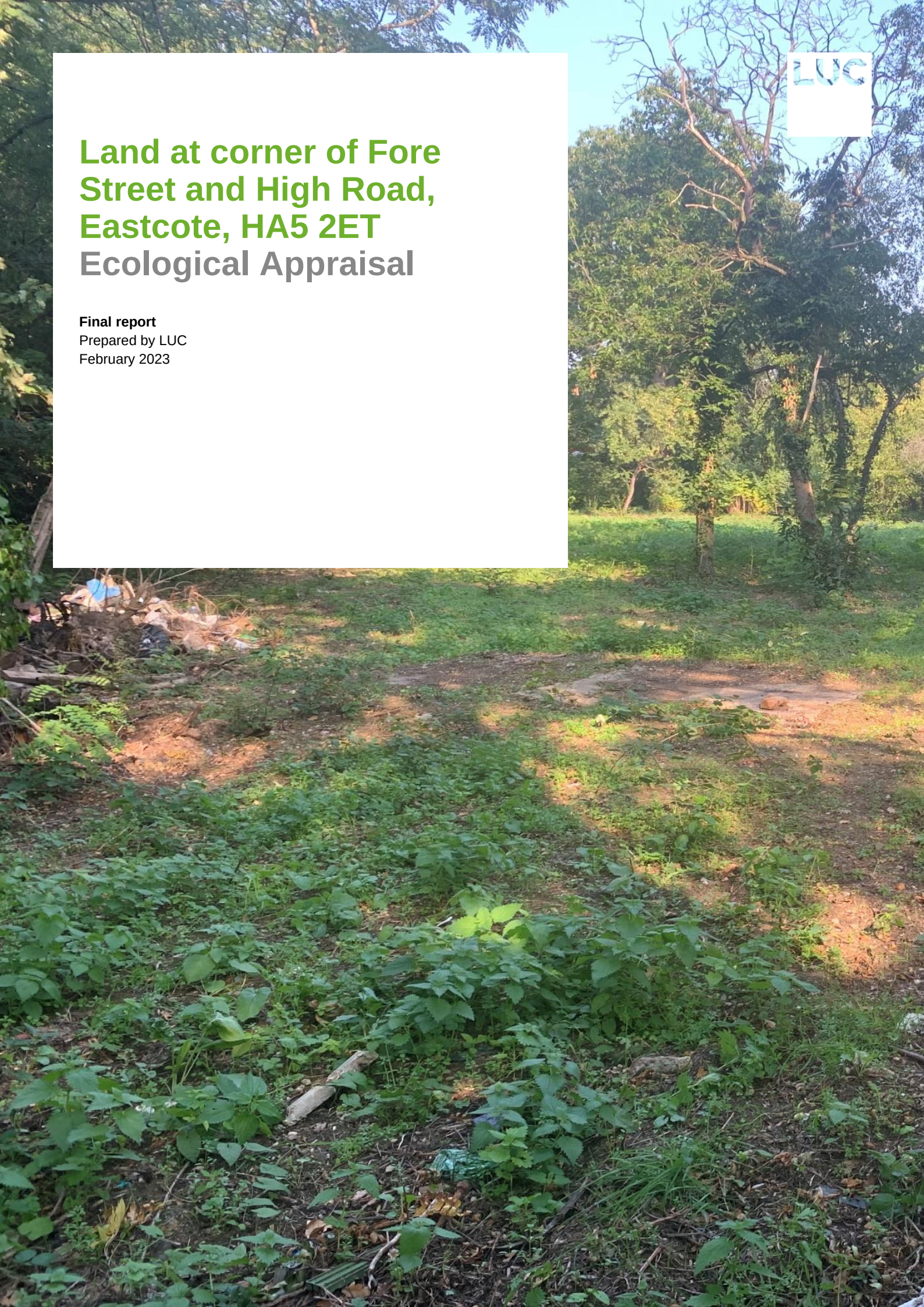
Land at corner of Fore Street and High Road, Eastcote, HA5 2ET

Ecological Appraisal

Final report
Prepared by LUC
February 2023



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Project Number
12280

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1.	Issue 1	T. Hicks	R. Turner	D. Green	09.10.2020
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5.	Issue 5 – Updated phase 1	R. Warwick-Haller	R. Turner	E. Moseley	30.11.2022
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Chapter 1
Executive Summary

1.1 LUC were appointed by Watervale Property Ltd in September 2020 and October 2020 to undertake an Ecological Appraisal (EA) and static bat activity surveys of land at corner of Fore Street and High Road, Eastcote, HA5 2ET (hereafter referred to as 'the Site').

1.2 In November 2022, LUC was re-appointed to undertake an updated Phase 1 Habitat Survey of the same land. This appraisal was required to inform a planning application for a single storey 'eco' nursery with a small car park, including guiding options for the design of the emerging scheme.

1.3 The EA was informed by the following surveys, including two Extended Phase 1 Habitat Surveys and protected species surveys for bats.

1.4 Key findings of the surveys are summarised below:

- Habitats
  - The Site predominantly comprised an extensive area of bare ground, scattered scrub and tall ruderal with scattered trees bound by defunct hedgerows and tree lines. Two ditches were also noted, one adjacent to the central section of the southern boundary and the other parallel to the eastern boundary.
- Invasive non-native species
  - Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum* was recorded within the Site in 2020 and Himalayan balsam *Impatiens glandulifera* was noted on the bank of the River Pinn, which lies adjacent to the Site. The giant hogweed *Heracleum mantegazzianum* was noted again in 2022.
- Bats
  - The habitats within and adjacent to the Site offered suitable habitat for roosting, foraging and commuting opportunities for a range of bat species. In particular, the adjacent river corridor connects the Site to numerous habitats of ecological value to bats including several non-statutory designated sites.
  - A number of trees were considered to have bat roost potential (BRP), including six with moderate BRP and six with low BRP.

  - Static monitoring surveys revealed moderate levels of bat activity within the Site.
- Badger
  - The scrub, hedgerows and bare ground/ruderal mosaic provide opportunities for badger to forage and establish setts.
  - No setts or evidence of badger were noted during the 2020 or 2022 surveys.
- Hedgehog
  - The Site and surrounding network of residential gardens supported suitable habitat for foraging, commuting, nesting and hibernating hedgehog, including hedgerows, scrub, grassland and river corridor.
- Otter
  - The River Pinn, adjacent to the Site was considered unlikely to be a key foraging resource for otter given its shallow and largely urbanised characteristics, although it may be used by transient otters. The habitats within the Site do not support suitable habitat for holts.
  - No evidence of otter was noted during the 2020 or 2022 surveys.
- Water vole
  - No suitable habitat for water vole was present within the survey area and the River Pinn adjacent was considered too shallow and sparsely vegetated to support water vole.
- Birds
  - The Site was considered to support a variety of suitable habitats, including tree lines, hedgerow, scrub, mature trees, tall ruderal and dry ditches, for a range of common and widespread bird species to forage and nest. Adjacent river corridor habitat is also likely to support commuting, foraging and nesting of specialist species such as kingfisher, grey heron and little egret.
- Reptiles
  - Habitats on Site, including scrub, tall ruderal, bare ground and hedgerow, provide opportunities for foraging, basking, sheltering and hibernating reptiles, although the Sites value to reptiles is limited by its size and isolated nature.
- Great Crested Newt
  - The Site lacked suitable water bodies for Great Crested Newt (GCN). Limited terrestrial opportunities were present, including tall ruderal and scrub habitat.
- Invertebrates
  - The Site provided suitable habitat for common and widespread invertebrate species including scrub, tall ruderal, hedgerow, tree lines, dry ditch and mature trees with dead wood.

1.5 The proposed scheme is primarily focussed in areas of low ecological value, including bare ground, scattered scrub and tall ruderal. The higher ecological value habitats, including hedgerow, mature trees, deadwood and dry ditches are being retained and/or enhanced as part of the proposals, with the exception of a small section of hedgerow in the south and ten yew trees, all of which are due to health and safety concerns.

1.6 Key avoidance and mitigation measures include:

- Retention of habitat of higher ecological value including hedgerows, dry ditches, mature trees and deadwood. Any felled trees should be retained within the Site as deadwood.
- New native scrub and tree planting along the northern boundary which borders the river, and western boundary, where the highest level of bat activity was recorded, which will improve commuting and foraging opportunities for a variety of species, including bats, birds, badger and otter.
- Infill planting of native species along the southern hedgerows which are currently defunct to increase connectivity.
- Planting of native or non-native species of known value to wildlife.
- Where tree loss cannot be avoided, replacement planting of trees elsewhere in the Site will be implemented.
- Removal of invasive species, including Japanese knotweed, giant hogweed and Himalayan balsam.
- Implementation of best practice construction measures to protect retained habitat within and adjacent to the Site.
- Trees with BRP will be surveyed and/or soft felled under the supervision of a licenced bat ecologist during autumn or spring and alternative bat roosts will be provided prior to works commencing. Bat roosts will be provided through bat boxes and bat bricks on the proposed building and retained mature trees.

- A sensitive light scheme will be implemented to minimise light spill.
- Creation of hedgehog holes in any fencing around the perimeter of the Site to maintain connectivity.
- Clearance of suitable bird nesting habitat undertaken between September – February. Should this not be achievable, an inspection by a suitably qualified ecologist no more than 24 hours prior to demolition will be required.
- Installation of bird boxes on proposed buildings or onto retained mature trees.
- Implementation of enhancement measures along the River Pinn, such as kingfisher tunnels and floating reed rafts for foraging and sheltering birds, invertebrates and fish.

1.7 Full details of these mitigation measures are presented in **Chapter 4**.

1.8 To ensure the successful delivery of appropriate construction and operation mitigation measures, a Construction Environmental Management Plan (CEMP) would be required and secured via a planning condition.

1.9 The proposed scheme presents an opportunity to significantly increase the ecological value of the Site for wildlife and as evidenced by the Biodiversity Net Gain (BNG) report[1], the proposals achieve an overall 13.96% net gain, meeting the requirements of the NPPF.

1.10 To ensure the delivery of biodiversity net gain the preparation and implementation of a Landscape and Ecological Management Plan (LEMP) would be required, which would be secured via a planning condition.

[1] LUC (2023). Eastcote Biodiversity Net Gain Assessment. Final Report. February 2023

Chapter 2
Introduction

Scope

2.1 In September 2020, LUC was appointed by Watervale Property Ltd to undertake an Ecological Appraisal (EA) of land at corner of Fore Street and High Road, Eastcote, HA5 2ET (hereafter referred to as 'the Site'). LUC were also commissioned in October 2020 by Watervale Property Ltd to undertake static activity surveys as recommended in the 2020 EA, to inform a previous planning application.

2.2 In November 2022, LUC was appointed again to undertake an updated Phase 1 Habitat Survey of the same land. This appraisal was required to inform a planning application, including guiding options for the design of the emerging scheme. The proposals are for a single storey 'eco' nursery with a small car park.

2.3 This EA comprises a desk study, Extended Phase 1 Habitat Survey, which included a classification of the Site's constituent habitats, and a consideration of protected species including bats, badger *Meles meles*, hedgehog *Erinaceus europaeus*, otter *Lutra lutra*, water vole *Arvicola amphibius* birds, reptiles, great crested newt *Triturus cristatus* and invertebrates.

2.4 Ecological features are discussed within their legal and policy context to inform the need for further survey and/or protective mitigation measures.

2.5 This report has been prepared for the exclusivity of Watervale Property Ltd. No part of this report should be considered as legal advice.

Site Description

2.6 The Site boundary is shown in the Phase 1 Habitat Plan in **Appendix A**. The Site is located near to Eastcote Village, within the London Borough of Hillingdon, centred at grid reference TQ 1031 8843. Urban development, comprised mostly of residential housing, surrounds the Site to east, south and west. A small river corridor borders the Site to the north.

2.7 The Site predominantly comprises an extensive area of bare ground, scattered scrub and tall ruderal with scattered trees bound by defunct hedgerows and tree lines.

Policy and Legal Considerations

2.8 This EA has been prepared in cognisance of relevant legislation and policy. Further detail is provided in **Appendix B.** The primary documents of relevance are outlined below:

- The Wildlife and Countryside Act of 1981 (as amended).
- The Countryside and Rights of Way Act (CRoW Act), 2000 (as amended).
- The Natural Environment and Rural Communities Act 2006 (NERC Act).
- The Conservation of Habitats and Species Regulations 2017.
- The Protections of Badgers Act 1992.
- The Environment Act 2021.
- The National Planning Policy Framework (June 2019).
- Hillingdon Local Plan: Part 1 – Strategic Policies (Adopted November 2012).
- Hillingdon Local Plan Part 2: Development Management Policies (Adopted January 2020).

Chapter 3
Methodology

The methods adopted in the baseline survey are outlined below. They are in accordance with good practice guidance documents produced by the Chartered Institute of Ecological and Environmental Management[2] and the British Standards Institute[3][4].

Desk Study

3.1 To provide additional background and to highlight likely features or species groups of interest, a study of available biological records was undertaken to identify sites designated for their nature conservation value, and existing records of protected or notable species of relevance to the Site. A search of the following resources was undertaken, within a 1km radius from the boundary of the Site.

- Greenspace Information for Greater London CIC (GIGL)
- Multi-Agency Geographical Information for the Countryside[5] (MAGIC).
- Ordnance Survey (OS) mapping.
- Aerial photography.

3.2 The absence of a species from biological records cannot be taken to represent actual absence. Species distribution patterns should be interpreted with caution as they may reflect survey/reporting effort rather than actual distribution.

Extended Phase 1 Habitat Survey

3.3 A Phase 1 Habitat Survey was undertaken within the Site boundary in line with standard methods set out by the

[2] CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal. 2nd Edition*. Chartered Institute for Ecology and Environmental Management, Winchester.
[3]BSI (2021). BS 8683:2021, Process for designing and implementing Biodiversity Net Gain – Specification. British Standards Institute, London.
[4] BSI (2013). *BS 42020:2013: Biodiversity – code of practice for planning and development*. British Standards Institution, Bristol.
[5] Defra. *Magic Map*. [Online]. Defra, Hampshire. Accessed 28 September 2020. Available at: https://magic.defra.gov.uk/

Joint Nature Conservation Committee[6]. Phase 1 Habitat Survey provides a rapid means of classifying broad habitat types in any given terrestrial site.

3.4 The survey was 'extended' to consider the suitability of the Site to support notable or protected flora or fauna. Species considered included those identified during the desk study, or those considered appropriate by the surveyor during the survey. Detailed surveys were not completed for these species; however, based on an understanding of species ecology, consideration was given to the Site's potential to provide sheltering or foraging habitat and/or connectivity to allow dispersal between populations. Further information is provided in the 'Results' section below.

3.5 The survey also noted any presence of invasive species.

3.6 The Extended Phase 1 Habitat survey was undertaken on 16th September 2020 by Tom Hicks BSc, a qualifying member of CIEEM. Weather conditions during the survey were mild, dry and sunny.

3.7 An updated survey was undertaken on 10th November 2022 by Rosalind Warwick-Haller BSc (Hons) MSc, a qualifying member of CIEEM. Weather conditions during the survey were mild and sunny.

Bat Surveys

3.8 The Extended Phase 1 Habitat survey the Site and the immediate surrounds was assessed for its suitability to support bats. Examples of habitats which have potential opportunities for bats to forage, commute and roost include:

- Semi-natural broadleaved woodland.
- Standing water and swamp.
- Broadleaved scattered trees.
- Scrub.
- Species-poor hedgerow.
- Improved grassland.

Ground Level Bat Roost Assessment

3.9 In addition to the Extended Phase 1 Habitat survey, a ground level bat roost assessment was undertaken of trees within and adjacent to the Site. The survey was undertaken in accordance with Bat Conservation Trust (BCT) Guidelines[7] on 16th September 2020 by Tom Hicks and updated on the 10th November 2022 by Rosalind Warwick-Haller.

3.10 The assessment comprised a detailed search from ground level of external features with potential to support access points and roosting places suitable for bats, and to locate evidence of bat activity, such as droppings, staining, feeding remains and presence of bats (live/dead specimens). All features were examined using a high-powered torch and binoculars.

3.11 Where features were recorded, these were classified in line with categories in accordance with BCT guidelines. These categories are summarised in **Table 2.1**, below.

Table 3.1: Bat Roost Potential Categories

Bat Roost Potential Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Survey Requirements
Negligible	Negligible habitat features likely to support roosting, commuting or foraging bats.		No surveys required
Low	Structures in this category offer one or more potential roost sites for individual, opportunistically roosting bats. These sites do not offer the space, shelter or appropriate conditions to support large numbers of bats or maternity roosts. Trees in this category include those of sufficient size and age to support suitable roosting features, but none are visible from the ground.	Habitat on and around the site could be used by a small number of commuting bats. This category includes densely urbanised landscapes or linear vegetation features poorly connected to the wider landscape (e.g. gaps in hedges in an agricultural context).	One dusk or dawn survey required for structures. No surveys required for trees.

[6] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 habitat survey - a technique for environmental audit*. JNCC, Peterborough.

[7] Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition)*. The Bat Conservation Trust, London.

Bat Roost Potential Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Survey Requirements
Moderate	Structures and trees in this category offer one or more roost site that, due to their space, shelter or conditions, offer roosting potential for a range of species. Roosts may be more permanent, rather than opportunistic. Small maternity roosts of common species may form in one of these roost sites.	Habitat on and around the site is well-connected to wider continuous habitat and offers commuting and foraging habitat to a larger number of bats across several species. (e.g. tree lines or linked gardens in the urban context, or continuous hedge/ tree lines and watercourses in an agricultural setting)	One dusk and one dawn survey required for both structures and trees. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.
High	Structures and trees in this category have one or more potential roost sites that are suitable for large number of bats. Roosts are likely to be permanent and include maternity roosts. Potential roost sites exist for a wide range of species or species of particular conservation interest.	Habitat on and around the site is diverse, continuous and linked to extensive suitable habitat. This category includes well-vegetated rivers, streams, hedgerows and woodland edge. Habitat is sufficiently diverse to offer opportunities to a wide range of species or those of particular conservation interest.	Three surveys, including both dusk and dawn surveys. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.

Static Monitoring

3.12 To provide additional data on bat activity across the site a Static Monitoring Point (SMP) survey was carried out in October 2020, April 2021 and June 2021.

3.13 SMP locations were chosen to incorporate strategic features in the landscape likely to be of greatest importance for commuting and foraging across the site, including the River Pinn adjacent to the Site. Anabat Express detectors were left out for five consecutive nights to collect sufficient data for analysis.

3.14 SMP locations are shown in **Appendix C** and are described below in **Table 2.2.** Detailed dates and weather conditions are provided in **Table D.1, Appendix D.**

Table 3.2: Static Monitoring Point Locations

Reference	Location Description
SMP A	**River Pinn**: attached to a dead tree within a treeline which runs adjacent to the River Pinn corridor. Microphone was positioned facing south-east.
SMP B	**High Road**: attached to a dead tree near a hedgerow with trees adjacent to High Road. Microphone was positioned facing north-west.
SMP C	**Fore Street:** attached to a fencing post adjacent to Fore Street. Microphone was positioned facing north-east.

Bat Call Analysis

3.15 Bat calls recorded using Anabat Express detectors were analysed using Analook software.

Limitations and Constraints

General

3.16 It is important to note that ecological surveys provide information regarding the ecological baseline of a site for only a 'snapshot' of time. Therefore, if significant time lapses between the surveys and the further development or implementation of proposals updated ecological surveys may be required to identify any change in the baseline, such as natural succession of habitats, or local extinction or colonisation of species. Ecological surveys can generally be considered as up to date for 1 to 3 years dependent on the nature of the Site, ecological baseline and proposals and likely impact. Therefore, if a year lapses between the progression of development proposals, it is recommended that ecological advice is sought regarding the applicability of the survey findings.

3.17 The extended Phase 1 survey was completed outside of the optimal flowering season between March- September; therefore, some species would not have been recorded. However, this is not considered a constraint due to the lack of change in habitat since the previous survey in 2020.

Static Monitoring

3.18 Prior to the October static monitoring period some trees were felled due to health and safety concerns in relation to the adjacent highway. These trees were predominately in the area adjacent to Fore Street which may have affected the way in which the bats utilise the site, particularly at SMP C.

Analysis Limitations

3.19 The data collected on the Anabats represents single bat call registrations. Registrations cannot be used to estimate the number of bat passes and it cannot always be ascertained if multiple passes in an evening represent multiple bats, or a single bat recorded repeatedly. Given the limitations to the data, caution is taken when reviewing the data and high numbers of bat passes are not automatically assumed to demonstrate use of a site by a large bat population.

3.20 The analysis of bat detector calls can be prone to subjectivity, but has been undertaken by experienced surveyors, following appropriate guidance and trained in bat call analysis. Bat species identification was interpreted using known call parameters and existing literature[8] on the ecology of UK bat species, including distribution, range, habitat associations and behavioural characteristics, in addition to professional judgement. Every attempt was made to identify bats to species level. However, it is not always possible to identify some *Myotis, Pipistrellus and Nyctalus* bats to species level. For example, differentiating between the echolocation calls of the common pipistrelle (which echolocate at a peak frequency of approximately 45kHz) and the soprano pipistrelle (which peaks at approximately 55kHz) is not always possible where recordings peak at the intermediate frequency of 50kHz. This is a widely accepted limitation and in such cases these passes are therefore classified at the Genus level only (i.e. *Pipistrellus* sp., *Myotis* sp., or *Nyctalus* sp.).

3.21 Particular care was taken when identifying members of the *Myotis* genus due to significant overlaps in their call parameters. These identifications should be considered as *Myotis* calls with the characteristics of the named species, based on comparison with a known call sequence from a bat flying in a similar situation, and should therefore be treated as highly likely, rather than definitive identifications.

[8] Russ J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter.

Chapter 4
Results

The results of the Ecological Appraisal are detailed below and form the ecological baseline of the development site as of 10th November 2022.

Desk Study

Statutory and Non-Statutory Designated Sites

4.1 The findings of the desk study are presented in the **Tables 3.1** and **3.2** below. These tables list designated sites and relevant protected and notable species which have been recorded within a 1km search radius from the centre of the Site (TQ 10305 88432).

Table 4.1: Desk Study Findings – Designated Sites

Site Name	Designation	Qualifying Interest	Approximate Distance and Orientation from the Site
Statutory Designated Sites			
Ruislip Wood	Local Nature Reserve (LNR)	This site is a predominantly marshy area on alluvial soils where the Ruislip Common Brook enters the Ruislip Reservoir. The marshland habitat, which is very scarce in the London area, includes reedbeds, willow carr and several artificial pools. There is a diverse flora and insect and molluscan fauna. The drier part of the reserve supports heathland vegetation dominated by bracken with encroaching oak, elm, birch and hawthorn scrub. There is also a small area of chalk that has become colonised by a characteristic chalk grassland flora.	150m south
Ruislip Woods	National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI)	An extensive example of ancient semi-natural woodland, including some of the largest unbroken blocks that remain in Greater London. A diverse range of oak and hornbeam woodland types occur, with large areas managed on a traditional coppice-with-standards system. The site is also unusual in Greater London for the juxtaposition of extensive woodland with other semi-natural habitats, mostly notably acidic grass-heath mosaic and areas of wetland. These habitats and especially the woodland contain a number of plant and insect species that are rare or scarce in a national or local context.	340m northwest
Non-statutory designated sites			
River Pinn near Eastcote	Site of Importance for Nature Conservation (SINC)	A Local Grade SINC which incorporates a stretch of the River Pinn and a series of open spaces, forming a green corridor.	Adjacent north

Site Name	Designation	Qualifying Interest	Approximate Distance and Orientation from the Site
High Grove	SINC	A Borough Grade II SINC comprised of an area of landscaped gardens that have returned to nature. Notable habitats include ancient woodland, pond and hedgerow.	170m south
King's College Playing Fields	SINC	A Borough Grade II SINC which includes a stretch of the River Pinn which is flanked on both banks by dense belts of native scrub and trees, interspersed with rough grassland, hedgerow and wetland features.	180m west
Ruislip Woods and Poor's Field	SINC	A Metropolitan Grade SINC designated for its extensive ancient woodland with additional areas of acid grassland, heathland and wetland. Selected for its invertebrate, reptile, bat and bird interest.	340m northwest
Fore Street Meadows	SINC	A Borough Grade II SINC comprised of two grazing fields situated on the east margin of Park Wood (part of Ruislip Woods National Nature Reserve).	560m north
Haydon Hall Meadows	SINC	A Borough Grade I SINC comprised of a series of lightly cattle-grazed meadows, an orchard and river corridor in the grounds of Haydon Hall. A wide variety of insects use these good quality grasslands including diverse solitary bees, hoverflies and dung-beetles and butterflies such as common blue and meadow brown.	630m northeast

Table 4.2: Desk Study Findings – Relevant Protected and Notable Species Records

Species Name	Status	Approximate Distance and Orientation of Nearest Record from the Site
Higher Plants		
Stinking Hellebore *Helleborus foetidus*	Nationally Scarce	48m east
Butcher's-broom *Ruscus aculeatus*	HSD5	187m south
Daffodil *Narcissus pseudonarcissus*	Local Spp of Cons Conc	233m southeast
Bluebell *Hyacinthoides non-scripta*	W&CA Sch8; Local Spp of Cons Conc	661m northwest
Large-leaved Lime *Tilia platyphyllos*	Nationally Scarce	772m southeast
Amphibians		
Common frog *Rana temporaria*	HSD5; Local Spp of Cons Conc	146m east
Great crested newt *Triturus cristatus*	Hab&Spp Dir Anx 2; Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc	187m south
Palmate newt *Lissotriton helveticus*	Local Spp of Cons Conc	243m south
Birds		
House sparrow *Passer domesticus*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc; Bird-Red	126m north
Grey heron *Ardea cinerea*	Local Spp of Cons Conc	146m east
Grey wagtail *Motacilla cinerea*	Local Spp of Cons Conc; Bird-Red	196m northeast

Species Name	Status	Approximate Distance and Orientation of Nearest Record from the Site
Starling *Sturnus vulgaris*	BAP Priority London; Local Spp of Cons Conc; Bird-Red	492m northeast
Song thrush *Turdus philomelos*	BAP Priority London; Local Spp of Cons Conc; Bird-Red	500m northeast
Swallow *Hirundo rustica*	Local Spp of Cons Conc	542m northeast
Woodcock *Scolopax rusticola*	Local Spp of Cons Conc; Bird-Red	542m northeast
Lesser spotted woodpecker *Dendrocopos minor*	BAP Priority London; Local Spp of Cons Conc; Bird-Red	543m northeast
Kingfisher *Alcedo atthis*	Birds Dir Anx 1; W&CA Sch1 Part 1; Local Spp of Cons Conc	767m east
Swift *Apus apus*	Local Spp of Cons Conc	767m east
Spotted flycatcher *Muscicapa striata*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc; Bird-Red	767m east
Goldcrest *Regulus regulus*	Local Spp of Cons Conc	874m northeast
Little egret *Egretta garzetta*	Birds Dir Anx 1; Local Spp of Cons Conc	879m southwest
Mistle thrush *Turdus viscivorus*	Local Spp of Cons Conc; Bird-Red	968m northeast
Stock Dove *Columba oenas*	Local Spp of Cons Conc; Bird-Red	968m northeast
Mammals (including bats)		
Hedgehog *Erinaceus europaeus*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc	146m east
Brown long-eared *Plecotus auritus*	Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; NERC Act Section 41; UKBAP; BAP Priority London Local; Spp of Cons Conc	323m north
Common pipistrelle *Pipistrellus pipistrellus*	Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; BAP Priority London	695m northwest
Soprano pipistrelle *Pipistrellus pygmaeus*	Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; NERC Act Section 4;1 UKBAP; BAP Priority London; Local Spp of Cons Conc	759m west
Daubenton's bat *Myotis daubentonii*	Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; BAP Priority London; Local Spp of Cons Conc	809m northeast
Nathusius's pipistrelle *Pipistrellus nathusii*	Hab&Spp Dir Anx 4; Cons Regs 2010 Sch2; W&CA Sch5 Sec 9.4b; W&CA Sch5 Sec 9.4c; BAP Priority London; Local Spp of Cons Conc	809m northeast
Badger *Meles meles*	Protection of Badgers Act 1992; Local Spp of Cons Conc	Confidential
Invertebrates		
Stag beetle *Lucanus cervus*	Hab&Spp Dir Anx 2; NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc; Nationally Notable B	167m southeast
Grey dagger *Acronicta psi*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc	547m northeast
Purple emperor *Apatura iris*	Local Spp of Cons Conc; RedList_GB-Lr(NT)	689m northwest

Species Name	Status	Approximate Distance and Orientation of Nearest Record from the Site
White-letter hairstreak *Satyrium w-album*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc; RedList_GB-EN	893m northeast
Centre-barred sallow *Atethmia centrago*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc	947m south
Rosy rustic *Hydraecia micacea*	NERC Act Section 41; UKBAP; BAP Priority London; Local Spp of Cons Conc	947m south

Ancient Woodland

4.2 There were no records of ancient woodland identified as part of the desk study on-site or immediately adjacent to any boundary. The nearest ancient woodland is approximately 530m northwest of the Site.

Extended Phase 1 Habitat Survey

Habitat descriptions are set out below. Whilst considering this information reference should be made to the Phase 1 Habitat Plan presented in **Appendix A**.

Since the 2020 survey there was very little change to the habitat composition within the Site. The changes comprised tree removals, increased scrub in the east and along the southern boundary and small areas of bare ground in the west of the Site.

Mosaic of Bare Ground (J.4), Scattered Scrub (A2.1) and Tall Ruderal (C3.1)

4.3 The majority of the Site was a mosaic of bare ground, scattered scrub and tall ruderal. It is evident that the land has been recently disturbed resulting in an early successional community.

4.4 Species included abundant creeping thistle *Cirsium arvense*, bramble *Rubus fruticosus* and common nettle *Urtica dioica*, occasional cleavers *Galium aparine* and ash *Fraxinus excelsior* (young), frequent giant hogweed *Heracleum mantegazzianum* and fat-hen *Chenopodium album*, rare false acacia *Robinia pseudoacacia* (young), wild cherry *Prunus avium* (young), sycamore *Acer pseudoplatanus* (young), oak *Quercus sp.* (young), red dead-nettle *Lamium purpureum* and pignut *Conopodium majus*.

4.5 Since the 2020 survey the areas of bare ground have extended, with a section of recently cleared bare ground in the west of the Site.

Hedgerow with Trees (J2.3.2)

4.6 The southern boundary is formed of two defunct species-poor hedgerows. The eastern hedgerow was comprised predominately of ornamental species. Hedgerow species included abundant cherry laurel *Prunus laurocerasus* with occasional privet *Ligustrum sp.* and barberry *Berberis vulgaris.* Tree species included abundant oak and rarely ash.

4.7 The western hedgerow was predominately comprised of native species. Hedgerow species included frequent blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and ivy *Hedera helix* with occasional holly *Ilex aquifolium* and wild cherry. Fern *Pteridophyta sp*. and bramble were occasionally noted within the hedgerow base. Tree species included frequent ash and oak.

Dense scrub (A2.1) with Broadleaved Scattered Trees (A3.1).

4.8 Between the eastern ditch and eastern boundary there was a parcel of dense scrub and broadleaved scattered trees. The scrub comprised frequent blackthorn with occasional holly and hazel *Corylus avellane*. Trees species included occasional oak, elm *Ulmus sp.* and wild cherry. Abundant ivy was also noted under the trees.

4.9 Since 2020 the area of dense scrub and broadleaved scattered trees has increased and had encroached onto the central area of tall ruderal and bare ground. The scrub now comprises dominant bramble, frequent blackthorn, holly and occasional hazel.

Dense scrub (A2.1)

4.10 Along the south and southwest boundary of the Site was a large area of dense scrub. The scrub comprised frequent bramble, and occasional blackthorn, holly, cherry laurel, and privet.

Broadleaved Scattered Trees (A3.1)

4.11 Towards the west of the Site there was group of young broadleaved scattered trees over bare ground. Species

included occasional birch *Betula sp.*, hawthorn, sweet chestnut *Castanea sativa* and ash.

Tree Line

4.12 The northern boundary was formed of a tree line with scattered scrub which runs parallel to the River Pinn. Tree species comprised frequent ash and false acacia with occasional elm and wild cherry. Scrub comprised frequent blackthorn with occasional holly and hazel. Ivy was abundant underneath the tree line.

4.13 The western boundary is formed of a wooden fence and a tree line dominated by ash.

Dry Ditch (J2.6)

4.14 The Site had two dry ditches. One ditch was adjacent to the central section of the southern boundary and the other was parallel to eastern boundary. The eastern ditch was full of leaf litter and dominated by ivy.

4.15 The southern ditch was comprised of frequent bramble, occasional broad-leaved dock *Berberis vulgaris* and rose *Rosa sp.* with rare false-brome *Brachypodium sylvaticum*, alder *Alnus glutinosa* (young), hazel (young) and pigweed *Amaranthus retroflexus*.

Invasive Species

4.16 In 2020 Japanese knotweed *Fallopia japonica* was recorded near the western boundary. Himalayan balsam *Impatiens glandulifera* was noted off-site, on the bank of the River Pinn, which lies adjacent to the Site. Giant hogweed *Heracleum mantegazzianum* was recorded in the centre of the site. During the site visit in 2022 the areas of Japanese knotweed and Himalayan balsam were not easily visible due to denser scrub and the spread of tall ruderal. The area of giant hogweed was noted still in the centre of the Site, though was currently died back.

Adjacent to the Site

4.17 The Site was bound by urban development on the eastern, southern and western boundaries. The northern boundary comprises the River Pinn.

4.18 Adjacent the Site, the River Pinn forms part of the River Pinn near Eastcote SINC, which is comprised of a river corridor with tree lines on both banks. A public footpath runs alongside the river on the northern bank. The river was shallow, slow flowing and was approximately 4m wide. The substrate was stone and clay. Both banks were steep and mostly covered with ivy or bramble. Tree species adjacent to the river included ash, alder, oak, sycamore and elm. The river is culverted under Fore street, where rat *Rattus sp.* and fox *Vulpes vulpes* prints were noted.

The Wider Area

4.19 The wider area was largely residential housing, which supported habitats with low ecological value. However, there were areas of increased ecological value noted, including the River Pinn adjacent north, Ruislip Woods LNR 150m south and Ruislip Wood NNR/SSSI 340m northwest. These sites were considered functionally connected to the Site through a network of blue/green corridors, including the River Pinn.

4.20 Urban development separates Ruislip Woods LNR from the Site and therefore this designation is only considered functionally connected for bird and bat species, which may use the tree corridors present. Other species, including badger and otter, are unlikely commute along these corridors.

Protected and Notable Species

The Phase 1 Habitat Survey was 'extended' to consider habitat suitability for protected and notable species.

Bats

4.21 Biological records identified the following species within 1km of the site:

- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Nathusius's pipistrelle *Pipistrellus nathusii;*
- Brown long-eared *Plecotus auratus;* and
- Daubenton's bat *Myotis daubentonii*

Bats – Habitat Appraisal

4.22 The habitats within and adjacent to the Site, including river corridor, tree lines, hedgerow, scrub, and scattered trees offer suitable habitat for roosting, foraging and commuting for a range of bats species.

4.23 The majority of the wider area supports residential housing, which is of limited value for commuting and foraging bats.

4.24 The adjacent river corridor connects the Site to numerous habitats of ecological value to bats including Ruislip Wood LNR/SSSI, King's College Playing Fields SINC and Haydon Hall Meadows SINC. Ruislip Wood, approximately 340m northwest of the Site, is one of London's most important sites for bats, with at least nine species recorded. The Site is well connected to Ruislip Wood by the River Pinn corridor and a series of residential gardens, greenspace, hedgerows, and mature trees.

Bats - Ground Level Bat Roost Assessment

4.25 Trees present on Site were assessed for their bat roosting potential (BRP). Six trees were considered to have moderate bat roosting potential and six were considered to have low bat roosting potential. All other trees were determined to have negligible bat roosting potential. A summary of trees with low or moderate BRP is provided in **Table 3.3.**

4.26 Full details of the survey along with a plan showing individual tree location are provided within **Appendix E.**

Table 4.3: Summary of ground level bat roost assessment

New Tree ID[9]	Previous Tree ID[10]	Species	Description of Features	Bat Roost Potential
T6	T12	Oak	Limb tear out wound which seems to be well healed on north aspect. West aspect has hole at approximately 15m high.	Moderate
T7	T13	Oak	No features seen. View obscured by ivy.	Low
T8	T15	Oak	Tall tree with loose bark.	Low
T12	T19	Oak	No features seen but tree sufficiently mature to have potential roosting features. Ivy partially obscuring view.	Low
T13	T20	Oak	Knot hole that extends down on west aspect. Also, a knot hole with bat roosting potential on east aspect. Three bat boxes: west aspect 4m and 10m, northwest aspect 11m.	Moderate
T15	T23	Ash	Two knot holes on the southeast aspect, 11m on a limb and 15m on main stem. One woodpecker hole on the southeast aspect, 15m high.	Moderate
T16	T22	Oak	Large oak with several woodpecker holes. Two woodpecker holes on southeast aspect at 27m and 20m high. Also, several dead branches.	Moderate
T20	T26	Alder	Knot hole which appears to extend upwards into a cavity on north aspect.	Moderate
T22	T28	Oak	Large tree with several dead branches. Woodpecker hole on north aspect 12m high (visible from public path).	Moderate
T27	T33	False acacia	Loose bark on most aspects but the tree is exposed and unsheltered.	Low
T30	T37	Ash	One knot hole on the northeast aspect, 8m high.	Low
T31	T39	Ash	Knot hole which extends partially downwards and does not extend far into the tree.	Low

Table 3.4; Trees removed since the 2020 survey with bat roost potential

Previous Tree ID	Species	Description of Features	Bat Roost Potential
T1	Oak	Tree has one limb with lots of dead wood which has lots of small splits, cracks and loose bark. Features are suitable for a small number of crevice dwelling bats.	Moderate
T8	Oak	Ram's horn on southwest aspect where limb has died which is suitable for crevice dwelling bats. Lots of loose bark and cracks and/or fissures across the entire tree.	Moderate
T9	Oak	Tree with lots of dead wood forming cracks and crevices. Also, a hole on the east aspect but appears to extend down.	Moderate

[9] Tree ID correlates with a previous Tree Constraints Plan produced by EnviroArb-Solutions Ltd, drawing number: EAS-062 TCP. 23.09.22.
[10] Tree ID correlates with a previous Tree Constraints Plan produced by EnviroArb-Solutions Ltd, drawing number: EAS-062 TCP. 05.09.20.

T10	Oak	No features seen but tree sufficiently mature enough to have potential roosting features. Ivy obscuring view.	Low
T11	Oak	No features seen but tree sufficiently mature enough to have potential roosting features.	Low
T14	Ash	Two woodpecker holes on southwest aspect.	Moderate

4.27 Since the previous Phase 1 Habitat survey in 2020 a total of six trees with bat roost potential have been removed for health and safety reasons.

Bats – Static Monitoring

4.28 SMP locations are shown in **Appendix C** and full SMP survey data is provided in **Table D.1, Appendix D.** Static monitoring data recorded at each location are described below and summarised in **Tables 3.4, 3.5 and 3.6**. In general, moderate levels of bat activity were recorded at all of the static monitoring point locations.

SMP A

4.29 This SMP was located adjacent to the River Pinn corridor on a dead tree facing away from the river.

4.30 The highest levels of activity were recorded here, with an average of 246 bat passes per night. SMP A recorded over double the number of bat passes of both SMP B and SMP C. Activity was highest in spring with 84.0% of the total passes recorded in this season. Activity was notably low in autumn with only 0.3% of the total passes recorded in this season.

4.31 Seven species were recorded, with 74.1% of passes identified as common pipistrelle, 24.2% as soprano pipistrelle, 1.0% as *Pipistrelle* sp., 0.6% as Nathusius' pipistrelle, 0.1% as Leisler's *Nyctalus leisleri* and noctule *Nyctalus noctula*/serotine *Eptesicus serotinus*/Leisler's (NSL), and <0.1% (single passes) of *Myotis* sp. and brown long-eared.

Table 4.4: Summary of Bat Passes for SMP A

Species	Passes per Species			Total Passes per Species	% of Passes per Species			% of Total Passes per Species
	Autumn	Spring	Summer		Autumn	Spring	Summer	
Common pipistrelle	-	2280	458	2738	0.0%	83.3%	16.7%	74.1%
Soprano pipistrelle	9	789	95	893	1.0%	88.4%	10.6%	24.2%
Nathusius' pipistrelle	1	12	8	21	4.8%	57.1%	38.1%	0.6%
Pipistrelle sp.	1	22	13	36	2.8%	61.1%	36.1%	1.0%
Brown long-eared	-	-	1	1	0.0%	0.0%	100.0%	< 0.1%
Myotis sp.	-	1	-	1	0.0%	100.0%	0.0%	< 0.1%
Noctule	-	-	-	-	-	-	-	-
Serotine	-	-	-	-	-	-	-	-
Leisler's	-	2	-	2	0.0%	100.0%	0.0%	0.1%
Noctule / Serotine / Leisler's	-	-	5	5	0.0%	0.0%	100.0%	0.1%
Total Passes per Season	11	3106	580	Total Passes = 3697				
% of Total Passes per Season	0.3%	84.0%	15.7%	-				
Average Passes per Night per Season	2	621	116	Average Passes per Night = 246				
Species Confirmed per Season	2+	5	5	Total Species Confirmed = 7				

SMP B

4.32 This SMP was attached to a dead tree near a hedgerow adjacent to High Road, the microphone was positioned facing north-west.

4.33 The lowest levels of activity were recorded here, with an average of 83 bat passes per night. Activity was similar in spring and summer with 45.5% and 52.8% of the total passes recorded in these seasons respectively. Activity was notably low in autumn with only 1.7% of the total passes recorded in this season.

4.34 Seven species were recorded, with 82.9% of passes identified as common pipistrelle, 10.7% as soprano pipistrelle, 4.2% as Nathusius' pipistrelle, 0.9% as NSL, 0.7% as *Pipistrelle* sp., 0.3% as noctule, 0.2% as Leisler's, and 0.1% (single passes) of *Myotis* sp. and serotine.

Table 4.5: Summary of Bat Passes for SMP B

Species	Passes per Species			Total Passes per Species	% of Passes per Species			% of Total Passes per Species
	Autumn	Spring	Summer		Autumn	Spring	Summer	
Common pipistrelle	4	547	487	1038	0.4%	52.7%	46.9%	82.9%
Soprano pipistrelle	16	17	101	134	11.9%	12.7%	75.4%	10.7%
Nathusius' pipistrelle			52	52	0.0%	0.0%	100.0%	4.2%
Pipistrelle sp.		3	6	9	0.0%	33.3%	66.7%	0.7%
Brown long-eared				0	-	-	-	-
Myotis sp.			1	1	0.0%	0.0%	100.0%	0.1%
Noctule		2	2	4	0.0%	50.0%	50.0%	0.3%
Serotine		1		1	0.0%	100.0%	0.0%	0.1%
Leisler's			2	2	0.0%	0.0%	100.0%	0.2%
Noctule / Serotine / Leisler's	1		10	11	9.1%	0.0%	90.9%	0.9%
Total Passes per Season	21	570	661	Total Passes = 1252				
% of Total Passes per Season	1.7%	45.5%	52.8%	-				
Average Passes per Night per Season	4	114	132	Average Passes per Night = 83				
Species Confirmed per Season	3	4+	6+	Total Species Confirmed = 7				

SMP C

4.35 This SMP was attached to a fencing post adjacent to Fore Street with the microphone positioned facing north-east.

4.36 The median levels of activity were recorded here, with an average of 109 bat passes per night. Activity was highest in summer with 55.5% of the total passes recorded in this season. Activity was notably higher in autumn relative to other SMP's with 27.5% of the total passes recorded in this season.

4.37 Six species were recorded, with 50.0% of passes identified as soprano pipistrelle, 46.0% as common pipistrelle, 2.0% as Nathusius' pipistrelle, 0.9% as *Pipistrelle* sp. and Leisler's, and 0.1% (single passes) of noctule, serotine and NSL.

Table 4.6: Summary of Bat Passes for SMP C

Species	Passes per Species			Total Passes per Species	% of Passes per Species			% of Total Passes per Species
	Autumn	Spring	Summer		Autumn	Spring	Summer	
Common pipistrelle	10	215	526	751	1.3%	28.6%	70.0%	46.0%
Soprano pipistrelle	436	57	322	815	53.5%	7.0%	39.5%	50.0%
Nathusius' pipistrelle	1	-	31	32	3.1%	0.0%	96.9%	2.0%
Pipistrelle sp.	1	2	12	15	6.7%	13.3%	80.0%	0.9%
Brown long-eared	-	-	-	0	-	-	-	-
Myotis sp.	-	-	-	0	-	-	-	-
Noctule	-	-	1	1	0.0%	0.0%	100.0%	0.1%
Serotine	-	-	1	1	0.0%	0.0%	100.0%	0.1%
Leisler's	-	3	12	15	0.0%	20.0%	80.0%	0.9%
Noctule / Serotine / Leisler's	-	-	1	1	0.0%	0.0%	100.0%	0.1%
Total Passes per Season	448	277	906	Total Passes = 1631				
% of Total Passes per Season	27.5%	17.0%	55.5%	-				
Average Passes per Night per Season	90	55	181	Average Passes per Night = 109				
Species Confirmed per Season	3	3+	6	Total Species Confirmed = 6				

General Observations

4.38 Similar trends in bat activity were recorded across the spring and summer deployment. There were clear peaks in bat activity between 0.4 and 0.6 hours after sunset as shown in **Figure 3.1**. Given the timings, this is likely attributed to commuting behaviour rather than for foraging and/or socialising. Insufficient data was collecting for Autumn to determine trends.

Rarer Species

4.39 Several rarer species[11] were recorded during the static monitoring including Nathusius' pipistrelle, noctule, serotine and Leisler's. The data was insufficient to determine any clear trends in bat activity for noctule, serotine and Leisler's. Sufficient data was collected for Nathusius' pipistrelle to determine that activity for this species was highest approximately one hour after sunset (**Figure 3.2**). Given the timings, this is likely attributed to periods commuting rather than foraging and/or socialising.

[11] Wray, S., Wells, D., Long, E. and Mitchell-Jones, A. (2010). *Valuing Bats in Ecological Impact Assessment*. In Practice, 70: 23-25.

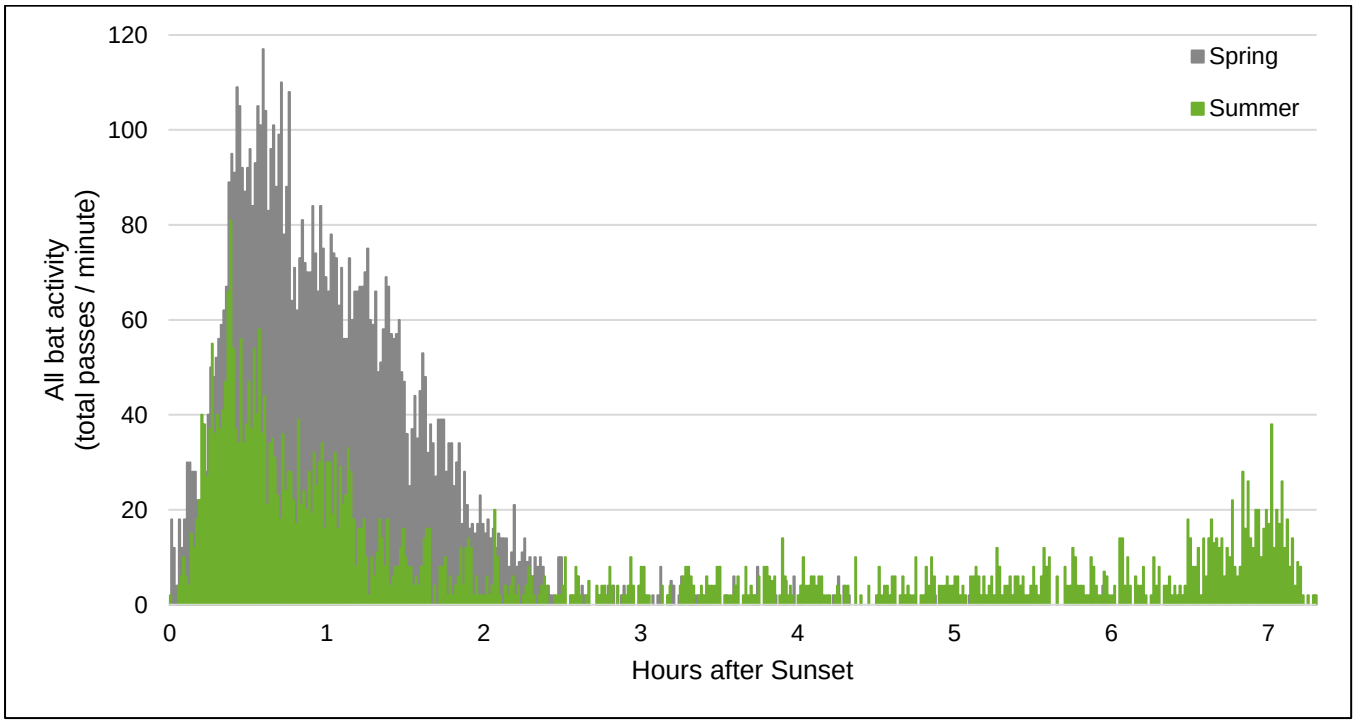


Figure 3.1: Bat activity[12] at all monitoring points in spring and summer

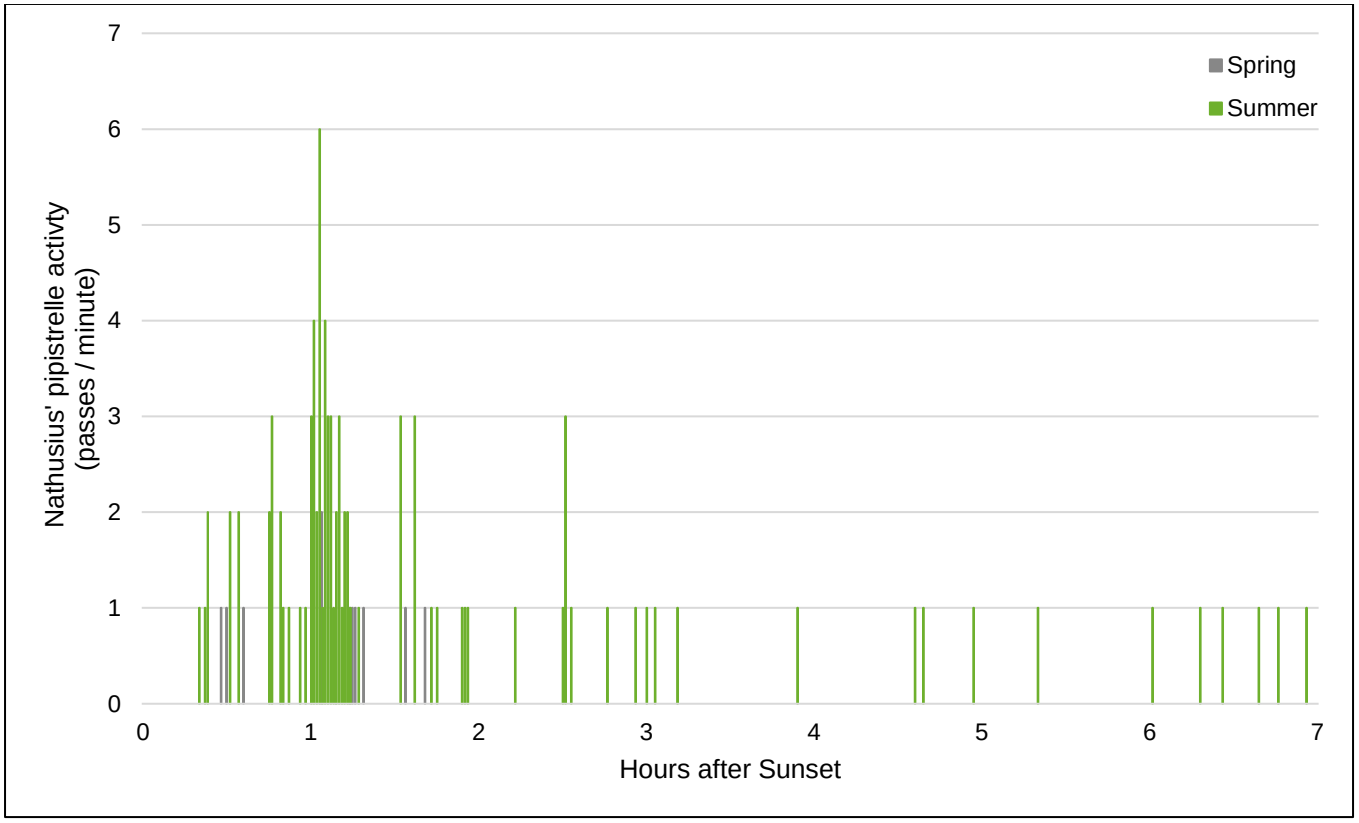


Figure 3.2 : Nathusius' pipistrelle activity[12] at all monitoring points in spring and summer.

[12] Up to a maximum of eight passes/minute/detector/night/season can be recorded given the detectors settings.

Badger

4.40 Biological records identified a single record of badger *Meles meles* within 1km of the Site (location confidential).

Badger – Habitat Appraisal

4.41 The scrub, hedgerows and bare ground/ruderal mosaic provide opportunities for badger to forage and establish setts.

4.42 No setts or evidence of badger was noted during the survey. However, given the mobile nature of this species and tendency to build new setts, there is potential for badgers to disperse from suitable habitat in the wider area to form new setts within the Site. The river corridor adjacent north of the Site provides a good connectivity to other areas with suitable badger habitat.

4.43 No setts or evidence of badger was noted during the 2022 survey.

Hedgehog

4.44 Biological records identified hedgehog within 1km of the Site with the nearest recorded at 146m east of the Site in 2001.

Hedgehog – Habitat Appraisal

4.45 The hedgerows, scrub and river corridor provide suitable habitat for foraging, commuting, nesting and hibernating hedgehog. The surrounding network of residential gardens provide optimal habitat for hedgehog.

Otter

4.46 No records of otter were identified within 1km as part of the biological records search.

Otter – Habitat Appraisal

4.47 The River Pinn corridor adjacent to the Site is considered suitable for foraging and commuting otter. This stretch of the river is towards to the top of the catchment, shallow and largely urbanised. Therefore, this stretch of the river is unlikely to support high numbers of fish, the primary food source for otter. The river adjacent to the Site is unlikely to be key foraging resource for any otters and will most likely to be used infrequently by transient otters only. The habitats within the Site do not support dense cover or trees/rubble suitable for holts.

4.48 No evidence of otter (such as holts, prints or spraints) were noted during the survey, although only a short section of the river was checked. Given the habitats present at the Site, it is unlikely that any otters will be impacted by development proposals. Therefore, otter is not considered further in this appraisal.

4.49 No evidence of otter (such as holts, prints or spraints) were noted during the 2022 survey.

Water Vole

4.50 No records of water vole were identified within 1km as part of the biological records search.

Water Vole – Habitat Appraisal

4.51 No suitable habitat for water vole was present within the survey area. The adjacent river corridor is unsuitable for water vole as it was sparsely vegetated and shallow, offering limited foraging and sheltering opportunities for water vole. Water vole will not be considered further in this report.

Birds

4.52 A review of biological records found the following bird species (of Site relevance) within 1km of the Site:

- House sparrow *Passer domesticus*.
- Grey heron *Ardea cinerea*.
- Grey wagtail *Motacilla cinerea*.
- Starling *Sturnus vulgaris*.
- Song thrush *Turdus philomelos*.
- Swallow *Hirundo rustica*.
- Woodcock *Scolopax rusticola*.
- Lesser spotted woodpecker *Dendrocopos minor*.
- Kingfisher *Alcedo atthis*.
- Swift *Apus apus*.
- Spotted flycatcher *Muscicapa striata*.
- Goldcrest *Regulus regulus*.
- Little egret *Egretta garzetta*.
- Mistle thrush *Turdus viscivorus*.
- Stock Dove *Columba oenas*

Birds – Habitat Appraisal

4.53 The Site was considered to support a variety of suitable habitats, including tree lines, hedgerow, scrub, mature trees, tall ruderal and dry ditches for a range of common and widespread bird species to forage and nest.

4.54 The adjacent river corridor is also likely to support commuting, foraging and nesting of specialist species such as kingfisher, grey heron and little egret.

Reptiles

4.55 No records of reptile were recorded within 1km as part of the biological records search. However, there was reference within Ruislip Woods and Poor's Field SINC citation of the presence of undisclosed reptile species.

Reptiles - Habitat Appraisal

4.56 Habitats such as scrub, tall ruderal, bare ground and hedgerow provide opportunities for foraging, basking, sheltering and hibernating reptiles. The Sites value to reptiles is however limited by the size and isolated nature.

4.57 The larger areas of bare ground within the tall ruderal also reduce the opportunities for this species further.

4.58 Given the lack of local records and isolated nature of the Site, it is considered unlikely reptiles will be present. Reptiles were not considered further and are not appraised further within this report.

Great Crested Newt

4.59 Biological records identified records of great crested newt within 1km of the Site. This includes the closest record at 187m south of the Site in 2006 and the most recent record 442m south of the site in 2015.

Great Crested Newt – Habitat Appraisal

4.60 The desk study identified three waterbodies within 500m of the Site. Of the three waterbodies, one was considered isolated from the Site by the River Pinn and two were considered isolated from the Site by dense urban development.

4.61 Two dry ditches were recorded within the Site during the Phase 1 Habitat Survey, both were considered unsuitable for GCN. The Site has some limited opportunities for foraging GCN, including ruderal and scrub habitat.

4.62 Given the lack of suitable ponds within or near the Site, GCN were not considered further and are not appraised further within this report.

Invertebrates

A review of biological records found 15 species of invertebrates within 1km of the Site. This included the following species:

- Stag beetle *Lucanus cervus.*
- Grey dagger *Acronicta psi.*
- Purple emperor *Apatura iris.*
- White-letter hairstreak *Satyrium w-album.*
- Centre-barred sallow *Atethmia centrago.*
- Rosy rustic *Hydraecia micacea*

Invertebrates - Habitat Appraisal

The Site supports a range of habitats, including scrub, tall ruderal, hedgerow, tree lines, dry ditch and mature trees which provide suitable habitat for a range of common and widespread invertebrate species. Several of the mature trees at the Site were dead and fallen limbs were recorded across the Site. These dead wood features provide good opportunities for stag beetle and other invertebrates.

Chapter 5
Discussion

Designated Sites

Statutory Designated Sites

5.1 Ruislip Woods NNR/SSSI and Ruislip Wood LNR were identified approximately 340m northwest and 150m south of the Site respectively.

5.2 Ruislip Woods NNR/SSSI is primarily designated because it is an extensive area of ancient semi-natural woodland. The site also has supports acid grassland, heathland and wetland. It is noted as an important site for bats, breeding birds, invertebrates and lichen.

5.3 Ruislip Woods LNR is designated for its marshland habitat, including reedbeds, wet woodland and ponds. Other valuable habitats include heathland and chalk grassland. A diverse range of flora and insect and molluscan fauna have been recorded at the site.

5.4 Due to the distance of the sites in relation the Site, no impacts to habitats in the NNR/SSSI and LNR as a result of proposed development were considered. However, due to the functional connectivity of the site via the river corridor, tree lines and hedgerows that occur through the urban development, there is potential for impacts to occur in relation to bats, birds and badger which may commute between these habitats and the Site. These impacts are considered and mitigated for in the species section detailed below.

Non-statutory Designated Sites

5.5 A total of six SINCs were recorded within 1km of the Site. This includes the River Pinn near Eastcote SINC, which lies adjacent to the northern boundary of the Site, which supports river habitat.

5.6 Given the proximity of the SINC to the Site boundary and the presence of river habitat, which is the primary reason for the sites designation and is a priority habitat for the borough, there is potential for impacts as a result of the proposed scheme design to occur.

5.7 Key impacts pathways identified include recreation, water pollution, air quality and lighting. Water pollution impacts will be avoided through best practice construction as detailed in **Section 5.15** and lighting impacts will be avoided in line with best practice guidance for bats detailed in **Section 5.40.** In addition to these measures, the proposals include a buffer

strip of native scrub and trees are planted along the northern boundary to further reduce the risk of impacting the SINC, this is detailed in **Section 5.17**.

5.8 Recreational and air quality impacts to the adjacent SINC are anticipated to negligible given the scale of the proposals.

5.9 Proposals consider policy requirements as detailed in Policy DMEI 8, which is provided in detail in **Appendix B** and which stipulate that waterside development should:

"Not extend within 8 metres of the top of the bank of a main river or 5 metres either side of an ordinary watercourse or an appropriate width as may be agreed by the Council"

5.10 To ensure that proposals adhere to the requirements of this policy, the development does not extend to within 5m of the top of the river bank. The 5m strip is being used for ecological enhancements, such as scrub and tree planting as detailed in the enhancements in **Section 4.17**.

5.11 Policy DMEI 8 also stipulates that waterside development should:

"*Where feasible, secure the implementation of environmental enhancements to open sections of river or watercourse.*

Where on-site environmental enhancements or de-culverting are financially viable but not feasible, the Council will seek a financial contribution towards relevant projects for the enhancement or de-culverting of other sections of rivers or watercourses."

5.12 If the landowner's permission can be obtained it is recommended in line with Policy DMEI 8 that enhancement measures are implemented along the open section of the river. This could include but is not restricted to the following measures:

- Installation of deflectors, which create variable flows conditions, narrow flow and deepen mid-channel flow. This provides features, which can improve the bank protection and provides areas of shelter for fish.
- Installation of floating reed rafts, which provide additional opportunities for birds, invertebrates and fish to forage and shelter; and
- Provision of kingfisher tunnels, which provide additional nesting opportunities for these species along the river bank.

Habitats

5.13 The majority of the Site comprises a mosaic of bare ground, scattered scrub and tall ruderal. This mosaic supports common and widespread plant species and is considered of low ecological value.

5.14 The Site also supports habitats of ecological value, including mature trees, hedgerow, deadwood and dry ditches, which provide valuable opportunities for a range of species, including bats, birds and invertebrates. Impacts in relation to these species is considered in more detail below.

Habitat – Mitigation

5.15 There is potential for proposals to result in impacts to habitats, including onsite trees and hedgerows and adjacent river habitat during the construction of the development through as a result of damage to or compaction of tree roots, smothering from construction-related dust and pollution from runoff. The implementation of best practice construction will therefore be required to avoid and minimise these risks, including:

- Secure storage and safe disposal of any materials and substances to prevent accidental contamination.
- Prevention or reduction of dust through timing of works or damping down.
- Control of surface water runoff, including from damping down, preventing contamination of waterbodies.
- Protection of trees and vegetation protected in accordance with good practice methods and guidance as outlined by the British Standards Institute[13].

5.16 In addition to this, the proposals retain features of ecological value, such as the mature trees and hedgerow. In particular, the proposals retain and enhance the existing treeline along the northern boundary of the Site, which contributes to the value and functional connectivity of the blue/green corridor. Where tree loss cannot be avoided proposals seek to make provision for replacement planting of trees elsewhere in the site that contribute to the ecological value for the Site for species, such as bats and birds.

Habitat Enhancements

5.17 The proposed scheme presents an opportunity to increase the ecological value of the site for wildlife and to achieve biodiversity net gain in accordance with the NPPF through the provision of the following measures:

[13] BSI (2012). BS 5837:2012: Trees in relation to design, demolition and construction – Recommendations. British Standards Institution, Bristol.

- New native scrub and tree planting along the northern boundary which borders the river, strengthening this important corridor. This will improve commuting and foraging opportunities for a variety of species including bats, birds, badger and otter
- New native scrub and tree planting along the western boundary, where the highest level of bat activity was recorded. This will ensure this boundary retains its value for foraging and commuting bats.
- Infill planting of native species along the southern hedgerows which are currently defunct. This will increase connectivity, benefiting a range of species including hedgehog and birds.
- The landscaping will use native or non-native species of known value to wildlife. Species which benefit pollinators are recommended, details of which can be found on the Royal Horticultural Society (RHS) Plants for Pollinators database[14].

Invasive Species

5.18 Invasive species, including Japanese Knotweed, Himalayan Balsam and Giant Hogweed are listed on schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is illegal to cause schedule 9 species to grow in the wild, or to plant them in the wild.

5.19 Japanese knotweed was recorded in the west of the Site as shown in Phase 1 Habitat Plan in **Appendix A.** Himalayan balsam was recorded on the river bank adjacent to the northern boundary. It is likely that the seeds of this species are within the Site boundary. Giant hogweed was recorded in the centre of the Site.

Mitigation

5.20 The proposals for the nursery building and associated car parking are within areas where invasive species were identified in both the 2020 and 2022 site visits.

5.21 There is potential that proposals will result in the spread of this species and given legislation requirements to remove these species, both species should be controlled in accordance with best practice guidance measures through appropriate management to prevent them colonising new areas, in particular the river corridor and to eradicate these species from the site. Specific measures should be developed with a specialist contractor.

Protected and Notable Species

Bats

5.22 Legal protection afforded to bats and their roosts is summarised in **Appendix B**. In summary all bats and their roosts are subject to the highest level of protection afforded to species in the UK as European Protected Species (EPS).

Habitats – Foraging and Commuting

5.23 The Site supported suitable habitat for foraging and commuting bats, including treelines, scrub, hedgerows and scattered trees. In addition to this, the Site was situated next the River Pinn, which provides is likely to provide a valuable corridor for bats, including Daubenton's bat and Nathusius' pipistrelle to forage and commute between the network of habitat with ecological value in the wider area, including Ruislip Wood NNR/SSSI, which is one of London's most important sites for bats, with at least nine species recorded.

Static Monitoring

5.24 Activity during the SMP surveys was highest along the River Pinn corridor (55% of total SMP passes). The data suggests the habitats near this corridor provide the best opportunities for foraging and commuting bats. Activity was similar within the tree line adjacent to Fore Street (26% of total SMP passes) and the hedgerow adjacent to High Road (19% of total SMP passes)

5.25 Bat registrations mostly comprised common and widespread species (common and soprano pipistrelle), typical of urban and suburban environments.

5.26 81 passes of Nathusius' pipistrelle were also recorded across all three monitoring points with the most recorded within the hedgerow adjacent to High Road. Due to the low numbers of registrations (1.0% of total registrations) and the habitat on site it is unlikely that Nathusius' pipistrelle rely on the site's terrestrial habitat to forage, however they may use adjacent water habitats for commuting and foraging.

5.27 27 passes of noctule, serotine or Leisler's was recorded. Given the low numbers of registrations (0.5% of total registrations) and the habitat on Site, it is unlikely that these species will depend on the Site for foraging, however they may use the adjacent river corridor for commuting and foraging.

5.28 Two and a single pass of *Myotis* sp. and brown long-eared were recorded respectively. Given the low numbers of registrations (<0.1% of total registrations) and the habitat on site, it is unlikely that these species will depend on the Site for

[14] https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators

foraging, however they may use the adjacent river corridor for commuting and foraging.

5.29 The data suggest that the River Pinn corridor is of the most value to bats with the highest level of activity recorded. In addition, all static monitoring points were used by both common and rarer species[11], including Nathusius' pipistrelle, noctule, serotine or Leisler's, thus these corridors are also considered of high value to bats.

5.30 Given the data collected, there is potential for the proposals, including planned tree loss and lighting to adversely impact bats utilising the Site, particularly in relation to the River Pinn corridor. Therefore, there needs to be further consideration of how the proposals may avoid impact these features, this is detailed below.

Mitigation Measures

5.31 The habitat enhancement measures for the Site detailed in **Section 5.17** will increase the quality and connectivity of the existing boundary features which would be of benefit to foraging and commuting bats.

Habitats – Roosts

5.32 The ground level bat roost assessment identified twelve trees with bat roosting potential, as detailed in **Appendix E**. Potential roosting features included cracks, splits, woodpecker holes and knot holes. Proposals should seek to retain and protect trees identified with bat roost potential. However, where that is not possible further survey will be required as detailed below. It is understood that some trees identified as having bat roost potential have been felled since the completion of the survey due to health and safety concerns in relation to the adjacent highway. The latest tree survey has identified a further ten trees to be removed for health and safety, including three with bat roost potential. The proposals also include the removal of a number of small trees in the west of the Site.

Further Survey Requirements

5.33 The proposals result in the loss of trees with bat roost potential, therefore the following surveys would be required:

- **Emergence/Re-entry Surveys**
  - **T15 - Moderate BRP**– This would comprise of two emergence/re-entry surveys to be undertaken between May and September with at least one survey completed during the optimal survey window between May and August. If a roost is identified and/or there are high levels of bat activity, then in line with best practice guidance a third survey would be required.
  - **T27 and T20 - Low BRP** – No further surveys are required. However, in line with best practice, soft felling measures will be required. This would comprise the cutting of the tree above and below any features with bat roost potential in a sensitive manner. Ropes would then be used to lower each section to the ground. All features with potential to support a bat roost will be placed upright on the ground adjacent to the tree and left for two weeks to enable bats, if present to relocate. These works will be supervised by a licenced bat ecologist who will guide the process, providing advice and support throughout the operation.

Bats - Licencing

5.34 The findings of these surveys will determine the need for mitigation or protected species licensing. Should bat roosts be identified, it is likely that standard mitigation measures, including sensitive timing and the provision of alternative roosting facilities, is achievable.

5.35 If proposals result in the loss, damage or destruction of a roost, a Natural England (NE) licence would be required. More information on NE Bat Licensing is provided in **Appendix B.**

Bats - Mitigation

5.36 If roosts were identified, the requirement for and design of bat mitigation measures would need to be informed by survey findings. These measures would be detailed in any bat licence (as above), and may include:

Provision of Alternative Bat Roost Prior to Works

5.37 Prior to commencement of the works alternative bat roosts, usually in the form of bat boxes, would be required in close proximity to the roost affected. This would provide an alternative roost location prior to exclusion of bats and/or roost closure. This may be followed by the installation of more long term, like-for-like replacements for the roost lost (such provision of bat boxes on a nearby retained tree). The types and timing of replacements would be subject to the phasing of works, and the nature of any roosts to be lost.

Soft Felling

5.38 The proposals involve felling (and resultant loss of roosts) then this would require soft felling under a precautionary working statement. Details of soft felling measures is outlined in **Section 5.33** above.

Sensitive Timings of Work

5.39 Works to the bat roost would be timed during autumn (September-early November) or spring (March-April) when bats are least sensitive to disturbance (i.e. not breeding or hibernating) and unlikely to be dependent upon a single roost

feature. Where the presence of bats cannot be ruled out, it may be necessary to use exclusion device(s) which would remain in situ for a minimum of seven days during weather conditions suitable for bat activity (above 10°C and dry).

Bats – Mitigation

Lighting

5.40 The proposals will result in increased lighting of semi-natural habitats and therefore a sensitive light scheme should be implemented to minimise light spill on natural habitats, such as the tree lines, river corridor and hedgerow within and adjacent to the Site. In line with best practice guidance[15], the following lighting measures are recommended:

- Implementation of dark buffer zones, illumination limits and zonation to separate habitats or features of importance for bats, such as river corridors, hedgerows and mature trees from proposed lighting.
- Use of LED lighting, which does not emit UV and which has a warm white light spectrum (preferably <2700Kelvin) and uses wavelengths higher than 550nm.
- Internal lighting adjacent to windows should be recessed to reduce glare and light spill.
- Directional lighting, such as specialist bollards, low-level downward direction lighting or column lighting to minimise light spill.
- Use of motion sensor lighting or timers to restrict lighting to required periods.
- Dimming or part-night lighting to reduce light levels when bats are most active.
- Use of the lowest lux possible.
- Sensitive scheme design to minimise light spill on key habitats and features i.e. location, orientations and height of new structures or placement of open spaces and footpaths.
- Screening through soft landscaping and installation of walls and fences.
- Creation of alternative valuable habitat for bats, such as the incorporation of a green roof and tree planting within the scheme design, which provide opportunities for bats to forage and commute and the provision of bat boxes, which provide additional opportunities for bats to roost.

Bats - Enhancement

5.41 To ensure that the scheme is in accordance with the NPPF and to achieve an overall increase in ecological value the following are included within the proposals:

- The incorporation of bat boxes onto the external façade of proposed building (Schwegler 2FE Wall-Mounted Bat Shelter or similar).
- The consideration of integrating bat bricks within the external façade of proposed building (Ibstock Enclosed Bat Box or similar).
- The provision of bat boxes onto retained mature trees (Schwegler 2F or similar), especially adjacent to the river corridor.

5.42 The habitat enhancements detailed in **Section 5.17** would be expected to increase the quality and connectivity of the existing boundary features. In particular, the new native scrub and tree planting along the river corridor will strengthen this important corridor for bats, where rare species including Nathusius pipistrelle have been recorded.

Badger

5.43 Legislation afforded to badger is detailed in **Appendix B.**

5.44 Badgers and their setts/resting places are offered significant protection in England by the Protection of Badgers Act (1992). The Act exists to protect the species from persecution; it is not a reflection of the conservation status of the species.

5.45 The survey in 2020 and 2022 found no evidence of active badger activity or setts.

Further Survey Requirements

5.46 Given the mobility and the suitability of the habitats on Site for badger there is potential for badger to establish new setts within the Site prior to works. Therefore, prior to works it is recommended that the Site and a 50m buffer is subject to a detailed badger survey prior to works by a suitably qualified ecologist. This will aim to identify any newly established setts and identify appropriate working methods should a risk of harm to badger or their setts be identified.

Badger - Potential Licensing

5.47 If badger is found NE licencing would be required if impacts on badger cannot be avoided through design or sensitive working methods.

[15] Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby.

Badger – Enhancements

5.48 Habitat enhancements including planting of new native scrub and tree species in areas which increase connectivity will also benefit badger. This will provide increase habitat connectivity and provide new sett building opportunities for badger.

Hedgehog

5.49 Legal protection afforded to hedgehog is summarised in **Appendix B**.

5.50 The Site supports suitable habitat, such as hedgerow and scrub to support hedgehogs. Given the known presence of this species in the local area as identified from biological records and the network of the residential gardens in the surround area, there is potential for hedgehog to be present with the Site.

Hedgehog – Mitigation

5.51 Proposals retain Site connectivity with the wider landscape through use of permeable boundaries, including hedgehog passes within any fencing and boundary walls. Any open excavations during construction will also consider hedgehog by including sloped exit ramps to prevent drowning or entrapment. Clearance of any habitat which may be used by hedgehog, such as leaf litter and log piles, will be done by hand to ensure that no individuals are injured or killed.

Hedgehog – Enhancements

5.52 Habitats enhancements as detailed in **Section 5.17** which provide benefit to this species include:

- Enhancement of linear features for hedgehog such as the existing hedgerows.
- Provision of scrub and deadwood areas for hedgehog sheltering.
- Creation of hedgehog holes in any fencing that is used around the perimeter of the site to retain connectivity.

Birds

5.53 Birds and their nests are protected by the Wildlife and Countryside Act, 1981 (as amended) detailed in **Appendix B.**

5.54 The Site offers foraging and nesting opportunities for birds, with suitable habitat being tree lines, scrub, mature trees and hedgerow.

Birds - Mitigation

5.55 The proposals result in the loss of small areas of suitable habitat to support nesting birds, therefor the following mitigation measures will be required:

- Clearance of suitable nesting habitat between September-February (inclusive) to avoid the nesting season.
- If the timings above are not achievable within the project programme, an inspection for the presence of birds' nests should be undertaken by a suitably qualified ecologist (SQE) no more than 24 hours prior to demolition.
- If birds' nests are found to be present, demolition must cease until the young have fully fledged, and the nest is no longer active (to be confirmed by a SQE). This would likely result in delays to the programme.

Birds - Enhancements

5.56 Proposals will provide additional opportunities for nesting birds through the provision of bird boxes within proposed buildings or onto retained mature trees. These will target London BAP priority species, such as starling, swift and house sparrow.

Invertebrates

5.57 The Site has a range of habitats, including scrub, tall ruderal, hedgerow, tree lines, dry ditch and mature trees which provide opportunities for a range of common and widespread invertebrate species. Several dead mature trees were noted during the Phase 1 Habitat Survey. This dead wood habitat provides excellent opportunities for a variety of invertebrates but in particular saproxylic species such as the locally present stag beetle.

Invertebrates – Mitigation

5.58 The trees and scrub lost under the proposals, will be mitigated through the provision of replacement and compensatory planting.

5.59 Dead trees should be retained where possible, it is preferable to retain dead trees as monoliths where there is a risk of limbs falling. If any dead trees will be lost under the proposals, the felled wood should be retained near the original tree.

Invertebrates – Enhancements

5.60 Additional dead wood habitat will be installed across the Site. Wood from felled trees should be retained on-site where possible and used for these dead wood habitats. Dead wood habitat may include log piles or loggeries.

Appendix A

Phase 1 Habitat Plan and Target Notes

Eastcote: Ecology Assessment Update 2022
Peter Pendleton and Associates

LUC

Figure 1: Phase 1 Survey

Site boundary
Target note

Invasive species

Giant Hogweed
Himalayan Balsam
Japanese Knotweed

Phase 1 linear feature

J2.3.2 Hedge with trees (species-poor)
J2.4 Fence
J2.6 Dry ditch
TL Tree line

Phase 1 habitat

A2.1 Scrub (dense/continuous)
A3.1 Broadleaved scattered trees/A2.1 Scrub (dense/continuous)
A3.1 Broadleaved scattered trees/J4 Bare ground
J4 Bare ground
J4 Bare ground/C3.1 Other tall herb and fern (ruderal)

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CB:PS EB:simmonds_p LUC 00_12280_r0_Phase1_A3L 06/02/2023
Source: LUC

Table A.1: Phase 1 Habitat Survey - Target Notes

Target Note Number	Description	Photograph
1	Mosaic of bare ground (J.4), scattered scrub (A2.1) and tall ruderal (C3.1). Abundant creeping thistle *Cirsium arvense*, bramble *Rubus fruticosus* and common nettle *Urtica dioica*, occasional cleavers *Galium aparine* and ash *Fraxinus excelsior* (young), frequent Gian hogweed *Heracleum mantegazzianum* and fat-hen *Chenopodium album*, rare false-acacia *Robinia pseudoacacia* (young), wild cherry *Prunus avium* (young), sycamore *Acer pseudoplatanus* (young), oak *Quercus sp.* (young), red dead-nettle *Lamium purpureum* and pignut *Conopodium majus*. 2022: Since the 2020 survey the areas of bare ground have extended, with a section of recently cleared bare ground in the west of the Site. Species composition remains very close to the 2020 survey.	
2	Defunct ornamental hedgerow with trees (J2.3.2). The hedgerow comprised abundant cherry laurel *Prunus laurocerasus* with occasional privet *Ligustrum sp.* and barberry *Berberis vulgaris*. Tree species included abundant oak and rarely ash. 2022: Similar condition to the 2020 survey.	
3	Dry ditch (J2.6) which was mostly sparse. Frequent bramble, occasional broad-leaved dock *Berberis vulgaris* and rose *Rosa sp.*, rare false-brome *Brachypodium sylvaticum*, alder *Alnus glutinosa* (young), hazel *Corylus avellane* (young) and pigweed *Amaranthus retroflexus*. 2022: Similar condition to the 2020 survey, slightly more overgrown with bramble.	

Target Note Number	Description	Photograph
4	Defunct native hedgerow with trees (J2.3.2). The hedgerow comprised frequent blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and ivy *Hedera helix* with occasional holly *Ilex aquifolium*, wild cherry, fern *Pteridophyta sp.* and bramble. Tree species included frequent ash and oak. 2022: Similar condition to the 2020 survey, slightly more overgrown with bramble and less bare ground.	
5	Dry ditch (J2.6) with of leaf litter. Dominated by ivy. 2022: Similar condition to 2020 survey.	
6	Dense scrub (A2.1) and broadleaved scattered trees (A3.1). The scrub comprised frequent blackthorn with occasional holly and hazel. Trees species included occasional oak, elm *Ulmus sp.* and wild cherry. Abundant ivy was also noted under the trees. 2022: dense scrub has encroached further into the tall ruderal, now with dominant bramble, frequent blackthorn, holly and occasional hazel.	
7	Tree line with scattered scrub (A2.2) underneath. Tree species comprised frequent ash and false acacia with occasional elm and wild cherry. Scrub comprised frequent blackthorn with occasional holly and hazel. Ivy was abundant underneath the tree line. 2022: Scrub has become more overgrown, but similar species composition.	

Target Note Number	Description	Photograph
8	Tree line with wooden fencing (J2.4). Dominated by ash. 2022: Similar condition to 2020 survey. Recent works have cleared the ground flora to create an area of bare ground.	
9	Group of young broadleaved scattered trees (A3.1) over bare ground. Occasional birch *Betula sp.*, hawthorn, sweet chestnut *Castanea sativa* and ash. 2022: Similar condition to 2020 survey.	
10	River Pinn near Eastcote Local Grade SINC. 2022: Similar condition to 2020 survey.	

Appendix B

Policy and Legal Considerations

The Conservation of Habitats and Species Regulations 2017 transpose the requirements of the European Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds, replacing Directive 79/409/EEC) into UK law, enabling the designation of protected sites and species at a European level.

The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species.

The Countryside Rights of Way Act 2000 provides additional support to the Wildlife and Countryside Act 1981; for example, increasing the level of protection for certain species of reptiles.

The Wild Mammals (Protection) Act 1996 sets out the welfare framework in respect to wild mammals, prohibiting a range of activities that may cause unnecessary suffering. Species and Habitats of Principal Importance for Conservation in England and Wales and priority habitats and species listed in the Waltham Forest Biodiversity Action Plan (see below) are species which are targeted for conservation. The government has a duty to ensure that involved parties take reasonable practice steps to further the conservation of such species under Section 41 of the Natural Environment and Rural Communities Act 2006. In addition, the Act places a biodiversity duty on public authorities who 'must, in exercising their functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 [1]). Criteria for selection of national priority habitats and species in the UK include international threat and marked national decline.

The National Planning Policy Framework (MHCLG June 2019) states (Section 15) that the planning system should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks; promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

It also states that local planning authorities should refuse planning on the following principles:

If significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for;

If development is on land within or outside a Site of Special Scientific Interest (SSSI), and is likely to have an adverse effect on it (the exception being where the benefits of the development in the location proposed clearly outweigh its likely impact);

If development results in the loss or deterioration of irreplaceable habitats, such as ancient woodland and ancient or veteran trees (unless there are wholly exceptional reasons and a suitable compensation strategy exists).

Additionally, the NPPF states that development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Hillingdon Local Plan: Part 1 – Strategic Policies (Adopted November 2012)

Policy CS4 - Minimising and Adapting to Climate Change
The Council will tackle climate change locally and promote resource efficiency and high environmental development standards during design, construction, and occupation of new developments by

Reduction of Carbon Emission

a. requiring new developments to minimise on site carbon emissions across their lifetime in accordance with the energy hierarchy by using less energy through responsive design, supplying energy efficiently and using on-site renewable energy;

b. requiring developments to meet high environmental standards of building design and construction, including targets based on standards such as BREEAM and Code for Sustainable Homes;

c. encouraging and where appropriate requiring retrofitting of the existing building stock to become more energy efficient by utilising existing and future programmes to co-ordinate and drive activity;

d. 'leading by example' and seeking to exemplify high sustainability standards and reduced carbon footprint on the Council's and its partner's own development areas and buildings and leading on awareness raising campaigns;

Energy Efficient Supply

a. working with partners and developers to promote and facilitate the delivery of local decentralised energy capacity and networks that are flexible and adaptable, especially district heating systems in appropriate areas of the Borough, in particular in the key growth areas;

b. requiring developers to investigate opportunities for establishing or linking into existing or proposed decentralised energy networks through tools such as the London Heat Map;

c. promoting innovative energy technologies that reduce carbon emissions and use of fossil fuels, such as hydrogen and energy from waste sources;

Adaptation, Water Efficiency and Flood Risk

a. requiring developments to be designed in a manner that minimises the use of water, protects the water environment and minimises the potential for flooding and the urban heat island effect;

b. directing development away from areas at high risk from flooding as indicated in Figure 13 and aiming to achieve an overall reduction in flood risk; requiring sequential and exception test and flood risk assessments (FRAs) in accordance with requirements set out in National Policy; and

c. improving the sustainability of buildings against flood risk, water stress and overheating, in order to not put people or property at unacceptable risk.

Policy CS5 - Enhancing Green Infrastructure and Biodiversity

The Council will endeavour to protect and enhance green infrastructure and biodiversity and to maximise access to open spaces across the Borough by:

a. protecting Green Belt and Metropolitan Open Land (MOL) and improving access where appropriate. Development and regeneration activity should be delivered principally through the use of brownfield land and buildings;

b. enhancing the green infrastructure network through better connectivity and the creation of new open spaces whilst also conserving their historic value;

c. establishing and extending the Borough's Greenways, Green Corridors; and, providing landscaping along transport routes where possible;

d. improving the quality of, and access to, open spaces especially in areas of deficiency;

e. ensuring the adequate provision and efficient use of allotments and other spaces on which to grow food and plants;

f. improving and increasing the provision of burial space;

g. protecting, promoting and enhancing the Lee Valley Regional Park and Epping Forest;

h. safeguarding and improving the quality, character, access and ecology of waterways in the Borough, and supporting the aims of the London Rivers Action Plan (LRAP);

Protecting and Improving Biodiversity and Nature Conservation

a. seeking to protect and enhance biodiversity, especially where habitats, species and sites are recognised at the international, national, regional and local levels and as outlined in the Waltham Forest, London and UK Biodiversity Action Plans (BAPs);

b. creating and capturing opportunities for increasing the area and number of priority and locally important habitats;

c. promoting public access and improved contact with nature;

d. Local Nature Reserves should be maintained; and further reserves should be designated as documented in the Waltham Forest Biodiversity Action Plan;

e. protecting existing healthy trees and encouraging the planting of new trees as informed by the Waltham Forest Tree Strategy;

Encouraging Active Lifestyles and Providing Recreational Facilities:

a. ensuring the adequate provision and quality of play and recreational spaces, outdoor sports facilities and parks, for all sections and age groups of the community. Where new open spaces are provided they will be designated as appropriate; and

b. protecting and enhancing the existing level of provision of playing pitches with any future review undertaken in accordance with the Playing Pitch Strategy (2011).

Waltham Forest Council; Shaping the Borough: Draft Local Plan 2020 – 2035

Policy EM3: Blue Ribbon Network

The Council will continue to promote and contribute to the positive enhancement of the strategic river and canal corridors and the associated wildlife and habitats through the Biodiversity Action Plan and the Thames River Basin

Management Plan, and developer contributions where appropriate.

The Council will work with the Environment Agency and other interested bodies to continue to enhance the local character, visual amenity, ecology, transportation, leisure opportunities and sustainable access to rivers and canals.

The Council will collaborate with adjacent local authorities to ensure that Hillingdon's river and canal corridors complement and link with cross boundary corridors.

Policy EM7: Biodiversity and Geological Conservation
The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:
   - Harefield Gravel Pits
   - Colne Valley Regional Park
   - Fray's Farm Meadows
   - Harefield Pit
2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.
3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.
4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.
5. The provision of biodiversity improvements from all development, where feasible.
6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.
7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

Policy EM8: Land, Water, Air and Noise

Water Quality
The Council will seek to safeguard and improve all water quality, both ground and surface. Principal Aquifers, and Source Protection Zones will be given priority along with the:

- River Colne
- Grand Union Canal
- River Pinn
- Yeading Brook
- Porter Land Brook
- River Crane
- Ruislip Lido

Air Quality
All development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors.

All major development within the Air Quality Management Area (AQMA) should demonstrate air quality neutrality (no worsening of impacts) where appropriate; actively contribute to the promotion of sustainable transport measures such as vehicle charging points and the increased provision for vehicles with cleaner transport fuels; deliver increased planting through soft landscaping and living walls and roofs; and provide a management plan for ensuring air quality impacts can be kept to a minimum.

The Council seeks to reduce the levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy. London Boroughs should also take account of the findings of the Air Quality Review and Assessments and Actions plans, in particular where Air Quality Management Areas have been designated.

The Council has a network of Air Quality Monitoring stations but recognises that this can be widened to improve understanding of air quality impacts. The Council may therefore require new major development in an AQMA to fund additional air quality monitoring stations to assist in managing air quality improvements.

Noise
The Council will investigate Hillingdon's target areas identified in the Defra Noise Action Plans, promote the maximum possible reduction in noise levels and will minimise the number of people potentially affected.

The Council will seek to identify and protect Quiet Areas in accordance with Government Policy on sustainable development and other Local Plan policies.

The Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated.

Land Contamination
The Council will expect proposals for development on contaminated land to provide mitigation strategies that reduce the impacts on surrounding land uses. Major development proposals will be expected to demonstrate a sustainable approach to remediation that includes techniques to reduce the need to landfill.

Water Resources
The Council will require that all new development demonstrates the incorporation of water efficiency measures within new development to reduce the rising demand on potable water. All new development must incorporate water recycling and collection facilities unless it can be demonstrated it is not appropriate. For residential developments, the Council will require applicants to demonstrate that water consumption will not surpass 105 litres per person per day.

Hillingdon Local Plan Part 2: Development Management Policies (Adopted January 2020)

Policy DMEI 1: Living Walls and Roofs and on-site Vegetation
All development proposals are required to comply with the following:

1. All major development should incorporate living roofs and/or walls into the development. Suitable justification should be provided where living walls and roofs cannot be provided; and
2. Major development in Air Quality Management Areas must provide onsite provision of living roofs and/or walls. A suitable offsite contribution may be required where onsite provision is not appropriate.

Policy DMEI 6: Development in Green Edge Locations
New development adjacent to the Green Belt, Metropolitan Open Land, Green Chains, Sites of Importance for Nature Conservation, Nature Reserves, countryside, green spaces or the Blue Ribbon Network should incorporate proposals to assimilate development into the surrounding area by the use of extensive peripheral landscaping to site boundaries.

Policy DMEI 7: Biodiversity Protection and Enhancement

a. The design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement.
b. If development is proposed on or near to a site considered to have features of ecological or geological value, applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value.
c. All development alongside, or that benefits from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements.
d. Proposals that result in significant harm to biodiversity which cannot be avoided, mitigated, or, as a last resort, compensated for, will normally be refused.

Policy DMEI 8: Waterside Development

a. Development on sites that adjoin or include a watercourse should:
    1. have regard to the relevant provisions of the Thames River Basin Management Plan and any other relevant Catchment Management Plans;
    2. not extend within 8 metres of the top of the bank of a main river or 5 metres either side of an ordinary watercourse or an appropriate width as may be agreed by the Council;
    3. where feasible, secure the implementation of environmental enhancements to open sections of river or watercourse; and
    4. where feasible, implement a scheme for restoring culverted sections of river or watercourses which must include an adequate buffer for flooding and maintenance purposes.
b. Where on-site environmental enhancements or deculverting are financially viable but not feasible, the Council will seek a financial contribution towards relevant projects for the enhancement or deculverting of other sections of rivers or watercourses.
c. Existing wharves and their access will be protected for continued use.

d. Proposals that would adversely affect the infrastructure of main rivers and ordinary watercourses, or which fail to secure feasible enhancements or deculverting, will be resisted.

e. Development located in or adjacent to watercourses should enhance the waterside environment and biodiversity by demonstrating a high design quality which respects the historic significance of the canal and character of the waterway and provides access and improved amenity to the waterfront.

f. All development alongside or that benefits from a frontage on the Grand Union Canal will be expected to contribute to the improvement of the Canal.

Bats

All British species of bat are listed on the **Wildlife and Countryside Act 1981 (as amended) Schedule 5**. It is an offence to deliberately kill, damage, take (Section 9(1)) a bat; to intentionally or recklessly disturb a bat whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a bat roost (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

All British bats are listed on the **Conservation of Habitats and Species Regulations 2017, Schedule 2**. Regulation 43 strengthens the protection of bats under the 1981 Act against deliberate capture, injuring or killing (Regulation 43(1) (a)), deliberate disturbance (Regulation 43 (1) (b)) and damage or destruction of a resting place (Regulation 43(1) (d)).

A bat roost is defined as any structure or place which is used for shelter or protection, irrespective of whether bats are resident. Buildings and trees may be used by bats for a number of different purposes throughout the year including resting, sleeping, breeding, raising young and hibernating. Use depends on bat age, sex, condition and species as well as the external factors of season and weather conditions. A roost used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to bats, and loss, obstruction of or damage to a roost are licensable.

Application for a Natural England EPS Licence

Development works that may cause killing or injury of bats or that would result in the damage, loss or disturbance of a bat roost would require a Natural England (NE) Bat Mitigation Licence. For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests:

- Whether there is a need for the development which justifies the impact on the European Protected Species (EPS);
- Whether there is an alternative which would avoid the impact and need for an EPS licence; and
- Whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

Licensing Routes

There are two licensing routes now available for bats, outlined below:

Full NE England EPS Mitigation Licence

The application comprises three components including:

- An application form (broad details of the applicant, site and proposals);
- A detailed Method Statement providing the survey methods and findings, impact assessment and mitigation measures (including detailed maps and schedule of works); and
- A Reasoned Statement outlining the “need" for the development and consideration of alternatives.

NE aim to determine the application within six weeks(although this can take longer).

NE Low Impact Class Licence (LICL)

This new route provides an alternative, quicker route (with a much-reduced application form, and a target of 10 days to determine an application). LICL is only available to Registered Consultants identified by NE if the following condition is met:

- Sites which support up to three low status roosts (day roosts, night roosts, feeding roosts and transitional roosts) of a maximum of three common species. The common species which can be covered by this licence include common pipistrelle, soprano pipistrelle, brown longeared, whiskered, Brandts, Daubenton"s and Natterer"s bat.
- This licence cannot be used in relation to trees.

All licensed works require evidence that there is a need for the development and that appropriate mitigation, including seasonal constraints and provision of alternative habitat and/or roosting structures is considered.

Before Natural England can confirm the site is registered and licensable works can commence, an assessment of the three tests must be undertaken by the Registered Consultant.

Although this does not need to be submitted to NE, NE may subsequently undertake a review of the project and request to see all evidence as collected by the Consultant. This can only be undertaken following a survey and impact assessment which must be carried out in accordance with licence conditions and BCT survey guidelines.

Badger

Badger are subject to legal protection under the Protection of Badgers Act (1992). Works which may result in damage to a badger sett, or potential disturbance to badger using setts, must be undertaken under a Natural England licence.

Otter

5.61 Otter and their places of shelter are afforded the same level of protection as bats as a European Protected Species (see above).

Watervole

5.62 Water vole and their places of shelter are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to water vole with regard to killing, injury and taking, and to their places of shelter with regard to obstructing, damaging and destruction.

Hedgehog

5.63 Hedgehog are protected by British law under Schedule 6 of the Wildlife and Countryside Act 1981, making it illegal to kill or capture them using certain methods.

5.64 Hedgehog are also protected in Britain under the Wild Mammals Protection Act (1996), prohibiting cruelty and mistreatment.

5.65 Hedgehog are also listed as a Species of Principle Importance in England under the Natural Environment and Rural Communities (NERC) Act 2006 Section 41. Therefore, hedgehog are considered a material consideration with the planning system and are of particular relevance to the Site, as it comprises an open green space bound by urban development.

Birds

Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and destruction. Certain species listed on Schedule 1 of the Act, are afforded additional protection against protection.

Reptiles

All UK reptiles and amphibians are legally protected from intentional and reckless killing and injury under the Wildlife and Countryside Act 1981 (as amended).

Great Crested Newt

All great crested newts (GCN) are listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) a GCN; to intentionally or recklessly disturb a GCN whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a GCN place of shelter (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

All great crested newts are listed on the Conservation of Habitats and Species Regulations 2017, Schedule 2. Regulation 41 strengthens the protection of bats under the 1981 Act against deliberate capture or killing (Regulation 41(1)(a)), deliberate disturbance (Regulation 41(1) (b))[1] and damage or destruction of a resting place (Regulation 41(1)(d)).

Great crested newt resting place is defined as any structure or place which is used for resting, shelter or protection by GCN at any life stage, irrespective of whether or not GCNs are resident. A variety of aquatic, marginal and terrestrial habitats can be used by GCNs for a number of different purposes throughout the year including resting, sleeping, foraging, breeding, migrating and hibernating. Use depends on GCN age, sex and condition as well as the external factors of season and weather conditions. A resting place used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to GCN, and loss, obstruction of or damage to a resting or sheltering place are licensable.

Application for a Natural England EPS Licence
Development works that may cause killing or injury of GCNs or that would result in the damage, loss or disturbance of a GCN resting or sheltering place would require a Natural England (NE) GCN Mitigation Licence.

[1] Relates specifically to deliberate disturbance in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young or ii) the local distribution of that species.

For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests: whether there is a need for the development which justifies the impact on the European Protected Species (EPS); whether there is an alternative which would avoid the impact and need for an EPS licence; and whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

There are two licensing routes now available for GCNs, which comprise:

Full NE England EPS Mitigation Licence:

- NE aim to determine the application within six weeks (although this can take longer).
- The application comprises three components including an application form (broad details of the applicant, site and proposals); a detailed Method Statement providing the survey methods and findings, impact assessment and mitigation measures (including detailed maps and schedule of works); and a Reasoned Statement outlining the 'need' for the development and consideration of alternatives.

NE Low Impact Class Licence

- This new route provides an alternative, quicker route (with a much-reduced application form, and a target of 10 days to determine an application).
- This Low Impact Class Licence is only available to Registered Consultants identified by NE.
- This licence might apply if the following criteria are met:
  - The footprint of the activity must not extend beyond a certain threshold size, in terms of area of impact affecting habitat used and relied upon by great crested newt (for resting). This size is determined in part by the distance from a waterbody used by GCN, with larger areas of land-take being acceptable at greater distance from waterbodies;
  - Typically the activity would be of a relatively short duration, i.e. up to six months and no longer than 12 months; and
  - Waterbodies used by great crested newts must not be affected; although ditches along linear schemes that are used by great crested newts may be temporarily impacted across a part of their length.
- All licensed works require evidence that there is a need for the development and that appropriate mitigation, including seasonal constraints and provision of alternative habitat is considered.
- Before Natural England can confirm the site is registered and licensable works can commence, an assessment of the three tests must be undertaken by the Registered Consultant. Although this does not need to be submitted to NE, NE may subsequently undertake a review of the project and request to see all evidence as collected by the Consultant. This can only be undertaken following a survey and impact assessment which must be carried out in accordance with licence conditions and GCN best practice guidelines.

5.66 Great crested newts are listed as species of principal importance under the NERC Act (2006). Section 41 of the Act is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Plants

Certain plants are protected against uprooting and sale by the Wildlife and Countryside Act 1981 (as amended). In addition, it is illegal to cause certain plants listed on schedule 9 of the Wildlife and Countryside Act to grow in the wild, or to plant them in the wild (this includes Japanese knotweed and Himalayan balsam).

Appendix C

Static Monitoring Point Plan

Eastcote: Ecological Appraisal
Watervale Property Ltd

LUC

Static Monitoring Point Plan

Site boundary

Static monitoring point

CB:JI EB:Ilott_J LUC FigX_11246_r0_SMP_A4L_01/12/2020
Source: LUC

Appendix D

Static Monitoring Point Data

Table D.1: Environmental Conditions During Static Monitoring Point Surveys

Season	Date	Sunrise	Sunset	Min Temperature	Max Temperature	Weather Conditions (night)
Autumn 2020						
Autumn	27/10/2020	06:48	16:42	7°C	12°C	Dry, gentle breeze
Autumn	28/10/2020	06:50	16:41	7°C	9°C	Dry, gentle breeze
Autumn	29/10/2020	06:52	16:39	15°C	15°C	Dry, moderate breeze
Autumn	30/10/2020	06:54	16:37	14°C	16°C	Dry, moderate breeze
Autumn	31/10/2020	06:55	16:35	10°C	12°C	Dry, gentle breeze
Spring 2021						
Spring	22/04/2021	05:49	20:10	7°C	10°C	Dry, light breeze
Spring	23/04/2021	05:47	20:12	5°C	9°C	Dry, gentle breeze
Spring	24/04/2021	05:45	20:14	4°C	8°C	Dry, gentle breeze
Spring	25/04/2021	05:43	20:15	3°C	7°C	Dry, gentle breeze
Spring	26/04/2021	05:41	20:17	7°C	9°C	Dry, light breeze dropped to light air from 03:00
Summer 2021						
Summer	01/06/2021	04:49	21:10	13C	16C	Dry, gentle breeze, dropped to light breeze by 00:00
Summer	02/06/2021	04:48	21:11	15C	18C	Dry except for slight rain at 00:00, light breeze
Summer	03/06/2021	04:47	21:12	15C	18C	Slight rain at 21:00 then dry, light breeze
Summer	04/06/2021	04:47	21:13	6C	13C	Dry, light air increased to light breeze from 00:00
Summer	05/06/2021	04:46	21:14	13C	17C	Dry, light breeze reduced to light air by 03:00

Table D.2: Static Monitoring Point Data

	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	*Pipistrelle* sp.	Brown long-eared	*Myotis* sp.	Noctule	Serotine	Leisler's	Noctule / Serotine / Leisler's	Grand Total
SMP A	**2241**	**712**	**20**	**33**	**1**	**1**				**5**	**3013**
Autumn		**9**	**1**	**1**							**11**
27/10/2020		4									4
28/10/2020		1									1
29/10/2020		2									2
30/10/2020		2	1	1							4
Spring	1824	615	11	20		1					2471
22/04/2021	312	159		4							475
23/04/2021	508	118	4	#		1					643
24/04/2021	499	292	6	1							798
25/04/2021	279	33		2							314
26/04/2021	226	13	1	1							241
Summer	417	88	8	12	1					5	531
01/06/2021	168	24	4	1							197
02/06/2021	56	9	1	3						3	72
03/06/2021	87	28	1	3						1	120
04/06/2021	39	2		2	1						44

	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	*Pipistrelle* sp.	Brown long-eared	*Myotis* sp.	Noctule	Serotine	Leisler's	Noctule / Serotine / Leisler's	Grand Total
05/06/2021	67	25	2	3						1	98
SMP B	**869**	**114**	**44**	**8**		**1**	**2**	**1**		**11**	**1050**
Autumn	**4**	**16**								**1**	**21**
27/10/2020		1									1
28/10/2020		1									1
29/10/2020	1	2								1	4
30/10/2020	2	12									14
27/10/2020	1										1
Spring	**485**	**11**		**2**				**1**			**499**
22/04/2021	107	3									110
23/04/2021	181	3		2							186
24/04/2021	108	1									109
25/04/2021	53	2									55
26/04/2021	36	2						1			39
Summer	**380**	**87**	**44**	**6**		**1**	**2**			**10**	**530**
01/06/2021	212	47	31	4							294
02/06/2021	56	13	7	1						6	83
03/06/2021	39	14	4	1						1	59

	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	*Pipistrelle* sp.	Brown long-eared	*Myotis* sp.	Noctule	Serotine	Leisler's	Noctule / Serotine / Leisler's	Grand Total
04/06/2021	33	4	1			1	1			3	43
05/06/2021	40	9	1				1				51
SMP C	**606**	**753**	**17**	**11**			**1**		**6**	**1**	**1395**
Autumn	**10**	**436**	**1**	**1**							**448**
27/10/2020	2	122									124
28/10/2020		34									34
29/10/2020	5	83									88
30/10/2020	3	196	1	1							201
27/10/2020		1									1
Spring	**155**	**40**		**2**							**197**
22/04/2021	19	4									23
23/04/2021	63	16		1							80
24/04/2021	30	13									43
25/04/2021	22	6		1							29
26/04/2021	21	1									22
Summer	**441**	**277**	**16**	**8**			**1**		**6**	**1**	**750**
01/06/2021	142	73	6	1							222
02/06/2021	52	37	2						6		97

Appendix D
Static Monitoring Point Data

Land at corner of Fore Street and High Road, Eastcote, HA5 2ET
February 2023

	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	*Pipistrelle* sp.	Brown long-eared	*Myotis* sp.	Noctule	Serotine	Leisler's	Noctule / Serotine / Leisler's	Grand Total
03/06/2021	100	86	4	4							194
04/06/2021	56	21	1	1			1			1	81
05/06/2021	91	60	3	2							156
Grand Total	**3716**	**1579**	**81**	**52**	**1**	**2**	**3**	**1**	**6**	**17**	**5458**

Appendix E

Ground Level Bat Roost Assessment

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
Removed	T1	Oak	Mature	Tree has one limb with lots of dead wood which has lots of small splits, cracks and loose bark. Features are suitable for a small number of crevice dwelling bats.		Moderate
T1	T2	Ash	Immature	No obvious features.	No photograph.	Negligible
T2	T3	Ash	Semi-mature	No obvious features.	No photograph.	Negligible
T3	T4	Ash	Immature	No obvious features.	No photograph.	Negligible
T4	T5	Ash	Immature	No obvious features.	No photograph.	Negligible
T5	T6	Ash	Mature	No obvious features.	No photograph.	Negligible
Removed	T7	Ash	Mature	No obvious features. Fallen tree.	No photograph.	Negligible
Removed	T8	Oak	Mature	Ram's horn on southwest aspect where limb has died which is suitable for crevice dwelling bats. Lots of loose bark and cracks and/or fissures across the entire tree.		Moderate

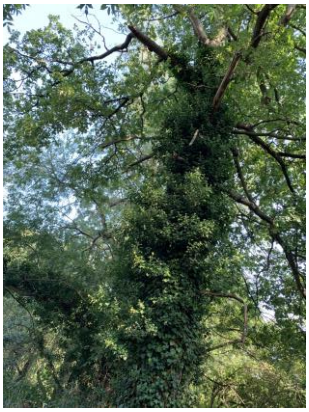
[16] Tree ID correlates with a previous Tree Constraints Plan produced by EnviroArb-Solutions Ltd, drawing number: EAS-062 TCP. 23.09.22.
[17] Tree ID correlates with a previous Tree Constraints Plan produced by EnviroArb-Solutions Ltd, drawing number: EAS-062 TCP. 05.09.20.

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
Removed	T9	Oak	Mature	Tree with lots of dead wood forming cracks and crevices. Also a hole on the east aspect but appears to extend down.		Moderate
Removed	T10	Oak	Mature	No features seen but tree sufficiently mature enough to have potential roosting features. Ivy obscuring view.		Low
Removed	T11	Oak	Mature	No features seen but tree sufficiently mature enough to have potential roosting features.		Low

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T6	T12	Oak	Semi-mature	Limb tear out wound which seems to be well healed on north aspect. West aspect has hole at approximately 15m high.		Moderate
T7	T13	Oak	Mature	No features seen. View obscured by ivy.		Low
Removed	T14	Ash	Mature	Two woodpecker holes on southwest aspect.		Moderate

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T8	T15	Oak	Mature	Tall tree with loose bark.		Low
T9	T16	Oak	Semi-mature	No features. Ivy partially obscuring view.	No photograph.	Negligible
T10	T17	Ash	Semi-mature	No obvious features.	No photograph.	Negligible
T11	T18	Ash	Immature	No obvious features.	No photograph.	Negligible
T12	T19	Oak	Semi-mature	No features seen but tree sufficiently mature to have potential roosting features. Ivy partially obscuring view.		Low
T13	T20	Oak	Mature	Knot hole that extends down on west aspect. Also a knot hole with bat roosting potential on east aspect. Three bat boxes: west aspect 4m and 10m, northwest aspect 11m.		Moderate
T14	T21	Pissard plum	Immature	No obvious features.	No photograph.	Negligible

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T16	T22	Oak	Mature	Large oak with several woodpecker holes. Two woodpecker holes on southeast aspect at 27m and 20m high. Also several dead branches.		Moderate
T15	T23	Ash	Mature	Two knot holes on the southeast aspect, 11m on a limb and 15m on main stem. A woodpecker hole on the southeast aspect 15m high.		Moderate
T17	T24	Alder	Mature	No obvious features.	No photograph.	Negligible
T18	-	Cherry	Immature	No obvious features.	No photograph	Negligible
T19	T25	Alder	Semi-mature	No obvious features.	No photograph.	Negligible
T20	T26	Alder	Mature	Knot hole which appears to extend upwards into a cavity on north aspect.		Moderate
T21	T27	Ash	Mature	No obvious features.	No photograph.	Negligible

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T22	T28	Oak	Mature	Large tree with several dead branches. Woodpecker hole on north aspect 12m high (visible from public path).		Moderate
T23	T29	Pissard Plum	Immature	No obvious features.	No photograph.	Negligible
T24	T30	Cherry	Semi-mature	A well healed knot hole which appears to downwards.	No photograph.	Negligible
T25	T31	Ash	Semi-mature	No obvious features.	No photograph.	Negligible
T26	T32	False acacia	Immature	No obvious features.	No photograph.	Negligible
T27	T33	False acacia	Immature	No obvious features.	No photograph.	Low
Removed	T34	False acacia	Mature	Loose bark on most aspects but the tree is exposed and unsheltered.		Low
T28	T35	False acacia	Semi-mature	No obvious features.	No photograph.	Negligible

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T29	T36	Oak	Mature	Several dead branches with dead wood. One branch had some decay which appears to extend into a cavity. The decay has formed a small, sheltered entrance.		Moderate
T30	T37	Ash	Mature	One knot hole on the northeast aspect, 8m high.		Low
Removed	T38	Ash	Immature	Dead. Ivy partially obscuring view.	No photograph.	Negligible
T31	T39	Ash	Mature	Knot hole which extends partially downwards and does not extend far into the tree.		Low
T32	T40	Ash	Semi-mature	Hole which extends downwards.	No photograph.	Negligible
T33	T41	Ash	Semi-mature	No features seen. Dense ivy obscuring view.	No photograph.	Negligible
T34	-	Replacement tree	Immature	No obvious features.	No photograph.	Negligible

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
T35	-	Replacement Yew tree	Immature	No obvious features.	No photograph.	Negligible
T36	-	Replacement Yew tree	Immature	No obvious features.	No photograph.	Negligible
T37	-	Holy	Immature	No obvious features.	No photograph.	Negligible
T38	-	Holy	Immature	No obvious features.	No photograph.	Negligible
T39	-	Replacement tree	Immature	No obvious features.	No photograph.	Negligible
T40	-	Field maple	Immature	No obvious features.	No photograph.	Negligible
T41	-	Replacement tree	Immature	No obvious features.	No photograph.	Negligible
TG1	TG1	Hawthorn, birch, sweet - chestnut, ash.	Immature	No obvious features.	No photograph.	Negligible
TG2	TG2	Blackthorn, hawthorn, holly, ash seedlings, cherry.	Immature	No obvious features.	No photograph.	Negligible
TG3	TG3	Blackthorn, hawthorn, holly, ash seedling, cherry, elm.	Semi-mature	No obvious features.	No photograph.	Negligible
TG4	TG4	Blackthorn, hawthorn, holly, ash seedlings, cherry, elm.	Immature	No obvious features.	No photograph.	Negligible
TG5	TG5	Blackthorn, hawthorn, holly, ash	Immature	No obvious features.	No photograph.	Negligible

New Tree ID[16]	Old Tree ID[17]	Species	Age	Description of Features	Photograph	Bat Roost Potential
		seedlings, cherry, elm.				
TG6	TG6	Sycamore, ash seedlings, elm.	Semi-mature	No obvious features.	No photograph.	Negligible

Eastcote: Ecological Appraisal
Watervale Property Ltd

LUC

Ground Level Bat Roost Assessment

Site boundary

Trees with Bat Roost Potential (BRP)

Moderate

Low

CB: EB:llott_J LUC FigX_11246_r0_BatRoostSurvey_A4L_09/10/2020
Source: LUC