout the site and wider area of study offer additional ecological interest.

5.2.17. The retention of the more ecologically valuable boundary habitats, including trees, woodland and scrub, has been prioritised within the development proposals. However, naturally, some of this habitat is to be lost to facilitate the development. Replacement planting of mixed native shrub will help mitigate losses to Blackthorn and Bramble scrub, providing a more species-rich replacement and introducing new biodiversity to the site. Moreover, a significant new area of woodland proposed to the western edge of the development, to comprise primarily of Oak and Hazel, in addition to new tree and hedgerow planting and an orchard, as well as SUDs planted with marginal and aquatic species, will further mitigate for habitat losses and provide new biodiversity value within the site.

5.2.18. Woodland present to the southeast of the site is priority deciduous woodland, a habitat of Principle Importance under Section 41 of the NERC Act 2006. This habitat is to be retained in its entirety and the proposed built form is to be offset from this habitat by a minimum of 15m to ensure no conflicts with RPAs.

Biodiversity Net Gain

5.2.19. A Biodiversity Net Gain (BNG) assessment has been undertaken to ensure compliance with statutory requirements. This has been done by evaluating proposed landscape designs against the Biodiversity Metric. This assessment confirms whether the site achieves a net gain in biodiversity, with specific aims such as an increase in habitat and hedgerow units. Any loss in habitats necessitate adjustments to meet trading rules. Additionally, the report identifies opportunities to purchase off-site units.

5.2.20. Given the loss of woodland, grassland and scrub, trading rules within the metric are failed. This is because the habitats proposed and enhanced do not provide enough units to offset the loss. A net loss in habitat units is therefore yielded by the metric (-33.97%). There is a net gain in hedgerow units, although no percentage is given due to the null baseline.

5.3. Faunal Evaluation

Badgers

5.3.1. **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status.

5.3.2. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a Badger sett an offence. A sett is defined as "any structure or place, which displays signs indicating current use,

by a Badger". 'Current use' is defined by Natural England as any use within the preceding 12 months.

5.3.3. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.

5.3.4. Local Authorities are, therefore, obliged to consult Natural England over any application that is likely to adversely affect Badgers.

5.3.5. Any work that disturbs Badgers is illegal without a licence granted by Natural England. Unlike the general conservation legislation, the Badgers Act 1992 makes specific provision for the granting of licences for development purposes, including for the destruction of setts.

5.3.6. Guidance produced by Natural England in 2002 developed guidelines on the types of activity that it considers should be licensed within certain distances of sett entrances. For example, using heavy machinery within 30 metres of any entrance to an active sett, and lighter machinery within 20 metres, or light work such as hand digging within 10 metres, all may require a license.

5.3.7. It should be noted that a licence cannot be issued until the site is in receipt of full and valid planning permission and that generally licences are not granted between December and June inclusive to avoid disruption to the Badger breeding cycle.

5.3.8. **Site Usage**. No active Badger setts or tracks were recorded on the site during the initial survey. A lack of recent nearby background records for this species contribute to the unlikeliness of Badger being present on site. However, owing to the dynamic nature of this species it cannot be ruled out that this species may become present on site at a later date. The site does present suitable foraging and sett building opportunities within the neutral grassland, scrub and woodland.

5.3.9. **Mitigation / Recommendations.** It is recommended that a Badger sett check is carried out prior to the commencement of any future development as a precaution to ensure that no new setts have been excavated since the surveys.

5.3.10. Given the potential for Badgers to be within the vicinity of the site and potentially entering site during the construction phase, a number of precautionary measures should be put in place throughout the construction phase of the development. These would include:

- During the construction process all dug ground should be levelled and compacted wherever possible. This will prevent Badgers from attempting to excavate setts prior to completion of the works;
- Where subsoil must be piled up, inspect the piles regularly and, if necessary, fence them off to prevent Badgers from accessing them;
- Planks should be left in any uncovered trenches to allow any Badger that may stray onto the site an escape route;

- Any open trenches will be checked at the beginning of each day (to ensure that Badgers are not present) and at the end of each day (to ensure that the means of escape remain in place);
- Tools and loose materials will be stored in an appropriate container to reduce the risk of Badgers accessing the site and injuring themselves;
- Materials should be stored in a storage container in order to avoid the chance of Badgers coming onto site and potentially injuring themselves;
- Fires and chemicals should not be used; and
- Any open pipework greater than 150mm outside diameter should be capped at the end of each working day.

5.3.11. Badgers are an especially mobile species that often extend existing setts and excavate new ones in areas of suitable habitat. New setts may be excavated within the construction zone during the period between the survey work undertaken and the drafting of this report and the commencement of site clearance and construction works. Were construction to proceed directly, involving the use of heavy machinery, newly excavated setts or entrances may be adversely affected, leading to collapse of entrances and tunnels and possible Badger injury or mortality.

5.3.12. If any suspected Badger activity is observed during construction, works must cease immediately and the project's ecological consultancy should be contacted.

5.3.13. Badgers can roam into areas where construction is underway and become trapped in trenches and . or excavate new setts in piles of subsoil or disturb chemicals that may be being used for development. Regular monitoring and professional ecological guidance are essential to address any issues promptly and legally.

5.3.14. Ensure that any trenches or excavations are covered or fitted with escape ramps at the end of each working day to prevent Badgers from becoming trapped. Avoid leaving piles of subsoil unattended for long periods, as Badgers may attempt to create new setts. If subsoil must be piled up, inspect the piles regularly and, if necessary, fence them off to prevent Badgers from accessing them.

5.3.15. The entirety of the existing woodland is to be retained and offset from the development. Moreover, new woodland planting and mixed native scrub will help retain opportunities for Badgers within the site.

Bats

5.3.16. **Legislation**. All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence to:

- Deliberately kill, injure or take (capture) bats;
- Deliberately disturb bats in such a way as to:-

(i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or

(ii) affect significantly the local distribution or abundance of the species to which they belong;

- To damage or destroy any breeding or resting place used by bats; and
- Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).

5.3.17. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.

5.3.18. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

5.3.19. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:

1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
2. there must be no satisfactory alternative; and
3. the favourable conservation status of the species concerned must be maintained.

5.3.20. Licences can usually only be granted if the development is in receipt of full planning permission.

5.3.21. **Site Usage**. The site provides ample foraging and dispersal opportunities for bats via the woodland, scrub and individual trees. In combination with the neutral grassland, the site likely supports a healthy invertebrate population as prey items for bats. Moreover, the site is connected to suitable bat habitat in the surrounding area and is overall of high bat suitability.

5.3.22. Further to the above, the 32 individual trees situated around the site boundary provide numerous roosting opportunities for individual bats (three PRF-M and 29 PRF-I, as well as three for maternity bat roosts / multiple bats, with one such feature exhibiting signs of bat use due to staining around the entrance.

5.3.23. Despite its suitability, the bat activity surveys completed in August and October 2024 found only low levels of bat presence, with this largely attributable to Common Pipistrelle. Static detector deployments did, however, identify early and late registrations (20 minutes after sunset and 20 minutes before sunrise) for Common Pipistrelle, Soprano Pipistrelle and Noctule, indicating that small roosts for these species may have been present within or near to the site at the time of survey.

5.3.24. The 2025 static bat detector surveys recorded higher overall bat activity compared to 2024. They showed that peak activity shifted between detector positions across different months, with no single location consistently dominant.

This indicates variable use of the site as seasonal resources became available. The higher levels of bat activity recorded in 2025 are likely attributable, at least in part, to the extended deployment period of static detectors (ten nights rather than five), which increased the likelihood of recording bat passes and species diversity.

5.3.25. **Mitigation / Recommendations**. Three individual trees are to be removed as part of the development (two medium sized trees in the northwest of ONG2 and one large dead tree in the southwest of ONG2). The two medium sized trees do not present any bat roosting potential so can be removed without any constraint with regards to bats. The large dead tree is a PRF-I tree and requires a pre-inspection survey prior to felling. Should either of the three trees categorised as PRF-M be subject to arboricultural works or felling, then they must first be subject to an aerial tree inspection and / or dusk emergence surveys survey to confirm that bats are absent from them, as recommended by current survey guidelines. Should a roost be present then a bat mitigation licence from Natural England will need to be require before any works can take place. This approach also applies to any PRF-I trees located within the site.

5.3.26. The scrub that bounds and intersects the grassland is to be cut back to facilitate the development, but removal will only occur where access routes through the site are required, and these features will be otherwise retained. Moreover, mixed native scrub will be planted to bolster the retained scrub and increase its species richness, in turn attracting a more diverse assemblage of invertebrate prey items. New woodland, hedgerow, orchard and tree planting, as well as SUDs planted with marginal and aquatic species will provide further opportunities for bats.

5.3.27. A lighting scheme for the site will be designed with due regard for bats. As part of the lighting design, consideration will be given to the lighting of woodland and edge habitats, and the design should limit light spill onto the retained boundary vegetation to ensure that opportunities for foraging and dispersal remain post-development. Warm white LEDs, low pressure sodium or narrow spectrum (no UV) lights should be used, in conjunction with directional downlights in these areas.

5.3.28. As a further enhancement, a variety of bat boxes could be provided and installed on suitable retained trees. Incorporating bat tiles, tubes and bricks as part of any new building would also offer further roosting enhancements post-development.

5.3.29. A landscape planting scheme based around native species and wildflower that will attract foraging resources for bats should be incorporated into the proposals. Where possible, vegetation and River Colne will be retained and bolstered with new planting to enhance the existing value of the site to bats.

Hedgehogs

5.3.30. **Legislation**. Hedgehog is a species of principal importance for the conservation of biodiversity under Section 41 (England) of the NERC Act 2006.

5.3.31. The NERC Act 2006 requires the Secretary of State to:

… take such steps as appear… to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or… promote the taking by others of such steps.

5.3.32. **Site Usage**. While no evidence was recorded while undertaking the survey, it is considered that the habitats including the grassland and scrub present onsite offer suitable opportunities for foraging and dispersal of Hedgehogs, therefore site use by this species cannot be discounted.

5.3.33. **Mitigation / Recommendations**. Any clearance of suitable vegetation, such as the grassland and scrub, during the hibernation season (October to February inclusive) will be subject to a check survey for hibernation features. Any vegetation clearance should be carried out in a systematic and controlled manner to allow Hedgehogs to disperse. The retention of boundary features including woodland and scrub, and provision of new woodland and scrub, will provide continued and new opportunities for Hedgehogs.

5.3.34. If in the event a Hedgehog is found during construction works, the Hedgehog should be carefully placed in a lidded box (with air holes and vegetation cover) and safely translocated to an area of retained vegetation or within suitable off-site habitats away from construction areas.

5.3.35. Any trenches or deep pits associated with construction that are left open overnight pose a significant risk to dispersing hedgehogs, especially if the trench fills with water. It is recommended that appropriate mitigation measures be put in place during the construction phase to safeguard against entrapment. Specifically, if trenches cannot be covered overnight, a means of escape needs to be provided. This can be achieved by placing planks or similar structures in the trenches to allow hedgehogs and other small animals to climb out safely.

5.3.36. The development of the site will include a wildlife tunnel beneath the central spine road through the development, to facilitate dispersal of this species. In addition, any boundary fencing or fencing between residential properties should be provided with 'Hedgehog Gateways' to facilitate movement and dispersal of Hedgehogs. The development should also include log piles, established in discrete locations within the boundaries of the site to provide further nesting and hibernating opportunities for Hedgehogs post-development.

Otters

5.3.37. **Legislation**. Otters are subject to the same legislative protection as bats (see above). Otters are a UK BAP priority species and a London Priority Species.

5.3.38. **Site Usage**. No evidence of Otters was observed during the surveys, but the River Colne tributary within the wider area of study does provide some limited suitable habitat for this species.

5.3.39. **Mitigation / Recommendations**. Pollution prevention measures, including the erection of temporary fencing, restriction of refuelling and dust-generating operations and the storage of potentially harmful substances, will reduce any adverse impacts occurring to the tributary, and subsequently Otters, details can be provided within the production of a CEMP, secured by condition.

Water Vole

5.3.40. **Legislation**. Water Voles are a UK BAP priority species and a London Priority Species Water. They receive full protection under section 9 of the Wildlife & Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Intentionally kill, injure or take (capture) a Water Vole;
- Possess or control a live or dead Water Vole, or any part of a Water Vole;
- To sell, offer for sale or advertise for live or dead Water Voles; and
- Intentionally or recklessly damage, destroy, or obstruct access to any structure or place which Water Voles use for shelter or protection or disturb them while they are using such a place.

5.3.41. The Water Vole Mitigation Handbook specifies that operations where Water Voles are to be trapped or displaced require a conservation licence from Natural England. This may be in the form of a Class Licence or a site-specific licence dependent on whether the proposals meet particular criteria. To obtain either licence the project must deliver a net benefit for Water Voles.

5.3.42. **Site Usage**. No evidence of Water Voles was observed during the surveys however, the habitat surrounding the River Colne tributary within the wider area of study provides foraging, commuting and burrowing habitat.

5.3.43. **Mitigation / Recommendations**. The impact on Water Voles and the required recommendations as part of the development are consistent with that detailed for Otters above.

Other Mammals

5.3.44. **Legislation**. Common mammals receive protection under the Wild Mammals (Protection) Act 1996 making it an offence to crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

5.3.45. This also extends to the Animal Welfare Act 2006 making it an offence to cause unnecessary suffering or fail to meet the needs of vertebrates in the temporary control of man.

5.3.46. **Site Usage**. The site provides suitable opportunities for several common mammal species with site usage noted by Fox and deer, with footprints of American Mink recorded on the banks of the River Colne tributary within the wider study area.

5.3.47. **Mitigation / Recommendations**. General regard to mammals following standard practise to avoid unnecessary harm and distress when undertaking site clearance works. Any common mammals found, which are not in distress, will be encouraged to disperse to the wider area where suitable habitat is present outside of work zones (same methodology as Hedgehogs). Due to the American Mink being an invasive Schedule 9 species within the Wildlife and Countryside Act 1981 (as amended) should an individual of this species be caught or trapped during the development its release is an illegal offence.

5.3.48. New landscaping will provide new shelter and foraging opportunities for locally present mammals.

Birds

5.3.49. **Legislation**. Section 1 of the Wildlife and Countryside Act 1981 (as amended) is concerned with the protection of wild birds, whilst Schedule 1 lists species that are protected by special penalties. All species of birds receive general protection whilst nesting.

5.3.50. **Site Usage**. The trees, woodland and scrub habitat within the site offer good nesting and foraging opportunities for a variety of bird species. Within the wider study area, the River Colne tributary and the woodland adjacent to the east provide further opportunities for local bird species. Several bird species were observed during the habitat survey, including Green Woodpecker, Red Kite and Kestrel.

5.3.51. The site contains areas of unmanaged grassland suitable for ground nesting bird species. It is also noted that records of such species, including Skylark, were returned by the data search and are thus potentially present within the area.

5.3.52. **Mitigation / Recommendations.** Noting the above, it is recommended that a suite of breeding bird surveys is undertaken within the site to inform the Reserved Matters (RM) application. As these surveys have not yet been completed, the applicant proposes to adopt a precautionary approach at the outline planning application stage, securing appropriate mitigation measures for ground-nesting birds until survey results are available.

5.3.53. Pending completion of the breeding bird surveys, precautionary mitigation will be secured to ensure that potential effects on Skylark and other ground-nesting species are appropriately addressed. This may include the provision of replacement nesting opportunities via Skylark plots delivered off-site as part of the development proposals.

5.3.54. Skylark plots are small undrilled patches or patches which are sprayed out after crop establishment. They should be at least three metres wide and have a minimum area of 16 square metres. Fields supporting Skylark plots should be more than 5 ha in size if they have an open aspect (or >10 ha if bounded by trees or woodland), whilst plots should be located at least 24 - 50m from field boundaries or margins to reduce predation risk.

5.3.55. Skylark territory size varies greatly but typically ranges up to 2 ha in size, suggesting at least a potential six territories within the ~12ha site. However, territory density in grassland and arable habitats is typically only between 0.05 to 0.1 per ha, increasing to 0.3 per ha for set-aside land. Given the size of the site and considering the typical nesting densities and territory sizes of Skylark, it is reasonable to assume that the site would support one or two Skylark territories. Skylark plots are typically provided at a 2:1 ratio at a density of two plots per ha. The provision of four such plots within a 12.5 ha field located off-site would therefore compensate for the loss of potential territories within the development area.

5.3.56. To provide this compensation, a suitable off-site arable field would need to be identified within a reasonable distance of the development, and an agreement made with the landowner to create and maintain four unseeded 4 × 4 m Skylark plots within the crop. These plots would be left bare when the field is drilled each year and kept under an ongoing management agreement, typically for the lifetime of the development. Their effectiveness would be monitored to ensure Skylarks are using them, with adjustments made if needed.

5.3.57. The detailed requirement for, and design of, these measures will be confirmed or refined following the completion of breeding bird surveys at the RM stage. Should the surveys confirm that Skylarks or other ground-nesting species are not present, the extent of mitigation may be revised accordingly.

5.3.58. Scrapes should also be provided within attenuation ponds to provide opportunities for wading birds on-site.

5.3.59. The scrub that bounds and intersects the grassland is to be cut back to facilitate the development, but removal will only occur where access routes through the site are required, and these features will be otherwise retained. Areas of mixed native scrub, woodland, hedgerow, orchard and new tree planting is proposed which will provide new nesting and foraging opportunities for birds.

5.3.60. In order to avoid impacts on nesting birds, and to avoid a potential offence under the Wildlife and Countryside Act 1981 (as amended), clearance of vegetation that is suitable for nesting birds should be undertaken outside of the nesting season (typically March to August inclusive) wherever possible. Where this cannot be achieved, a nest-check survey for birds should be undertaken by an ecologist 24-48 hours prior to vegetation removal. If any nests are confirmed, works should cease immediately, with the nest safeguarded by at least a 5m buffer and left in situ until the young have fledged.

5.3.61. Further enhancements could be provided through the provision and installation of a variety of bird boxes on new buildings or retained trees. This would offer additional nesting opportunities for birds.

Reptiles

5.3.62. **Legislation**. All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.

5.3.63. Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 (as amended) as well as protection under the Conservation of Habitats and Species Regulations 2017 (as amended). Species that are fully protected are Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*. These receive the following protection from:

- Killing, injuring and taking;
- Possession or control (of live or dead animals, their parts or derivatives);
- Damage to, destruction of and obstruction of access to any structure or place used for shelter or protection;
- Disturbance of any animal occupying such a structure or place; and

- Selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).

5.3.64. Owing to their abundance in Britain, Common Lizard, Slow Worm, Grass Snake and Adder *Vipera berus* are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:

- Deliberate killing and injuring; and
- Being sold or other forms of trading.

5.3.65. Therefore, if reptiles are present within a site, a scheme of translocation can be implemented to avoid the offence of killing . injury.

5.3.66. **Site Usage**. Areas of neutral grassland, scrub and woodland margins provide suitable habitat within the site. No reptiles were recorded during the Presence . absence reptile surveys were conducted within the tussocky areas of grassland in the south of site and ruderal vegetation under the hedgerow in September and October 2024.

5.3.67. **Mitigation / Recommendations**. Woodland margin and scrub habitats are to be largely retained as part of the development. Further scrub planting and grassland enhancement as part of the landscape scheme will help to maintain and improve opportunities, which may encourage future use of the site by this species.

5.3.68. Removal of suitable reptile habitat should follow a phased approach, whereby a two-stage cut is completed. The first cut should be to no less than 100mm, with the second to ground level. This will enable reptiles to safely disperse away from the habitat to be removed. Cutting should occur only in the reptile active season (April to October inclusive).

5.3.69. As an enhancement, log piles established as part of the Hedgehog mitigation will also provide suitable shelter and hibernation opportunities for common reptiles within the site.

Amphibians (Great Crested Newts)

5.3.70. **Legislation**. Great Crested Newts are subject to the same legislative protection and licensing provisions as bats (see above).

5.3.71. Other species of amphibian including the Common Toad, Common Frog, Palmate Newt *Lissotriton helveticus* and Smooth Newt are all afforded protection against sale only under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Common Toad are further protected under Section 41 of the NERC Act 2006 (as amended). Where significantly large populations of Common Toad are identified at a site, their presence could be deemed as a 'material consideration' by planning authorities in accordance with National Planning Policy Framework (NPPF) and their listing on the UKBAP and measures to protect them are recommended.

5.3.72. **Site Usage**. The site provides suitable habitat for amphibians in their terrestrial phase, in the form of grassland, scrub, tall forbs and woodland margins. There is

some aquatic habitat within the slower moving portions of the tributary within the wider study area, however this is unsuitable for breeding given the overall flow rate.

5.3.73. Several ponds are present within 500m of the application site that are not separated by significant dispersal barriers (see Plan ECO6). Pond P1 is located approximately 10m west of the site. Satellite imagery appears to show that this pond supports floating. emergent aquatic vegetation. It is possible that amphibians utilising this pond may venture onto the site during their terrestrial phase. Pond P2 is present within a woodland belt approximately 250m northeast of the site. This pond was subject to a Habitat Suitability Index survey in 2019, which categorised the pond as excellent suitability for Great Crested Newts. Two further ponds, P3 and P4 are present approximately 420m and 460m north of the site respectively.

5.3.74. Owing to the presence of nearby waterbodies, eDNA surveys were completed on surrounding ponds in early July 2025. Only Pond P1 was surveyed, as Ponds P2 to P5 were all dry suggesting these would not offer suitable breeding habitat for Great Crested Newts. Pond P1 was returned as negative for Great Crested Newt DNA, suggesting the species is absent from the pond.

5.3.75. The site partially falls within an amber zone for Great Crested Newt presence. Risk zones are determined by Natural England using modelling to predict newt populations based on existing data. Amber zones have great crested newt populations, habitats and dispersal routes.

5.3.76. **Mitigation / Recommendations**. Owing to the ponds being dry at the time of survey, and a negative eDNA result being recorded in the only pond containing water, no evidence of Great Crested Newt was found. As such, no specific mitigation measures or licensing are considered necessary in relation to the proposed development.

5.3.77. The development will include retaining boundary features suitable for amphibian dispersal. Moreover, SUDs features are to be provided and sown with wet grassland and marginal . aquatic species mixtures. If engineered to retain water, these could provide new opportunities for amphibians in their terrestrial phase.

5.3.78. Refugia piles derived from habitat management works should be created within suitable retained habitat to provide shelter and hibernation opportunities for amphibians. These should be positioned in proximity to new attenuation basin features.

Invertebrates

5.3.79. **Site Usage**. It is expected that an assemblage of common invertebrate species utilises the on-site habitats, although there is no reason to suspect the likely presence of any scarce or notable species. Indeed, several common invertebrate species were observed on-site during survey work.

5.3.80. **Mitigation / Recommendations**. Proposed landscaping includes new hedgerows, mixed native scrub, woodland, SUDs and an orchard, all of which will contribute to retaining invertebrate interest in the site.

5.3.81. The further provision of insect nesting aids of varying models in selected areas of proposed landscaping would provide suitable refuge opportunities for solitary bees, butterflies, saproxylic (beetles) and other invertebrate species. In addition, Bee Towers can be implemented into the development to provide nesting opportunities for solitary bee species and pollinators.

6. Planning Policy Context

6.1. The planning policy framework that relates to nature conservation at the site is issued nationally through National Planning Policy Framework (NPPF) and locally through the adopted and emerging policies of Three Rivers Council.

6.2. The proposed development will be judged in relation to the policies contained within these documents that concern nature conservation.

6.2. National Policy

National Planning Policy Framework - December 2024 (amended February 2025)

6.2.1. Guidance on national policy for biodiversity is provided by the NPPF, published in March 2012, revised on 24 July 2018, 19 February 2019, 20 July 2021, December 2024 and most recently in February 2025. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).

6.2.2. The key element of the NPPF is that there should be "a presumption in favour of sustainable development" (paragraphs 10 to 11). It is important to note that this presumption "does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site" (paragraph 182). 'Habitats site' has the same meaning as the term 'European site' as used in the Habitats Regulations 2017.

6.2.3. Hence, the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.

6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 174).

6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.

6.2.6. Paragraphs 179 to 181 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs, possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the

provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats – unless there are 'wholly exceptional reasons' (for instance, infrastructure projects where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist, and benefits can, in certain circumstances, be obtained.

6.3. Local Policy

Three Rivers District Council's Core Strategy (adopted 2011)

6.3.1. The Core Strategy was adopted by the Three Rivers District Council in October 2011 and is the principal development plan document guiding development. It updated and replaced the Three Rivers Local Plan which was adopted in January 1996. The Core Strategy is a strategic document that forms the principal document with the Development Plan. Policies and proposals cover the period 2011 to 2026. Policies relevant to nature conservation are set out below.

6.3.2. **Policy CP1: Overarching Policy on Sustainable Development** seeks for all development to contribute towards sustainability. In regard to biodiversity the policy states that sustainable development should protect and enhance our natural, built and historic environments from inappropriate development and improve the diversity of wildlife and habitats.

6.3.3. **Policy CP9: Green Infrastructure** is concerned with developments, seeking a net gain in quality and quantity of green infrastructure through the protection and enhancements of assets and provision of new green spaces. The main focus of the policy is to conserve and enhance key assets and linkages between:

- The corridors of Rivers Chess, Colne and Gade and the Grand Union Canal;
- The Chilterns Area of Outstanding Natural Beauty;
- The Colne Valley Park; and
- The District's SSSI, LNR, LWS, key biodiversity habitats, species and areas identified in Hertfordshire Biodiversity Action Plan and heritage assets and landscape character within areas of Green Infrastructure.

Three Rivers District Council's Local Plan: Development Management Policies

6.3.4. **Local Plan: Development Management Policies** was adopted by the Three Rivers District Council in July 2013 and is the principal development plan document guiding development. It supplements the options consulted on in the Core Strategy Issues and Options published (2006 and 2007), the Strategy Preferred Options (2009) and the Core Strategy Pre-Submission (2012). It is a strategic document that forms the principal document with the Development Plan. Policies and proposals cover the period 2011 to 2028. Policies relevant to nature conservation are set out below.

6.3.5. **Policy DM6 Biodiversity**, Trees, Woodlands, Watercourses and Landscaping is concerned with the net loss of biodiversity value across the District. Development should result in no net loss of biodiversity value across the District as a whole. The weight given to the protection of sites will be commensurate with their position in the hierarchy:

- International
- National
- Regional
- Local

6.3.6. Development that would affect a Site of Special Scientific Interest, Local Nature Reserve, Local Wildlife Site or protected species under UK or European law, or identified as being in need of conservation by the UK Biodiversity Action Plan or the Hertfordshire Biodiversity Action Plan, will not be permitted where there is an adverse impact on the ecological, geological or biodiversity interests of the site, unless it can be demonstrated that:

- The need for the development would outweigh the need to safeguard the biodiversity of the site, and where alternative wildlife habitat provision can be made in order to maintain local biodiversity; and
- Adverse effects can be satisfactorily minimised through mitigation and compensation measures to maintain the level of biodiversity in the area.

6.3.7. The following areas have been highlighted as key areas for biodiversity within the Hertfordshire Biodiversity Action Plan:

- Mid Colne Valley;
- Whippendell Woods and surrounds; and
- River Chess Valley.

6.3.8. In the first instance development should seek to avoid impacts on designated sites and important habitats species through sensitive design and consideration of alternatives. Proposals should seek to incorporate measures for biodiversity enhancement and Green Infrastructure delivery wherever possible.

6.3.9. Development must conserve, enhance and, where appropriate, restore biodiversity through:

- Protecting habitats and species identified for retention;
- Providing compensation for the loss of any habitats;
- Providing for the management of habitats and species;
- Maintaining the integrity of important networks of natural habitats; and
- Enhancing existing habitats and networks of habitats and providing roosting, nesting and feeding opportunities for rare and protected species.

6.3.10. Linked habitats are important in allowing species to adapt and respond to circumstances. Development must not result in fragmentation or isolation of wildlife habitats and should seek opportunities for habitat connectivity with the wider landscape.

6.3.11. Proposals for new development should be submitted with landscaping proposals which seek to retain trees and other important landscape and nature conservation features. Landscaping proposals should also include new trees and other planting to enhance the landscape of the site and its surroundings as appropriate.

6.3.12. Development proposals on sites which contain existing trees and hedgerows will be expected to retain as many trees and hedgerows as possible, particularly those of local amenity or nature conservation value or hedgerows considered to meet the criteria of the Hedgerow Regulations 1997.

6.3.13. Development proposals should demonstrate that existing trees, hedgerows and woodlands will be safeguarded and managed during and after development in accordance with the relevant British Standards.

6.3.14. Development should be designed in such a way as to allow trees and hedgerows to grow to maturity without causing undue problems of visibility, shading or damage.

6.3.15. Development likely to result in future requests for significant topping, lopping or felling will be refused.

6.3.16. Planning permission will be refused for any development resulting in the loss or deterioration to protected woodland (including ancient woodland), protected trees (including aged or veteran trees) and hedgerows, unless conditions can be imposed to secure their protection.

6.3.17. Where the felling of a tree or removal of a hedgerow is permitted, a replacement tree or hedge of an appropriate species, size and in a suitable location will be required, taking account of issues such as landscape and biodiversity.

6.3.18. Areas forming part of development proposals which are to be transferred to the local authority for maintenance should be designed for ease of access and low-cost maintenance overheads and management regimes.

6.3.19. Any development adjacent to, over or in a watercourse needs to take into account consideration of the Water Framework Directive requirements and opportunities outlined in the Thames River Basin Management Plan. All developments should seek to improve the biodiversity of the site and contribute towards the riparian corridor's ability to be used by migrating species.

6.4. **Discussion**

6.4.1. No adverse effects are expected on any statutory or non-statutory sites as a result of the development. A CEMP will be produced, detailing pollution prevention measures to ensure there are no adverse effects on the tributary of the River Colne as part of the development, as well as other nearby LWSs.

6.4.2. New landscaping within the site will include a plethora of native species of known value to wildlife to maintain and improve foraging opportunities for bats, bird and invertebrate species in addition to providing continued hibernation, refugia and dispersal opportunities for small mammals, reptiles and amphibians. Boxes for birds, bats and invertebrate's species will also be installed in suitable habitats, while log piles will be established on the site boundaries to provide further opportunities for Hedgehogs, reptiles and invertebrates.

6.4.3. Where required, survey work has been recommended within this report to further clarify the presence of protected species. It is considered that, following the mitigation measure laid out in this report, the favourable conservation status of protected species will be appropriately maintained by the proposed development during both the construction and operational phases.

6.4.4. Habitats are to be retained and enhanced where possible including the boundary vegetation and blackthorn scrub delineating the onsite fields, with new habitats proposed that will provide new biodiversity value to the site. The site proposals do not currently meet the 10% Biodiversity Net Gain as set out in the Environment Act 2021. As such, the landscape proposals for the site will need to be amended or offsite compensation sought to offset any shortfalls in habitat units to achieve the mandatory net gain target. With careful consideration of these measures, the proposals will comply with planning policy requirements as they relate to nature conservation at both the local and national level.

7. Summary and Conclusions

7.1. Ecology Solutions was commissioned in August 2024 to undertake an Ecological Assessment of land at Carpenders Park, Three Rivers.

7.2. The proposals for the site include a mixed-use development with up to 256 homes and associated parking, open space, SUDs, landscaping and vehicular access.

7.3. The site was surveyed in July 2024 based on UK Habitat Classification (UKHab) methodology and appraised for protected and notable species suitability. Species specific surveys have also been completed with regard to Badger, bats and reptiles within the site as well as Otter and Water Vole in the wider study area.

7.4. A 15m buffer zone will need to be implemented for the woodland to the east of the site which traverses onto the site.

7.5. **Statutory Sites**. There are no statutory sites within or directly adjacent to the site. The closest statutory site that is designated for its ecological value is Prestwick Road Meadows LNR. Due to the distance of this LNR, no adverse impacts would occur at this site during the construction or operational phases of the development.

7.6. **Non-statutory Sites**. Several LWSs and SINCs are present in proximity to the development site. Due to their proximity to the site, there exists the potential for adverse impacts to arise from the development during the construction phase, such as via pollutants; this is especially notable for the tributary of the River Colne, which is within 30m of the site at its closest point. However, it is considered that this can be appropriately mitigated for by standard preventative measures adhered to during construction. This could be appropriately controlled via condition, such as through the production of a CEMP which would detail these pollution prevention measures.

7.7. **Habitats**. The site consists primarily of neutral grassland with patches of ruderal vegetation, scrub, and mature trees. Considering the habitats present, the site is currently of good ecological value any loss of habitat should be compensated for through the establishment of new habitats with a planting scheme based around native species of known wildlife value.

7.8. **Badger**. No active Badger setts or tracks were recorded on the site during the initial survey. Habitats within the site offer both sett building and foraging opportunities for Badgers and their presence on-site cannot be ruled out.

7.9. It is recommended that a Badger sett check is carried out prior to the commencement of any future development as a precaution to ensure that no new setts have been excavated since the surveys.

7.10. Appropriate precautionary measures will be undertaken during the construction phase of the development to ensure that risk of harm to Badgers is minimised. This can be detailed in a CEMP, secured by condition.

7.11. New woodland and scrub habitat, as well as the retention of boundary habitats, will conserve opportunities for Badgers within the site.

7.12. **Bats**. The habitats on-site offer good opportunities for foraging and commuting with several trees situated on site classified as PRF-I or PRF-M, presenting roosting

opportunities for bats. In addition, to connectivity with suitable off-site habitat, the site is considered high suitability for bat presence.

7.13. The results of static deployment surveys and activity surveys indicated a variable level of bat activity, largely attributable to Common Pipistrelle. Early and late registrations for Noctule, Common Pipistrelle and Soprano Pipistrelle suggests these species may have been roosting within or near to the site at the time of survey.

7.14. Two of the three individual trees to be removed as part of the development do not contain PRFs and, as such, they can be removed without the need for further surveys. The dead tree requires a pre-inspection survey. If works are required on any trees categorised as PRF-M or PRF-I, then these can only occur following an aerial inspection and / or dusk emergence surveys of roost features conducted by a suitably qualified ecologist.

7.15. A sensitive lighting scheme will be designed to ensure no adverse impact occur on local bat populations. Consideration will be given to the retained boundary habitats and trees including the northern site boundary where a potential bat roost was identified and southeastern retained woodland.

7.16. Further enhancements will include the provision of bat boxes, to provide new roosting opportunities within the site.

7.17. **Hedgehog**. No Hedgehogs were recorded over the course of the survey work. However, the site holds suitable habitat for Hedgehogs in the form of moderate scrub coverage, neutral grassland and woodland.

7.18. It is recommended that any ground cover clearance is undertaken outside the winter hibernation period, with any Hedgehogs found during clearance work relocated to the margins of the site. In addition, proposals should include new planting that incorporates native species to offer new opportunities for Hedgehogs post-development. Any fencing installed across the site should be installed with 'Hedgehog gateways'. Wildlife tunnels are recommended to be implemented under proposed pathways and roads in addition to log piles, providing nesting and hibernation opportunities.

7.19. **Water Vole.** No evidence of Water Vole was noted along the tributary of the River Colne within the wider study area. Footprints of American Mink is a possible indicator that a small population of Water Vole prey items are present locally. Pollution prevention measures will be implemented during the construction phase of the development to ensure no adverse effects occur on the watercourse. Details can be included within a CEMP secured by condition.

7.20. **Otter.** No evidence of Otter was noted along the tributary of the River Colne within the wider study area. Pollution prevention measures will be implemented during the construction phase of the development to ensure no adverse effects occur on the watercourse. Details will be included within a CEMP.

7.21. **Other Mammals**. Small mammal footprints were observed on the bank of the tributary of the River Colne. These footprints were attributed to American Mink. In addition, a Fox was noted to the south of the site in addition to deer droppings. No specific mitigation is required for these species, although best practice methods in regard to mammals should be adopted within the construction phase of the development.

Should an American Mink be caught or trapped during the development it is an illegal offence to release it back into the wild, owing to its status as an invasive species. The Waterlife Recovery Trust (WRT) should also be notified of any American Mink trapped or captured within the site.

7.22. **Birds**. The trees, scrub, woodland and hedgerow offer suitable nesting and foraging habitat for birds. No nests were noted in any of the trees / scrub on site. However, Green Woodpecker, Red Kite and Kestrel were all observed within the site during the initial survey visit. Areas of new shrub, hedgerow and tree planting are included within the proposed landscaping for the development providing new and continued opportunities for birds within the site.

7.23. It is recommended that breeding bird surveys be carried out to inform the Reserved Matters application. As these are not yet complete, a precautionary approach will be taken at the outline stage, with mitigation measures secured to protect Skylark and other ground-nesting birds. This may include providing off-site replacement nesting areas, such as Skylark plots. At least four such plots should provide compensation. Scrapes should also be incorporated into the design of proposed attenuation basins to provide opportunities for wading birds. Mitigation measures may be revised pending the outcome of breeding bird surveys.

7.24. The removal of suitable nesting habitat is to be cleared outside the nesting season (typically March to August inclusive) to avoid a potential offence under the legislation. Where this cannot be achieved a check survey for nesting birds should be undertaken by an ecologist prior to removal works, with any confirmed nests left in situ until the young have fledged.

7.25. Further enhancements can be provided through the provision of a variety of bird boxes on retained trees and . or incorporated into any new buildings. This would offer additional nesting opportunities for birds and increase biodiversity post-development.

7.26. **Reptiles**. Targeted surveys for common reptile species within suitable other neutral grassland and ruderal vegetation habitats were undertaken in September and October 2024. No reptiles were recorded during this survey; however, the site does offer suitable habitats within ruderal vegetation, neutral grassland and woodland margins.

7.27. Areas of grassland and scrub are to be retained where possible, further hibernacula opportunities can be provided through the implementation of log piles around the boundaries of the site.

7.28. **Amphibians**. The site provides suitable habitat for amphibians in their terrestrial phase, in the form of grassland, scrub, tall forbs and woodland margins. There is some aquatic habitat within the wider study area, in the River Colne tributary, although the slow-moving water presents sub-optimal conditions.

7.29. Several ponds are present within 500m of the application site that are not separated by significant dispersal barriers. Pond P1 is located approximately 10m west of the site. Satellite imagery appears to show that this pond supports floating / emergent aquatic vegetation. It is possible that amphibians utilising this pond may venture onto the site during their terrestrial phase. Pond P2 is present within a woodland belt approximately 250m northeast of the site. This pond was subject to a Habitat Suitability Index survey in 2019, which categorised the pond as excellent suitability for Great Crested Newts.

Two further ponds, P3 and P4 are present approximately 420m and 460m north of the site respectively.

7.30. The site partially falls within an amber zone for Great Crested Newt presence. Environmental DNA surveys of Pond P1 (Ponds P2 to P5 were dry) returned a negative result for Great Crested Newt DNA.

7.31. Owing to the ponds being dry at the time of survey, and a negative eDNA result being recorded in the only pond containing water, no evidence of Great Crested Newt was found. As such, no specific mitigation measures or licensing are considered necessary in relation to the proposed development.

7.32. The development will include retain boundary features suitable for amphibian dispersal. Moreover, SUDs features are to be provided and sown with wet grassland and marginal . aquatic species mixtures. If engineered to retain water, these could provide new opportunities for amphibians in their terrestrial phase.

7.33. Refugia piles derived from habitat management works should be created within suitable retained habitat to provide shelter and hibernation opportunities for amphibians. These should be positioned in proximity to new attenuation basin features.

7.34. **Invertebrates**. It is expected that an assemblage of common invertebrate species utilises the on-site habitats, although there is no reason to suspect the likely presence of any scarce or notable species. Indeed, several common invertebrate species were observed on-site during survey work.

7.35. Proposed landscaping includes new hedgerows, mixed native scrub, woodland, SUDs and an orchard, all of which will contribute to retaining invertebrate interest in the site.

7.36. The further provision of insect nesting aids of varying models in selected areas of proposed landscaping would provide suitable refuge opportunities for solitary bees, butterflies, saproxylic (beetles) and other invertebrate species. In addition, bee Towers can be implemented into the development to provide nesting opportunities for solitary bee species and pollinators.

7.37. In conclusion, on the basis of the current evidence there is no overriding ecological reason why the site could not be developed. The proposals will align with all relevant national and local planning policy The mitigation strategies proposed ensure no significant adverse effect on notable habitats and protected species identified. The landscape strategy proposed has been designed with ecological and green infrastructure principles, such that there would be long-term benefits for nature conservation, in line with local priorities for biodiversity. There is therefore no ecological justification to refuse planning permission.

Plans

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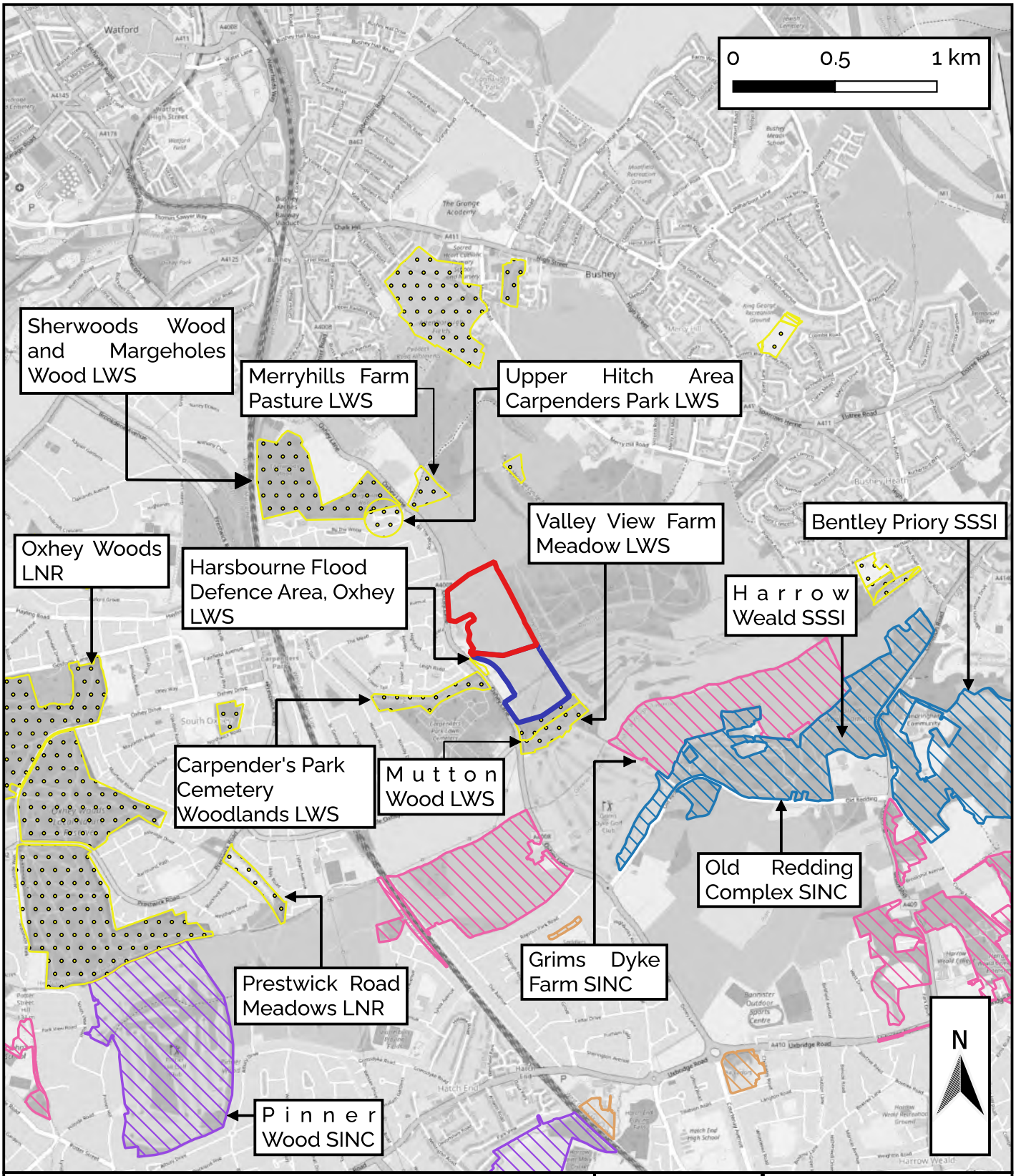
PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
- LOCAL NATURE RESERVE (LNR)
- LOCAL WILDLIFE SITE (LWS)

SITE OF IMPORTANCE FOR NATURE CONSERVATION (SINC)

- BOROUGH IMPORTANCE GRADE 1
- BOROUGH IMPORTANCE GRADE 2
- LOCAL IMPORTANCE
- METROPOLITAN IMPORTANCE
- ANCIENT WOODLAND

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS

Rev: A

Mar 2025

ECOLOGY SOLUTIONS
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PLAN ECO2

Ecological Features

KEY:

- SITE BOUNDARY

HABITATS

- OTHER NEUTRAL GRASSLAND
- BLACKTHORN SCRUB
- BRAMBLE SCRUB
- TALL FORBS
- LOWLAND MIXED DECIDUOUS WOODLAND

INDIVIDUAL TREES

- HIGH BAT POTENTIAL TREE (PRF-M)
- LOW BAT POTENTIAL TREE (PRF-I)
- TREE

N

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PLAN ECO2:
ECOLOGICAL FEATURES

Rev: B

Oct 2025

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PLAN ECO3

Bat Static Detector Locations

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- RIVER COLNE TRIBUTARY
- LOW BAT POTENTIAL TREE (PRF-I)
- HIGH BAT POTENTIAL (PRF-M)
- TREE
- STATIC LOCATION

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO3: BAT STATIC DETECTOR LOCATIONS

Rev: B

Oct 2025

PLAN ECO4a

Night-time Bat Walkover Survey Results
27.08.24

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- TRANSECT
- COMMON PIPISTRELLE REGISTRATION
- UNIDENTIFIED BAT

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO4a: NIGHT-TIME BAT WALKOVER SURVEY RESULTS 27.08.24

Rev: B

Oct 2025

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PLAN ECO4b

Night-time Bat Walkover Survey Results
07.10.24

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- TRANSECT
- COMMON PIPISTRELLE REGISTRATION
- COMMON PIPISTRELLE FLIGHT PATH
- SOPRANO PIPISTELLE REGISTRATION

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO4b: NIGHT-TIME BAT WALKOVER SURVEY RESULTS 07.10.24

Rev: B

Oct 2025

PLAN ECO4c

Night-time Bat Walkover Survey Results
26.08.25

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- TRANSECT
- COMMON PIPISTRELLE REGISTRATION
- SOPRANO PIPISTELLE REGISTRATION

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO4c: NIGHT-TIME BAT WALKOVER SURVEY RESULTS 26.08.25

Rev: B

Oct 2025

ECOLOGY SOLUTIONS
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PLAN ECO4d

Night-time Bat Walkover Survey Results
22.09.25

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- TRANSECT
- COMMON PIPISTRELLE REGISTRATION
- NOCTULE REGISTRATION

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO4d: BAT ACTIVITY TRANSECT SURVEY RESULTS 22.09.25

Rev: B

Oct 2025

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PLAN ECO5

Reptile Survey Results

KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- REPTILE SURVEY ROUTE
- 1 REPTILE REFUGIA NUMBERS

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO5: REPTILE SURVEY RESULTS 2024

Rev: B

Oct 2025

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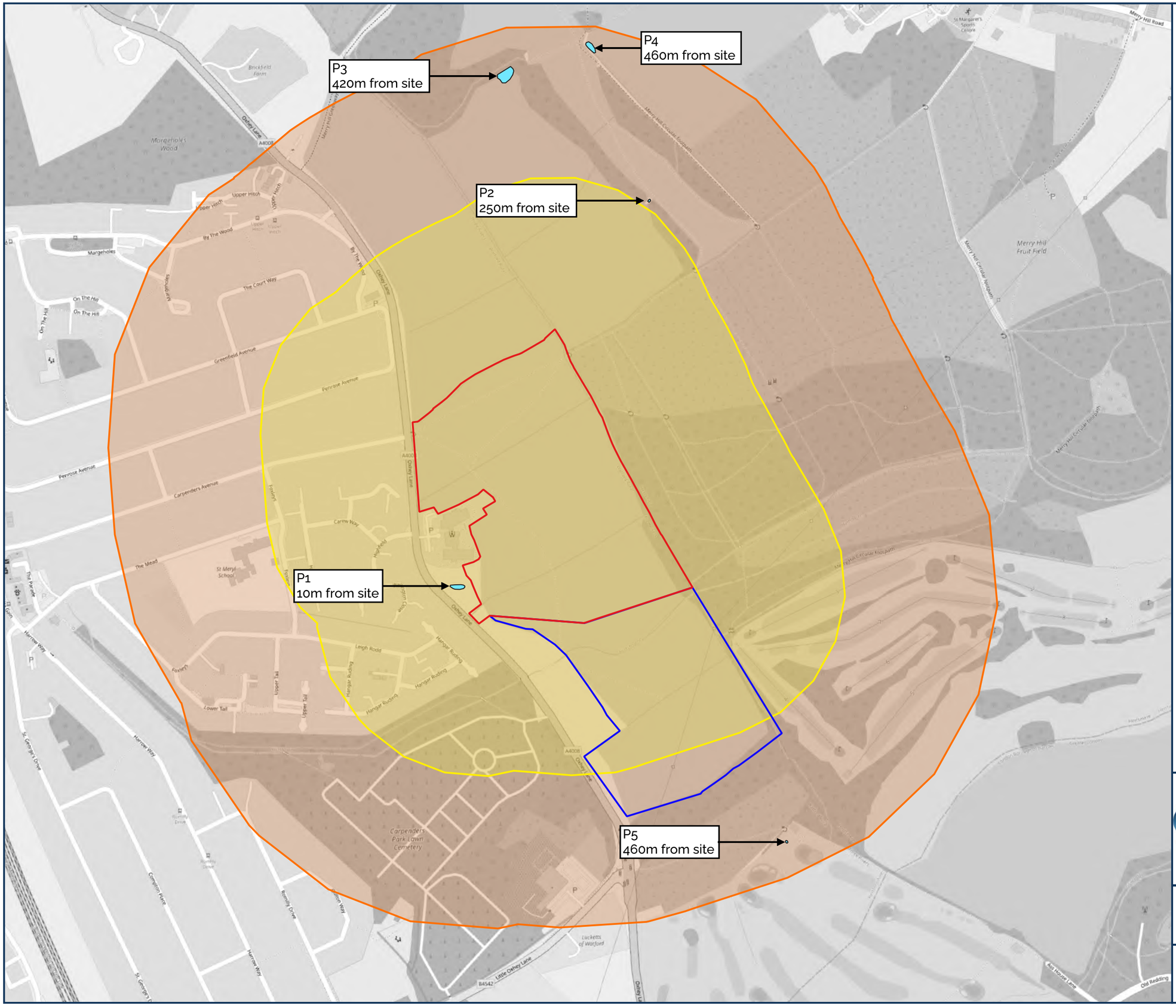
PLAN ECO6

Pond Locations



KEY:

- SITE BOUNDARY
- WIDER STUDY AREA
- POND
- 250M BUFFER
- 500M BUFFER

N

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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO6: POND LOCATIONS

Rev: B

Jun 2025

Photographs

PHOTOGRAPH 1: Other Neutral Grassland

PHOTOGRAPH 2: Blackthorn Scrub

PHOTOGRAPH 3: Bramble Scrub

PHOTOGRAPH 4: Tall Forbs

PHOTOGRAPH 5: Potential Roosting Feature - Hole with Staining

PHOTOGRAPH 6: Potential Roosting Feature - Severed Tree Limb

Appendices

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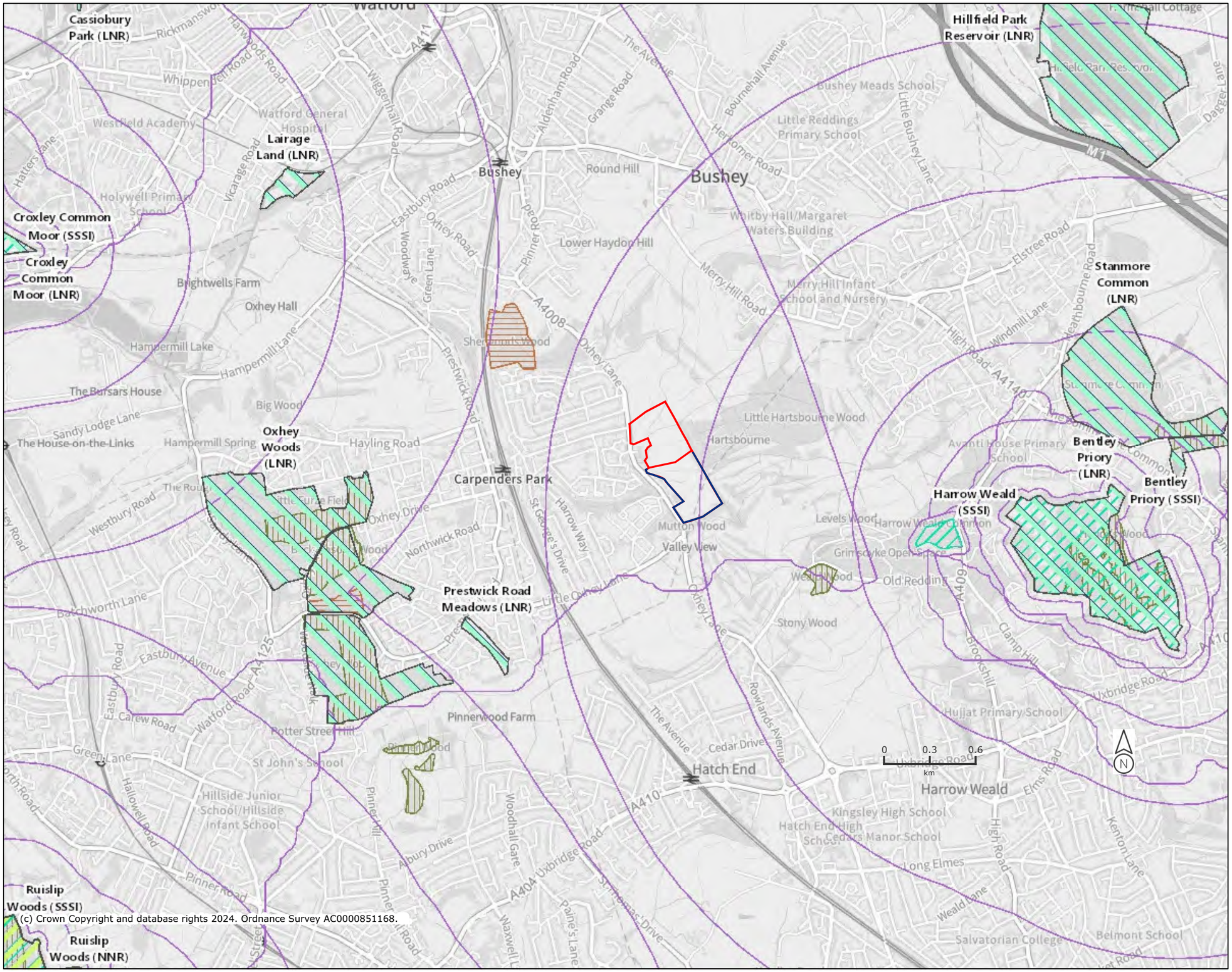
APPENDIX1

Information Downloaded from Multi-Agency Geographic Information for the Countryside (MAGIC) - Designated Sites

12195 Carpenders Park - Designated Sites



Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - for LPAs to determine likely impacts on terrestrial SSSIs and when to consult Natural England
- Special Areas of Conservation (England)
- Potential Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 506300
ymin = 190100
xmax = 518900
ymax = 196400

0 0.5 1
km

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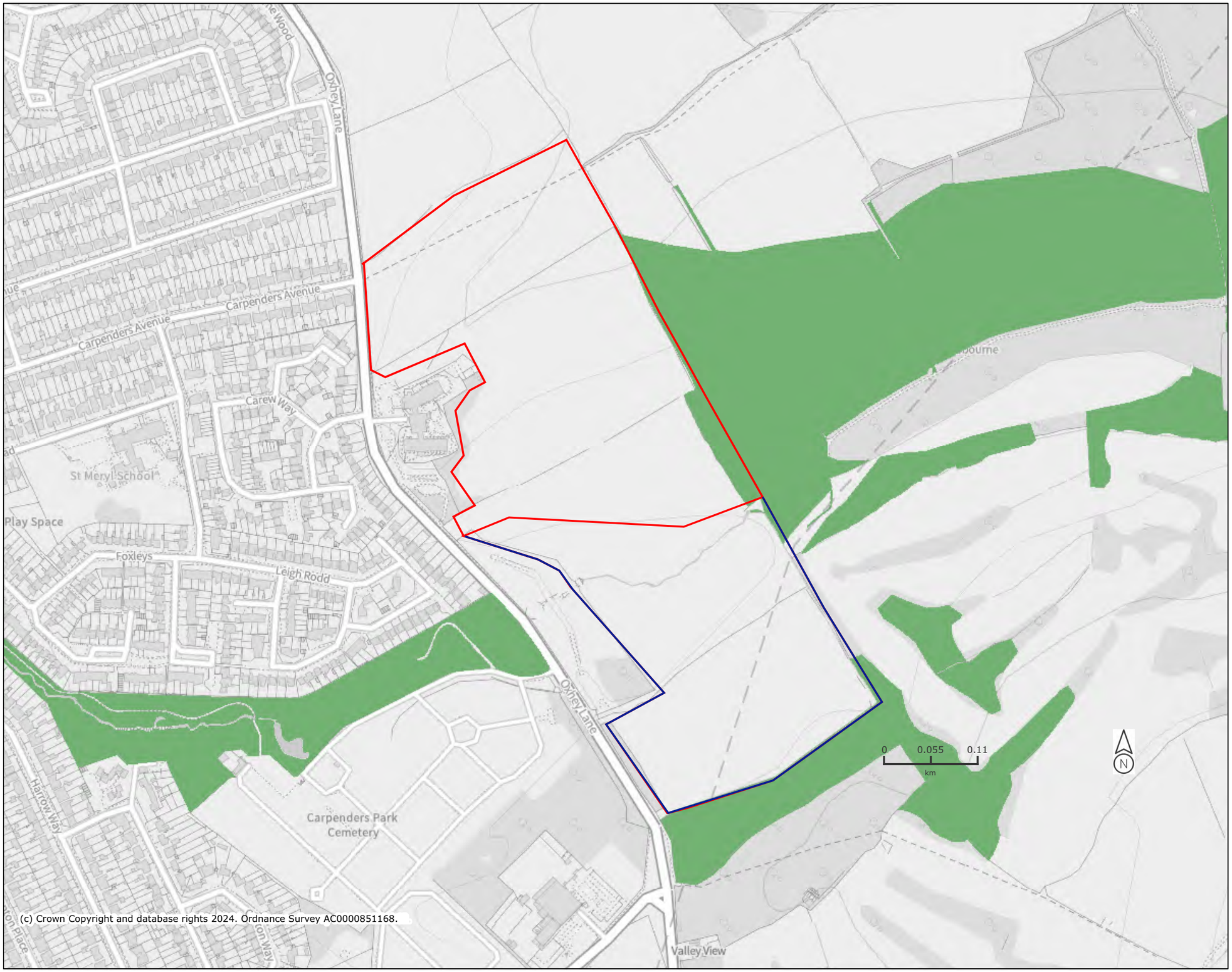
APPENDIX1

Information Downloaded from Multi-Agency Geographic Information for the Countryside (MAGIC) - Priority Habitats

MAGiC

12195 Carpenders Park - Priority Habitats



Legend

- Priority Habitat Inventory - Deciduous Woodland (England)

Projection = OSGB36
xmin = 511800
ymin = 192800
xmax = 514100
ymax = 193900

0 0.085 0.17
km

Map produced by MAGIC on 1 October, 2024.

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