

Flemings Hall

Preliminary Ecological Appraisal & Preliminary Roost Assessment

Issued: August 2023

Client: Nicolas and Amy Philippe c/o Fieldwork Architects

Job number: 2023-001

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The assessment is only valid for a period of 18 months from the survey date. If the scope of works or timing of the project is altered the advice given in this report may not be valid.

Contents

Executive Summary	5
1 Introduction	7
1.1 Background to Commission.....	7
1.2 Scope of Report.....	7
1.3 Site Description and Context.....	7
1.4 Project Overview.....	7
1.5 Relevant Legislation and Planning Policy.....	8
2 Methodology	9
2.1 Overview.....	9
2.2 Desk Study.....	9
2.3 Site Survey.....	9
2.3.1 Habitats.....	9
2.3.2 Protected Species.....	10
2.4 Preliminary Bat Roost Assessment.....	10
2.4.1 Buildings.....	10
2.4.2 Trees.....	12
2.1 Great Crested Newt.....	13
2.2 Site Evaluation.....	14
2.3 Survey and Assessment Limitations.....	15
3 Results	16
3.1 Desk Study.....	16
3.1.1 European Sites.....	16
3.1.2 Sites of National Importance.....	16
3.1.3 Sites of Local Importance.....	16
3.1.4 NERC Act HPI / Local BAP Priority Habitats.....	16
3.1.5 Other Notable Designations.....	16
3.2 Habitat Survey.....	16
3.2.1 Summary.....	17
3.2.2 Habitats.....	17
3.2.1 Sparse Bramble Scrub (h3d).....	17
3.2.2 Modified Grassland (g3c 66 / g3c 11).....	17
3.2.3 Hedgerow (h2a6).....	17
3.2.4 Sealed Surface (u1b).....	17

3.2.5	Buildings (u1b5)	17
3.3	Protected Species	18
3.3.1	Bats	18
3.3.2	Badger	20
3.3.3	Dormouse	20
3.3.4	Schedule 1 & Breeding Birds	20
3.3.5	Otter	20
3.3.6	Water Vole	20
3.3.7	Great Crested Newts	20
3.3.8	Reptiles	22
3.3.9	Invasive Non-Native Species (INNS)	22
3.3.10	NERC Act SPI / Local BAP Priority Species	22
4	Evaluation	23
4.1	Evaluation & Discussion of Ecological Features & Impacts	23
4.2	Bats	23
4.3	Nesting Birds	24
4.4	Otter	24
4.5	Great Crested Newt	24
4.1	Reptiles	24
4.2	Hedgehog	25
4.3	Summary	25
5	Recommendations for Further Surveys and Mitigation	26
5.1	Overview	26
5.2	Further Survey	26
5.2.1	Bats	26
5.2.2	Other Protected Species	26
5.3	Ecological Implication Avoidance and Mitigation	27
5.3.1	Bats	27
5.3.2	Nesting Birds	27
5.3.3	Great Crested Newt	27
5.4	Ecological Enhancement	28

6 Conclusion 29

7 References..... 30

Appendix A: Site Plans 31

Appendix B: Photographs 34

Appendix C: Legislation..... 37

Executive Summary

360 Ecology Ltd had been commissioned to carry out a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Flemings Hall, Bedingfield, Suffolk IP23 7QF ('the site'). This is in order to support planned works for the house. The current proposals are for converting the existing buildings (including the 16th Century thatched barn) to provide independent holiday rentals, a spa building and a new detached residential barn.

The site was surveyed on the 26th July 2023, comprising a survey area of the buildings and adjacent accessible surrounding habitat. The survey area comprised the barn, outbuildings and immediate surrounding garden and hardstanding area.

Bat droppings were present within the thatched barn (B1), the quantity indicating a confirmed roost, which will be impacted by the proposed development and further survey is required for this building.

Outbuilding B2 will not be impacted by the development proposals as no structural works are required for the conversion, with the exception of a 'tie-in' location at the east gable end with the new spa building. Overall B2 had moderate potential for bats and a possible bat dropping was located beneath a hole on the north elevation (well away from the tie-in location). The east gable end is considered to have low potential for bats and a single emergence survey of the gable end only is required.

Very small numbers of bat droppings were found within outbuildings B3 and B5, however these are believed to be from bats entering the buildings to forage as no suitable roost features were present internally. The buildings had low suitability for roosting bats and a single emergence survey is required.

However, should bats be found to be using B2 (east gable end), B3 or B5 for roosting then the building will become a confirmed roost and additional survey visits may be required to categorise the roost.

There is potential for lighting to disrupt bat activity during development or construction activities as well as during occupation of the development and a sensitive lighting scheme will be required.

There is some low potential for great crested newt to be present within the moat adjacent to the proposed development. Due to the proximity of the waterbody, there is very low potential for this species to be commuting through the site (should they be present). The risk of great crested newt currently using the site is considered very low due to the unsuitability of current habitats (predominantly short sward lawn and hardstanding) and the Natural England Rapid Risk Assessment Tool gives a green level of offense (offence highly unlikely) as the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required and further survey for this species is not required. It is believed additional surveys would offer little extra benefit to this species. Instead, Good Practice and non-licensed avoidance measures for great crested newt should be used during construction to avoid any residual impacts to this species and avoid the creation of refugia during construction (should great crested newt be present locally). The measures will also serve as mitigation for reptiles and hedgehog, should they be present.

Ecological enhancements for breeding birds, invertebrates and Schedule 1 breeding birds have been suggested within the report.

Further Survey Effort/Ecology Requirements

- *Bat dusk emergence / pre-dawn re-entry surveys of barn B1, outbuildings B2 (gable end only), B3 and B5.*
- *Three emergence survey visits required between May and September (inclusive) for B1*
- *One emergence survey visit required between May and August (inclusive) for B2 (gable end), B3 and B5. This will inform the requirement for further survey visits.*
- *A European Protected Species Licence will need to be applied for before any works commence due to the presence of a confirmed bat roost in B1.*
- *Mitigation and avoidance measures for nesting birds, great crested newt, reptiles and hedgehog are listed within this report should be adhered to.*

1 Introduction

1.1 Background to Commission

360 Ecology Ltd was commissioned by Nicolas and Amy Philippe (the client) c/o Fieldwork Architects in July 2023 to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of a barn and outbuildings at Flemings Hall, Bedingfield, Suffolk IP23 7QF. The appraisal was carried out in order to provide baseline ecological information about the site and to identify any potential ecological constraints associated with the proposed development of the application site.

1.2 Scope of Report

The purpose of this PEA/PRA is to establish the current biodiversity value of the site, to identify and assess any potential ecological constraints or ecological impacts associated with the proposed development and to provide recommendations for additional survey work if required. Avoidance, mitigation/compensation and/or enhancement measures are recommended where necessary to ensure compliance. The assessment is based on the following information sources:

- A desk study of the site and a 2km surrounding radius;
- An extended Phase 1 Habitat Survey (JNCC, 2010) of the site boundary and immediate surrounds to map habitats and identify features with potential to support protected or otherwise notable species; and
- Existing, Proposed and Pre-App Plans designed and supplied by Fieldwork Architects.

1.3 Site Description and Context

The site is located down a rural road at Hall Road, Bedingfield, Suffolk IP23 7QF, Grid Reference TM 19249 67850 and is approximately 0.2 hectares in size. The application site is set in a rural location and surrounded by arable fields with Hall Road to the south-west and farm buildings directly beyond. Flemings Hall and its gardens lie to the north and is separated from the site by a moat and connecting footbridge.

The site lies within the administrative authority of Babergh & Mid Suffolk Council.

Plans showing the location of the site and surrounding landscape are included in Figures 1 and 2 in Appendix A.

1.4 Project Overview

The designs are for converting the existing buildings to provide independent holiday rentals. A spa building is designed to infill between existing buildings and a new detached home is proposed to the end of the site in the form and scale of the existing barn arrangements.

The 16th Century thatched barn is proposed to be converted into holiday rental with the newer external walls to the gable ends to be removed and replaced by glass.

1.5 Relevant Legislation and Planning Policy

The following key pieces of nature conservation legislation are relevant to this appraisal. A more detailed description of relevant legislation is provided in Appendix C:

- The Conservation of Habitats and Species Regulations, 2017 (as amended) /Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (commonly referred to as the Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended); and
- Natural Environment and Rural Communities Act 2006.

The National Planning Policy Framework (Department of Communities and Local Government, 2021) requires local authorities to avoid and minimise impacts on biodiversity and, where possible, to provide net gains in biodiversity when taking planning decisions: “*The planning system should contribute to and enhance the natural and local environment protecting and enhancing valued landscapes and minimising impacts on biodiversity and providing net gains in biodiversity*”.

Other planning policies at the local level which are of relevance to this development include East Suffolk Council’s Suffolk Coastal Local Plan (adopted September 2020) which aims to satisfy their obligations under the NERC Act through the planning process.

The site lies within the Mid Suffolk District Council, which is now joined with Babergh District Council as Babergh Mid Suffolk District Council. The Mid-Suffolk District Council Core Strategy Development Plan adopted September 2008 (Updated December 2012), Policy CS5: Mid Suffolk’s Environment, Mid Suffolk Local Plan (1998) and Joint Babergh and Mid Suffolk District Council Landscape Guidance (August 2015) are relevant to this application.

2 Methodology

2.1 Overview

This PEA/PRA has been prepared with reference to best practice as published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017).

2.2 Desk Study

A desk study was carried out to determine if any statutory land designations occur within 2km of the site; these were identified using the Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk).

Aerial photographs were reviewed to identify any habitats surrounding the site or wildlife corridors connecting the site to other habitats. Ordnance Survey maps, aerial photographs and the MAGIC website were used to identify the presence of water bodies within 250m of the site, in order to establish if the land within the site could be used as terrestrial habitat for great crested newts. Although this species can use suitable terrestrial habitat up to 500m from a breeding pond, research suggests that newts are likely to travel no more than 250m from ponds where suitable habitats for foraging and hibernation exist in proximity to breeding ponds. The 250m radius was considered an appropriate distance for this assessment given the good quality habitat in the area (Figure 3, Appendix A).

Information relating to records of protected or otherwise notable species were obtained from Suffolk Biodiversity Information Centre within the site and up to 2km from the site boundary.

The status of species is taken directly from the relevant legislation, the 'UK Post-2010 Biodiversity Framework, local Biodiversity Action Plans (BAP) and the list of Birds of Conservation Concern (Eaton et al., 2015)¹.

Scientific names are given following the species first mention, thereafter, common names only are used.

2.3 Site Survey

The site survey was conducted on the 26th July 2023. The survey was undertaken in optimum conditions and during the recommended optimum survey period of April to October (JNCC, 2010).

The site survey was undertaken by Vicky Rusby has at least 6 years professional experience, is an Ecological Consultant with 360 Ecology Ltd and is an Associate member of CIEEM (the professional body for ecologists in the UK). Vicky is Level 2 bat licensed, Level 1 great crested newt licensed ecologist and qualified to Level 3 FISC (Field Identification Skills Certificate) for botanical surveys. Vicky is trained in Biodiversity Net Gain assessment, calculation, and delivery, and is considered a competent assessor.

2.3.1 Habitats

A habitat survey of the area within the red line was carried out (Figure 4, Appendix A). Habitats were described and mapped broadly in accordance with standard Phase 1 Habitat survey methodology (JNCC, 2010) and UK Habitat Classification (2020). Habitats were also assessed against Habitat of Principal Importance (HPI) criteria as set out by the JNCC (BRIG 2007). HPI are listed under Section 41 of the NERC Act, 2006.

¹ The Red and Amber lists of Birds of Conservation Concern refer to bird species of particular conservation concern for a number of reasons. In general terms, Red list species are globally threatened showing severe recent declines in population. Amber list species are species either with unfavourable conservation status or those species showing moderate recent declines in population; they may also include particularly localised species.

Incidental records of birds and other fauna noted during the course of the habitat survey were also compiled. The presence of invasive or injurious plant species as defined by Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) were also recorded.

2.3.2 Protected Species

The habitats were assessed for their potential to support protected species using a combination of the desk study information and field observations carried out during the habitat survey. The assessment was based on professional judgement and best practice survey guidance methodology for identifying field signs of protected species. The potential for protected species presence was based on the following criteria:

- **Present** – Confirmed presence through first hand survey evidence or recent verified records;
- **High Potential** – Local records highlight presence in the local vicinity. The site and immediate surrounds support good quality habitat or good connectivity to such habitat;
- **Moderate Potential** – Habitat within the site provides key elements for any species or species group although may be limited by factors including habitat area, isolation or disturbance. Desk study records highlight presence in proximity to site.
- **Low Potential** – On-site habitat is of low or moderate quality for any species or species group, lacking key elements and limited by factors including habitat fragmentation and habitat area. Few or absence of local records but within national distribution and thus cannot be completely discounted.
- **Negligible Potential** – Habitats within the site are very poor quality or completely absent for any species or species group. Desk study records are absent, the site is outside of the normal range of the species or species group and the surrounding habitat is unlikely to support wider populations. Presence cannot be completely ruled out but it is considered 'reasonably unlikely' to support any species or species group.

2.4 Preliminary Bat Roost Assessment

2.4.1 Buildings

Bat surveys are usually needed for the building types where bats are likely to be present, which include the following types:

- Agricultural buildings (e.g. farmhouses, barns and outbuildings) of traditional brick or stone construction and/or with exposed wooden beams.
- Buildings with weatherboarding and/or hanging tiles which are within 200m of woodland or water.
- Pre-1960 detached buildings and structures within 200m of woodland or water.
- Pre-1914 buildings within 400m of woodland or water.
- Pre-1914 buildings with gable ends or slate roofs, regardless of location.
- Buildings located within or immediately adjacent to woodland or immediately adjacent to water.
- Dutch barns or livestock buildings with a single-skin roof and board-and-gap or Yorkshire boarding if, following a preliminary roost assessment, the site appears particularly suited to bats.
- Churches and listed buildings.

This list is a guide and may be varied where professional and local knowledge can be used to justify variations.

Methodology

The standard Preliminary Roost Assessment (PRA) methodology for structures was followed. This aims to determine the actual or potential presence of bats, by inspecting for potential roost features, and determines any need for further survey and/or mitigation. In many situations, it is not possible to inspect all locations where bats may be present and an absence of bat evidence is not adequate evidence that bats are not present.

The buildings were inspected externally and internally, where access was available. A search was made for direct evidence of bat presence. A systematic search pattern was used in order to avoid missing parts of the building or built structure, although some may not have been visible from accessible parts of the building. During the survey, a search was made for live or dead bats, droppings, urine splashes, fur-oil staining and clean, cobweb-free gaps around potential entrance points and crevice roost sites. The sound of bats was listened for. Feeding remains such as moth wings were also searched for, particularly internally. Potential access points and roosting sites were recorded even if there was no direct evidence of use by bats. The inspection was thorough and a consistent search effort was applied to all accessible parts of the buildings. Sometimes bats leave no visible signs of their presence in or outside a building, and rain can remove external signs.

The external search included the following, where these features were present:

- the ground, particularly beneath potential access points;
- any window-sills;
- window panes;
- walls
- behind peeling paint or lifted render;
- hanging tiles;
- weatherboarding;
- eaves;
- soffit boxes;
- fascias;
- lead flashing; gaps under felt, including flat roofs;
- under tiles/slates;
- gaps in brickwork or stonework;
- in bat boxes; and
- all other relevant external features.

A high-power torch (Led Lenser) was used to survey the internal and external parts of the building, so that no evidence of bats was missed because of poor illumination. Close-focusing binoculars (Celestron) were used when inspecting the external parts of the building from the ground, in order to view features which might be used by bats to gain access to the building.

A search of the loft void, where present, included, where these features were present:

- the tops of gable end or dividing walls;
- tops of chimney breasts, ridge and hip beams and other roof beams;
- mortise and tenon joints;
- all beams;
- the junction of roof timbers;
- behind purlins;
- between tiles and the roof lining; and
- under flat felt roofs

The roof void search also paid attention to:

- the floor;

- water tanks;
- stored materials and other surfaces
- under and around the edges of recently laid insulation;

Internal access to cavity walls was also inspected where present.

In barns, features given particular attention, where present, included:

- gaps between ridge tiles and roof tiles, usually where the mortar had fallen out or the tiles were broken or lifted;
- the ridge area of the roof, particularly between the ridge beam and roofing material;
- lifted lead flashing associated with roof valleys, ridges and hips, or where lead flashing replaces tiles;
- spaces between external weatherboarding/cladding and the timber frame or wall;
- gaps behind window frames, lintels and doorways, including the main doors;
- mortise and tenon joints between truss beams and braces and the principal support columns;
- cracks and crevices in timber;
- gaps between stones or bricks, especially where purlins enter the wall and by the wall plate;
- surfaces such as the floor, ledges, windows, sills or walls, machinery or stored materials within the barn which might have bat droppings or urine stains.

The buildings which were inspected for their potential to support roosting bats are summarised in the table below.

Table 1.

Building No.	Name	Survey undertaken?	External survey	Internal survey
1	Thatched 16 th Century Barn (ref 7 in Drawing A_PL_010)	✓	✓	✓
2	Storage Building (ref 3 in Drawing A_PL_010)	✓	✓	✓
3	Accommodation Building (ref 4 in Drawing A_PL_010)	✓	✓	✓
4	Store (ref 5 in Drawing A_PL_010)	✓	✓	✓
5	Log Store (ref 5 in Drawing A_PL_010)	✓	✓	✓

2.4.2 Trees

The standard Preliminary Ground Level Roost Assessment (PRA) methodology for trees was followed. This aims to determine the actual or potential presence of bats, by inspecting for potential roost features from the ground, and determines any need for further survey and/or mitigation.

Trees within the proposed development area, which are likely to be removed for the development, were inspected for the presence of features which may be suitable for use by roosting bats, with particular attention given to older and mature trees. A thorough inspection was undertaken, looking for features and signs indicative of bat roosts:

- woodpecker holes;
- rot holes;
- hazard beams;
- other vertical or horizontal cracks and splits, such as frost cracks in stems or branches;
- partially detached bark plates;

- knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- artificial holes (such as cavities that have developed 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 at the base of the tree;
- potential cavities in the fork between double trunks (“compression forks”), where the wood has grown around sections of bark (“included bark”);
- gaps between overlapping stems or branches;
- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

Signs of a bat roost, in addition to the visible presence of bats, include:

- bat droppings in or around a potential roost feature (PRF);
- odour coming from a PRF;
- audible bat squeaks at dusk or during the day in warm weather;
- staining below the PRF.

Some signs, such as staining, odour or squeaking, may originate from other species, and staining may arise from wet rot which would preclude bat use. Bats or bat droppings are the only conclusive evidence of bat use, but many bat roosts have no external signs.

Close-focusing binoculars (Celestron) were used to inspect trees from the ground to the canopy, from all sides, and from close to the trunk and further away. A high-power torch (Led Lenser) was used to inspect cavities and shaded areas of the branch structure. Where there were potential roost features within 1.5m of ground level, these were inspected using an endoscope (EazyView) to identify the bats themselves, droppings, or other signs.

The survey of trees included an assessment of their potential to support bat roosts using the following categories.

Table 2.

Category	Description
Negligible	Trees with no potential to support bats
Low	A tree of sufficient size and age to contain potential roost features, but with none seen from the ground, or where the features seen have only very limited potential to support bats.
Moderate	A tree with one or more potential roost features, that could be used by bats due to their size, shelter, protection, condition and surrounding habitat, but are unlikely to support a roost of high conservation status.
High	A tree with one or more potential roost sites, that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time, due to their size, shelter, protection, condition and surrounding habitat.
Confirmed roost	Trees with evidence of bats present.
Unknown	Unable to survey fully, for example because part of the tree is inaccessible.

2.1 Great Crested Newt

HSI Survey Methodology

The Habitat Suitability Index (HSI) survey is used to estimate the likelihood of great crested newts being present in a pond and identifies which ponds in a survey area are likely to require great crested newt surveys. A summary of the methodology is given below.

HSI is a geometric mean of ten suitability indices, all of which are factors thought to affect great crested newts. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. There is a positive correlation between HSI scores and the

numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. The system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. It can, however, be useful in prioritising ponds for further survey effort.

The following measurements were made or estimated on site:

- pond area, to nearest 50m²;
- estimate of the number of years in every ten when the pond would dry up in summer;
- water quality, estimated by observation of invertebrates present;
- percentage of pond edge (up to 1m from the shore) which is shaded, e.g. by trees;
- presence/absence of, and impact from, waterfowl;
- presence/absence and density of fish populations;
- quality of surrounding terrestrial habitat;
- percentage of the pond covered by aquatic macrophytes (plant species).

Two map-based estimates were made following the field survey

- The area of the UK within which the pond is situated
- The number of ponds within a 1km radius (including any ponds seen on the site visit but which are absent from 1:25,000 Ordnance Survey mapping and excluding any mapped ponds found to be absent during the site visit).

Pond suitability for great crested newts was defined using a categorical scale, as follows.

<0.5	poor: very unlikely to contain great crested newts.
0.5 – 0.59	below average: unlikely to contain great crested newts.
0.6 – 0.69	average: might contain great crested newts.
0.7 – 0.79	good: might contain great crested newts.
> 0.8	excellent: most likely to contain great crested newts.

Natural England's Method statement template for great crested newt mitigation licence is used to determine the risk of great crested newts from being harmed by development. The area of the site is measured from OS maps and inputted into the great crested newts rapid risk assessment as part of the NE method statement. This informs the distance of the pond from the development site, whether that be 100m, 250m or 500m, required to identify that an offence to great crested newts is highly unlikely, see table below. A large-scale OS map is then inspected to identify any ponds within the buffer distance.

For the purposes of this study in consideration of the habitat types present, dispersal corridors, and potential barriers to dispersal a radius of 250m was been used.

2.2 Site Evaluation

An evaluation of the site was carried out in general accordance with guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016) which ranks the nature conservation value of a site according to a geographic scale of reference: international, national, regional, county/metropolitan, district/borough, local/parish or of value at the site scale. In evaluating the nature conservation value of the site, the following factors were considered: nature conservation designations, rarity, naturalness, fragility, connectivity and relevant nature

conservation aims and objectives for a given area as contained in national and local biodiversity action plans and planning policies.

2.3 Survey and Assessment Limitations

The data and conclusions presented here are an evidence-based assessment of the current status of the application site. It should not be taken as providing a full and definitive survey of any protected species group. The results of this ecological assessment have allowed an evaluation of the likely ecological constraints to the proposed development and is considered sufficient to inform the need for further ecological survey and mitigation measures.

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

The data and conclusions presented here are an evidence-based assessment of the current status of the application site. Should the scheme be delayed beyond 12-18 months of the date of survey, it is recommended that repeat assessment be undertaken in order to ensure the continued validity of these recommendations.

Access into some areas of the attic was restricted due to restricted space. This was not thought to be a constraint as this only applied to outbuildings which were not due for alteration apart from the proposed joining wall on one end, which could be observed adequately from the outside.

3 Results

3.1 Desk Study

3.1.1 European Sites

No European sites (Special Protection Area, Special Area of Conservation, and Ramsar sites which are treated as if they were European sites) were identified within the search area.

3.1.2 Sites of National Importance

No sites of national importance (Site of Special Scientific Interest, National Nature Reserve) were identified within the search area.

3.1.3 Sites of Local Importance

One site of local importance (Local Wildlife Site, County Wildlife Site, Ancient Woodland, Local Nature Reserve) was identified within the search area and is detailed within the table below.

Table 3.

Site	Distance from development site (approx.)	Direction	Key habitat/features of interest
Southolt Churchyard County Wildlife Site	950m	North	Southolt Churchyard contains semi-improved neutral grassland, a ditch and scattered broad-leaved and coniferous trees. In addition to many common wild flowers of semi-improved neutral grassland, a number of scarce Suffolk species have also been recorded; for example pyramidal orchid and pepper-saxifrage but also hart's-tongue fern, an uncommon species of fern which grows on the churchyard wall.

3.1.4 NERC Act HPI / Local BAP Priority Habitats

Online mapping resource Magic Map indicates there to be no habitats of principal importance within the application site boundary.

There are several parcels of a variety of Habitats of Principal Importance / Priority Habitats within 2km of the application site:

- 15 very small parcels of Deciduous Woodland (the closest of which is 130m south-west).
- One parcel of Woodpasture & Parkland (1.9km northeast).

3.1.5 Other Notable Designations

One ancient / veteran / notable oak tree was located within the 2km search area, at around 1.7km southeast.

3.2 Habitat Survey

The habitat map of the application site is given in Figure 4, Appendix A and photographs are presented in Appendix B.

3.2.1 Summary

The survey area comprised a small, double height 16th Century thatched barn with single storey outbuildings, arranged around a lawned courtyard. An associated hardstanding parking area, and hedgerows were present within the site.

3.2.2 Habitats

UK Habitat classification codes are used to define habitat types and are shown in brackets.

3.2.1 Sparse Bramble Scrub (h3d)

A strip of sparse bramble scrub ran to the north of the buildings and adjacent to the moat, this was managed by regular cutting and was retained as nesting bird habitat (Photograph 1, Appendix B).

3.2.2 Modified Grassland (g3c 66 / g3c 11)

Short sward lawn managed by regular mowing. A strip of longer grass and ruderal vegetation forming a path between the north of the buildings and the moat, this was managed by regular strimming and two ash trees were located along the strip. (Photograph 2, Appendix B).

3.2.3 Hedgerow (h2a6)

Enclosing the site were wide, regularly managed, tall, native hedgerows. Species present comprised dogwood *Cornus sanguinea*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and field maple *Acer campestre* (Photograph 3, Appendix B).

3.2.4 Sealed Surface (u1b)

A large concrete hardstanding parking area was located to the east of the site and a smaller patio was located between two of the outbuildings (Photograph 4, Appendix B).

3.2.5 Buildings (u1b5)

The buildings on site were separated into five for the site assessment, although some of the outbuildings were continuously joined by a brick wall along the north elevation. There were five buildings within the survey area:

Thatched Barn (B1)

Double storey 16th Century thatched and weatherboard barn on a small footprint (Photograph 5, Appendix B). Currently used for storage, in moderate condition.

Residential Outbuilding (B2)

An 'L' shape single storey outbuilding in good condition with residential use in the long arm of the 'L'. Brick-built on the north elevation, with weatherboarding on the south elevation and gable ends (Photographs 2 & 9, Appendix B). A covered passageway to the west between the residential section and a single room used for storage. The single store room was rendered to its east elevation and weatherboard split planks to the west elevation. The building had a continuous loft space throughout the 'L' layout, including above the passageway.

The brick wall continued alongside a hardstanding patio with pagoda area, to the storage outbuilding (B3).

Storage Outbuilding (B3)

Brick wall to the north elevation and weatherboarding on the south elevation and gable end with a tiled roof (Photograph 12, Appendix B). Internally open throughout the room with no attic space. In good condition and currently used for storage.

The brick wall continued, forming the rear elevation of an undercover cart lodge (B4).

Undercover Cart Lodge (B4)

Open to the south with a tiled roof. In good condition.

The brick wall continued, forming the rear elevation of the log store building (B5).

Log Store Outbuilding (B5)

Brick wall to the north elevation and weatherboarding on the south elevation and gable end with a tiled roof. Internally open throughout the room with no attic space. Double doors on the east gable end to the hardstanding beyond. In good condition and currently used for carpentry and as a log store.

3.3 Protected Species

3.3.1 Bats

The data search by SBIS returned records for two bat species within 2km; Natterer's *Myotis nattereri* and *Pipistrelle* bats (not defined to species level). A roost for *Pipistrelle* bats in 2010, was noted 1.27km north-west in a barn.

No granted European Protected Species Mitigation (EPSM) Licences were found within 2km of the site's boundary using MAGIC maps.

Buildings

B1 Thatched Barn

Internal timber frame with weatherboarding to all walls and a thatched roof (Photographs 6 & 7, Appendix B). An entry point for birds was located at the apex of the east gable end, this had been closed outside of bird breeding season, although small gaps were still present around the access point.

Sections of timbers and weatherboarding were clearly of more recent construction than other areas. Holes and gaps were present between joints in wooden beams over the entirety of the structure. Gaps between beams and weatherboarding in numerous locations. Observations were made from ground level only and an endoscope was used to investigate accessible roost features.

Around 50 – 70 fresh to old, bat droppings were observed over the barn (Photograph 8, Appendix B and Figure 3, Appendix A shows the approximate locations of bat droppings). Predominantly these were located along the ground along the base of the walls with a few scattered over the centre of the building. A single butterfly wing was caught in cobwebs on the east gable end, which may be an indication of feeding remains discarded by bats.

No bats were observed during the survey visit.

Droppings were collected in a labelled container for DNA analysis (if required).

High potential and confirmed bat roost.

B2 Residential Outbuilding

Numerous gaps at eaves level on the south elevation provided access points. Gaps at both gable ends at corners of the roof at eaves level. To the north elevation a couple of gaps at eaves level, one of which had a possible bat dropping located on the brick wall beneath (Photograph 10, Appendix B). Gaps were present between wooden timbers in the passageway area and gaps along the west elevation.

The tiles were very gappy along the south and west roof pitches. A void was present between the tiles and roof felt below. To the west a thick covering of moss meant there were no gaps between tiles and tiles on the north pitch were well fitted with no obvious gaps.

Loft access was located centrally along the long 'L' where standing room was possible. The loft then reduced to a crawl space towards the gable ends and it was advised this continued above the passageway and store area on the short 'L'. The underside of the tiled roof was covered by fairly new breathable membrane, no holes or tears were visible.

No bat droppings were present within the accessible areas of the loft void. No bats were observed during the survey visit.

Moderate Potential for roosting bats and potential roost.

Storage Outbuilding (B3)

The tiled roof was fairly tightly fitting with no large gaps between tiles over the north and south pitches. Internally the building was open with no attic space, the roof felt formed the ceiling. No tears were present in the roof felt. However, a gap ran along the tops of the walls at eaves level, which created access into the building. Around ten fresh bat droppings were present on the floor, there were no possible roost locations above the droppings and no gaps or crevices suitable for bats could be observed anywhere within the building.

Around 10 bat droppings were present within the building.

Droppings were collected in a labelled container for DNA analysis (if required).

No bats were observed during the survey visit.

Low Potential for roosting bats

Undercover Cart Lodge (B4)

No potential roost locations were visible inside the open structure. The tiled roof was well fitted on both the north and south pitches.

No bats or evidence of bats was observed during the survey visit.

Negligible Potential for roosting bats

Log Store Outbuilding (B5)

The tiled roof was fairly tightly fitting with no large gaps between tiles over the north and south pitches. Internally the building was open with no attic space, the roof felt formed the ceiling. No tears were present in the roof felt. However, a gap ran along the tops of the walls at eaves level, which created access into the building. Three fresh bat droppings were present on the floor, there were no possible roost locations above the droppings and no gaps or crevices suitable for bats could be observed anywhere within the building.

Three bat droppings were present within the building.

Droppings were collected in a labelled container for DNA analysis (if required).

No bats were observed during the survey visit.

Low Potential for roosting bats

Vegetation

Two ash trees were located along the bank of the moat, holes and crevices were seen which could be utilised by roosting bats.

The site contained good foraging habitat and surrounding arable fields had hedgerows and trees providing connectivity between the site and local area.

Low Potential for roosting in ash trees

Moderate Potential for foraging & commuting bats

3.3.2 Badger

There were no records of badger *Meles meles*, within 2km returned by SBIS. No badger setts or evidence of badger activity was identified within the survey area.

Negligible Potential for badger

3.3.3 Dormouse

There were no records of dormouse within 2km returned by SBIS and the site is outside the geographic range of UK dormouse. In addition, the site had little habitat suitable for dormouse.

Negligible Potential for dormouse

3.3.4 Schedule 1 & Breeding Birds

Many records of a variety of bird species within 2km were returned by the SBIS data search. Notable records include barn owl *Tyto alba* (data from several local nest box checks), fieldfare *Turdus pilaris*, redwing *Turdus iliacus* and turtle dove *Streptopelia turtur*.

The buildings, trees and hedgerow on site provide some very small areas of suitable nesting habitat for these notable species recorded in the local area, however no evidence of Schedule 1 species was noted during the survey visit. The barn owl box present on B1 had been blocked and no longer had potential for nesting barn owl.

There is good available habitat for breeding birds in general, although no nests were observed during the survey visit.

Negligible Potential for Schedule 1 birds at the proposed development location

Moderate Potential for breeding birds

3.3.5 Otter

No records of otter *Lutra lutra* from within 2km were returned by the data search. Otter are associated with running and open water and riparian habitats. The habitat within the red line is not suitable for otter, however the adjacent moat means there is a very low chance this species may be foraging or commuting through the site between waterbodies.

Low Potential for commuting otter

3.3.6 Water Vole

One record of water vole *Arvicola amphibius* from within 2km was returned by the data search from 2005. The site has very little suitable habitat which is regularly managed and the historic nature of the record means it is considered highly unlikely this species could be present.

Negligible Potential for water vole

3.3.7 Great Crested Newts

There were no positive great crested newt license returns on Magic Maps within 2km of the application site.

No records of great crested newt within 2km of the application site were returned from the data search.

There were two waterbodies shown on OS maps within 250m of the application site, the closest (WB 1) was the moat within Flemings Hall immediately north of the site. The second pond (WB 2) 110m east, could not be observed on aerial or Magic maps and was suspected to have disappeared. An HSI assessment of WB1 was undertaken.

There is very little suitable habitat for foraging within the site, although the hedgerow could provide a commuting route for this species should they be present.

Great Crested Newt Habitat Suitability Index (HSI) survey results

The results of the HSI assessment for the moat is tabulated below.

Table 4.

Pond No.	HSI variables										HSI Total
	SI1 - Location	SI2 - Pond area	SI3 - Pond drying	SI4 - Water quality	SI5 - Shade	SI6 - Fowl	SI7 - Fish	SI8 - Ponds	SI9 - Terrestrial habitat	SI10 - Macrophytes	
1	1	>2,000	never	moderate	0-60	minor	minor	4	moderate	10	0.68

The results of the HSI assessment for the moat gives a value of 0.68 which means the moat is of Average Suitability for great crested newt.

Low Potential for commuting great crested newt

Results of the Rapid Risk Assessment Tool

The rapid risk assessment is a simplistic assessment and provides a general overview of a situation. The following factors should be considered when using the rapid risk assessment; population size, terrestrial habitat quality, presence of dispersal barriers, timing and duration of works, detailed layout of development in relation to places newts may use for shelter and dispersal routes. The following factors could increase the risk of committing an offence: large population size, high pond density, good terrestrial habitat, low pre-existing habitat fragmentation, large development footprint, and long construction period. The following factors could decrease the risk: small population size, low pond density, poor terrestrial habitat, substantial pre-existing dispersal barriers, small development footprint and short construction period.

The area of the site is approximately 0.2ha, therefore any waterbodies within 100m of a breeding pond for great crested newt could cause a '**Green: Offence highly unlikely**'.

Table 5.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.2
Land 100-250m from any breeding pond(s)	No effect	0

Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.2
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Guidance on risk assessment categories

- 'Green', offence highly unlikely: indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. **However, precautions may need to be taken to avoid an offence.**
- 'Amber', offence likely: indicates that the development activities are of such a type, scale and location that it is likely. Design plans for the development may need to be altered (location, layout, methods, durations or timings) to minimise the effect on great crested newts and if the scheme still results in a likely offence a licence may be required to carry out the works.
- 'Red', offence highly likely: indicates that the development activities are of such a type, scale and location that it is highly likely. Design plans for the development should be altered (location, layout, methods, durations or timings) to minimise the effect on great crested newts and if the scheme still results in a likely offence a licence may be required to carry out the works.

3.3.8 Reptiles

No records of reptiles were returned from SBIS.

The habitat within the site is unsuitable for reptiles although it is possible they may use the hedgerow for commuting, should they be present in the area.

Low Potential for commuting reptiles

3.3.9 Invasive Non-Native Species (INNS)

Although records of invasive plant and animal species such as Muntjac deer *Muntiacus reevesi* and grey squirrel *Sciurus carolinensis*, were returned by the data search, no evidence of any was present within the site during the survey.

3.3.10 NERC Act SPI / Local BAP Priority Species

Bats, dormouse, otter, water vole, great crested newts and reptiles are covered in the relevant sections above, as are many nesting bird species and Schedule 1 listed species that are also species of principal importance under the NERC Act and/or are local BAP species.

Numerous records of hedgehog *Erinaceus europaeus* and brown hare *Lepus europaeus*, were returned from the data search and hedgehog may utilise the hedgerow within application site for resting, foraging or commuting.

4 Evaluation

4.1 Evaluation & Discussion of Ecological Features & Impacts

The application site is not subject to any statutory or non-statutory nature conservation designations.

There are no European or National sites of importance within 2km.

No habitats within the site are identified as Habitats of Principal Importance HPI.

There is one county wildlife site within 2km, which is almost 1km away. There are very few priority habitats within the search area, the closest being deciduous woodland which is 130m away. The distance of the receptors and the very small scale of the proposed development means the development is highly unlikely to affect the receptors through impacts such as pollution. The impact of the proposed development upon local sites and HPIs is therefore assessed as Neutral.

The site provides a small area of habitat linkage to the local hedgerow network. This Green Infrastructure would remain unchanged by the proposed development.

The habitats within the site are regularly managed habitats, with the size of the areas and lack of ecological features allowing them to be classed as lower value for protected species and other wildlife. The value of the habitats within the site were considered to be Lower at the Site Only scale. The impact of the proposed development on habitats is considered to be Neutral.

4.2 Bats

Roosting Bats

The confirmed bat roost within the building B1 places this as high value for protected species and bat roost surveys would allow the characterisation of the roost, species present and numbers to be evaluated. The impact of the proposed development upon bats is therefore assessed as Unknown.

The works to B1 has the potential to kill, injure or disturb roosting bats and destroy or damage roosts. As European protected species, bats are fully protected from such activities.

The bat droppings found within B3 and B5 are considered to be from bats entering the buildings for foraging as no features could be observed internally which could be utilised as roosts. It was communicated that doors may be left open on occasion. A single emergence survey is considered pragmatic to build confidence in this evaluation.

Potential roost features were present within B2 and a possible single bat dropping was located beneath a feature on the north elevation. No works are proposed to B2 with the exception of the far east gable end wall which would require tie-in to the proposed spa building. A single emergence survey of the gable end wall is considered reasonable survey effort to identify any use of this small section of building.

No works are proposed to the trees within the site.

Foraging and Commuting Bats

Bats are likely to be utilising the site for commuting and foraging, therefore, potential disruption may be caused by increased lighting from the development occupation or construction activities. The unmitigated impact is considered to be Adverse. Mitigation has been proposed to reduce impacts to Neutral.

4.3 Nesting Birds

The proposed development could kill or injure nesting birds and destroy nests or eggs, should they be nesting within buildings at the time of works. Protection against such activities is afforded to all wild birds.

No vegetation clearances are proposed, therefore impacts to breeding birds within surrounding vegetation is not anticipated.

The unmitigated impact is considered to be Minor Adverse. Mitigation has been proposed to reduce impacts to Neutral.

4.4 Otter

No vegetation clearances are proposed and works do not impact the moat, therefore impacts to otter is not anticipated.

The impact of the proposed development on otter is considered to be Neutral.

4.5 Great Crested Newt

There are two waterbodies within 250m of the site, there is no evidence great crested newt are present within these waterbodies. Connectivity between the moat and site is good and the moat was considered of average suitability for newts when evaluated.

There is little suitable foraging habitat on the site, which is restricted to the scrub on the banks of the moat and hedgerows. Neither of these habitats will be impacted by the development and the enclosing hedgerow is outside the red line site boundary. The remainder of the site is lawn and hardstanding, which are unsuitable for use by newts.

If great crested newt are present there is some limited potential for this species to be using the site for foraging or commuting within the peripheral scrub or hedgerows.

The proposed development is of low impact to populations of great crested newt that may be present in the local area as no areas of vegetation are due to be removed and only minor groundworks are proposed which will be confined to the existing hardstanding areas.

In addition, the proposed development will not result in fragmentation of terrestrial habitats or isolation of waterbodies. Therefore, it is not anticipated that the proposed development will negatively impact the long-term conservation status of the local great crested newt population (should they be present).

However, due to the proximity of the closest waterbody, Good Practice and Non-licensed avoidance measures should be used during construction to avoid possible impacts to this species and avoid the creation of refugia which may subsequently be utilised by this species, should they be present.

The unmitigated impact is Unknown as there is no confirmation great crested newt are present locally. However, an avoidance strategy has been proposed to manage impacts as Neutral, should this species be present.

4.1 Reptiles

No vegetation clearances are proposed and no permanent loss of habitat, therefore impacts to this species are not anticipated. Mitigation for great crested newt will avoid impacts to this species.

The impact of the proposed development on reptiles is considered to be Neutral.

4.2 Hedgehog

No vegetation clearances are proposed and no permanent loss of habitat, therefore impacts to these species are not anticipated. Mitigation for great crested newt will avoid impacts to this species.

The impact of the proposed development on hedgehog is considered to be Neutral.

4.3 Summary

The following unmitigated key ecological issues and constraints have been identified:

- At least one building on site has confirmed bat roosts;
- Potential for disturbance, injury or death of roosting bats and loss of roost spaces within barn B1;
- Low Potential for bats roosts within the east gable end B2;
- Bat foraging likely within B3 and B5;
- Habitat for foraging and commuting bats is present on-site;
- Potential for disruption of bat behaviour through increased lighting;
- Potential for injury and killing of nesting birds and destruction of nests should birds be nesting with the building at the time of works;
- Potential for great crested newt in ponds within adjacent moat
- Potential for reptiles commuting through site; and
- Potential for hedgehog to be foraging or commuting through site.

5 Recommendations for Further Surveys and Mitigation

5.1 Overview

The assessment of the ecological constraints and subsequent recommendations are based on the current outline proposals.

5.2 Further Survey

5.2.1 Bats

Further survey for roosting bats is required in order to fully assess the impact of the proposed development. Appropriate mitigation would be recommended in the accompanying reports where necessary.

Surveys comprise of dusk emergence / dawn re-entry visits to the building where surveyors watch for bats leaving or entering roosts. These surveys can only be carried out between May and September. The number of visits needed is initially determined by the potential of the building, but also by whether a roost is present, the type and the species. Information gathered will be used to support the planning application but also used to support any European Protected Species Mitigation Licences that may be required where bat roosts are found to be present.

Table 6. Building survey requirements based on preliminary roost assessment.

Building	Potential	Number of Visits	Requirements
B1 Thatched Barn	High + confirmed roost	3	3 x Dusk emergence surveys (with cameras)
B2 Residential Outbuilding	Moderate + possible roost (B2 other than gable end wall) Low (gable end wall)	1	No works are anticipated to this building with the exception of the east gable end. One survey of the gable end is considered a pragmatic approach. 1 x Dusk emergence survey (with cameras) of gable end wall only
B3 Storage Building	Low	1	1 x Dusk emergence survey (with cameras)
B4 Undercover Cart Lodge	Negligible	0	No survey required
B5 Log Store Building	Low	1	1 x Dusk emergence survey (with cameras)

During the surveys, should bats be found utilising buildings B2 (gable end wall area) – B5 for roosting then this will become a confirmed roost and additional survey visits may be required in order to categorise the roost, species and numbers present.

5.2.2 Other Protected Species

Currently, based on proposals of work, it is not anticipated that further protected species surveys are required, other than for bats.

5.3 Ecological Implication Avoidance and Mitigation

The National Planning Policy Framework (NPPF) outlines the mitigation hierarchy and promotes its use throughout the planning process to minimise harm to, and maximise benefits for, biodiversity resulting from development. The NPPF highlights that avoiding adverse effects to biodiversity through good design should be the primary objective for any proposed development. Any unavoidable adverse effects on biodiversity should be adequately mitigated to minimise any negative impacts of the development. Compensation may be used after avoidance and mitigation measures have been fully considered in order to address any residual impacts of the proposals.

5.3.1 Bats

Lighting

The following mitigation measures should be used to ensure that there is no negative impact to any bats or their long-term conservation status as a result of the development:

- Construction work should only be carried out in day time hours during the bat active period of April to October inclusive in order to avoid disturbance to bats utilising retained habitats on-site and adjacent habitats.
- A bat sensitive lighting scheme will be implemented during the construction and operation of the development. Avoidance of any increased lighting on the adjacent habitats and no directional lighting of vegetation likely to be used by bats, which should include the hedgerows and offsite vegetation to the north.

5.3.2 Nesting Birds

The buildings, have potential to support nesting birds. Removal of any suitable nesting habitat for birds should be undertaken outside of the recognised bird nesting season (i.e. works should take place between September and February inclusive) to avoid any potential offences relating to breeding birds. If this is not possible then a nesting bird check should be carried out immediately prior to works (or within 24 hours) by a suitably qualified ecologist. Any active nests must remain 'in situ' with an appropriate buffer until young have fledged and the nest is no longer in use.

5.3.3 Great Crested Newt

Although there are no ponds within the site itself, a suitable waterbody was located immediately adjacent to the north, therefore it is recommended methods are used during the construction works to avoid any impacts to this species, or the creation of suitable refugia during construction, should they be present. This is considered a pragmatic approach as these good practices are likely to be the same recommendations should great crest newt be present within the ponds and additional surveys would offer little extra benefit to this species.

Construction Good Practice and Non-Licensed Avoidance Measures:

- Raise stored materials or rubbish piles (that might act as temporary resting places) off the ground, e.g., on pallets.
- Schedule ground works to the winter period (when newts are rarely active above ground) as much as possible.
- Keep duration of groundworks as short as possible.
- Undertake during the day only, works that might only affect newts above ground (e.g., ground works).
- Backfill trenches and other excavations before nightfall or leave a ramp to allow newts to easily exit.
- Avoid installing structures that act as barriers close to ponds or include gaps at ground level where walls or fences are unavoidable.
- Pollution prevention measures will be adhered to as standard practice on a construction site and include the following, where necessary:

- Secure storage and handling of any chemicals;
- Use of plant nappies;
- Safe refuelling procedures;
- Spill response plans; and
- Dust suppression measures.

Worker Awareness:

- Contractors working on-site will be made aware of the very low risk of great crested newt being present by ensuring that this document is provided and retained on-site for reference for the duration of the works.

Great Crested Newt Procedure:

Should a great crested newt be found during the works an agreed procedure will be followed;

- If it is suspected that a great crested newt has been found, work must be suspended and the advice of the ecologist sought. At no point should any worker handle a great crested newt or suspected great crested newt. Unlicensed handling is illegal and untrained handling may cause the newt unnecessary stress and injury.
- Although considered as being of negligible potential; should a significant impact to great crested newt population(s) be determined during the development, then all works must cease immediately and a consultation will be required from Natural England, on the process to allow works to proceed further.

The Non-Licensed Avoidance Measures for great crested newt will also serve as appropriate mitigation to avoid impacts on reptiles and hedgehog, should they be present in the local area.

5.4 Ecological Enhancement

The National Planning Policy Framework (NPPF) and local policy encourages developers to incorporate ecological enhancements into projects to achieve net gains for biodiversity. Generally, enhancements act to improve the quality of the habitat for the flora and fauna on and within the vicinity of the site, although these enhancements can also provide aesthetic appeal, thus adding to the value of the project. The National Planning Practice Guidance (NPPG) identifies how planning authorities should consider if individual development proposals may provide enhancements to biodiversity and contribute to wildlife and habitat connectivity in the wider area.

Possible opportunities to enhance the wildlife potential, appropriate to this site, are provided below. It is important that any measures adopted be clearly demonstrated to the Planning Authority through inclusion in design plans and accompanying documentation.

- Many small bird species, such as blue tit *Cyanistes caeruleus* and great tit *Parus major* will preferentially nest in nest boxes, where available, and boxes to suit different species are offered. The installation of bird boxes can provide additional nesting space for birds, secure from introduced predatory animals such as domestic cats. Boxes can be installed on trees to avoid conflict with the Listed status of the buildings or integrated into the proposed new build barn.
- Where additional landscaping is planned this should include plant species with benefits for pollinating insects. A list can be found at [RHS Plants for Pollinators - Garden plants](#)
- Installation of a barn owl box on a mature tree overlooking open fields would increase suitable breeding provision for this species in the local area. However, this would be more suitable for installation in the wider site to avoid potential disturbance from guests.

6 Conclusion

The current proposals are for converting the existing buildings (including the 16th Century thatched barn) to provide independent holiday rentals, a spa building and a new detached residential barn.

A confirmed bat roost is present within the thatched barn (B1) which will be impacted by the proposed development and further survey is required for this building. Three emergence surveys are required between May – September (inclusive) in order to support the planning application and to comply with current UK legislation for protected species. These further surveys will characterise the roost and allow mitigation to be determined.

No alterations are proposed to B2, with the exception of the east gable end, which will be tied in to the new spa building. Overall B2 had moderate potential for bats and a possible bat dropping was located beneath a hole on the north elevation (well away from the tie-in location). The east gable end is considered to have low potential for bats and a single emergence survey of the gable end only is required.

Very low numbers of bat droppings were found within buildings B3 and B5, however these are believed to be from bats entering the barns to forage as no suitable roost features were present internally. The buildings had low suitability for roosting bats and a single emergence survey is required.

However, should bats be found to be using B2 (gable end) – B5 for roosting then the building will become a confirmed roost and additional survey visits may be required to categorise the roost.

The development will require a bat mitigation license to be applied for and granted by Natural England before works can be started. This can only be applied for once planning permission has been granted.

There is potential for lighting to disrupt bat activity during development or construction activities as well as during occupation of the development and a sensitive lighting scheme is required.

There is potential for great crested newt to be present within the moat adjacent to the proposed development. Due to the proximity of the waterbody, there is low potential for this species to be using within the site (should they be present). The risk of great crested newt currently using the site is considered very low due to the unsuitability of current habitats (predominantly short sward lawn and hardstanding) and the Natural England Rapid Risk Assessment Tool gives a green level of offense (offence highly unlikely) as the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required and further survey for this species is not required.

Good practice and non-licensed avoidance measures for great crested newt should be used during construction to avoid any impacts to this species and avoid the creation of refugia during construction (should great crested newt be present locally). The measures will also serve as mitigation for reptiles and hedgehog, should they be present locally.

Mitigation measures for nesting birds is provided within the report and should be adhered to.

Ecological enhancements for breeding birds, invertebrates and Schedule 1 breeding birds have been suggested within the report.

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Appendix A: Site Plans



Figure 1. Location of application site (red line) and surrounding landscape

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Figure 2. Application site boundary (red line)

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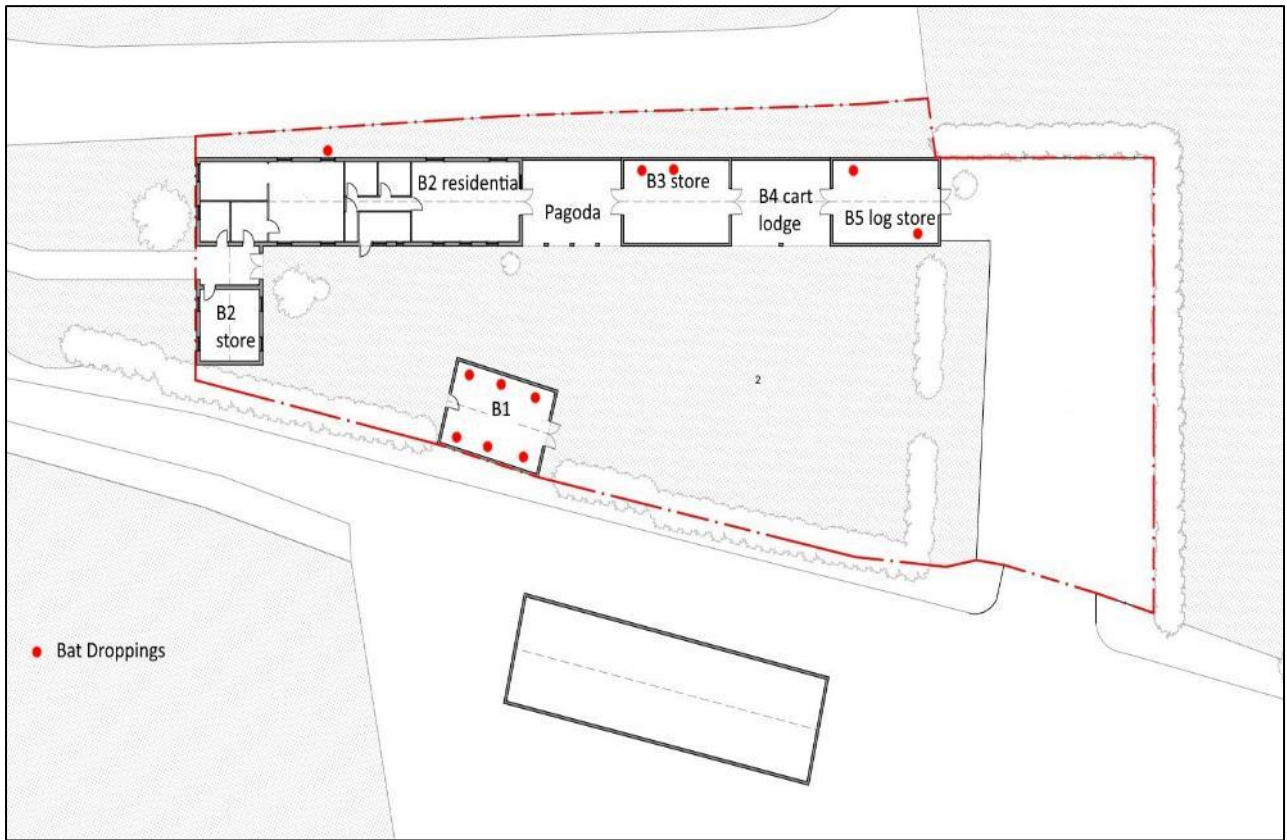


Figure 3. Application site (red line) and approximate locations of bat droppings during survey visit (red circles)



Figure 4. UK Habitat Classification plan of site

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Appendix B: Photographs



Photograph 1.
Bramble scrub and grass pathway north of barns.



Photograph 2.
Grassland with B2 east gable end to right in background.



Photograph 3.
Hedgerow within site.



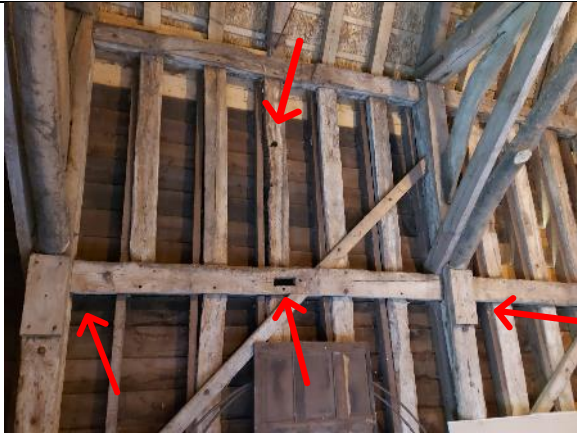
Photograph 4.
Hardstanding with farm buildings across road in background.



Photograph 5.
B1 east gable end with defunct bird access at apex.



Photograph 6.
East elevation internally showing access points.



Photograph 7.
North elevation. Red arrows indicate potential roosting features.



Photograph 8.
Example of bat droppings collected from B1.



Photograph 9.
B2 west elevation



Photograph 10.
Hole in north elevation B2 with possible bat dropping beneath.



Photograph 11.
B2 loft area with crawl space.



Photograph 12.
B3 west gable end with pagoda area to left.



Photograph 13.
B3 internal showing gaps above walls either side. Red arrow indicates area bat droppings were found.



Photograph 14.
B4 cart lodge with B5 in background.



Photograph 15.
B5 log store. Red arrows indicate location bat droppings were found.



Photograph 16.
Moat adjacent to site.

Appendix C: Legislation

Statutory Designated Sites

Particular national and international legislative instruments enable the designation of sites of conservation interest. These 'statutory designated sites' are then afforded varying degrees of protection under environmental legislation and government policy. The land designations considered by this study are set out in Table 1, with details of their associated legislation.

Table 1 Statutory land designations considered here.

Designation	Protection
National Parks	National Parks and Access to the Countryside Act 1949.
Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949; Countryside and Rights of Way Act 2000; local planning policy.
Local Nature Reserves (LNRs)	National Parks and Access to the Countryside Act 1949; local planning policy.
National Nature Reserves (NNRs)	National Parks and Access to the Countryside Act 1949; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; local planning policy.
Ramsar sites	Ramsar Convention; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.
Sites of Special Scientific Interest (SSSIs)	Wildlife and Countryside Act 1981; Countryside and Rights of Way act 2000.
Special Areas of Conservation (SACs)	EU Habitats Directive; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.
Special Protection Areas (SPAs)	EU Birds Directive; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.

Non-Statutory Designated Sites

Non-statutory designated sites, such as County Wildlife Sites (CWS), Sites of Nature Conservation Interest (SNCI) and Sites of Importance for Nature Conservation (SINC) are local sites designated by Local Planning Authorities that are considered to be of significant nature conservation value. They often have an important role in the wider landscape by connecting statutory designated sites and can support European protected species and species listed under the Habitats Directive.

Ancient Woodland is a non-statutory designation, which is generally applied to woodlands known to predate 1600. Before this time woodland was rarely artificially planted, hence these woodlands are likely to be naturally established. Subtypes include Ancient Semi Natural Woodlands and Ancient Replanted Woodlands. Although tree cover in the latter has predominately been replaced, original features such as characteristic wildlife are retained. Ancient woodlands are protected under national planning policy. Current planning policy guidance requires that developments must not result in the loss or deterioration of Ancient Woodlands, which are a valuable biodiversity resource.

European Protected Species (EPS)

European protected species are protected in the UK by Regulation 40 of the Conservation of Habitats and Species Regulations 2017 (as amended), with EPS listed under Schedule 2. This is the national implementation of the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Flora and Fauna). Protection is also afforded to any EPS under Section 9 of the Wildlife and Countryside Act 1981 (as amended), owing to their inclusion in Schedule 5.

These legislative instruments make it unlawful to intentionally, deliberately or recklessly capture, kill, injure or disturb in a place of shelter, any EPS. The damage or destruction of a breeding or resting place, whether intentional or reckless, also constitutes an offence.

The following are examples of EPS which are native to and residing in the United Kingdom:

- Sand lizard (*Lacerta agilis*)
- Smooth snake (*Cornella austriaca*)
- Great crested newts (*Triturus cristatus*)
- Dormice (*Muscardinus avellanarius*)
- Otters (*Lutra lutra*)
- Bats (all native species)

Widespread Species

Widespread Reptiles

Through inclusion in Schedule 5 of The Wildlife and Countryside Act 1981, it is an offence under Section 9 to intentionally kill, injure or sell, offer for sale, possess or transport for the purpose of sale, any living or dead widespread species of UK reptile, or any product derived from one.

In addition, all native reptiles are adopted as Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities Act 2006.

Water Voles

The water vole *Arvicola amphibius* is fully protected under the Wildlife and Countryside Act 1981 (as amended). Protection is afforded against killing and injury of water voles, as well as the damage, destruction or obstruction of burrows, or disturbance of burrows while in use.

Nesting Birds

Under The Wildlife and Countryside Act 1981 it is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while it is in use or being built; take or destroy the egg of any wild bird.

There are 49 bird species listed as Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities Act 2006. These species are therefore material planning considerations.

Schedule 1 Listed Birds

Under the Wildlife and Countryside Act 1981 there are special penalties for offences regarding birds listed in this Schedule. Additionally, it is an offence to disturb Schedule 1 listed bird or dependent young at nest.

Badgers

Badgers are protected by the Protection of Badgers Act 1992. Under this legislation, badgers and their setts are protected against all deliberate damage, destruction and disturbance. Badgers are widespread and abundant; their legal protection is primarily aimed at preventing blood sports, however there are still implications for developers.

NERC Act Habitats and Species

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act required the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

There are 56 Habitats of Principle Importance (HPI) included on the S41 list. These are all the habitats in England that were identified as requiring action in the former UK Biodiversity Action Plan (UK BAP). These areas include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland. Additionally, 943 Species of Principle Importance (SPI) were included in the S41 list. The species found in England were identified as requiring action under the former UK BAP, which has since been replaced by the Post-2010 Biodiversity Framework. The priority species and habitats designed under S41 of the NERC Act will be considered as part of the constraints and opportunities assessment, thus identifying if these habitats will be impacted and also where opportunities are present to enhance the area for local priority species.

Wild Mammals (Protection) Act 1996

All mammals receive some protection under the Wild Mammals (Protection) Act 1996, which makes it an offence to intentionally cause unnecessary suffering of any wild mammal. The Wild Mammals Act may apply during site clearance works, particularly where burrowing animals such as foxes and rabbits are present as they could be crushed or asphyxiated in their burrows by heavy machinery.