



MKA
ECOLOGY

Preliminary Ecological Appraisal and Preliminary Roost Assessment

Ickleford Mill, Herts

Site	<i>Ickleford Mill, Herts</i>
Project number	<i>184025</i>
Client name / Address	<i>The Hill Group, The Power House, Gunpowder Mill, Powdermill Lane, Waltham Abbey, Essex, EN9 1BN</i>

Version number	Date of issue	Revisions
1.0	<i>20 February 2026</i>	<i>Original</i>
2.0	<i>19 March 2026</i>	<i>Updates to text following LPA comment</i>

Author(s)	<i>Alfie Bunting</i>	<i>Alfie Bunting</i>
Surveyor(s)	<i>Tom McGuire</i>	<i>T McGuire</i>
Reviewed by	<i>Felix Bird</i>	<i>Felix Bird</i>
Authorised by	<i>Marielle James MCIEEM</i>	<i>MJames</i>
Contact	<i>MKA Ecology Limited, 01763 262211, enquiries@mkaecology.co.uk</i>	

Declaration of compliance

This Preliminary Ecological Appraisal has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”. The information which we have provided is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.



MKA Ecology Ltd is a CIEEM Registered Practice. This means that MKA Ecology Ltd are formally recognised for high professional standards, working at the forefront of our profession.

Validity of data

Unless stated otherwise the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required in order to determine any changes in site composition and ecological constraints.

CONTENTS

1.	EXECUTIVE SUMMARY	3
2.	INTRODUCTION	6
2.1.	Aims and scope of Preliminary Ecological Appraisal	6
2.2.	Site description and context	6
2.3.	Previous survey effort	7
2.4.	Proposed development.....	7
2.5.	Legislation and planning policy.....	7
3.	METHODOLOGIES	9
3.1.	Desktop study	9
3.2.	UK Habitat Classification	10
3.3.	Protected and notable species scoping survey	10
3.5.	Surveyor, author and reviewer	16
3.6.	Date, time and weather conditions	16
3.7.	Constraints.....	17
4.	RESULTS	18
4.1.	Desktop study	18
4.2.	UK Habitat Classification	21
4.3.	Protected species scoping survey	26
4.4.	Preliminary Roost Assessment.....	32
5.	ECOLOGICAL CONSTRAINTS, OPPORTUNITIES AND RECOMMENDATIONS	46
6.	CONCLUSIONS	58
7.	REFERENCES	60
8.	APPENDICES	62
8.1.	Appendix 1: Relevant wildlife legislation and planning policy.....	62
8.2.	Appendix 2: UK Habitat Classification species list	70
8.3.	Appendix 3: Site photographs	75
8.4.	Appendix 4: Bird box recommendations.....	80

1. EXECUTIVE SUMMARY

In September 2025, MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment at Ickleford Mill, Herts. The Preliminary Ecological Appraisal included a habitat survey, protected species scoping survey and desktop study of protected and notable sites and species in the area. A site visit was undertaken on 01 October 2025. The Preliminary Roost Assessment was undertaken on 18 September 2025 and included inspections of all onsite buildings, bridges, individual trees and lines of trees to the north of the River Oughton.

The Site consists of a decommissioned flour mill and associated factory and office buildings. The River Oughton runs in a west to east direction through the centre of the Site and grassland, woodland and lines of trees are present to the south of the river. The proposed development will involve the demolition of all onsite buildings and the construction of 55 new residential dwellings with associated hardstanding and garden habitats. The area onsite to the south of the River Oughton is designated as Green Belt and will not be developed on, instead being used to provide public open space.

The following ecological constraints were identified at the Site with recommendations made as follows;

- **Designated sites:** The Site lies within SSSI Impact Risk Zones and any development proposing new infrastructure may require LPA consultation with Natural England on the likely ecological risks associated with the development. It is recommended that Natural England are consulted to ensure any infrastructure associated with the proposed development does not risk negatively impacting any of the designated sites within the vicinity of the Site;
- **On-site habitats:** The River Oughton, individual trees and native hedgerow (Habitats of Principal Importance) present onsite are ecologically valuable. It is recommended that these habitats are retained and protected. Where this is not feasible for trees or hedgerows, they should be replaced using native species;
- **Bats:** A total of 46 derelict buildings/ structures and three bridges are present onsite, of these one building has moderate potential for roosting bats, six buildings and two bridges have low potential for roosting bats, one building no longer exists and the remaining buildings and one bridge each have negligible potential for roosting bats.
 - Due to the poor condition of the buildings/structures and the significant health and safety risk these pose, a non-standard approach has been taken in respect to bats. Two bat emergence surveys in September and October, a sub-optimal time of year, have been recommended to establish a robust evidence base to inform the demolition process.
 - It is recommended that all bridges with low potential to support roosting bats require a minimum of one bat emergence survey in the bat active season, May – August

(inclusive). These surveys will ascertain the presence or likely absence of roosting bats and inform any mitigation measures or licence applications required.

- Of the 27 individual rural trees present onsite, 26 were assessed as having negligible potential to support roosting bats and two were assessed as containing PRF-Ms. All trees within lines of trees to the north of the River Oughton were assessed as having negligible potential to support roosting bats. Full inspections of woodland trees throughout the Site and lines of trees to the south of the River Oughton were not undertaken because no impacts are anticipated from the development. However, obvious features in these areas were noted during the survey. All trees with bat potential, all woodland trees and all lines of trees to the south of the River Oughton should be retained and protected during the proposed works or, where impacts are unavoidable, further surveys will be required. Light pollution should be minimised both during and after the construction phase and a sensitive lighting scheme should be developed to allow for suitable roosting and foraging areas for bats within and adjacent to the Site;
- **Reptiles:** The grassland to the south of the River Oughton is suitable to support reptiles. These habitats are not anticipated to be impacted by the proposed works. If plans change and impacts are unavoidable, then further surveys and/or mitigation measures will be required;
- **Birds:** The woodlands, hedgerows, individual trees, lines of trees and buildings offer suitable habitat for nesting birds. All birds and their active nests are protected under the Wildlife and Countryside Act 1981 and therefore, it is recommended that vegetation and building clearance is undertaken outside of the breeding bird season (March – August inclusive). Should these timings not be feasible, clearance should be preceded by a nesting bird check undertaken by a suitably qualified ecologist;
- **Badgers:** The habitats are suitable to support badger, a separate confidential report has been provided to the Local Planning Authority, but it is not to be put into the public domain due to its confidential nature;
- **Otter and water vole:** The habitats onsite are suitable for otter and water vole. It is recommended that updated otter and water vole surveys are undertaken and, where feasible, a 10m buffer should be maintained from the top of the banks of the River Oughton in order to reduce the risk of disturbance to both otter and water vole; and,
- **Hedgehog:** The habitats present onsite are suitable to support hedgehog. It is recommended that simple measures are put into place to protect individuals and retain habitat connectivity.

Details of all recommended mitigation measures should be provided to support the Demolition and Construction Management Plan/ Method Statement (as outlined within the Outline Planning Decision Notice: North Herts Council Ref: 17/01955/1) and should be followed during the demolition and construction phase of the proposed development to safeguard sensitive ecological receptors.

Opportunities exist to enhance the biodiversity on the Site post-development. Recommendations include native species planting, river enhancements and the provision of bird and bat boxes.

2. INTRODUCTION

2.1. Aims and scope of Preliminary Ecological Appraisal

In September 2025, MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment at Ickleford Mill, Herts by the Hill Group in order to support a reserved matters planning application for the demolition of the onsite buildings and the construction of 55 new residential dwellings.

The aims of the Preliminary Ecological Appraisal were to:

- Undertake a desktop study to identify the extent of protected and notable species and habitats within close proximity of the Site;
- Prepare a habitat map for the Site;
- Identify evidence of protected species/species of conservation concern at the Site;
- Assess the potential impacts of the proposed development, using existing plans;
- Outline recommendations for further survey effort where required; and
- Outline recommendations for biodiversity enhancements.

The aims of the Preliminary Roost Assessment were to:

- Undertake a desktop study to identify the locations of known bat roosts and activity records within 2km;
- Assess the suitability of the buildings and bridges at the Site for roosting bats, and record any evidence of bat presence;
- Identify likely ecological impacts relating to the proposed development;
- Assess the need for further survey effort, a European Protected Species Licence (EPSL) or mitigation, if required; and,
- Propose any suitable habitat enhancements for bat species, if required.

2.2. Site description and context

The survey area is shown on the map in

Figure 1. Within this report this area is referred to as the Site or Ickleford Mill, Herts. It is located on the southern edge of the village of Ickleford to the immediate north of the town of Hitchin in Hertfordshire (centred on OS grid reference TL 18206 31282) and falls under the authority of North Hertfordshire District Council. The Site comprises a decommissioned flour mill and associated factory and office buildings covering approximately 3.59 hectares. The River Oughton runs in a west to east direction through the centre of the Site and grassland, woodland and lines of trees are present to the south of the river.

2.3. Previous survey effort

An Ecological Appraisal was previously conducted in 2016 and 2017 by Wardell Armstrong (Wardell Armstrong, 2017a). The appraisal included the following surveys:

- Desk study;
- Habitat survey;
- Habitat suitability assessment, presence/absence surveys and Environmental DNA (eDNA) surveys for great crested newt;
- Preliminary inspections of trees and structures, dusk emergence surveys and activity surveys for bats;
- Raptor vantage point survey; and
- Otter and water vole surveys.

Bat surveys including aerial tree inspections, dusk emergence and dawn re-entry surveys and bat activity surveys were undertaken in 2017 by Wardell Armstrong (Wardell Armstrong, 2017b). Updated preliminary bat roost assessments of the onsite buildings, bridges and trees were undertaken by Maydencroft Ltd in January 2022 (Maydencroft Ltd, 2022).

A badger and otter survey was undertaken in 2022 by Wardell Armstrong, to update the established baseline from 2016 for the Site (Wardell Armstrong, 2022).

2.4. Proposed development

The proposed development will involve the demolition of all onsite buildings and the construction of 55 new residential dwellings with associated hardstanding and garden habitats. The area to the south of the River Oughton is designated as Green Belt and will not be developed on, instead being used to provide public open space.

Due to the likely scale and type of project the anticipated zone of influence will be the Site and the immediate surrounds.

2.5. Legislation and planning policy

This Preliminary Ecological Appraisal has been undertaken with reference to relevant wildlife legislation and planning policy.

Relevant legislation considered within the scope of this document includes the following:

- The Environment Act 2021;
- The Wildlife and Countryside Act 1981;
- The Conservation of Habitats and Species Regulations 2017;
- Natural Environment and Rural Communities (NERC) Act 2006;
- The Countryside and Rights of Way (CRoW) Act 2000;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Further information is provided in Appendix 1, including levels of protection granted to the species considered in Section 3.3.

In addition to obligations under wildlife legislation, the revised National Planning Policy Framework (NPPF) updated on 12 December 2024 requires planning decisions to contribute to conserving and enhancing the local environment. Further details are provided in Appendix 1.

North Hertfordshire District Council has produced an adopted Local Plan (North Hertfordshire District Council, 2022) which covers a number of policies relating to biodiversity and habitat conservation, including:

- Policy SP1: Sustainable development in North Hertfordshire
- Policy SP9: Design and Sustainability
- Policy SP12: Green infrastructure, landscape and biodiversity

Where relevant these are discussed in further detail in Section 0. Relevant excerpts from each policy are set out in more detail in Appendix 1.

3. METHODOLOGIES

This Preliminary Ecological Appraisal and Preliminary Roost Assessment has been undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal, 2nd edition (CIEEM, 2017) and the Bat Conservation Trust's best practice guidelines (Collins, 2023).

3.1. Desktop study

A data search was conducted for the Site and the surrounding area within 2km. The search was extended to 10km for internationally designated sites. Data was retrieved from the sources listed in Table 1.

Table 1: Sources of data for desktop study

Organisation	Data collected	Date collected
Multi-agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk	Information on local, national and international statutory protected areas.	02/12/2025
Hertfordshire Environmental Record Centre (HERC) and Bedfordshire and Luton Biodiversity Recording and Monitoring Centre	Information on protected and notable sites and species within 2km of the Site (TL 18206 31282).	09/09/2025
Ordnance Survey maps and aerial photography	Information on habitats and connectivity between the Site and the surrounding landscape	02/12/2025
Natural England Risk Zones for District Licensing of Great Crested Newts in Hertfordshire (Natural England, 2024)	Information categorised into district zones relating to GCN occurrence and the level of impact development is likely to have on this species.	02/12/2025
Plantlife Important Plant Areas (IPA) Buglife Important Invertebrate Areas (IIA)	Information on Important Plant and Invertebrate areas within 2km of the Site.	02/12/2025

The following ecological surveys have previously been carried out at the Site and are referenced in this report where relevant:

- Ecological Appraisal (Wardell Armstrong, 2017a);
- Habitat suitability assessment, presence/absence surveys and eDNA surveys for great crested newts (Wardell Armstrong, 2017a);

- Raptor vantage point surveys (Wardell Armstrong, 2017a);
- Bat Survey Report (Wardell Armstrong, 2017b);
- Update Preliminary Bat Roosting Assessment of Buildings and Trees (Maydencroft Ltd, 2022);
- Badger and Otter Survey Report (Wardell Armstrong, 2022).

3.2. UK Habitat Classification

Habitats were surveyed using the standardised UK Habitat classification and mapping methodology (UKHab Ltd, 2023). Data were recorded onto a Samsung Tablet in a Geographic Information System (GIS), in this instance QField, following a modified UK Habs colour mapping palette. Dominant plant species were observed and recorded within each habitat type. The plant species nomenclature follows that of Stace (2019).

The DAFOR scale is used to describe the relative abundance of species. The scale is shown in Table 2. It is important to note that where a species is described as rare this description refers to its relative abundance within the Site and is not a description of its abundance within the wider landscape. Therefore, a species with a rare relative abundance within the Site may be common within the wider landscape.

Table 2: DAFOR scale

DAFOR code	Relative abundance
D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

In order to assess grassland habitats a series of 1m by 1m quadrats are used to understand species composition. Within each quadrat the percentage cover of each species is recorded. The number of quadrats used varies depending on grassland complexity. Low complexity grasslands, such as amenity grasslands, have fewer quadrats. Neutral, acidic and calcareous grasslands have at least five quadrats to ensure the habitat types are correctly assigned.

3.3. Protected and notable species scoping survey

As part of the Preliminary Ecological Appraisal, an assessment of the potential for the habitats on site, or within the zone of influence of the proposed development, to support protected or notable species was made. This assessment was based on the quality, extent and interconnectivity of suitable habitats,

along with the results of the desktop study detailed in Section 3.1. This includes Species of Principal Importance as listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Red and Amber listed Birds of Conservation Concern (BoCC) as per Stanbury *et al.*, 2021 (see Appendix 1).

Protected and notable species considered within the protected species scoping survey for Ickleford Mill, Herts include the following:

- Plants and fungi: Including species listed on Schedule 8 of the Wildlife and Countryside Act 1981 such as bluebell *Hyacinthoides non-scripta* and lizard orchid *Himantoglossum hircinum*, and Species of Principal Importance such as cornflower *Centaurea cyanus*.
- Invertebrates: Species included on Section 41 of the NERC Act (2006) such as small heath butterfly *Coenonympha pamphilus*, stag beetle *Lucanus cervus*, beaded chestnut moth *Agrochola lychnidis* and sawfly moth *Cirrhia icteritia*.
- Fish: Species included on Section 41 of the NERC Act (2006) such as brown trout *Salmo trutta* subsp. *fario*. and European eel *Anguilla Anguilla*.
- Amphibians: Natterjack toad *Epidalea calamita*, great crested newt *Triturus cristatus* and common toad *Bufo bufo*.
- Reptiles: Adder *Vipera berus*, common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica helvetica*.
- Birds: With special reference to species listed under Schedule 1 of The Wildlife and Countryside Act, 1981, Species of Principal Importance and BoCC species.
- Mammals: Badger *Meles meles*, bats (all species), water vole *Arvicola amphibius*, otter *Lutra lutra*, hazel dormouse *Muscardinus avellanarius*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, harvest mouse *Micromys minutus*, polecat *Mustela putorius* and European beaver *Castor fiber*.

In each case the likelihood of presence of these protected species in the zone of influence of the proposed development was classified as being either confirmed, high, moderate, low or negligible.

- **Confirmed:** The species is confirmed during the Preliminary Ecological Appraisal, previous survey effort or recent records.
- **High:** Habitats are available which are highly suitable for this species and there are records within the desktop study. The surrounding areas also provide widespread opportunities for the species which are well connected to the Site.
- **Moderate:** Some suitable habitat available for the species although not of optimum quality. Species is present with the desktop study.
- **Low:** Some suitable habitat available for the species but this is low value and possibly of small scale or with poor connectivity. No, or very few, records returned in the desktop study.
- **Negligible:** No suitable habitat available for the species, or very little poor-quality habitat.

This protected species scoping survey is designed to assess the *potential* for presence or absence of a particular species or species group and does not constitute a full survey for these species.

3.4. Preliminary Roost Assessment

There are a total of 46 derelict buildings/structures present onsite that are all scheduled to be removed by the proposed works. Three bridges and a range of trees are also present within the Site and its boundaries. The onsite buildings, bridges and trees are shown in Figure 1: UK Habitat Classification map of Figure 1.

Inspections of the onsite buildings, bridges, individual trees and lines of trees to the north of the River Oughton were undertaken following guidance set out in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)* (Collins, 2023). Full inspections of woodland trees throughout the Site and lines of trees to the south of the River Oughton were not undertaken during the PEA survey because no impacts to these features are anticipated from the development, however, obvious features in these areas were recorded.

The following features were recorded for each building and bridge:

- Location;
- Type;
- Dimensions;
- Age;
- Construction materials; and,
- Current use.

Descriptions of potential and actual access points and roosting places were recorded (including height above ground level and aspect), as well as descriptions of evidence of bats found. The following types of evidence of use by bats were recorded:

- Location and number of any live bats;
- Location and number of any bat corpses or skeletons;
- Locations and number of bat droppings;
- Notes on relative freshness, shape and size of bat droppings;
- Location and quantity of any bat feeding remains;
- Location of clean, cobweb-free timbers, crevices and holes;
- Location of characteristic staining from urine and/or grease marks;
- Location and quantity of bat-fly (Nycteribiidae) pupal cases;
- Location of known and potential access points to the roost; and,

- Location of the characteristic smell of bats.

The buildings and bridges were assessed for their bat roost suitability according to the scheme presented in Collins (2023). These categories are shown in Table 3.

Table 3: Categories to assess roost suitability in buildings (adapted from Collins, 2023)

Roost suitability	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices/suitable shelter at all ground/underground levels)
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions* and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic hibernation site).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have potential to support high conservation status roosts e.g., maternity or classic hibernation site.

*For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

The following features were recorded for trees:

- Species; and
- Diameter at breast height.

Descriptions of suitable and actual roost features were recorded (including height above ground level and aspect), as well as descriptions of evidence of bats found. Potential roost features (PRFs) recorded were:

- Woodpecker holes;
- Rot holes;
- Hazard beams;
- Other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- Partially detached platy bark;
- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g. cavities that have development from flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt-rots;
- Double-leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bat, bird or dormouse boxes.

The following types of evidence of use by bats were recorded for trees:

- Presence of bats;
- Bat droppings in, around or below a potential roost feature;
- Odour emanating from a potential roost feature;
- Audible squeaking at dusk or in warm weather; and
- Staining below the potential roost feature.

The trees were assessed for their bat roost suitability according to the scheme presented in Collins (2023). These categories are shown in Table 4.

Table 4: Guidelines for categorising the potential suitability of PRFs on trees (Collins, 2023)

Roost suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats, either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

The guidelines for categorisation of bats in England by distribution and rarity (adapted from Reason and Wray 2023) are shown in the tables below.

Table 5: Categorising bats by rarity (South-eastern/East Anglia to The Wash)

Rarity within England	Species
Rarest Annex II species and very rare	- Alcathoe's bat <i>Myotis alcathoe</i> - Barbastelle <i>Barbastella barbastellus</i>
Rarer or restricted distribution	- Whiskered bat <i>Myotis mystacinus</i> - Brandt's bat <i>Myotis brandtii</i> - Leisler's bat <i>Nyctalus leisleri</i> - Nathusius' pipistrelle <i>Pipistrellus nathusii</i> - Serotine <i>Eptesicus serotinus</i>
Widespread in many geographies, but not abundant in all	- Noctule <i>Nyctalus noctula</i> - Daubenton's bat <i>Myotis daubentonii</i> - Natterer's bat <i>Myotis nattereri</i>
Widespread	- Common pipistrelle <i>Pipistrellus pipistrellus</i> - Soprano pipistrelle <i>Pipistrellus pygmaeus</i> - Brown long-eared bat <i>Plecotus auritus</i>

Table 6: Level of importance of roost type

Geographic frame of reference	Roost type
Site, District, Local or Parish	Feeding perches Non-breeding day roosts Mating sites (excluding individual trees and swarming sites) Small numbers of hibernating bats Larger transitional roosts Maternity sites (for widespread species, unless colony atypically large)
County	Hibernation sites (excluding rarest Annex II species) Maternity sites (for widespread but not abundant in all geographies species unless colony atypically large) Autumn swarming sites (can reach regional importance depending on assemblage)
Regional	Maternity sites (depending on rarity and value of assemblage) Hibernation sites (for rarest Annex II species, depending on assemblage and size)
National/UK	Sites meeting SSSI guidelines*
International	SAC sites

*Sites meeting SSSI (Sites of Special Scientific Interest) selection guidelines include Barbastelle maternity roosts and mixed species hibernacula assemblages

The inspections of the buildings, bridges and trees were conducted using a variety of equipment including ladders, digital video endoscope, inspection mirrors, binoculars, high-powered torch and a digital camera.

3.5. Surveyor, author and reviewer

The Preliminary Ecological Appraisal survey was undertaken by Tom McGuire, Ecologist at MKA Ecology Ltd. Tom has over two years' experience undertaking Preliminary Ecological Appraisals, holds a FISC Level 4 and Level 1 great crested newt licence from Natural England. The Preliminary Roost Assessment survey was undertaken by Marielle James MCIEEM, Principal Ecologist at MKA Ecology Ltd, assisted by Madelaine Grove, Ecologist at MKA Ecology Ltd. Marielle has over ten years' experience as a professional ecologist and holds a Level 2 bat licence issued by Natural England and Madelaine has one year's experience as a professional ecologist.

The report was written by Alfie Bunting, Consultant Ecologist at MKA Ecology Limited with four years' experience as a professional ecologist, and reviewed by Felix Bird, Senior Ecologist. Felix has over seven years' experience as a professional ecologist. The report was subsequently authorised by Marielle.

3.6. Date, time and weather conditions

See Table 7 below for details of the date, time and prevailing weather conditions recorded during the site visit for the Preliminary Ecological Appraisal.

Table 7: Date, time and weather conditions of survey visit

Date	Survey type	Time of survey	Weather conditions*
18/09/2025	Preliminary Roost Assessment	10:00-15:00	Wind: 3 Cloud: 8 Temp: 18°C Rain: none
01/10/2025	Preliminary Ecological Appraisal	09:30-16:30	Wind: 3 Cloud: 8 Temp: 17°C Rain: light

*Wind as per Beaufort Scale / Cloud cover given in Oktas.

3.7. Constraints

A single visit cannot always ascertain the presence or absence of a protected species. However, an assessment is made of the likelihood for protected species to occur based on habitat characteristics and the ecology of each species. Where there is potential for protected species, additional survey work may be required to ascertain their presence or absence.

Data on species records obtained from local biological records centres are sometimes only available at low spatial resolutions and are constrained by the voluntary nature of the contributions and what has been chosen to be submitted as records. While these records provide a useful indication of species recorded in the local area, in particular protected or notable species, the data is not necessarily an accurate reflection of species assemblages or abundance in the vicinity.

The assessment was undertaken outside the optimum period of April to the end of September. However, within the scope of the study it was possible to identify key habitats present and assess their likelihood of supporting a greater range of species.

A number of buildings (B3 - B11, B13-14, B17-21, B22-33 and B35 - 41) could not be accessed internally during the Preliminary Roost Assessment survey for health and safety reasons. A structural building survey had not been undertaken prior to the Preliminary Roost Assessment survey; therefore, a precautionary approach was taken when assessing which buildings could be accessed internally safely.

4. RESULTS

4.1. Desktop study

An ecological desktop study was completed for the Site and the surrounding 2km. Data provided by Hertfordshire Environmental Record Centre (HERC) and Bedfordshire and Luton Biodiversity Recording and Monitoring Centre identified numerous UK and European protected species, Species and Habitats of Principal Importance (as listed under Section 41 of the NERC Act 2006), and species of conservation concern within 2km of the Site. It should be noted that this is not a comprehensive list of the distribution or extent of the local flora and fauna of conservation importance. These species records are discussed in greater detail in the protected species scoping survey section (Section 0 below).

There are no international statutorily designated sites located within 10km of the Site. Details of national and local statutorily designated sites identified as part of the desktop study are displayed in Table 8 below. These consist of two Local Nature Reserves and one Site of Special Scientific interest.

Table 8: National and local statutorily designated sites within 2km of Ickleford Mill, Herts

Site name	Area (ha)	Distance and direction	Reasons for selection
Oughtonhead Common LNR	17.35	0.4km SW	Marshy grassland with fen and some drier areas of neutral grassland, scrub and woodland. Mixed wet woodland forms a belt of varying width along the north bank of the River Oughton which has its source at the western end. The river supports aquatic plants of note, the remnant fen components are notable within the county and the area is important for a range of protected species.
Oughtonhead Lane SSSI	0.98	1.5km SW	Designated for geological interest. This site is not considered further within this ecological assessment.
Purwell Meadows	8.59	1.9km SE	A mixture of meadow grasslands and wetland. The River Purwell flows through the site.

The Site also lies within SSSI Impact Risk Zones (Natural England, 2025). Any development proposing new infrastructure including pipelines, underground cables, overhead cables and any transport proposal including footways, cycleways and roads may require LPA consultation with Natural England on the likely ecological risks associated with the development.

Details of non-statutorily designated sites identified as part of the desktop study are displayed in Table 9 below. These consist of 12 Local Wildlife Sites (LWS) and one County Wildlife Site (CWS).

Table 9: Non-statutorily designated sites within 2km of Ickleford Mill, Herts

Site name	Area (ha)	Distance and direction	Reasons for selection
Cadwell Marsh & Burymead Springs LWS	11.9	0.3km E	A mosaic site supporting a variety of habitats and bordered by the Rivers Hiz and Purwell. Water voles have been recorded beside the River Purwell and harvest mice within Burymead Springs.
Oughtonhead LWS	25.3	0.4km SW	See Table 8 for designation information for Oughtonhead Common.
Westmill Lane, Ickleford LWS	<0.1	0.4km W	Buildings and environs important for protected species.
Cadwell Lane Gasworks Meadow LWS	3.2	0.5km E	Site dominated by dense hawthorn <i>Crataegus monogyna</i> scrub in the south with open patches of herb rich communities on calcareous spoil. Some remnant old grassland is present at the northern end of the site. Protected species have been recorded from within the site.
River Hiz, Ickleford North LWS	0.5	0.5km NE	Stretch of River Hiz important for water vole.
Cadwell Grove Meadows LWS	4.5	0.5km NE	Old damp meadows adjacent to the River Hiz supporting neutral marshy grassland and containing grassland indicator species.
Cadwell Crossing LWS	<0.1	0.7km NE	Scrubby railway banks by Icknield Way with records for great pignut <i>Bunium bulbocastanum</i> , a possible Herts Vulnerable species.
Lower Green, Ickleford LWS	1.9	1.0km NE	An area of moderately diverse rough grassland dissected by a road. Ditches, trees, and a pond in the north corner add to the habitat diversity.
River Hiz, Cadwell LWS	0.2	1.1km NE	Stretch of river with tall herbs, grassland and scattered trees. Habitat important for water vole.

Site name	Area (ha)	Distance and direction	Reasons for selection
River Purwell, Walsworth Common LWS	0.3	1.3km SE	River Purwell and banks with some botanical interest and records of water vole.
Rivers Ivel and Hiz CWS	48.89	1.4km NE	The Bedfordshire extent of the River Ivel and the River Hiz, including various wetland habitats alongside the rivers. Habitat important for water vole.
Ickleford Common North LWS	14.5	1.5km N	Traditionally grazed pastures supporting unimproved neutral and wet acid grasslands, and a stretch of the River Hiz. The rich flora (over 100 species) includes grassland indicator species. The common is also important for its fauna with water vole, water shrew <i>Neomys fodiens</i> , and ant hills in abundance in the old pasture. Many breeding, passage and wintering birds also use the site.
Icknield Way, Wilbury LWS	0.55	1.5km NE	Grass track running through arable fields with records for great pignut, a possible Herts Vulnerable species.

The Site is located on the southern edge of the village of Ickleford to the immediate north of the town of Hitchin in Hertfordshire. The River Oughton runs in a west to east direction through the centre of the Site and connects to multiple designated sites including Oughtonhead Common LNR to the west and Cadwell Marsh & Burymead Springs LWS to the east. To the immediate west of the Site is deciduous woodland which is listed as a Habitat of Principal Importance under Section 41 of the NERC Act 2006 and runs alongside the River Oughton providing a green corridor towards Oughtonhead Common LNR. To the immediate south-west of the Site is a large (c. 0.6 Ha) online pond fed by the River Oughton.

Adjacent habitats to the north and south of the Site consist of grassland paddocks separated by hedgerows and tree lines. Residential land within the village of Ickleford is present directly adjacent to the north-east of the Site and beyond the grassland paddocks to the north and north-west.

The Site does not lie within any Important Plant Areas (IPA) or Important Invertebrate Areas (IIA).

4.2. UK Habitat Classification

The Site was found to comprise a decommissioned flour mill consisting of 46 buildings and structures and a large area of hardstanding. The River Oughton runs in a west to east direction through the centre of the Site and grassland, woodland and lines of trees are present to the south of the river. Small parcels of vegetated habitat are present surrounding the buildings and hardstanding to the north of the river and include woodland, grassland, vegetated garden, hedgerows and trees. More detailed species lists, along with their relative abundance, can be found in Appendix 2. The UK habitat classification survey map is provided in

Figure 1, at the end of this section. Descriptions of the habitat types present along with dominant species compositions are provided below.

Other neutral grassland (g3c)

Six small parcels of other neutral grassland are present onsite, to the south of the River Oughton. The southernmost two parcels are managed in the same way and are grouped together as Grassland G1 for the purpose of this assessment. The four smaller parcels to the north of Grassland G1 are managed in the same way as each other and have been grouped together as Grassland G2 for the purpose of this assessment.

Creeping bent *Agrostis stolonifera* is abundant within Grassland G1 and other grass species present include Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata*, and false oat-grass *Arrhenatherum elatius*. Herbaceous species present include cow parsley *Anthriscus sylvestris*, creeping thistle *Cirsium arvense*, yarrow *Achillea millefolium*, common nettle *Urtica dioica* and creeping buttercup *Ranunculus repens*. This habitat qualifies as other neutral grassland due to there being greater than 20% cover of broadleaved herbs, over eight species per metre squared, multiple grass species present that are not generally sown for intensive agricultural production and the cover of rye grasses *Lolium spp.* and white clover *Trifolium repens* being significantly less than 30%.

Creeping bent is the dominant species within Grassland G2 and other grass species present include rough meadow-grass *Poa trivialis*. Herbaceous species present include cow parsley, creeping thistle, ribwort plantain *Plantago lanceolata* and creeping buttercup *Ranunculus repens*. This habitat qualifies as other neutral grassland due to there being greater than 20% cover of broadleaved herbs, multiple grass species present that are not generally sown for intensive agricultural production and the cover of rye grasses *Lolium spp.* and white clover *Trifolium repens* being significantly less than 30%.

Secondary codes relevant to this habitat type:

- 16 – Tall forbs – Grassland G2 contains tall stands of cow parsley

Modified grassland (g4)

Four small parcels of modified grassland are present to the north of the Site. These parcels are managed in the same way and are grouped together as Grassland G3 for the purpose of this assessment. Perennial rye-grass *Lolium perenne* and cock's-foot are abundant within this grassland and herbaceous species present include cow parsley, yarrow and daisy *Bellis perennis*. This habitat is classified as modified grassland due to there being fewer than nine species per m², a lack of grass species present that are not generally sown for intensive agricultural production and an abundance of perennial rye-grass.

Other lowland mixed deciduous woodland (w1f7)

Three parcels of other lowland mixed deciduous woodland are present onsite. The two northernmost parcels are similar in both species composition and management and have therefore been grouped together as Woodland W2 for the purpose of this assessment. The southernmost woodland parcel is Woodland W1.

Sycamore *Acer pseudoplatanus* is abundant within Woodland W1 and other tree species present include hybrid crack willow *Salix x fragilis*, alder *Alnus glutinosa*, field maple *Acer campestre* and Norway maple *Acer platanoides*. The understory contains green alkanet *Pentaglottis sempervirens* and common nettle.

Tree species within Woodland W2 include sycamore, yew *Taxus baccata* and pedunculate oak *Quercus robur*. Cherry laurel *Prunus laurocerasus* and common nettle are abundant within the understory and other understory species present include bramble *Rubus fruticosus* agg., false-brome *Brachypodium sylvaticum* and dog's mercury *Mercurialis perennis*.

Rivers and streams (r2)

The River Oughton, a chalk stream and Habitat of Principal Importance, passes through the centre of the Site, flowing from west to east. Vegetation within the river channel and margins includes water forget-me-not *Myosotis scorpioides*, common duckweed *Lemna minor* and brooklime *Veronica beccabunga*.

Developed Land – sealed surface (u1b)

Developed land with a sealed surface is present throughout the Site. This habitat surrounds the buildings in the centre and north of the Site. Four bridges are present onsite and are described in more detail in Section 3.4.

Buildings (u1b5)

A total of 46 connected buildings and structures are present onsite including a decommissioned flour mill and associated factory and office buildings. Three bridges, which cross the River Oughton are also present. The onsite buildings and bridges are described in more detail in Section 3.4.

Suburban mosaic of developed and natural surface (u1d)

Small parcels of introduced shrub habitat are present to the north-east of the Site containing a mix of non-native species and common ivy *Hedera helix*.

Secondary codes relevant to this habitat type:

- 847 – Introduced shrub

Individual trees

A total of 27 individual rural trees are present within the Site. The trees vary in size, age and species. Species include sycamore, Norway maple, alder, yew, ash *Fraxinus excelsior* and whitebeam *Sorbus aria*.

Native hedgerow (h2a5)

Hedgerow H2 is a native hedgerow consisting of elm *Ulmus sp.* located to the north-east of the Site.

Non-native and ornamental hedgerow (h2b)

Hedgerows H1 and H3 are non-native and ornamental hedgerows present within the Site. Hedgerow H1 is a firethorn *Pyracantha sp.* hedgerow located to the west of the Site and Hedgerow H2 is a Leyland cypress *Cupressus x leylandii* hedgerow located to the north-east of the Site.

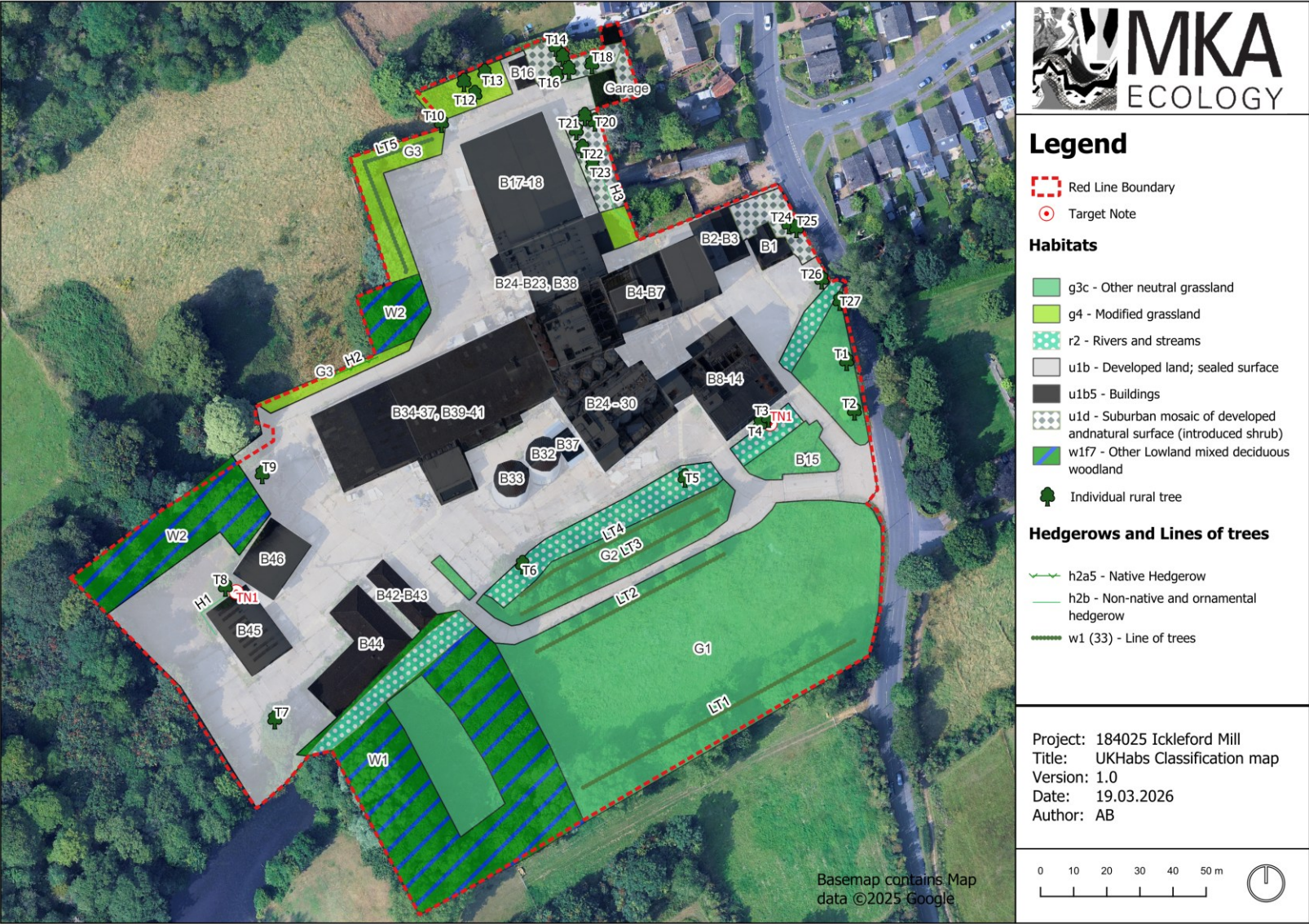
Broadleaved and mixed woodland (w1)

There are five lines of trees (LT1-5) present onsite. LT1 consists of 13 trees of varying size and age across three species: Norway maple, Lombardy poplar *Populus nigra 'Italica'* and silver maple *Acer saccharinum*. LT2 consists of nine alder trees. LT3 consists of 16 Lombardy poplar trees of varying sizes and ages. LT4 consists of five willow *Salix sp.* trees and one alder tree. LT5 consists of 12 trees of varying size and age across three species: Norway maple, hawthorn and Scot's pine *Pinus sylvestris*.

Secondary codes relevant to this habitat type:

- 33 – Line of trees.

Figure 1: UK Habitat Classification map of Ickleford Mill, Herts



Target notes for Figure 1:

Target note	Description
1	Bird nest

4.3. Protected species scoping survey

Plants and fungi

A small number of records of notable plant species were returned within the data search including species listed on Schedule 8 of the Wildlife and Countryside Act 1981 such as bluebell and lizard orchid, and Species of Principal Importance such as cornflower *Centaurea cyanus*. However, each of these records are either over 25 years old, a substantial distance away (with the closest being approximately 1.3km from the Site) or do not have accurate location data provided.

No protected or notable plants were recorded during the original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a), and adverse effects to protected plant species recorded within the data search was not considered likely.

No protected or notable plants were recorded during the 2025 Preliminary Ecological Appraisal site visit and it has been assessed that the likelihood of the Site to contain protected or notable plant species is considered to be **negligible**. As such, this species group will not be addressed further in this report.

Invertebrates

The data search returned a number of protected or notable invertebrates within the search area. Species included beaded chestnut and sawfly moths, small heath butterfly and stag beetle which are all listed under Section 41 of the NERC Act 2006.

One record of white-clawed crayfish *Austropotamobius pallipes* was returned within the data search. White-clawed crayfish are protected under Schedule 5 of Wildlife and Countryside Act 1981 and Section 41 of the NERC Act 2006. However, this record dates from 1996 and there have been no more recent records of this species within 2km of the Site. Additionally, signal crayfish *Pacifastacus leniusculus* were observed within the onsite stretch of the River Oughton during the otter survey undertaken in 2022 (Wardell Armstrong, 2022). It has been assessed that the likelihood of the Site or connected riverine habitats to contain white-clawed crayfish is **negligible**.

The hardstanding and buildings present onsite provide limited opportunities for invertebrates. The grassland, woodland, scrub and riparian habitats, to the south of the Site, do provide a diverse mosaic for invertebrates to forage and shelter. The potential for protected or notable invertebrates' species to be present onsite is considered moderate to low.

In the original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a), it was assessed that the relatively minor habitat losses associated with the proposed development are not anticipated to negatively impact local populations. This has not changed and the likelihood for the proposed development to negatively impact local invertebrate populations is considered to be **negligible**. As such, this species group will not be addressed further in this report.

Fish

The data search returned 30 records of brown/sea trout *Salmo trutta* within the search area. This species is listed under Section 41 of the NERC Act 2006. Five of these records were within the last 10 years and were located within the River Oughton that runs through the Site. A single brown trout was observed during the otter survey in 2022 (Wardell Armstrong, 2022). The likelihood of presence of protected and notable fish species is therefore **high**.

Amphibians

The data search returned 45 records of common toad and eight records of great crested newt within 2km of the Site. The great crested newt records returned by the data search did not include precise location data and the most recent record dates from 1988.

A search of Defra's MAGIC website found that no European Protected Species Licences had been granted for great crested newt within 2km of the Site boundary.

A search of Natural England's Risk Zones for District Licensing of Great Crested Newts in Hertfordshire found the Site to be in a green risk zone (Natural England, 2024).

The Site contains suitable terrestrial habitats for great crested newt such as rough grassland and woodlands; however, these habitats are not proposed to be impacted by the proposed works. Two ponds are located within 250m of the Site. Pond 1 is a large (c. 0.6 Ha) online pond fed by the River Oughton that is located to the immediate south-west of the Site. A Habitat Suitability Index (HSI) survey carried out in 2017 assessed Pond 1 as having poor suitability for great crested newt (Wardell Armstrong, 2017a). An eDNA survey of Pond 1 carried out in 2017 confirmed the absence of great crested newt (Wardell Armstrong, 2017a). Due to the large size of Pond 1, its connection to flowing water within the River Oughton and its poor suitability for great crested newts, it was assessed that the pond is highly unlikely to support great crested newts and an updated eDNA survey is not required.

Due to the lack of recent or close records, the poor suitability of Pond 1 and the Site being in a green risk zone for great crested newts, it has been assessed that the likelihood of great crested newt being present onsite is **negligible**. As such, this species will not be addressed further in this report.

The original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a) assessed that the habitats onsite are suitable to support common toad but also concluded that the relatively minor habitat losses associated with the proposed development are not anticipated to negatively impact local populations. It is assessed that this is still the case and therefore this species will not be addressed further in this report.

Reptiles

The data search returned 27 records of common lizard, 26 records of slow-worm, ten records of grass snake and seven records of adder within 2km of the site. The closest record dates from 2021 and is of a common lizard found approximately 0.2km north-east of the Site.

The original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a) identified no suitable habitat for reptiles and concluded that the proposed works would have no adverse effect on this species group.

During the 2025 Preliminary Ecological Appraisal survey, it was assessed that the suitability of grasslands G1 and G2 for reptiles has increased slightly since 2017 due to the less intense management allowing conditions to become more tussocky. Additionally, the Site is well-connected to other areas of suitable reptile habitat where records were returned within the data search. Connecting habitat includes the banks of the River Oughton and adjacent woodland and grassland habitats.

It has been assessed that the likelihood of reptiles being present onsite is **low**.

Birds

Eleven species were recorded during the site visit. These species are shown in Table 10 together with their conservation status. It is important to note that this is not a full inventory of species for the site.

Table 10: Bird species recorded during site visit at Ickleford Mill, Herts

Common name	Systematic name	S1 W&CA ¹	BoCC ² Status	S41 SPI ³	Local PrSp ⁴
Goldfinch	<i>Carduelis carduelis</i>	-	Green	-	-
Feral pigeon	<i>Columba livia</i>	-	Green	-	-
Woodpigeon	<i>Columba palumbus</i>	-	Amber	-	-
Carrion crow	<i>Corvus corone</i>	-	Green	-	-
Jackdaw	<i>Corvus monedula</i>	-	Green	-	-
Blue tit	<i>Cyanistes caeruleus</i>	-	Green	-	-
Robin	<i>Erithacus rubecula</i>	-	Green	-	-
Red kite	<i>Milvus milvus</i>	Yes	Green	-	-
Pied wagtail	<i>Motacilla alba</i>	-	Green	-	-
Grey wagtail	<i>Motacilla cinerea</i>	-	Amber	-	-
Goldcrest	<i>Regulus regulus</i>	-	Green	-	-

¹ Schedule 1 of The Wildlife and Countryside Act 1981 (see Appendix 1)

² Birds of Conservation Concern (see Appendix 1)

³ Section 41 (NERC Act 2006) 'Species of Principal Importance' (see Appendix 1)

⁴ Local Priority Species

The data search returned numerous records of notable birds within 2km of the Site. Records of notable species include barn owl *Tyto alba*, Cetti's warbler *Cettia cetti* and kingfisher *Alcedo atthis* (listed on Schedule 1 of the Wildlife and Countryside Act 1981).

A raptor vantage point survey undertaken in 2017 concluded that no raptor species were nesting onsite during the 2017 breeding season (Wardell Armstrong, 2017a). The bird species found onsite during the original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a) were all common and widespread and it was assessed that the Site was unlikely to support significant local populations of these species.

The onsite woodlands, hedgerows, individual trees, lines of trees and buildings all offer suitable nesting habitat for birds. Two bird nests (TN1) were noted during the survey. There has been no change in the Site's suitability to support significant local populations of birds or notable/protected species since the original Preliminary Ecological Appraisal in 2017.

The risk of breeding birds utilising the Site for nesting is considered to be **high** but the likelihood of the Site supporting important assemblages of birds is **negligible**.

Otter

The data search returned 30 records of otter from within 2km of the Site. The only record with precise location data dates from 2019 and is located approximately 1.6km north-east of the Site, within a section of the River Hiz that is upstream of the stretch of River Oughton that passes through the Site.

The River Oughton that passes through the Site and adjacent onsite woodland and grassland habitats have potential to support foraging and commuting otter. Several field signs of otter, including feeding remains, were identified during the otter survey in 2022 (Wardell Armstrong, 2022). During a dawn bat emergence survey undertaken in 2022, three individual otters (presumed a mother and two dependant cubs) were observed emerging from beneath the easternmost onsite bridge into the eastern section of the river (Wardell Armstrong, 2022).

Due to the previous confirmed presence of otter and the suitability of the onsite habitats, the likelihood of otters being present is considered **high**.

Water vole

The data search returned 50 records of water vole from within 2km of the Site. The closest precise record dates from 1995 and is located approximately 0.4km east of the Site. The second closest precise record dates from 2002 and is located approximately 0.6km west of the Site, within the River Oughton downstream from the Site.

The River Oughton that passes through the Site contains limited suitable foraging and burrowing habitats for water vole. No evidence of water vole habitation was identified during the survey or during the original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a). However, an in-depth water vole survey was not within the scope of the survey and due to the suitable onsite habitats and records from within a connected watercourse, the presence of water vole cannot be ruled out and the likelihood of water vole being present is considered **low**.

Hazel dormouse

The data search returned one record of hazel dormouse within 2km of the Site. This record dated from 1982 and did not include precise location data.

The survey area lies outside the known natural range of this species and there are no recent records of this species within 2km of the Site. Therefore, it has been assessed that the likelihood of the Site to support hazel dormouse is considered to be **negligible**. As such, this species will not be addressed further in this report.

Hedgehog

The data search returned 139 records of hedgehog from within 2km of the Site. The closest record dates from 2022 and is located approximately 0.1km north-west of the Site.

The Site provides suitable foraging, commuting and sheltering habitat for hedgehog in the form of grassland, tall forbs, introduced shrub, woodland and hedgerows. The likelihood of hedgehogs being present at the Site is considered to be **high**.

4.4. Preliminary Roost Assessment

Desktop study

The data search returned numerous bat records within 2km of the Site; these consisted of eight bat species; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Natterer's bat *Myotis nattereri*, Daubenton's bat *Myotis daubentonii*, noctule *Nyctalus noctula*, serotine *Eptesicus serotinus*, barbastelle *Barbastella barbastellus* and brown long-eared bat *Plecotus auritus*. Additionally, the search returned records of unidentified bat species and pipistrelle species. This is considered to be a high diversity of species for this location.

A search of Defra's MAGIC website returned two European Protected Species Licences granted for bats within 2km of the Site. The closest was located approximately 0.48km west of the Site and was for the destruction of a common pipistrelle non-breeding roost (licence period October 2012 – July 2013).

Roosting bats - buildings

Table 11 below outlines the results of the Preliminary Roost Assessment in more detail and includes a summary from the 2022 surveys undertaken by Maydencroft (2022) for comparison. As of 2025, one building (B1) was evaluated as holding moderate potential for roosting bats, six buildings (B2, B12, B16, B34, B41, B42 and B43) and two bridges (BR1 and BR3) were evaluated as holding low potential for roosting bats. One building (B44) no longer existed and the remaining buildings and bridge were each evaluated as holding negligible potential for roosting bats.

Table 11: Building and bridge inspection results

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B1	Mill House – a two-storey building constructed of stone. The roof was pitched and covered in slates with clay ridge tiles.	Moderate: Gaps around lintels at front of the building. Gaps at the rear of the building in brickwork. Small gaps around chimney.	Moderate: PRFs from 2022 still present. Broken windows on second floor. Direct access internally.	
B2	Two-story maintenance workshop, constructed of brick. The roof is pitched and covered with concrete tiles. Brickwork in good condition and PVC windows and doors intact. A large steel roller door is present to the front of the building.	Low: Gaps beneath the ridge. Gap beneath corner tile at the northern end of building.	Low: PRFs from 2022 still present. Windows no longer intact, missing or broken. Direct access internally.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B3, B4, B5, B6, B7, B8, B9, B10, B11	Large industrial building constructed of corrugated steel, asbestos sheeting and concrete blocks, includes grain tanks. Used for processing.	Negligible: Noisy, dusty and busy area.	Negligible: Tightly sealed. No bats or signs of bats recorded during inspection.	
B12 – Old Mill	A three-storey building approximately 100 years old. Constructed of brick with a steel factory building adjoined to the north, south and west elevations. The roof is pitched and covered with slates and parapet walls are present along the gable edges.	Low: Gaps in brick work on eastern elevation.	Low: Roof and floors have collapsed, providing access internally to building. No bats or signs of bats recorded during inspection.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B13, B14	Steel factory building built on red brick foundations. Glazed panels present on the building all in good condition.	Negligible: Tightly sealed. No bats or signs of bats recorded during inspection.	Negligible: No change.	
B15	A single storey timber building with a flat roof. Timber fascia boards are present which are sealed against timber walls. PVC windows and doors are intact. Building in regular use.	Negligible: Tightly sealed windows, doors and fascias. Regularly used and illuminated.	Negligible: No change, no bats or signs of bats recorded during inspection.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B16	Single storey garage building constructed of concrete framework and breezeblocks. The roof is pitched and covered with corrugated asbestos sheeting and fascia boards. The building is well-sealed.	Low: Gaps under south facing corrugated gable end asbestos panel.	Low: No change, no bats or signs of bats recorded during inspection.	
B17, B18, B19, B20, B21	Three steel factory buildings with flat steel roofs. Panels are all moulded together.	Negligible: Steel moulded panels with no features suitable for roosting bats.	Negligible: No change, no bats or signs of bats recorded during inspection.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
				
B22, B23, B24, B25, B26, B27, B28, B29, B30, B31, B32, B33, B35	Various buildings which make up the central area of the active factory site. Buildings constructed of steel/asbestos with flat roofs.	Negligible: Steel buildings with no features suitable for roosting bats.	Negligible: No change, no bats or signs of bats recorded during inspection.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B34	Single-storey building constructed of breeze blocks with a pitched roof covered by corrugated concrete asbestos sheets. Asbestos fascias are also present around the building. Two single-storey lean-tos are also present on the southern elevation of the building. The lean-to buildings both have flat roofs and wooden fascia.	Negligible: Minor gap present along fascia.	Low: Some deterioration and gaps around door and barge boards.	
B36, B37, B38, B39, B40	Steel cabins used as offices, all connected. Also connected to larger factory building B34.	Negligible: Steel buildings with no features suitable for roosting bats.	Negligible: No change.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B41	Large workshop with sealed steel sliding doors. The single storey building is constructed of concrete breezeblocks with asbestos sheeting on the gable end. The roof is pitched and covered with corrugated asbestos sheeting	Low: Gaps present between corrugated panels at both gable ends of building.	Low: Additional gaps found under barge board on northern aspect of building.	 

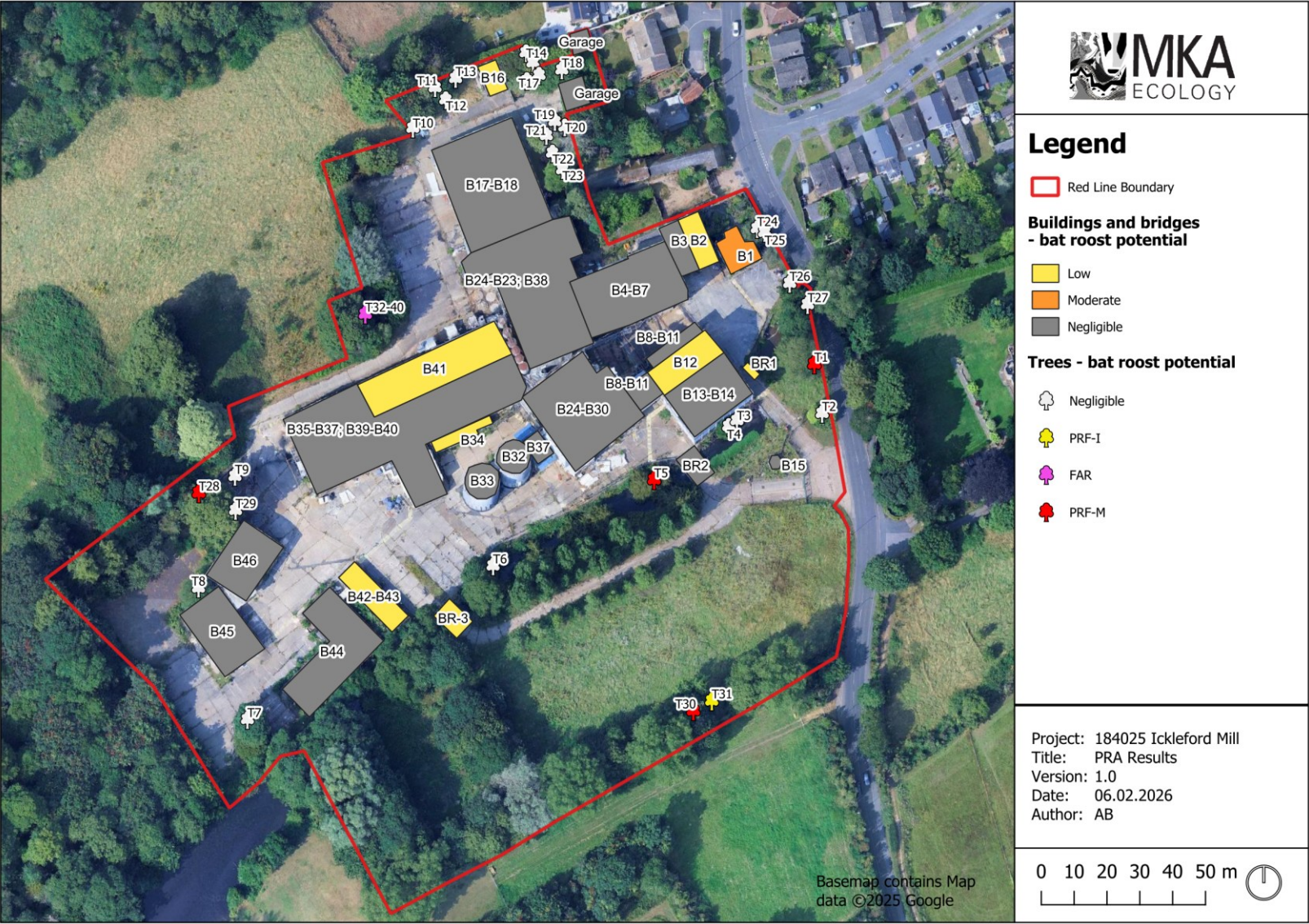
Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B42, B43	A prefab cabin with connecting corridor to B44. The roof is hipped and pitched and covered with concrete tiles and concrete ridge tiles. Soffit boxes are present. All roof and ridge tiles are well placed.	Moderate: Box soffits no longer well sealed on south-western elevation and are pulling away from wall giving potential access into roof void.	Low: No change externally, lack of suitable roosting features internally.	
B44	L-shaped single-storey bungalow with a pitched roof, concrete tiles and a concrete ridge. The building has no chimneys but several flu-pipes exiting the roof. Soffits are present around the building. All windows and doors are intact. The building is well maintained and currently used as offices. A front porch is present over the main entrance.	Moderate: Some gaps around the soffit over the entrance. Two gaps in soffits on southern gable end.	N/A: Building no longer exists.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
B45	Large two-storey brick building with a curved roof covered with sheet steel and moulded steel fascias to the south, east and north. PVC windows and doors are intact. Building in use, a small walkway connects B45 and B46.	Low: Gaps under metal fascia below eaves on north elevation.	Negligible: Brickwork and mortar in good condition. Roof constructed of unsuitable roosting habitat. No bats or signs of bats recorded during inspection	
B46	Large single storey building constructed of brick with steel cladding above on the upper walls. The roof is curved and covered by a steel sheet. Windows and doors are PVC and intact.	Negligible: Brickwork and mortar in good condition. Roof is constructed of materials that provide unsuitable roosting habitat.	Negligible: No change, no bats or signs of bats recorded during inspection.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
Garage	Garage buildings rendered with up and over doors. Asbestos roof covering which has partially collapsed under the weight of the dense ivy covering.	Moderate: Gaps between wall plate and roof. Large ivy stems on both ends of garage.	Negligible: Buildings are completely covered in dense vegetation, which does not provide suitable roosting habitat.	
BR1	An internal road bridge which is constructed of red brick in an arch over two concrete culvert pipes.	Low: Ivy present over brickwork may provide niche feature or be hiding suitable features beneath. Brickwork under arches need to be inspected	Low: Bramble vegetation present which may obscure some suitable features. Cracks in brickwork and mortar, possible that suitable features under bridge arch.	

Building Number(s)	Description	Bat roost suitability, evidence and potential		Photograph
		2022	2025	
BR2	An internal road bridge constructed of concrete with a concrete culvert pipe	Negligible: No features of interest	Negligible: Conditions the same since 2022	
BR3	An internal road/ pedestrian bridge constructed of concrete with arch underneath.	N/A: No assessment in 2022	Negligible – Low: No features of interest on main deck, possible features under arch.	N/A

Figure 2: Preliminary Roost Assessment Results at Ickleford Mill, Herts



PRFs for Figure 2:

PRF	Description
1	Cracks in brickwork
2	Cracks in both lintels and lifted roof tiles
3	Broken window and access to loft
4	Lifted tiles
5	Crack in mortar
6	Gaps under barge board
7	Broken soffits provide potential access points
8	Multiple access points into the building and cracks in interior timber

Roosting bats - trees

Of the 27 individual rural trees present onsite, 26 were assessed as having negligible potential to support roosting bats due to a lack of potential roosting features. Trees T1 and T5 were assessed as containing PRF-Ms, meaning they have potential to support multiple roosting bats. Tree T1 is a mature ash tree located to the east of the Site containing a rot hole that may lead to a potential cavity within the trunk. Tree T5 is a mature willow tree adjacent to the River Oughton that contains a large rot hole at the base of the tree that may lead to a potential cavity within the trunk.

All other trees within lines of trees to the north of the River Oughton were assessed as having negligible potential to support roosting bats due to a lack of potential roosting features. Full inspections of woodland trees throughout the Site and lines of trees to the south of the River Oughton were not undertaken because no impacts are anticipated from the development. However, obvious features in these areas were noted during the survey. Two such trees (T28 and T30) were assessed as containing a PRF-M and one (T31) was assessed as containing a PRF-I. Nine trees (T32-40), located within the eastern section of woodland W2, were covered in dense ivy which may conceal PRFs.

Foraging and commuting bats

The onsite woodlands, grassland and linear features such as hedgerows, lines of trees and the River Oughton are suitable to support foraging and commuting bats. Previous bat surveys carried out in 2017 (Wardell Armstrong, 2017b) confirmed bats to be present onsite, found that peak activity levels were associated with the woodland and river habitats and concluded that optimal bat foraging habitat is located around the periphery of the Site. Due to the suitable habitats on and adjacent to the Site and the confirmed presence of bats within the Site, the likelihood of bats foraging/commuting within the Site is **high**.

5. ECOLOGICAL CONSTRAINTS, OPPORTUNITIES AND RECOMMENDATIONS

This section outlines key ecological issues for consideration, recommendations for further work and ecological enhancements where appropriate.

Designated sites

The Site lies within SSSI Impact Risk Zones (Natural England, 2025). Any development proposing new infrastructure including pipelines, underground cables, overhead cables and any transport proposal including footways, cycleways and roads may require LPA consultation with Natural England on the likely ecological risks associated with the development. It is recommended that Natural England are consulted to ensure any infrastructure associated with the proposed development does not risk negatively impacting any of the designated sites within the vicinity of the Site.

Recommendation 1

Consult with Natural England regarding new infrastructure being created within a SSSI Impact Risk Zone.

On-site habitats

The River Oughton, a Habitat of Principal Importance, and adjacent habitats onsite are considered to be of high ecological value. This habitat should be retained and enhanced during any project work. Due to the nature of the river, a chalk stream, and its connectivity to the surrounding landscape, it is susceptible to pollution incidents during works, which may then have detrimental impacts downstream. As such it is recommended that measures are put in place to protect the watercourse. These protective measures must be detailed in the Demolition and Construction Management Plan (as specified in the Outline Planning Decision Notice). River protection measures should also help to protect the species that occur within the rivers, including notable fish species such as brown trout and otter.

Recommendation 2

Retain, protect and enhance river habitats. Protection measures should be detailed in a Demolition and Construction Management Plan.

The woodlands, native hedgerow, both Habitats of Principal Importance, individual trees and lines of trees present onsite are ecologically valuable. Where possible, all trees and the native hedgerow should be retained and protected during the proposed works to minimise the risk of accidental damage from equipment or vehicles. Where tree and/or native hedgerow removal is unavoidable, they should be replaced with new tree/hedgerow planting using native species. Details of tree and hedgerow protection measures should be provided in the Demolition and Construction Management Plan.

Recommendation 3

Retain and protect the onsite trees and native hedgerow. Where this is not possible, any trees or native hedgerow lost should be replaced using native species. Protection measures should be detailed within the Demolition and Construction Management Plan.

Bats

The Preliminary Roost Assessment of the onsite buildings identified that one building (B1) has moderate potential for roosting bats, six buildings (B2, B12, B16, B34, B41, B42 and B43) and two bridges (BR1 and BR3) have low potential for roosting bats, one building (B44) no longer existed and the remaining buildings and bridges each have negligible potential for roosting bats.

All bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 and Schedule 2 of Conservation of Habitats and Species Regulations 2017. Bats are also Species of Principal Importance listed on Section 41 of the NERC Act 2006. It is an offence to deliberately disturb a bat, damage or destroy a bat roost, intentionally or recklessly disturb a bat at a roost, or obstruct access to a roost.

If bats roosts are present within any of the buildings or bridges onsite, then any impacts will likely result in the damage/destruction of a roost and/or disturbance of a bat at a roost. Impacts include demolition or partial demolition, repair or restoration works, artificial lighting, noise and vibration.

Further survey work is recommended to assess the full potential impact of the proposed development and must be carried out before the commencement of the proposed demolition works. Due to the poor structural integrity of several onsite buildings that were identified as posing a health and safety risk, surveys, a non-standard precautionary approach is proposed for the following buildings (B1, B2, B12, B16, B34, B41 and B42-B43). To maximise the likelihood of detecting any roosting bats and to provide a robust evidence base, two emergence surveys are recommended in September and October, a sub-optimal time of year. Should bats be found to be roosting at the Site during the recommended survey effort, it will be necessary to apply for a Natural England bat licence prior to the demolition works taking place.

Recommendation 4

Undertake two bat emergence surveys on all buildings with bat potential to ascertain the presence or likely absence of roosting bats and inform any mitigation measures or licence applications required.

If impacts to BR1 or BR3 are anticipated to facilitate the development, further surveys are recommended as outlined below. The results of these surveys will inform the need for any further ecological assessment or mitigation. In accordance with best practice guidelines (Collins, 2023), for structures with low potential, a single emergence survey is recommended to determine the presence or likely

absence of roosting bats for moderate potential buildings. The survey must be conducted during the optimal survey season, which runs from May to August.

Recommendation 5

Undertake a single bat emergence bat survey of the bridges BR1 and BR3, between May to August to confirm the presence or likely absence of roosting bats.

Of the 27 individual rural trees present onsite, 26 were assessed as having negligible potential to support roosting bats and two (T1 and T5) were assessed as containing PRF-Ms. All other trees within lines of trees to the north of the River Oughton were assessed as having negligible potential to support roosting bats. Full inspections of woodland trees throughout the Site and lines of trees to the south of the River Oughton were not undertaken because no impacts are anticipated from the development. However, obvious features in these areas were noted during the survey. Two such trees (T28 and 30) were assessed as containing a PRF-M and one (T31) was assessed as containing a PRF-I. Nine trees (T32-40), located within the eastern section of woodland W2, were covered in dense ivy which may conceal PRFs.

It is recommended that all trees with bat roost potential, all woodland trees and all lines of trees to the south of the River Oughton are retained and protected during the proposed works. The trees should also remain unlit both during and post-construction. To avoid potential disturbance of bat roosts, a construction exclusion zone of at least 5m should be set up around trees containing PRF-Ms (T1, T5, T28 & 30). Details of these measures should be provided the Demolition and Construction Management Plan.

Recommendation 6

Retain and protect trees with bat potential, woodland trees and lines of trees to the south of the River Oughton throughout the development and ensure they remain unlit both during and post-construction. Ensure construction exclusion zones around trees containing PRF-Ms (T1, T5, T28 and 30). Details of these measures should be provided in the Demolition and Construction Management Plan.

If impacts to trees containing PRF-Ms (T1, T5, T28 and 30) are unavoidable, then, in accordance with best practice guidelines (Collins, 2023), it is recommended that three aerial tree inspection (ATI) surveys are carried out where feasible to determine presence or likely absence of roosting bats. Where ATI inspections cannot be carried out, three bat emergence surveys should be carried out on PRF-M trees. The ATI or bat emergence surveys must be carried out at least three weeks apart and two of these surveys must be carried out within the optimal survey season which runs from May to August inclusive, the third survey may be carried out in the sub-optimal survey season, September, although this is not recommended.

Recommendation 7

Undertake further surveys on trees containing PRF-Ms (T1, T5, T28 & 30) if impacts are unavoidable.

If impacts to the tree containing a PRF-I (T31) or to the trees with dense ivy (T32-40) are unavoidable, then precautionary mitigation measures are recommended in order to avoid harm to any bats or impacts to roosts that may be present at the time of the works. Such measures should be detailed within a Precautionary Working Method Statement (PWMS), and should include, but are not limited to, pre-works checks by a licence bat ecologist, soft-felling where works are supervised by the licenced bat ecologist, and safe sectioning and gentle lowering of the tree or limbs to avoid cutting through PRFs. Tree sections containing PRF-Is should be left on the ground overnight to allow potential roosting bats to disperse, details of this can be provided within the Demolition and Construction Management Plan.

Recommendation 8

Undertake precautionary mitigation measures under a PWMS on the tree containing a PRF-I (T31) and trees covered in dense ivy (T32-40) if impacts are unavoidable. Details of these measures should be provided within the Demolition and Construction Management Plan.

If impacts to woodland trees throughout the Site or lines of trees to the south of the River Oughton are unavoidable, it is recommended that a ground-level tree assessment (GLTA) is undertaken for all impacted trees with further recommendations to follow the results of the assessment.

Recommendation 9

Undertake a GLTA for woodland trees throughout the Site and/or lines of trees south of the River Oughton if impacts are unavoidable.

Bat roosting behaviour, commuting and foraging activity can additionally be dramatically affected by artificial lighting (BCT and ILP, 2023). It is strongly recommended that any proposed exterior lighting on the new buildings/access roads is designed and managed appropriately to ensure that the area remains suitable for foraging bats. A sensitive lighting scheme should be developed to allow suitable roosting and foraging areas for bats. These measures should be secured through a planning condition.

Recommendation 10

Light pollution from any lighting should be minimised both during and after the construction phase. A sensitive lighting scheme should be developed and secured through a planning condition to allow for suitable roosting and foraging areas for bats within the site.

Reptiles

The original Preliminary Ecological Appraisal (Wardell Armstrong, 2017a) identified no suitable habitat for reptiles. However, during the 2025 Preliminary Ecological Appraisal survey, it was assessed that the

suitability of grasslands G1 and G2 for reptiles has increased since 2017. This rough grassland to the south of the River Oughton is now suitable to support reptiles.

All UK reptile species are protected under Schedule 5 of the Wildlife & Countryside Act 1981 and are listed as Species of Principal Importance under the NERC Act 2006. It is an offence to intentionally kill or injure individuals of these species (see Appendix 1 for more information).

The proposed works are not anticipated to impact grasslands G1 and G2. However, if plans change and reptiles are present within these grasslands, there is a risk of killing and/or injuring individuals during the development. It is recommended that suitable reptile habitat is retained and protected during the proposed works with details provided within the Demolition and Construction Management Plan. If plans change and impacts to these grasslands are unavoidable, then further surveys and/or mitigation measures will be required.

Recommendation 11

Retain and protect grasslands G1 and G2 or further surveys/mitigation will be required. Protection measures should be detailed within the Demolition and Construction Management Plan.

Birds

The onsite woodlands, hedgerows, individual trees, lines of trees and buildings all offer suitable nesting habitat for breeding birds.

All wild birds, their active nests and eggs are protected under The Wildlife and Countryside Act 1981 (as amended), which makes it an offence deliberately, or recklessly, to kill or injure any wild bird or damage or destroy any active birds' nest or eggs.

Scheduling vegetation and building removal works between the months of September and February inclusive (i.e. outside of the bird season) would avoid impacts on breeding birds.

Where vegetation and building clearance works are required during the breeding bird season (between the months of March and August inclusive), such works can only proceed following the completion of a nesting bird check undertaken by an experienced ornithologist. Any active birds' nest identified during this check must be protected from harm until the nesting attempt is complete. This will require a buffer to be left around the nest, the size of which will depend upon the species involved (as a general rule, this will be 10m in all directions around the nest). Any buffers established as a result of the initial nesting bird check must be subjected to a second check after the original nesting attempt is completed, before such areas can be removed during the breeding bird season; methods for this should be provided within the Demolition and Construction Management Plan.

Recommendation 12

Schedule vegetation and building clearance works between the months of September and February inclusive to avoid impacts on breeding birds. Where this timing is not feasible works should be preceded by a nesting bird check; details should be provided the Demolition and Construction Management Plan.

It is strongly recommended that any potential nesting bird habitat is cleared outside the breeding bird season in order to avoid potentially lengthy delays if nests are found during nesting bird checks.

Otter and water vole

The River Oughton that passes through the Site and adjacent onsite woodland and grassland habitats have potential to support otter and limited potential to support water vole. Sightings and field signs of otters were recorded during surveys in 2022 (Wardell Armstrong, 2022) and although no sign of water vole were observed, their presence cannot be ruled out.

Otter and water vole are protected under Section 9 of Schedule 5 of Wildlife and Countryside Act 1981, meaning that it is an offence to intentionally kill, injure or take these species as well as to intentionally or recklessly damage or destroy any structure used for shelter or protection. Otter are also protected under Schedule 2 of Conservation of Habitats and Species Regulations 2017, meaning that is also an offence to deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young.

It is recommended that updated otter and water vole surveys are undertaken to search for otter holts, water vole burrows and any other field signs of these species. It is also recommended that, where feasible, a 10m buffer is maintained from the top of the banks of the River Oughton for the duration of the proposed works in order to reduce the risk of disturbance to both otter and water vole. Heavy machinery should be kept away from this exclusion zone. A small number of buildings are located within 10m of the River Oughton, in these instances, it will not be possible to maintain the exclusion distance. Precautionary measures to prevent pollution and damage to the River Oughton and to safeguard ecological receptors should be outlined within the Demolition and Construction Management Plan..

Recommendation 13

Undertake updated otter and water vole surveys prior to site clearance. Where feasible, maintain a 10m buffer from the River Oughton to minimise disturbance for otter and water vole. In instances where this is not possible, precautionary measures should be implemented to prevent pollution and damage to the River Oughton. These measures should be detailed within the Demolition and Construction Management Plan.

Hedgehog

The onsite grassland, tall forbs, introduced shrub, woodland and hedgerows provide suitable habitat for hedgehog. Hedgehogs are a Species of Principal Importance listed on Section 41 of the NERC Act (2006).

Foraging and commuting hedgehogs may become injured by or trapped within any excavations that are left open overnight and vegetation clearance undertaken without due care may result in killing or injuring individuals.

It is recommended that precautionary measures are put into place to reduce the risk of trapping, injuring and/or killing hedgehogs and are detailed within the Demolition and Construction Management Plan.. Firstly, during construction any excavations should not be left open overnight or, where this is not possible, they should be securely covered or a means of escape for any animals that may become trapped should be provided, such as a wooden board acting as a ramp. All excavations should be checked for the presence of animals each morning and immediately prior to backfilling. Secondly, any vegetation clearance within suitable habitats should be done carefully and by hand, whilst checking for individuals.

Recommendation 14

During construction any excavations created should be covered overnight in order to prevent animals becoming entrapped, or if not feasible, measures should be implemented to allow entrapped animals to escape. Where necessary, vegetation clearance should be undertaken carefully and by hand, whilst checking for individuals. Details of these measures should be provided within the Demolition and Construction Management Plan.

The installation of boundary fences between gardens can impact on hedgehogs through loss of habitat connectivity. At least one 13cm x 13cm hole should be installed at the bottom of each boundary fence (with a focus on fences separating residential gardens, and excluding fences adjacent to roads), in order to maintain connectivity for hedgehogs between properties. Appropriate signage should be installed to indicate the purpose of the holes and stipulate that they should remain open. Details of these measures should be provided within the Demolition and Construction Management Plan.

Recommendation 15

Maintain habitat connectivity for hedgehog through the installation of at least one 13cm x 13cm hole at the bottom of each boundary fence (with a focus on fences separating residential gardens and excluding fences adjacent to roads). These should be accompanied with appropriate signage indicating their purpose and stipulating that they should remain open; details should be provided within the Demolition and Construction Management Plan.

Opportunities for biodiversity enhancement

Following the issue of the National Planning Policy Framework (NPPF; see Appendix 1), all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological conservation interests. Ecological enhancements should aim to deliver biodiversity gains for the proposed development site.

Planting of native species or those with a known attraction or benefit to local wildlife is recommended in landscape proposals. This will help to increase native plant species diversity, provide more ecologically valuable habitats, and result in a greater diversity of other dependent taxonomic groups. There is scope for tree planting and enhancement of the retained grassland habitats to the south of the Site.

Recommendation 16

It is recommended that native British species are incorporated within the planting scheme for the final landscaping design in order to enhance the overall value of the site for biodiversity, in line with the requirements of the NPPF.

Opportunities to enhance the River Oughton include in channel planting such as coir rolls, creation of brash berms to act as silt traps and/ or tree or shrub removal to improve the amount of light along the watercourse.

Recommendation 17

Consider and incorporate enhancements to the River Oughton to improve the biodiversity and water quality of the watercourse.

Enhanced opportunities for breeding birds should be incorporated into the design scheme. Bird boxes should be mounted on trees, fences and built structures at the site. It is recommended that there is focus on swift, together with the provision of generalist bird boxes. Examples of suitable boxes are shown in Appendix 4 together with information concerning the correct siting of these enhancement features.

Recommendation 18

A minimum of 20 bird boxes should be installed at the site, to include provisions for swift and generalist species.

Enhanced opportunities for roosting bats should also be provided at the Site through installation of bat boxes. Specifications for suitable bat boxes will be made following the nocturnal survey effort once more data is available on the bats utilising the Site.

Recommendation 19

A total of 20 bat boxes, as specified within the Outline Planning Consent, should be included within the design scheme. Specifications for suitable bat boxes will be made following the nocturnal survey effort once more data is available on the bats utilising the Site

Summary of recommendations

Table 12 below summarises the recommendations made within this report and specifies the stage of the development at which action is required. Colour coding of cells within the table is as follows:

Key:

	No action required for this species group at this stage
	Action required (see notes for details)
	Level of action required will be determined following the further survey work

Table 12: Summary of recommendations at Ickleford Mill, Herts

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Designated sites	Consult with Natural England regarding new infrastructure	None	None	None
On-site habitats	Retain existing trees, native hedgerow and river habitats where feasible	Protective measures in DCMP with details of retaining and protecting valuable habitats	Follow DCMP	Native planting
Bats	Retain trees with bat potential where feasible Further survey work for impacted buildings and bridges with bat potential	TBC	TBC	Bat boxes – specifications TBC

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Reptiles	Develop sensitive lighting strategy	TBC	TBC	
	Retain and protect rough grassland or further surveys/mitigation required			None
Birds	None	Develop DCMP with details of timing of works for vegetation removal OR further survey work	Follow DCMP and incorporate integrated bird boxes into new buildings	Bird boxes and native planting
Otter and water vole	Undertake updated otter and water vole surveys Where feasible, maintain a 10m buffer from the River Oughton	TBC – to include developing a DCMP with details of buffer zone and river protection measures	TBC – to include following DCMP	None
Hedgehog	None	Develop a DCMP detailing sensitive vegetation clearance methods, measures regarding excavations and habitat connectivity for hedgehog	Follow DCMP	

Table 13: Summary of further surveys recommended at Ickleford Mill, Herts

Species/species group	Purpose of survey	Survey period (inclusive unless otherwise stated)
Bats (bat emergence surveys and/or aerial tree inspections)	Ascertain the presence or likely absence of roosting bats and inform any mitigation measures or licence applications required	Non-standard approach (buildings) May-September (bridges or trees)
Otter and water vole	Search for otter holts, water vole burrows and any other field signs of these species	April - September

6. CONCLUSIONS

A Preliminary Ecological Appraisal and Preliminary Roost Assessment was undertaken at Land at Ickleford Mill, Herts in order to support a reserved matters planning application for the demolition of the onsite buildings and the construction of 55 new residential dwellings.

The Site lies within SSSI Impact Risk Zones and any development proposing new infrastructure may require LPA consultation with Natural England on the likely ecological risks associated with the development. It is recommended that Natural England are consulted to ensure any infrastructure associated with the proposed development does not risk negatively impacting any of the designated sites within the vicinity of the Site.

The River Oughton, woodland, native hedgerow (Habitats of Principal Importance) and individual trees present onsite are ecologically valuable. It is recommended that these habitats are retained and protected. Where this is not feasible for trees or hedgerows, they should be replaced using native species. River protection measures will also benefit protected and notable species such as water vole, otter and brown trout.

It was assessed that one building has moderate potential for roosting bats, six buildings and two bridges have low potential for roosting bats, one building no longer exists and the remaining buildings and bridge each have negligible potential for roosting bats. A non-standard precautionary approach has been recommended for buildings with bat roosting potential due to the significant health and safety risk associated with these buildings. Two emergence surveys are recommended in September and October, a sub-optimal time of year, to maximise the likelihood of detecting any roosting bats and to provide a robust evidence base.

It is recommended that all bridges with low potential to support roosting bats require a minimum of one bat emergence survey and that the building with low potential to support roosting bats requires a minimum of two bat emergence surveys. Bat emergence surveys must be conducted during May to September inclusive (with at least one of the surveys conducted during the optimal season of May to August inclusive) and spaced at least three weeks apart.

Of the 27 individual rural trees present onsite, 26 were assessed as having negligible potential to support roosting bats and two were assessed as containing PRF-Ms. All trees within lines of trees, with the exception of T5, to the north of the River Oughton were assessed as having negligible potential to support roosting bats. Full inspections of woodland trees throughout the Site and lines of trees to the south of the River Oughton were not undertaken because no impacts are anticipated from the development. However, obvious features in these areas were noted during the survey. Of these trees, two were assessed as containing a PRF-M, one was assessed as containing a PRF-I and nine were

covered in dense ivy. It is recommended that all trees with bat potential, all woodland trees and all lines of trees to the south of the River Oughton are retained and protected during the proposed works. Protection measures should be detailed in a Demolition and Construction Management Plan. If impacts to trees containing PRF-Ms, woodland trees or lines of trees to the south of the River Oughton are unavoidable, then further surveys will be required. If impacts to the tree with a PRF-I or the trees covered in dense ivy are unavoidable, then they should be soft felled under supervision from a licenced bat ecologist.

The habitats on and adjacent to the site are suitable to support foraging and commuting bats and some adjacent habitats may also have potential to support roosting bats. It is recommended that light pollution is minimised both during and after the construction phase and a sensitive lighting scheme is developed and secured through a planning condition to allow for suitable roosting and foraging areas for bats within and adjacent to the Site.

The habitats onsite are suitable to support reptiles, breeding birds, otter, water vole and hedgehog. Mitigation measures to protect birds and hedgehogs have been recommended including appropriate timings of works and methodology for sensitive vegetation clearance. These measures should be detailed within a Demolition and Construction Management Plan. Updated surveys have been recommended to inform mitigation recommendations for otter and water vole. Suitable reptile habitat is not anticipated to be impacted by the proposed works but if plans change and impacts are unavoidable then further surveys and/or mitigation measures will be required.

7. REFERENCES

BCT and ILP (2023). *Bats and artificial lighting at night. Bats and the Built Environment series, Guidance Note 08/23*. Bat Conservation Trust (BCT) and Institute of Lighting Professionals (ILP).

British Ornithologists' Union (2017). *The British List: A Checklist of Birds of Britain (9th edition)*. Ibis **160**: 190-240.

British Standards Institution (2013) *British Standard 42020:2013, Biodiversity – Code of practice for planning and development*. British Standards Institution: London.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

CIEEM (2022) *Code of Professional Conduct*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

Maydencroft Ltd (2022) *Update Preliminary Bat Roosting Assessment of Buildings and Trees – Ickleford Flour Mill, Hertfordshire*. Maydencroft Ltd: Hitchin.

Natural England (2024). *Risk Zones for District Licensing of Great Crested Newts in Hertfordshire*. Available online at: <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::gcn-risk-zones-hertfordshire/explore?location=51.837302%2C-0.273337%2C10.43> Accessed: 02/12/2025.

Natural England (2025). *Natural England's Impact Risk Zones for Sites of Special Scientific Interest: User Guidance*. Available online at: <https://data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/sssi-impact-risk-zones-england> Accessed: 02/12/2025.

North Hertfordshire District Council (2014). *Huntingdonshire Local Plan*. Available online at <https://www.north-herts.gov.uk/north-herts-local-plan-2011-2031> Accessed: 02/12/2025.

Stace, C. (2019) *New flora of the British Isles* (4th ed). C&M Floristics, Stowmarket

Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I (2021). *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747. Available online at: <https://britishbirds.co.uk/content/status-our-bird-populations>. Accessed: 02/12/2025.

UKHab Ltd (2023) *The UK Habitat Classification User Manual Version 2.0*. Available online at: <https://ukhab.org/> Accessed: 02/12/2025.

Wardell Armstrong (2017a) *Ecological Appraisal – Ickleford Mill, Ickleford*. Wardell Armstrong: Sheffield.

Wardell Armstrong (2017b) *Bat Survey Report – Ickleford Flour Mill*. Wardell Armstrong: Sheffield.

Wardell Armstrong (2022) *Badger and Otter Survey Report – Ickleford Mill*. Wardell Armstrong: Sheffield.

8. APPENDICES

8.1. Appendix 1: Relevant wildlife legislation and planning policy

Please note that the following is not an exhaustive list, and is solely intended to cover the most relevant legislation pertaining to species commonly associated with development sites.

Subject	Legislation (England)	Relevant prohibited actions
Amphibians		
Great crested newt <i>Triturus cristatus</i> Natterjack toad <i>Epidalea calamita</i>	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	- Deliberately capture or kill, or intentionally injure; - Deliberately disturb or recklessly disturb them in a place used for shelter or protection; - Damage or destroy a breeding site or resting place; - Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and - Possess an individual, or any part of it, unless acquired lawfully.
	Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	
Reptiles		
Common lizard <i>Zootoca vivipara</i> Adder <i>Vipera berus</i> Slow-worm <i>Anguis fragilis</i> Grass snake <i>Natrix helvetica helvetica</i>	Part of Sub-section 9(1) of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Intentionally kill or injure individuals of these species (Section 9(1)).

Subject	Legislation (England)	Relevant prohibited actions
Sand lizard <i>Lacerta agilis</i> Smooth snake <i>Coronella austriaca</i>	Full protection under Section 9 of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	• Deliberately or intentionally kill, capture (take) or intentionally injure; • Deliberately disturb; • Deliberately take or destroy eggs; • Damage or destroy a breeding site or resting place or intentionally damage a place used for shelter; or • Intentionally obstruct access to a place used for shelter.
Birds		
All wild birds	Wildlife and Countryside Act 1981 (as amended)	• Intentionally kill, injure, or take any wild bird or their eggs or nests.
'Schedule 1' birds	Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	• Disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young; or • Disturb the dependent young of any wild bird listed on Schedule 1.
Mammals		
Bats (all UK species)	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	• Deliberately capture, injure or kill a bat; • Deliberately disturb a bat (disturbance is defined as an action which is likely to: (i) Impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) Impair their ability to hibernate or migrate; or (iii) Affect significantly the local

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	distribution or abundance of the species); • Damage or destroy a bat roost; • Intentionally or recklessly disturb a bat at a roost; or • Intentionally or recklessly obstruct access to a roost. In this interpretation, a bat roost is "<i>any structure or place which any wild [bat]...uses for shelter or protection</i>". Legal opinion is that the roost is protected whether or not the bats are present at the time.
Badger <i>Meles meles</i>	Protection of Badgers Act 1992	Under Section 3 of the Act: • Damage a sett or any part of it; • Destroy a sett; • Obstruct access to, or any entrance of, a sett; or • Disturb a badger when it is occupying a sett. A sett is defined legally as any structure or place which displays signs indicating current use by a badger (Natural England 2007).
Hazel dormouse <i>Muscardinus avellanarius</i>	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	• Intentionally or deliberately capture or kill, or intentionally injure;

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	- Deliberately disturb or intentionally or recklessly disturb them in a place used for shelter or protection; - Damage or destroy a breeding site or resting place; - Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and - Possess an individual, or any part of it, unless acquired lawfully.
Otter <i>Lutra lutra</i>	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	- Deliberately capture, injure or kill an otter; - Deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young; - Intentionally or recklessly disturb any otter whilst it is occupying a holt; - Damage or destroy or intentionally or recklessly obstruct access to an otter holt.
	Section 9(4)(b) and (c) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	
Water vole <i>Arvicola amphibius</i>	Section 9 of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	- Intentionally kill, injure or take water voles; - Possess or control live or dead water voles or derivatives; - Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; or - Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

Subject	Legislation (England)	Relevant prohibited actions
<i>Crustaceans</i>		
White-clawed crayfish <i>Austropotamobius pallipes</i>	Section 9(1) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	Intentionally kill, injure or take white-clawed crayfish by any method.

The Environment Act 2021

Full legislation text available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

The Environment Act 2021, sets out key legislation after the UK's exit from the European Union. With the largest changes to green regulations in decades, the Act includes the establishment of an Office for Environmental Protection, targets on air pollution, water quality and biodiversity, and the enshrinement of the 25 Year Environment Plan in law. The Act also makes provisions for a mandatory 10% net gain in biodiversity for all developments covered by the Town and Country Planning Act and it also introduces a statutory requirement for Local Nature Recovery Strategies.

The Conservation of Habitats and Species Regulations 2017 (as amended)

Full legislation text available at: [The Conservation of Habitats and Species Regulations 2017 \(as amended\)](https://www.legislation.gov.uk/ukpga/2017/10/contents/enacted) (legislation.gov.uk)

The Wildlife and Countryside Act 1981 (as amended)

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>.

Countryside and Rights of Way Act 2000

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/2000/37/contents>

Protection of Badgers Act 1992

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents>

Section 41 of Natural Environments and Rural Communities (NERC) Act 2006

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/2006/16/section/41>

Many of the species above, along with a host of others not afforded additional protection, are listed on Section 41 of the NERC Act 2006.

Section 41 (S41) of the Natural Environment and Rural Communities (NERC Act 2006) requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn

up in consultation with Natural England and draws upon the UK Biodiversity Action Plan (BAP) List of Priority Species and Habitats.

The S41 list should be used to guide decision-makers such as local and regional authorities to have regard to the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006. The duty applies to all local authorities and extends beyond just conserving what is already there, to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

Schedule 9 of Wildlife and Countryside Act 1981 (as amended)

In addition to affording protection to some species, The Wildlife and Countryside Act 1981 (as amended) also names species which are considered invasive and require control. Section 14 of the Act prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed in Schedule 9 to the Act. In the main, Schedule 9 lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats, such that further releases should be regulated.

Wild Mammals (Protection) Act 1996

Full legislation text is available at: <http://www.legislation.gov.uk/ukpga/1996/3/contents>

Under this legislation it is an offence to cause unnecessary suffering to wild mammals, including by crushing and asphyxiation. It largely deals with issues of animal welfare, and covers all non-domestic mammals including commonly encountered mammals on development sites such as rabbits, foxes and field voles.

Birds of Conservation Concern (BoCC)

This is a quantitative assessment of the status of populations of bird species which regularly occur in the UK, undertaken by the UK's leading bird conservation organisations. It assesses a total of 245 species against a set of objective criteria to place each on one of three lists – Green, Amber and Red – indicating an increasing level of conservation concern. There are currently 70 species on the Red list, 103 on the Amber list and 72 on the Green list. The classifications described have no statutory implications, and are used merely as a tool for assessing scarcity and conservation value of a given species.

National Planning Policy Framework (NPPF)

Full text is available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.

The revised NPPF was updated on 12 December 2024 setting out the Government's planning policies for England and the process by which these should be applied. The policies within the NPPF are a material consideration in the planning process. The key principle of the NPPF is a presumption in favour of sustainable development, with sustainable development defined as a balance between economic, social and environmental needs.

Policies 187 to 201 of the NPPF address conserving and enhancing the natural environment, stating that the planning system should:

- Contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes;
- Recognise the wider benefits of ecosystem services; and
- Minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs.

Furthermore, there is a focus on re-use of existing brownfield sites or sites of low environmental value as a priority, and discouraging development in and around National Parks, Sites of Specific Scientific Interest, the Broads, and National Landscapes other than in exceptional circumstances.

Where possible, planning policies should also:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- 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.

Local policy

North Herts Council has produced an adopted Local Plan which covers a number of policies relating to biodiversity and habitat conservation, including:

- Policy SP1: Sustainable development in North Hertfordshire - Grant planning permission for proposals that, individually or cumulatively: (iv) protect key elements of North Hertfordshire's environment including biodiversity, important landscapes, heritage assets and green infrastructure (including the water environment); and (v) secure any necessary mitigation measures that reduce the impact of development, including on climate change.

- Policy SP9: Design and Sustainability – (C) Require Strategic Masterplans and planning applications for Strategic Housing Sites and significant development to (as applicable): (vi) create and accessible multi-functional green infrastructure network that provides: a high-quality integrated network to support ecological connectivity, biodiversity net gain, climate adaptation and mitigation linking into the wider Ecological Network.
- Policy SP12: Green infrastructure, landscape and biodiversity – States that it will accommodate significant growth during the plan period whilst ensuring the natural environment is protected and enhanced and will:
 - Protect, identify, manage and where possible enhance a strategic multi-functional network of green infrastructure;
 - Consider and respect landscape character, scenic beauty and locally sensitive features, particularly in relation to the Chilterns Area of Outstanding Natural Beauty;
 - Protect, enhance and manage designated sites in accordance with the following hierarchy of designations and features:
 - Internationally designated sites
 - Nationally designated sites
 - Locally designated sites;
 - Non-designated sites that include important habitats and species
 - Protect, enhance and manage biodiversity networks including wildlife corridors, ancient woodlands and hedgerows, wetland and riverine habitats, Local Geological Sites, protected species, priority species and habitats, and non-designated sites of ecological value and ensure measurable net gains for biodiversity;
 - Protect other open spaces and support provision of new and improved open space.

8.2. Appendix 2: UK Habitat Classification species list

Please note that these lists are intended to be incidental records and do not constitute a full botanical survey of the site. Relative abundance is given using the DAFOR scale. Please see Table 2 for details.

Other neutral grassland (g3c) – Grassland G1

Common Name	Systematic Name	Relative abundance
Creeping Bent	<i>Agrostis stolonifera</i>	Abundant
Cock's-foot	<i>Dactylis glomerata</i>	Frequent
Common Nettle	<i>Urtica dioica</i>	Frequent
Cow Parsley	<i>Anthriscus sylvestris</i>	Frequent
Creeping Thistle	<i>Cirsium arvense</i>	Frequent
False Oat-grass	<i>Arrhenatherum elatius</i>	Frequent
Yarrow	<i>Achillea millefolium</i>	Frequent
Yorkshire-fog	<i>Holcus lanatus</i>	Frequent
Creeping Buttercup	<i>Ranunculus repens</i>	Occasional
Creeping Cinquefoil	<i>Potentilla reptans</i>	Occasional
Germander Speedwell	<i>Veronica chamaedrys</i>	Occasional
Ribwort Plantain	<i>Plantago lanceolata</i>	Occasional
Dove's-foot Crane's-bill	<i>Geranium molle</i>	Rare

Other neutral grassland (g3c) – Grassland G2

Common Name	Systematic Name	Relative abundance
Creeping Bent	<i>Agrostis stolonifera</i>	Dominant
Creeping Thistle	<i>Cirsium arvense</i>	Abundant
Rough Meadow-grass	<i>Poa trivialis</i>	Abundant
Cow Parsley	<i>Anthriscus sylvestris</i>	Frequent
Ribwort Plantain	<i>Plantago lanceolata</i>	Frequent
Silverweed	<i>Potentilla anserina</i>	Frequent
Creeping Buttercup	<i>Ranunculus repens</i>	Occasional
Ground-ivy	<i>Glechoma hederacea</i>	Occasional
Germander Speedwell	<i>Veronica chamaedrys</i>	Rare

Common Name	Systematic Name	Relative abundance
Hedge Woundwort	<i>Stachys sylvatica</i>	Rare

Modified grassland (g4) – Grassland G3

Common Name	Systematic Name	Relative abundance
Cock's-foot	<i>Dactylis glomerata</i>	Abundant
Cow Parsley	<i>Anthriscus sylvestris</i>	Abundant
Perennial rye-grass	<i>Lolium perenne</i>	Abundant
Smoot hawk's-beard	<i>Crepis capillaris</i>	Frequent
Yarrow	<i>Achillea millefolium</i>	Frequent
Daisy	<i>Bellis perennis</i>	Rare

Other lowland mixed deciduous woodland (w1f7) – Woodland W1

Common Name	Systematic Name	Relative abundance
Sycamore	<i>Acer pseudoplatanus</i>	Abundant
Green alkanet	<i>Pentaglottis sempervirens</i>	Frequent
Hybrid crack-willow	<i>Salix x fragilis</i>	Frequent
Alder	<i>Alnus glutinosa</i>	Occasional
Common nettle	<i>Urtica dioica</i>	Occasional
Field maple	<i>Acer campestre</i>	Occasional
Norway maple	<i>Acer platanoides</i>	Occasional
Small-leaved lime	<i>Tilia cordata</i>	Occasional
Ash	<i>Fraxinus excelsior</i>	Rare

Other lowland mixed deciduous woodland (w1f7) – Woodland W2

Common Name	Systematic Name	Relative abundance
Cherry laurel	<i>Prunus laurocerasus</i>	Abundant
Common nettle	<i>Urtica dioica</i>	Abundant
Bramble	<i>Rubus</i>	Frequent
False-brome	<i>Brachypodium sylvaticum</i>	Frequent
Sycamore	<i>Acer pseudoplatanus</i>	Frequent

Common Name	Systematic Name	Relative abundance
Yew	<i>Taxus baccata</i>	Frequent
Dog's mercury	<i>Mercurialis perennis</i>	Occasional
Hawthorn	<i>Crataegus monogyna</i>	Occasional
Hazel	<i>Corylus avellana</i>	Occasional
Hedge woundwort	<i>Stachys sylvatica</i>	Occasional
Holly	<i>Ilex aquifolium</i>	Occasional
Pedunculate oak	<i>Quercus robur</i>	Occasional

Rivers and streams (r2)

Common Name	Systematic Name	Relative abundance
Brooklime	<i>Veronica beccabunga</i>	Occasional
Common duckweed	<i>Lemna minor</i>	Occasional
Water forget-me-not	<i>Myosotis scorpioides</i>	Occasional

Individual trees

Common Name	Systematic Name	Relative abundance
Alder	<i>Alnus glutinosa</i>	Occasional
Ash	<i>Fraxinus excelsior</i>	Occasional
Non-native ornamental species	N/A	Occasional
Norway maple	<i>Acer platanoides</i>	Occasional
Sycamore	<i>Acer pseudoplatanus</i>	Occasional
Whitebeam	<i>Sorbus aria</i>	Occasional
Yew	<i>Taxus baccata</i>	Occasional
Apple	<i>Malus x domestica</i>	Rare
Goat willow	<i>Salix caprea</i>	Rare
Hawthorn	<i>Crataegus monogyna</i>	Rare
Hazel	<i>Corylus avellana</i>	Rare
Horse chestnut	<i>Aesculus hippocastanum</i>	Rare
Leyland cypress	<i>Cupressus x leylandii</i>	Rare

Common Name	Systematic Name	Relative abundance
Lime	<i>Tilia sp.</i>	Rare
Pedunculate oak	<i>Quercus robur</i>	Rare
Spruce	<i>Picea sp.</i>	Rare
Willow	<i>Salix sp.</i>	Rare

Native hedgerow (h2a5) – Hedgerow H2

Common Name	Systematic Name	Relative abundance
Elm	<i>Ulmus sp.</i>	Dominant

Non-native and ornamental hedgerow (h2b) – Hedgerow H1

Common Name	Systematic Name	Relative abundance
Firethorn	<i>Pyracantha sp.</i>	Dominant

Non-native and ornamental hedgerow (h2b) – Hedgerow H3

Common Name	Systematic Name	Relative abundance
Leyland cypress	<i>Cupressus x leylandii</i>	Dominant

Broadleaved and mixed woodland (w1) – line of trees – LT1

Common Name	Systematic Name	Relative abundance
Norway maple	<i>Acer platanoides</i>	Frequent
Lombardy poplar	<i>Populus nigra 'Italica'</i>	Occasional
Silver maple	<i>Acer saccharinum</i>	Rare

Broadleaved and mixed woodland (w1) – line of trees – LT2

Common Name	Systematic Name	Relative abundance
Alder	<i>Alnus glutinosa</i>	Dominant

Broadleaved and mixed woodland (w1) – line of trees – LT3

Common Name	Systematic Name	Relative abundance
Lombardy poplar	<i>Populus nigra 'Italica'</i>	Dominant

Broadleaved and mixed woodland (w1) – line of trees – LT4

Common Name	Systematic Name	Relative abundance
Willow	<i>Salix sp.</i>	Dominant
Alder	<i>Alnus glutinosa</i>	Rare

Broadleaved and mixed woodland (w1) – line of trees – LT5

Common Name	Systematic Name	Relative abundance
Hawthorn	<i>Crataegus monogyna</i>	Frequent
Scot's Pine	<i>Pinus sylvestris</i>	Frequent
Norway Maple	<i>Acer platanoides</i>	Occasional

8.3. Appendix 3: Site photographs

Photograph 1: Example of developed land; sealed surface present onsite



Photograph 2: Other neutral grassland (G1), lines of trees (LT1 and LT2) and woodland (W1)



Photograph 3: Other neutral grassland (G2) and lines of trees (LT2, LT3 and LT4)



Photograph 4: Example of modified grassland and introduced shrub onsite



Photograph 5: Stretch of the River Oughton present onsite



Photograph 6: Other neutral grassland (G1) and lines of trees (LT2, LT3 and LT4)



Photograph 7: TN1 – Bird's nest



Photograph 8: Example of tree with a PRF-M present onsite



Photograph 9: TN5 – Tree with a PRF-I



8.4. Appendix 4: Bird box recommendations

Bird box recommendations

A large number of bird boxes are available, designed for the specific needs of individual species. These are normally either designed to be mounted onto trees, external walls or integrated into a building. In general, bird boxes should be mounted out of direct sunlight and prevailing winds, out of reach of predators, with suitable foraging habitat for the subject species close by. Bird boxes should also be left up over winter as they can provide useful roosting sites for birds in bad weather.

Nest boxes should be cleaned at the end of each bird breeding season. All nesting material and other debris should be removed from the box. It should then be scrubbed clean with boiling water to kill any parasites (avoid using any chemicals). Once the box is clean, it should be left to dry out thoroughly. Under the Wildlife and Countryside Act 1981 it is an offence to disturb breeding birds and therefore annual cleaning is best undertaken from October to January when there is no risk of disturbing breeding birds.

Generalist boxes

Boxes to attract garden birds and woodland breeding species such as tits, nuthatch, redstart and pied flycatcher can be placed in gardens, orchards, woodlands and a wide variety of other habitats. The species of birds attracted to the box will depend upon the size of the entrance hole (see table below).

Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats. Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east.

General		
Example	Description	Picture
Bird Brick Houses Integrated bird box	http://www.birdbrickhouses.co.uk/brick-nesting-boxes/integrated-bird-box/ Integrated into outside skin of 75mm and most 3" brickwork courses. Comes with a variety of hole sizes to suit particular bird species.	
Entrance Hole	Species	

28mm	Blue-, Marsh-, Coal- and Crested Tit, Wren.	
34mm	Great-, Blue-, Marsh-, Coal- and Crested Tit, Nuthatch, Pied Flycatcher, House Sparrow	
40mm	Redstart and Black Redstart	
50m	Starling	
60m	Spotted Flycatcher	
Schwegler No. 1B General Purpose Nest box	www.schwegler-nature.com Suitable for various garden and woodland birds, created with different sized entrance holes to avoid competition between species. Other variations (e.g. 2M) can be free hanging, to deter predators.	
Entrance Hole	Species	
26 mm	Blue-, Marsh-, Coal- and Crested Tit, possibly Wren. All other species are prevented from using the nest box due to this smaller entrance hole	
32 mm	Great-, Blue-, Marsh-, Coal- and Crested Tit, Redstart, Nuthatch, Pied Flycatcher, Tree and House Sparrows.	
Oval	Redstart; also used by species that nest in the diameter 32 mm boxes. However, because more light enters the brood chamber, it is preferred by Redstarts.	

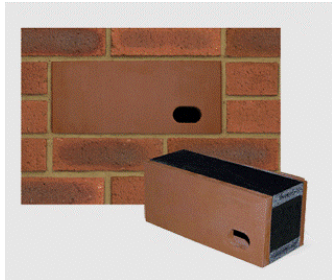
Swift boxes

Swifts are colonial nesters, and boxes should be grouped together. The British Standard BS 42021 recommends that integral nest boxes should be installed so that there are two to four on a medium to large house. Swift nest boxes should be installed at least 5m high, around the eaves of the buildings. Swift boxes should be mounted facing between north-west and north-east. Where this is not feasible, and swift boxes are mounted on east-, south- or west-facing aspects, it is essential that full shading is provided.

Swifts typically nest in flat spaces within buildings or within a crevice or cavity. The ideal nest box should have an oval or rectangular hole around 30mm (h) x 65mm (w). The internal dimensions of the box should be approximately 400mm (w) x 200mm (d) x 150mm (h).

Swifts can be attracted to areas that they have not previously colonised using 'swift response calls'. Audio CDs are available for this purpose and are available on the Schwegler website (www.schwegler-nature.com).

Integrated swift boxes

Example	Description	Picture
Habibat 003 Swift Box	This is a solid box made of insulating concrete which provides an internal roost space, and can be integrated into the fabric of a building as it is built or renovated. The access hole is specifically designed to accommodate swifts. https://www.habibat.co.uk/bird-boxes	 A solid, reddish-brown concrete box with a semi-circular access hole on the side.
AFS S-Brick	The AFS S-Brick is designed for swifts and comes in a variety of designs to span different brick courses. It can also be used by house sparrows. It can be tailored for different brick sizes, cavity widths and brick facings. It can be included in brick walls or rendered over, or placed in eaves https://www.actionforswifts.com/afs-s-brick	 A collection of various colored (grey, orange, white) and shaped bricks designed for integration into walls.
Ibstock Swift Box	This swift brick can be built into a wall on new buildings. Available in different brick colours. Mass = 4.5kg. Swift Box - EcoHabitats	 A reddish-brown brick with a semi-circular access hole, shown next to a brick wall.
Bird Brick Houses: Integrated swift box	This box has a crescent shaped hole to one side of the box. The centre of the floor has a raised nest cup to assist the birds' nest building. The ideal internal depth of a swift box is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm). Swift Brick Bird Boxes - Swift Nesting Boxes - Bird Brick Houses	 A stack of light-colored bricks with semi-circular access holes, some with darker, recessed areas on top.

Example	Description	Picture
Schwegler No. 16 Swift Box	This nest box can be installed within an external wall (to a maximum depth of 17cm in order to prevent the underneath entrance hole being blocked) https://www.nhbs.com/no-16-schwegler-swift-box	

Externally mounted swift boxes

Example	Description	Picture
Genesis Swift Nest Box, (single, double or triple cavity)	This nest box is made from high quality Magnesium Oxide (MgO) boards and can be mounted externally on the wall. The boxes have a variety of hole numbers to choose from with between one and three nest cavities, each with its own entrance. https://genesishnestboxes.ie/shop/genesis-swift-products/double-entry-swift-nest-box/	
Schwegler Swift Box Number 18	This Swift Box No. 18 is ideally suited for creating Swift colonies under overhanging eaves. https://www.schwegler-natur.de/portfolio_1408366639/mauersegler-nest-nr-18/?lang=en	



MKA
ECOLOGY

MKA Ecology Limited, New Cambridge House, Bassingbourn Road, Litlington, Cambridgeshire SG8 0SS

01763 262 211 | enquiries@mkaecology.co.uk | www.mkaecology.co.uk

Company registration no 5858121 | VAT no. 825137440