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## Ecology Report

**PROPOSED HOUSE EXTENSION**  
**Windmill House, Creting St Mary, Suffolk**

September 2023



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## Contents Amendment Record

**REPORT NUMBER: WINDMILLHOUSE/2023/ER/001**

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Initial draft	05/09/2023	K. Bathgate
1	1	Final version	08/09/2023	C. Whiting

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# Executive Summary

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of land at Windmill House, Creting St Mary, Suffolk IP6 8PY (TM 09736 55536). A planning application will be submitted to East Suffolk Council to alter and extend an existing dwelling, including the replacement of the existing concrete interlocking tiles, and build a detached cart lodge and store with first floor office/annex within an existing horse paddock.

The proposed development site comprises an existing dwelling within an area of species-poor lawn used as a paddock and three smaller buildings (a garage, shed and stables) to the south. There are scattered broadleaved trees, boundary hedgerows and one pond within 250m of the site.

The site supports areas of suitable terrestrial foraging habitat (e.g., lawn) for common amphibians with refuge opportunities limited to boundary hedgerows. Areas of longer grass and the hedgerows could potentially support small numbers of common reptiles such as slow worm (*Anguis fragilis*) which will utilise gardens. An inspection of the house found no evidence or potential for roosting bats. The garden contains habitats (e.g., mature trees/shrubs and hedgerows) which are of moderate value to foraging and commuting bats.

Habitats present (e.g., mature trees and hedgerows) will also provide suitable nesting, foraging and song perch habitat for small passerines such as wren (*Troglodytes troglodytes*) and house sparrow (*Passer domesticus*) (Red Status; S. 41), foraging and refuge habitat (e.g., lawn and hedgerows) for hedgehogs (*Erinaceus europaeus*), and may also support some S.41 list invertebrates, including butterflies and moths.

Recommendations are made to avoid wildlife offences and ecological impacts, particularly in relation to common amphibians, bats, birds, and hedgehogs. Where impacts cannot be avoided, measures are proposed to mitigate remaining effects including timing of works and good working practices, with compensation measures and biodiversity enhancements proposed, ensuring gains are delivered.

# 1 Introduction

## 1.1 BRIEF

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of land at Windmill House, Creeting St Mary, Suffolk IP6 8PY (TM 09736 55536; Figure 1). A planning application will be submitted to East Suffolk Council to alter and extend an existing dwelling, including the replacement of the existing concrete interlocking tiles, and build a detached cart lodge and store with first floor office/annex within an existing horse paddock.

Some areas of permeable hardstanding are proposed around the apron of the cart lodge and store. A mixed native species hedgerow and some specimen container trees are proposed around the cart lodge and store.

The ecological survey and this report are necessary to:

- Identify the existing ecological value of the site;
- Identify the need for further (e.g., protected species) surveys;
- Assess any potential adverse impacts of the proposed development on ecological features of the site or nearby designated sites;
- Make recommendations for mitigation (if required); and
- Identify opportunities for biodiversity enhancements and, consistent with national and local planning policy, net gains.

This report will be used to develop the proposals as necessary, and to form the basis for the submission of biodiversity information with any planning application. It reflects the site at the time of the survey and should be reviewed and revised as appropriate.

## 1.2 SITE LOCATION AND DESCRIPTION

The proposed development site is the existing residence, comprising a house and three outbuildings with gardens to the rear and an area of horse paddock to the south (Photos to 4). The gardens comprise areas of lawn and longer grass, scattered trees and hedgerows. A horse shelter is present in the paddock (Figure 2).

The site is situated within a predominantly agricultural landscape. One pond exists within 250m of the site boundary (Figure 1). Photos are provided in Appendix A1.

## 2 Planning policy and legislation

### 2.1 INTRODUCTION

This chapter summarises the key legislation and policies relevant to assessing the biodiversity impacts of the scheme upon habitats and species.

### 2.2 PLANNING POLICY

#### 2.2.1 *National Planning Policy Framework (NPPF)*

The National Planning Policy Framework was originally published in 2012 and most recently revised in July 2021. The document sets out the Government's planning policies for England and provides guidance on how these policies are expected to be applied. It provides a framework for, and must be taken account of within, locally prepared plans for housing and other development, and is a material consideration in planning decisions.

An overarching objective of the NPPF, which aims to integrate and secure net gains, is to contribute to protecting and enhancing the natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

The full NPPF is available to view online using the gov.uk website: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachm ent\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachm ent_data/file/1005759/NPPF_July_2021.pdf) . Policies of particular relevance to development and biodiversity include 174, 180, 181 and 182.

**174.** Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

**180.** When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest (SSSI), and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

**181.** The following should be given the same protection as habitats sites: a) potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC);

b) listed or proposed Ramsar sites; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential SPA, possible SAC, and listed or proposed Ramsar sites.

**182.** The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects) unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

## 2.2.2

### *Local Plan*

Adopted local plans provide the framework for development across England, and include policies related to conserving and enhancing the natural environment. Existing planning policies and supporting documents used to plan, deliver, and monitor development across the Mid Suffolk District Council area can be found at:

<https://www.midsuffolk.gov.uk/planning/planning-policy/adopted-documents/mid-suffolk-district-council/mid-suffolk-local-plan/>

## 2.3

### **LEGISLATION**

### 2.3.1

#### *Environment Act 2021*

The Environment Act received royal assent in November 2021. The Act will set clear statutory targets for the recovery of the natural world in four priority areas: air quality, biodiversity, water and waste, and includes an important new target to reverse the decline in species abundance by the end of 2030. Of particular relevance to development planning will the requirement for all new development to deliver a quantified (10%) Biodiversity Net Gain.

### 2.3.2

#### *Natural Environment and Rural Communities (NERC) Act 2006*

Section 40 places a duty on every public body in exercising its functions, to have regard to the purpose of conserving biodiversity; this includes restoring or enhancing

populations or habitats. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and public-sector decision making. *Species and habitats of principal importance* in this respect are those published under Section 41 (“S. 41”) of the NERC Act 2006.

### 2.3.3 *Wildlife and Countryside Act 1981 (as amended)*

Rare and scarce habitats and species are afforded varying levels of protection under the Wildlife and Countryside Act 1981 (as amended) (hereafter “WCA 1981”). Some species and groups are afforded full protection (e.g., Schedule 1 bird species, bats), whilst others receive partial protection (e.g., widespread reptiles). Section 3.1 provides further detail relevant to this scheme. Species afforded legal protection are referred to by their relevant schedule (“Sch.”) within the act, i.e., “Sch. 1” (birds), “Sch. 5” (other animals), or “Sch. 8” (plants).

Invasive plant species such as Japanese knotweed (*Reynoutria japonica*) and giant hogweed (*Heracleum mantegazzianum*) are listed on Schedule 9 of the WCA 1981. It is an offence to plant or otherwise cause these species to grow in the wild and this includes the development of sites such that the plant colonises land owned by a third party.

### 2.3.4 *The Countryside and Rights of Way (CROW) Act 2000*

The CROW Act 2000 strengthened and updated elements of the WCA 1981, and gave a statutory basis to biodiversity conservation, requiring government departments to have regard for biodiversity in carrying out its functions and to take positive steps to further the conservation of listed habitats and species. It strengthened the protection of SSSIs and threatened species. Many of its provisions have been incorporated as amendments into the WCA 1981 and some have been superseded by the NERC Act 2006.

### 2.3.5 *The Conservation of Habitats and Species Regulations 2017*

The Conservation of Habitat and Species Regulations 2017 (hereafter referred to as the Habitat Regulations 2017) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), and elements of the EU Wild Birds Directive, into national law. The 2017 Regulations provide for the designation and protection of ‘European sites’ (SPAs, and SACs), the protection of ‘European Protected Species’ (“EPS”), and the adaptation of planning and other controls for the protection of European Sites.

They have been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit. Under the Regulations, competent authorities i.e., any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the relevant EC Directives.

### 2.3.6 *Protection of Badgers Act 1992*

The Protection of Badgers Act 1992 (hereafter “PBA 1992”) consolidates and improves upon the previous Badgers Act 1973, Badgers Act 1991, and Badgers (Further Protection) Act 1991. Under the PBA 1992 (except when holding a licence to do so) it is illegal for a person to wilfully; kill, injure, take, possess, sell, or otherwise cruelly treat a badger. It is also illegal to dig out, damage, destroy, or obstruct entry to setts



(including by use of dog(s)). Further information on offences, exceptions, and penalties are listed on the PBA 1992 on [legislation.gov.uk](http://legislation.gov.uk).

# 3 Methodology

## 3.1 INTRODUCTION

This report has been produced with reference to relevant guidance, most notably:

- Guidelines for Ecological Report Writing (CIEEM, 2017);
- Biodiversity – Code of Practice for Planning and Development (BS 42020:2013<sup>1</sup>);
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018); and
- Biodiversity Net Gain: good practise principles for development (CIRIA, CIEEM and IEMA, 2016).

The following sections summarise the approaches used to review existing data, and to undertake appropriate field surveys to scope and inform an Ecological Impact Assessment (EclA) for the scheme. Where further surveys are considered necessary, this is identified in section 5.

## 3.2 DESK SURVEY

The following data sources were consulted to assess the potential for the application site to support protected or notable habitats/species:

- Aerial photos, Ordnance Survey maps, and the MAGIC website (<http://magic.defra.gov.uk/>): These were used to identify habitat types including priority habitats, suitability for particular species/groups, and the locality of nationally and internationally designated sites;
- Natural England (NE) open source protected species and habitat survey data; and
- Historical biological records: species and locally designated site records within 2km of the site were provided by the Suffolk Biodiversity Information Service (SBIS).

From this exercise, it was concluded that the following legally protected species/groups may be present on the sites and/or land immediately adjacent:

- Amphibians including great crested newts (GCN) (*Triturus cristatus*)<sup>2</sup> and common toad (*Bufo bufo*)<sup>3</sup>;
- Reptiles<sup>4</sup> including grass snake (*Natrix helvetica*) and slow-worm (*Anguis fragilis*);
- Mammals including badgers<sup>5</sup> and bats<sup>2</sup>;
- Breeding birds<sup>6</sup> including Red and Amber status<sup>7</sup> species; and
- S. 41<sup>8</sup> list habitats such as hedgerows, and species such as hedgehog and invertebrates.

In the context of the setting and nature of the developments, the 'zone of influence' of the scheme is considered restricted to habitats on the sites and species within 250m of the site boundaries.

## 3.3 FIELD SURVEY

An initial site walkover was undertaken on the 2 August 2023 to 1) record habitats present; and 2) assess the value of the habitats present for protected and notable

<sup>1</sup> BSI Standards publication BS 42020:2013 Biodiversity – Code of practice for planning and development.

<sup>2</sup> GCNs and all species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.

<sup>3</sup> All common species are listed on Sch. 5 of the WCA 1981 and its an offence to sell them.

<sup>4</sup> Common reptiles are listed on Sch. 5 of the WCA 1981 and protected against intentional killing or injuring and sale.

<sup>5</sup> Badgers and their setts are afforded protection by the PBA 1992.

<sup>6</sup> All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

<sup>7</sup> The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 5 (Stanbury *et al.*, 2021).

<sup>8</sup> S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

species. A list of vascular plants and a description of the vegetation was made, including the location and extent of any Schedule 9 (WCA 1981) plants. Photos of the habitats present, and any field signs (Figure 3) are provided in Appendix A1.

3.3.1 *Habitats and vascular plants*

The site was walked with all distinct vegetation and habitat types, and any features of interest identified. Care was taken to record as many species as possible.

3.3.2 *Amphibians and reptiles*

a) Amphibians

One pond P1 (Figure 1) is shown on OS maps within 250m of the site but is separated from the site by a road. No access was secured to assess the ponds suitability to support breeding GCNs and other common amphibians but aerial photos confirm the pond was cleaned out 2 years ago and is likely to hold water.

The terrestrial habitat suitability of the site and land immediately adjacent was assessed with respect to refugia and foraging habitat based on the known habitat preferences of GCNs and widespread amphibians. The suitability of the ponds was assessed using the habitat Suitability Index (ARG UK Advice Note 5 Great Crested Newt Habitat Suitability Index May 2010).

b) Reptiles

Habitats on and around the application site were assessed with respect to the known foraging and refuge habitat preferences of widespread reptile species.

3.3.3 *Bats*

a) Preliminary Roost Assessment

The buildings on the site were assessed for their suitability to support roosting bats with reference to the NE Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3<sup>rd</sup> edition" (Collins, 2016). The criteria used to determine the level of Bat Roost Potential (BRP) of buildings is outlined in Table 3.1.

**Table 3.1 Bat Roost Potential (BRP) of buildings.**

<b>Bat Roost Suitability</b>	<b>Description</b>
<i>Confirmed presence</i>	Bat presence confirmed during the scoping survey
<i>High</i>	Buildings that have many areas suitable for roosting which are obviously suitable for use by a larger number of bats including maternity colonies.
<i>Moderate</i>	Buildings with a small number of areas suitable for roosting, but still supporting features that could be attractive to bats and potentially support maternity colonies.
<i>Low</i>	Buildings with limited roosting opportunities but which could be used on a sporadic or occasional basis by a low number of bats, but which are unsuitable for maternity roosts.
<i>Negligible</i>	Buildings which appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids and/or absence of suitable access points.

b) Tree roost potential

Existing trees which may require removal were visually checked to assess their suitability (See Table 3.2) for use by roosting bats using the criteria of the Bat Conservation Trust (BCT) protocols (Table 4.1, Collins, 2016).

**Table 3.2 Bat Roost Potential (BRP) of trees**

<b>Bat Roost Suitability</b>	<b>Description</b>
<i>Confirmed presence</i>	Bat presence confirmed during the scoping survey
<i>High</i>	Trees 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, conditions, and surrounding habitat.
<i>Moderate</i>	Trees 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.
<i>Low</i>	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential. <i>NB The tree(s) are of a size and age that elevated surveys may result in features being found; or features which may have limited potential to support bats</i>
<i>Negligible</i>	Negligible habitat features on site likely to be used by roosting bats

All potential roosting cavities (e.g., natural cavities, rot holes, woodpecker holes, splits, peeling bark) were inspected from the ground using binoculars where necessary.

Where potential niches existed, niches below 5m high were physically inspected using ladders. Any cavities with the potential to support roosting bats were inspected with an endoscope and/or a small LED torch as necessary. All potential roosting niches were checked for the presence of bats (alive or dead), faecal staining, fur and/or scratch marks around the entrance and droppings within the cavities or attached to the trunk/bough below the entrance.

c) Foraging and commuting habitat

Consideration is given to the value of any potential foraging and commuting habitats (i.e., hedgerows, trees, streams, ponds, composting areas) on the application site as per Table 3.3 of the BCT guidelines.

**Table 3.3 Commuting and foraging habitats**

<b>Suitability</b>	<b>Description</b>
<i>High</i>	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.  High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, trees-lined watercourses, and grazed parkland.

	Site is close to and connected to known roosts.
<i>Moderate</i>	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.
<i>Low</i>	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by other habitats.  Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland situation) or a patch of scrub.
<i>Negligible</i>	Negligible habitat features on site likely to be used by commuting and foraging bats.

#### 3.3.4 *Nesting birds*

The value of the site was assessed in relation to nesting birds. This was supplemented with field records of birds seen or heard within the site, or nests observed.

#### 3.3.5 *Badger*

The application site and adjacent habitats were surveyed for evidence of badger activity including setts, day beds, latrines, diggings/snuffle holes, paths/runs, scratching posts, hair, and footprints. Any potential sett found was then assessed for evidence of recent use by badger and classified as per current guidance (Scottish Badgers, 2018).

#### 3.3.6 *S.41 list habitats and species*

The site was surveyed to determine the presence of any S. 41 habitats such as native species-rich hedgerows. The site's suitability for S. 41 list species such as hedgehog was assessed based on their habitat preferences.

#### 3.3.7 *Non-native invasive plant species*

The site was inspected for Schedule 9 species such as Japanese knotweed and giant hogweed.

### 3.4 **SURVEY CONSTRAINTS**

All the site was accessible for inspection. Botanical surveys are best done in the late spring to summer period, though the lawn covering most of the land on site is managed and is therefore unlikely to support any notable plants, with no basal leaves visible for species such as bee orchid (*Ophrys apifera*), which are visible over winter. Preliminary bat roost assessments can be conducted at any time of year.

### 3.5 **SURVEYORS**

The site survey and building inspection were undertaken by Christian Whiting BSc (Hons) MSc MCIEEM who has over 20 years' experience working as an ecologist. He holds Natural England (NE) survey licences for bats (2015-14745-CLS-CLS - Bat Survey Level 2), barn owl (CL29/00213) and great crested newts (Class A licence 2015-17633-CLS-CLS).

He is a Registered Consultant (Registration RC089) on NE's Bat Low Impact Class Licence and is an agent under the Environment Agency's and IDB water vole (*Arvicola*

*amphibius*) organisational and class licences respectively. His main areas of expertise are bats, vascular plants, amphibians and reptiles, otter (*Lutra lutra*) and water vole.

### 3.6

#### **ASSESSMENT**

Impacts and effects upon habitats and species are assessed with reference to the CIEEM Guidelines for Ecological Impact Assessment (2018) and are reported in Section 5, based on the baseline conditions reported in Section 4.

The assessment includes potential impacts upon habitats and species during the construction and operational phases of the scheme. It considers positive and negative impacts, their extent, magnitude and duration, frequency and timing and reversibility.

# 4 Results

## 4.1 INTRODUCTION

This chapter summarises the results of the desk and field surveys.

## 4.2 BASELINE ECOLOGICAL CONDITIONS – DESK STUDY

### 4.2.1

#### *Designated sites*

Any locally designated sites (e.g., Local Nature Reserves or County Wildlife Sites) within 2km, nationally designated sites within 5km and internationally designated sites within 13km of the application site are listed below in Table 4.1.

**Table 4.1 Relevant designated sites**

Site name	Site designation	Distance
Alderson Lake	CWS	1.0km to the S
Chalkeith Road Meadow	CWS	1.5km to the SW
Creeping St Mary Churchyard	CWS	1.2km to the NW
Creeping St Mary Meadows	CWS	1.4km to the NW
Fen Alder Carr	CWS	1.3km to the NW
Flordon Road Grasslands	CWS	0.4km to the SW
Lion Inn Meadow and Chalk Pit	CWS	1.4km to the SW
River Gipping (Sections)	CWS	0.6km to the SW
Shrubland Park	CWS	1.8km to the SE
Barking Woods	SSSI	2.5km to the SW
Combs Wood	SSSI	4.2km to the NW
Creeping St Mary Pits	SSSI	Borders site to S and E
Gosbeck Wood	SSSI	4.5km to the E
Hascot Hill Pit	SSSI	4.0km to the SE
Lingwood Meadows Earl Stonham	SSSI	3.4km to the NE

#### Locally designated sites

Alderson Lake (CWS) is an ex-gravel pit which lies in the River Gipping Valley. There is excellent connectivity along the River Gipping and its riparian corridor. The shallow marginal areas support a diverse emergent and aquatic flora with white waterlily, an indicator plant of unpolluted water, also present in the lake. Dense willow scrub encloses part of the lake providing good cover for breeding waterfowl and wintering wildfowl. The lake is used for fishing under management of the Gipping Angling Preservation Society.

Chalkeith Road Meadow (CWS) supports a species-rich flora despite plantings of Norway Spruce. Many of the plants recorded here are associated with chalky soils, for example yellow-wort and carline thistle. Pyramidal orchids and bee orchids have also been recorded. The site includes a dense mix of scrub with connectivity to neighbouring CWS Lion Inn Meadow & Chalk Pit.

Creeping St Mary Churchyard supports a diverse unimproved, herb-rich, dry grassland flora. Typical species include field woodrush, lady's bedstraw, bulbous buttercup and pyramidal orchids, with rarer species including meadow saxifrage, spring sedge and small scabious which are only occasionally found in the county. The unimproved

grasslands are managed as a variety of sward heights and the ground is uneven with gentle slopes and patches of bare soil providing suitable habitat for a variety of invertebrates including yellow ants. Priority species also recorded are yellowhammer, spotted flycatcher and slow worm. It has good connectivity via mature hedgerows along the western edge to more hedged fields in the south and to Creeting St Mary Meadows CWS to the west.

Creeting St Mary Meadows (CWS) comprises three, low-lying wet meadows enclosed by hedges bordering a tributary of the River Gipping. The meadows have a species mix characteristic of wet grassland, with southern marsh-orchids being recorded in abundance with other uncommon wetland species such as marsh valerian, meadow saxifrage and fen bedstraw. A population of wood club-rush, a scarce species in Suffolk, has been recorded growing in the northernmost meadow. This site has good connectivity to other semi-natural habitats via the adjacent woodland and the watercourses and network of hedgerows along the field margins surrounding the site.

Fen Alder Carr (CWS) consists of a mosaic habitat ranging from open water and tall fen vegetation to dense alder carr. The pond is colonised by a range of aquatic and emergent species including sedges, rushes and the scarce water violet. It provides a valuable habitat for breeding amphibians. The alder plantation contains many mature, multi-stemmed trees. Bird life is abundant in this area of woodland since alder seed provides a valuable food source for siskin, redpoll and chaffinch. There is a large rookery high up in the tree canopy. The diversity of habitat contained within the site supports good numbers of other wildlife, particularly invertebrates.

Flordon Road Grassland (CWS) provides a matrix of grassland, scrub and woodland. There is a rich flora of chalk grassland species like bee and pyramidal orchids in the mown areas and carline thistle, centaury, ploughman's spikenard and wild liquorice in the taller grassland. Areas of scrub around the sewage works and the diverse woodland provide a rich habitat for birds, reptiles and amphibians.

Lion Inn Meadow and Chalk Pit (CWS) comprises a mosaic of herb-rich chalky dry grassland (a Priority habitat) and part of a disused chalk pit to the south. The hedges and scrub mosaic of the site provide excellent bird nesting habitat with several warbler species and nightingale recorded. The flora of the open grassland includes typical species e.g., yellow-wort, blue fleabane, pyramidal orchid, carline thistle, purging flax, wild basil and centaury. This plant community is unusual in Suffolk. The site is bordered to the west by an ancient green lane containing ancient hedgerows which may be of medieval origin.

The River Gipping (CWS) is of considerable conservation value. Some sections support a diverse emergent fringe consisting of reed, pond sedge and bur-reed. Channel vegetation is dominated by yellow water-lily but also contains some uncommon plants, for example arrowhead and spiked water-milfoil. Kingfisher, reed bunting, reed and sedge warblers and tufted duck breed on the River Gipping. Grey wagtails breed in old river structures - mainly the locks. Furthermore, the River Gipping supports a valuable mixed coarse fishery (Class A). Good populations of roach, dace, eel, tench, perch and pike occur in the river.

Shrubland Park (CWS) comprises formal plantations containing a range of woody species, and shrubs. Several glades and rides which cross the wood support a diverse



flora. Some sections are colonised by plants typically associated with acid grassland. Other more chalky areas support calcicolous species such as pyramidal orchid, wild basil and old man's-beard. A good range of woodland birds has been observed in the woods. Shrubland Park is also of considerable importance for invertebrate conservation. It has been described in Natural England's Invertebrate Site Register as an outstanding site for beetles associated with a dead wood habitat. Three Red Data Book (nationally rare) insect species and several nationally notable species have been recorded in the park.

#### Nationally designated sites

**Barking Woods SSSI** – This site comprises an inter-related group of ancient woodlands. The majority of the medieval earthbanks still remain and are marked by large pollards of oak and ash. The woodland structure is predominantly coppice-with-standards, composed of a variety of different stand-types. The diverse ground flora is typical of ancient woods and reflects a change in soils from the heavy boulder clay of Priestley and Swingen's Woods to the chalky sand of Titley Hill Wood. The major stand-type is oak-ash-hazel. Oak standards form a sparse canopy with scattered ash and silver birch. The coppice layer consists of ash, maple, hazel, hornbeam and willow, with various types of elm woodland, notably at Titley Hill. Priestley Wood also contains cherry, aspen and small-leaved lime. It is one of the few sites in southern England that has the rare wild pear tree. The wood contains a wide variety of flowering plants, dominated by dog's mercury, bramble, bluebell and primrose. There is also an extensive colony of woodruff in Priestley and Swingen's Woods. Titley Hill Wood is also the site of an active badger sett.

**Combs Wood SSSI** – This site is an ancient woodland with well developed coppice-with-standards. Woodland types vary from pedunculate oak-hornbeam to ash-maple and pedunculate oak-hazel-ash. The shrub layers and ground flora vary throughout, but a variety of species occur. These include dog's mercury, wood anemone, early dog violet, woodruff and greater butterfly orchid in the ground flora; hazel, midland hawthorn, elder, spindle, dogwood and guelder rose occur in the shrub layer. The occasionally wet rides support flora including creeping bent and greater bird's-foot trefoil.

**Creting St Mary Pits SSSI** – This site is geologically significant for Suffolk. It has key research potential as well as being an important stratigraphic site.

**Gosbeck Wood SSSI** – This site is an ancient coppice-with-standards also containing secondary woodland. The dominant tree communities are wet ash-maple, pedunculate oak-hazel-ash and lowland hazel-pedunculate oak woodlands. Abundant flora species include dog's mercury, tufted hair-grass, creeping soft-grass, ivy and bramble. Notable species include spurge laurel, wood spurge, herb paris and hairy woodrush.

**Hascot Hill SSSI** – This site is geologically important as it is the only site known to expose a beach facies of the Red Crag, comprising beach cobbles and a littoral fauna.

**Lingwood Meadows Earl Stonham SSSI** – This site consists of two floristically rich old meadows and is one of few remaining unimproved grasslands. The sward is dominated by red fescue and Yorkshire fog, with other species including crested dog's tail, sulphur clover, pyramidal orchid and sweet vernal-grass.

The application site lies within a SSSI Impacts Risk Zone but does not meet any of the criteria for consideration (e.g., Residential development of 50 units or more). Given the nature and limited size of the development, no significant impacts or effects are anticipated in relation to any of the features of the designated sites.

Internationally designated sites

There are no internationally designated sites within 13km of the application site.

Habitats Regulations Assessment

Where a development or project may, alone or in combination, have a 'likely significant effect' upon the features of the Natura 2000 or Ramsar site, the Habitats Regulations 2017 require a Habitats Regulations Assessment (HRA) to be undertaken. Advice from NE states that increased housing located within 1km by foot and 13km by car of Natura 2000 sites may potentially cause disturbance to the interest features due to walkers (and dogs). Disturbance to bird species that breed and/or overwinter within the sites is considered to cause the greatest impact.

HRAs are undertaken by a "competent authority" (CA), which in the case of Local Plans and most planning applications is the Local Planning Authority (LPA). Within Suffolk, East Suffolk Council, in partnership with the neighbouring authorities Babergh District Council and Ipswich Borough Council, have developed a 'Recreational disturbance Avoidance and Mitigation Strategy' (RAMS) to address likely significant effects upon Natura 2000 sites resulting from development within the area. The strategy provides the practical basis and evidence to identify projects to mitigate the impact of new development on the protected sites.

**As per the advice from NE above, financial contributions towards the RAMS will normally be the LPA's preferred mechanism for securing mitigation for new. No further assessment will be made within this document.**

4.2.2 *Priority habitats*

The site is located within an area of high spatial priority woodland habitat.

4.2.3 *Species*

No protected or notable species records exist for within the property site boundary or 250m of it. Table 4.2 identifies species within 2km of the application site boundary.

**Table 4.2 Protected/notable species within 2km of the application site.**

Latin Name	Common Name	Designation
<b>Amphibians</b>		
<i>Bufo bufo</i>	Common toad	WCA5; S. 41
<i>Lissotriton vulgaris</i>	Smooth newt	WCA5
<i>Rana temporaria</i>	Common frog	WCA5
<i>Triturus cristatus</i>	Great crested newt	EPS; WCA5; S. 41
<b>Reptiles</b>		
<i>Anguis fragilis</i>	Slow worm	WCA5; S. 41
<i>Natrix helvetica</i>	Grass snake	WCA5; S. 41
<i>Zootoca vivipara</i>	Common lizard	WCA5; S. 41
<b>Bats</b>		

<i>Nyctalus noctule</i>	Noctule	EPS; WCA5; S. 41
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS; WCA5
<i>P. pygmaeus</i>	Soprano pipistrelle	EPS; WCA5; S. 41
<i>Plecotus auritus</i>	Brown long-eared	EPS; WCA5; S. 41
<b>Birds</b>		
<i>Acanthis cabaret</i>	Lesser Redpoll	S. 41
<i>Acanthis flammea</i>	Common Redpoll	Red Status
<i>Accipiter nisus</i>	Sparrowhawk	Amber Status
<i>Alauda arvensis</i>	Skylark	Red Status; S. 41
<i>Apus apus</i>	Swift	Red Status
<i>Athene noctua</i>	Little Owl	CITESA
<i>Chloris chloris</i>	Greenfinch	Red Status
<i>Columba oenas</i>	Stock Dove	Amber Status
<i>Delichon urbicum</i>	House martin	Red Status
<i>Emberiza citronella</i>	Yellowhammer	Red Status; S. 41
<i>Falco tinnunculus</i>	Kestrel	Amber Status
<i>Linaria cannabina</i>	Linnet	Red Status; S. 41
<i>Luscinia megarhynchos</i>	Nightingale	Red Status
<i>Muscicapa striata</i>	Spotted flycatcher	Red Status; S. 41
<i>Passer domesticus</i>	House sparrow	Red Status; S. 41
<i>Perdix perdix</i>	Grey Partridge	Red Status; S. 41
<i>Phoenicurus phoenicurus</i>	Redstart	Amber Status
<i>Prunella modularis</i>	Duncock	Amber Status; S. 41
<i>Pyrrhula pyrrhula</i>	Bullfinch	Amber Status; S. 41
<i>Streptopelia turtur</i>	Turtle dove	Red Status; S. 41
<i>Strix aluco</i>	Tawny owl	Amber Status
<i>Sturnus vulgaris</i>	Starling	Red Status; S. 41
<i>Troglodytes troglodytes</i>	Wren	Amber Status
<i>Turdus philomelos</i>	Song thrush	Red Status; S. 41
<i>T. viscivorus</i>	Mistle thrush	Red Status
<i>Tyto alba</i>	Barn owl	Red Status; WCA1
<b>Other mammals</b>		
<i>Arvicola amphibius</i>	Water vole	WCA5; S. 41
<i>Erinaceus europaeus</i>	Hedgehog	S. 41
<i>Lepus europaeus</i>	Brown hare	S. 41
<i>Lutra Lutra</i>	Otter	EPS; WCA5; S. 41
<i>Meles meles</i>	Badger	PBA 1992
<i>Micromys minutus</i>	Harvest mouse	S. 41
<i>Muscardinus avellanarius</i>	Hazel dormouse	EPS; WCA5; S. 41

#### 4.2.4

##### *NE open source GCN and bat records*

Assessment of Natural England's GCN class licence return data and eDNA pond survey records show the closest positive record for GCN is from 2016 in a pond located c. 1.7km northwest of the application site. This is outside of the normal dispersal range for the species.

The search also returned one granted European Protected Species Mitigation Licenses (EPSML's) for bats within 2km of the application site. The licence (2016-25709-EPS-

MIT) was granted in 2016 and expired in 2021. It permitted the damage and destruction of a resting place of common and soprano pipistrelle bats.

### 4.3 BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

#### 4.3.1

##### *Habitats and vascular plants*

Descriptions of the habitats (Figure 2) and the characteristic plants species present are provided below with photos provided in Appendix A1.

a) Built environment (u1b5 buildings, u1b developed land; sealed surface)

The existing dwelling (Photos 1 to 3) and some outbuildings exist on site with some hard standing areas around the house.

b) Species-poor lawn (g4 modified grassland, species poor)

The rear garden comprises areas of lawn and longer grass with species typical of free draining soils with common stork's-bill (*Erodium cicutarium*), yarrow (*Achillea millefolium*), catsear (*Hypochaeris radicata*), perforate St John's wort (*Hypericum perforatum*), agrimony (*Agrimonia eupatoria*), creeping red fescue (*Festuca rubra*) and daisy (*Bellis perennis*).

The land to the south of the existing dwelling and garden comprises a horse paddock (Photo 4), enclosed by a fence and grazed by a pony. The grassland is very short with areas of bare ground which often occurs with horses especially if the area of grass is relatively small. It supports creeping red fescue, annual meadow grass (*Poa annua*), creeping buttercup (*Ranunculus repens*), dove's-foot crane's-bill (*Geranium molle*), dandelion (*Taraxacum agg.*), broad-leaved dock (*Rumex obtusifolius*), common mouse-ear (*Cerastium fontanum*), parsley piert (*Alphanes arvensis*), common cudweed (*Filago vulgaris*), scarlet pimpernel (*Anagallis arvensis*), and perforate St John's wort.

The presence of common cudweed, perforate St John's wort and parsley piert in particular are indicative of a dry grassland which can vary in pH from acid to neutral.

c) Scattered trees (11)

Some small trees including some lilacs (*Syringa vulgaris*) and hawthorn (*Crataegus monogyna*) exist along the front of the house. Some Leyland cypress (*Cupressocyparis x leylandii*) trees exist along the garden boundary with the horse paddock (Photo 5). Several trees exist within the rear garden and along the garden boundaries including silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*), plum (*Prunus* sp), lilac, eucalyptus (*Eucalyptus* sp) and willow (*Salix* sp).

d) Hedges (h2b Hedgerow - other)

The gardens at Windmill House include a privet hedge along the roadside (Photo 1). Some further sections of privet hedge along with some blackthorn (*Prunus spinosa*) scrub and hawthorn exists along some of the garden boundaries.

#### 4.3.2

##### *Amphibians and reptiles*

a) amphibians

One pond is located within 250m of the application site boundary (Figure 1). The application site supports some areas of dry grassland (underlying soils are very porous) with some area cut short and some areas left long in the garden to the rear of the house. Some ruderal areas exist around some trees between the house and the paddock to the south. Potential refuge areas exist within boundary hedgerows.

The horse paddock (Photo 4) is grazed short and provides no suitable refuge habitat and limited foraging habitat (e.g., during warm wet nights). Therefore, the potential for GCNs to be present is considered low.

*ii) Reptiles*

The short, grazed pasture to the south provides no suitable habitat for reptiles, whilst there is the potential for small numbers of common lizards and slow-worm to exist in the areas of longer grass in the rear garden which abuts onto areas of scrub and grassland along the north side of the A14. The overall habitat suitability of the site for reptiles was assessed as *moderate*.

4.3.3

*Bats*

a) Building inspection

The existing house is constructed from brick and a concrete tiled roof. The tiles and soffits were all tight fitting with no suitable roosting niches evident externally where the extensions are proposed. Species such as brown long-eared bats prefer large open roof voids, but the roof voids (Photo 6) are less than 1m from ridge to floor and they were heavily cobwebbed indicating no bats fly within the roof voids. No evidence of roosting bats was found with numerous mouse droppings present.

b) Tree inspection

None of the trees present on site support any potential roosting niches.

c) Foraging/commuting habitat

The trees and hedgerows within the garden provides suitable foraging habitat for bats with the combination of lawn, broad-leaved trees/shrubs, and boundary hedgerows likely to support a range of invertebrate prey taxa. The site is also relatively well connected to suitable areas of foraging habitat in the wider landscape (e.g., areas of scrub and grassland). Overall, the site was assessed supporting *Moderate bat commuting and foraging habitat* (Collins 2016).

4.3.4

*Nesting birds*

No evidence of nesting birds was recorded within any of the roof voids, whilst some dense ivy areas on the house provides potential nesting and roosting habitat for species such as house sparrow and robin (*Erithacus rubecula*). No swallows' nests were present in the horse shelter in the horse paddock. The hedgerows and trees provide potential nesting habitat for small passerines such as dunnoek (*Prunella modularis*) and black bird (*Turdus merula*), blackthorn and wren (*Troglodytes troglodytes*) The Leyland cypress trees provide potential nesting habitat for pigeon (*Columba palumbus*) and collared dove (*Streptopelia decaocto*).

4.3.5

*Badger*

No evidence of badger presence (sett entrances, latrines etc.) was recorded.

4.3.6

*S. 41 habitats and species*

a) Habitats

The privet hedgerows are not S. 41 habitats as they are not the native species but the ornamental cultivar *Ligustrum ovalifolium*. Some areas of blackthorn exist along part of the western garden boundary with some hawthorn and scattered trees could be managed as a hedgerow and as such would meet the qualifying criteria.

b) Species

Hedgehogs may forage over the lawn areas and the horse paddock, whilst they may seek refuge within the base of adjacent hedgerows. Mature broadleaved trees and hedgerow shrubs present in the wider site and along the site boundaries could potentially support some S. 41 list invertebrates including Lepidoptera.

4.3.7

*Non-native invasive plants*

No non-native invasive species were recorded within the application site boundary.

4.4

**GEOGRAPHIC CONTEXT**

The geographic context of a feature is a useful consideration within an assessment of impacts. For this report, the geographic frames of reference for the habitats and species present on site are provided in Table 4.3; values are based upon the criteria in Table A2.1 and expert best judgements.

**Table 4.3 Feature value based on geographic context**

<b>Feature</b>	<b>Value</b>
Lawn, broadleaved trees, shrubs and hedgerows	Local
Amphibians and reptiles	Local
Bats	Local
Nesting and foraging birds	Local
S. 41 habitats and species	Local

# 5 Assessment and recommendations

## 5.1 INTRODUCTION

The following section provides a summary description of the proposed development, with an assessment of associated impacts and likely significant effects upon biodiversity.

The assessment and recommendations are based on use of the mitigation hierarchy, which in the first instance aims to avoid impacts. Where impacts cannot be avoided, they should be minimised (through mitigation). Only where impacts cannot be avoided or minimised should there be compensation for biodiversity harm.

Ecological enhancements are suggested, and consideration is given to individual as well as overall net gains or losses of biodiversity.

## 5.2 DESCRIPTION OF PROPOSED DEVELOPMENT

Planning permission is being sought to extend the existing house with some small sections of demolition. The existing concrete roof tiles will be replaced with clay plain tiles whilst a detached cart lodge and store with a first-floor office/annex will be constructed within an existing area of horse paddock. Some small immature trees will be removed to allow the erection of a new fence line, whilst areas of lawn and horse paddock will be permanently lost under the footprint of the new extensions to the house and the proposed cart lodge and store. Therefore, the proposal has the potential to negatively impact common amphibians and reptiles, foraging and commuting bats, nesting birds and hedgehogs.

The assessment and recommendations below provide preliminary recommendations for mitigation, compensation, and enhancements for the proposed development. They are based on drawings provided by Embrace Architecture and information available at the time of writing and should be updated accordingly as the scheme is subsequently amended.

## 5.3 NEED FOR FURTHER SURVEYS

It is generally advised that subject to no significant change in site management regimes, and dependent on the species present, baseline survey results remain valid for approximately 12 – 18 months (CIEEM, 2019). Exceptions include where mobile species are/may be present, where site management practices cease or change, or where existing guidance indicates otherwise.

## 5.4 ASSESSMENT OF IMPACTS

The EclA assessment process (CIEEM, 2018) involves:

- Identifying and characterising impacts and their effects;
- Incorporating measures to avoid and mitigate negative impacts and effects;
- Assessing the significance of any residual effects after mitigation;
- Identifying appropriate compensation measures to offset significant residual effects; and
- Identifying opportunities for ecological enhancement.

The emphasis in EclA is on the assessment of 'significant effects' i.e. an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In broad terms significant effects

encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species including extent, abundance, and distribution.

The ecological features to be subject to detailed assessment in this report are those judged to be important and potentially affected by the project; protected species are included where the development will result in a potential breach of legislation.

## 5.5 HABITATS AND VASCULAR PLANTS

### *a) Potential impacts*

Vegetation clearance and construction operations will result in the permanent loss and disturbance of an area of managed lawn and horse paddock and the removal of some immature trees and shrubs is considered a significant negative effect at the Local level.

Accidental damage to retained lawn areas, horse paddock and trees and hedgerows along the site boundaries (e.g., hedgerows adjacent to the plot) during construction would be considered a significant ecological effect at the Local level.

### *b) Mitigation*

As good practice the builder's compound (if required) should be sited on existing hard standing and away from any mature trees and hedgerows. Retained habitats (e.g., lawn and trees) should be protected from damage with temporary fencing (e.g., Heras or similar) fencing during the construction phase and Root Protection Areas (RPAs) used to inform the detailed design.

### *c) Residual effects*

The proposed scheme will result in a small net loss of dry grassland which is considered a significant negative effect which should be compensated.

## 5.6 AMPHIBIANS AND REPTILES

### *a) Potential impacts*

Vegetation clearance and construction activities will result in the temporary losses of potential foraging and refuge habitat for common amphibians (e.g., lawn) and reptiles with potential entrapment resulting in the injury and mortality of individuals due to the presence of trenches, caustic materials such as wet concrete, and temporary stockpiles of soil. There will be a permanent loss of an area of short, grazed horse paddock within the footprint of the new cart lodge and store and hard standing. Such losses are considered a negative effect at the Local level.

During the operational phase site drainage comprising the use of gully pots and down pipes connecting to closed surface water drainage or those with silt traps can result in animals becoming trapped (Muir *et al.*, 2012) and impact upon amphibians considered a significant negative effect at the Local level.

### *b) Mitigation*

As per section 5.5.

Given the small extent of any lawn areas in the garden that will be impacted and the short patchy grassland of the horse paddock the risk of any amphibians or reptiles being present is considered low. To avoid impacts upon other amphibians and reptiles a Precautionary Working Practice is recommended to include the following measures:



1. Retained lawn areas should be kept short with regular mowing prior to and during construction.
2. If required, any longer vegetation should be cleared sensitively if >300 mm in height and amphibians are active (i.e., early February to October inclusive) as follows:
  - A first cut to be taken to 150mm above ground level with brash raked prior to being removed from site;
  - After at least 1 hour (preferably overnight), a second cut to ground level; and
  - The vegetation should then be maintained near to ground level until works commence.
3. The GCN poster in Appendix A3 should be erected in the welfare facilities provided for construction staff on site;
4. Any refugia present that requires removal should be cleared sensitively (i.e. by hand where possible and under close observation) as animals may be found underneath, particularly between October to March;
5. Excavations should be filled on the same day they are dug or covered overnight with ply boarding and any gaps filled with damp sharp sand;
6. If this is not feasible access ramps should be created to allow animals to escape and the excavations should be inspected daily and immediately prior to infilling;
7. Any amphibians (except for GCNs) or reptiles present should be moved to cover (e.g., at the base of boundary hedgerows);
8. Should any GCNs be encountered, works should stop immediately, and advice be sought from a suitably experienced ecologist. Any other animals should be allowed to move out of the works area, or safely relocated;
9. Footings and concrete slabs should be poured during the morning where possible to ensure it has solidified prior to dusk to reduce the risk of animals coming into contact with wet concrete;
10. Any hand mixing of mortar or concrete should be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day to prevent animals coming into contact;
11. Any excess concrete should be poured into a concrete skip, so it can then set to prevent animals coming into contact;
12. All building materials and waste materials should be stored on hard standing or stored off the ground on pallets to reduce risk of animals seeking refuge;
13. **Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen<sup>9</sup> or similar to prevent amphibians entering drains;**
14. **Gully pots should be avoided where possible as they can trap amphibians which fall in as they contain silt traps and cannot climb back out even if the silt trap is connected directly to a ditch;**
15. **If gully pots are required, they should use small diameter (6 - 10mm) grates where possible OR the gully pots should be situated  $\geq 100\text{mm}$  from the roadside OR a gully pot ladder<sup>10</sup> must be placed into each gully pot so animals can then climb out.**

*c) Residual effects*

With mitigation implemented there will be no significant residual effects.

<sup>9</sup> <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

<sup>10</sup> <https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder>

## 5.7

### BATS

#### a) *Potential impacts*

##### i) Roosting bats

The existing dwellings contains no evidence of roosting bats in any of the roof voids which are very small, whilst no potential access points exist such the proposed works will not impact upon roosting bats.

##### ii) Foraging and commuting habitats

Vegetation clearance is of negligible significance in relation to local foraging and commuting opportunities.

##### ii) Light disturbance

Lighting (construction and operational phases) can impact bat commuting and foraging behaviour and increase the risk of predation, which could affect foraging success and population recruitment and is considered a potential significant effect at the Local level.

Lighting impacts relate to security lighting external to the new dwelling and potentially from spillage of internal lighting once the building is in use. Impacts on boundary hedgerows and mature trees in the garden are considered most relevant in this instance.

##### iii) Roofing membranes

Research has shown bats can become entangled in modern breathable roofing membranes (BRMs), such as Tyvek and other woven membranes, causing injury or death to individuals (Waring *et al.* 2013).

Without mitigation the use of a modern BRM under clay pantiles or plain tiles (as proposed on the cart lodge/store and the house respectively) that are not tight fitting could result in the entanglement of bats that could result in significant effects at a Local level.

#### b) *Mitigation*

##### i) Foraging and commuting habitat

As per 5.5, protective fencing and RPAs will be used to protect adjacent habitats.

##### ii) Light disturbance

Exterior lighting (as well as temporary security lighting during the construction phase) design must minimise lighting impacts upon adjacent natural habitats and should follow current guidance as necessary<sup>11,12</sup>:

- *Type of lamp (light source)*: Light levels should be as low as possible as required to fulfil the lighting need. Lighting should have a maximum of 7.5 to 10 lux and LED lights should be used using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 or 3000°K) and no UV component; and
- *Lighting design*: Lighting should be directed to where it is needed, with minimal horizontal spillage towards retained habitats including trees in the garden and boundary hedgerows (e.g., northern and eastern site boundaries). This can be

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<sup>11</sup> <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

<sup>12</sup> [www.eurobats.org/sites/default/files/documents/publications/publication\\_series/WEB\\_DIN\\_A4\\_EUROBATS\\_08\\_ENGL\\_NVK\\_28022019.pdf](http://www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf)

achieved by restricting the height of the lighting columns/fixtures and the design of the luminaire, including the following measure:

- ❖ Light columns/fixtures in general should be as short as possible as light at a low level reduces the ecological impact.
- ❖ Luminaires with an upward light ratio of 0% should be mounted on the horizontal i.e., with no upward tilt.
- ❖ If taller lights are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
- ❖ PIR movement sensors and timers should be used to minimise the 'lit time'.

iii) Roofing membranes

A bat friendly roofing membrane (e.g., Type 1F or a breathable sarking board, e.g., Pavatex Isolair) should be used under the proposed pantile roofs on the cart lodge/store where re-roofing is required. Bat friendly roofing felt (e.g., Type 1F or a breathable sarking board) should also be used behind weatherboarding unless the boarding is well seasoned and fixed into place to prevent warping.

c) *Residual effects*

With mitigation no significant residual effects on bats are anticipated.

## 5.8

### **NESTING BIRDS**

a) *Potential impacts*

Commencement of construction works during the nesting season (1st March to 31st August) could result in the disturbance and potential destruction of active nests (in both the barn and trees). Increased noise levels (during construction and operational phase) could also affect the ability of birds to hold territories during the breeding season whilst accidental damage to trees along the boundaries could also affect breeding success and/or result in the destruction of active nests.

The destruction of nests would constitute a negative effect (as an offence under wildlife legislation) at the Local level.

b) *Mitigation*

As per 5.5.

Habitat avoidance and mitigation as per sections 5.5 and 5.6.

Commencement of the building works should take place outside of the nesting bird season. If this is not feasible, a check for nesting birds should be undertaken prior to works starting. If any active nests are present, works within 5m must wait until the young have fledged.

c) *Residual impact*

With implementation of prescribed mitigation direct impacts upon nesting birds will be avoided, with no significant negative residual effects anticipated.

## 5.9

### **OTHER S. 41 LIST HABITATS AND SPECIES**

a) *Potential impacts*

Vegetation clearance and construction activities will result in a temporary loss of foraging habitat for hedgehog (e.g., lawn). Hedgehogs could also potentially fall into excavations or open trenches (and subsequently get burnt by caustic materials such as wet concrete) and take shelter in building materials/spoil heaps on site during the construction phase which are later disturbed, resulting in injury or death.

Erection of ecological barriers (e.g., timber panel fencing or chain-link fencing with holes less than 130mm x 130mm) would affect foraging access for animals. In combination such impacts would be considered to result in a negative ecological effect at the local level.

*b) Mitigation*

Habitat avoidance and mitigation as per section 5.5 and 5.6 - use of protective fencing for retained lawn areas, hedgerows etc.

Site clearance should always consider the potential presence of hedgehogs with vigilance and any animals encountered moved to suitable cover, e.g., at the base of boundary hedgerows.

During construction, concrete should be poured early in the day or covered with ply boarding or membrane overnight to prevent animals coming into contact. Trenches should be covered overnight, or mammal ladders (large rough planks placed at shallow angles) placed to allow animals escape. Uncovered trenches must be checked daily, and any animals encountered be relocated out of the works area.

The use of close board fencing is not proposed. Post and rail fencing and screening hedgerows should be used for any proposed new boundary features. As such, hedgehogs should be able to move freely through the site. However, if close board fencing were to be installed, then at least one hedgehog highway<sup>13</sup> should be provided at either end of each fencing run with signage.<sup>14</sup>

*c) Residual effects*

With prescribed avoidance and mitigation measures there will be no significant residual effect upon S. 41 list species.

**5.10**

**COMPENSATION**

To compensate for any loss of dry grassland within the horse paddock the retained areas of the horse paddock could be left ungrazed to it grow longer so existing bare areas reduce in extent. Alternative, the existing lawn in the rear garden could be enhanced to make it more floristically diverse by overseeding it with a flowering lawn seed mixture<sup>15</sup> following supplier guidance on creation and long-term management. The increased range of nectar rich species the lawns contain will benefit invertebrates, particularly pollinators, and therefore also foraging birds, hedgehogs, and bats.

To compensate for the loss of some immature trees/shrubs, some specimen trees are proposed as part of the site landscaping for the proposed cart lodge/store. Native broadleaved trees should be planted that are suitable for the soil conditions. The proposed new mixed native hedgerow will also help to compensate for the tree loss.

To be consistent with planning policy, biodiversity gains could be delivered through suggested enhancement measures (see section 5.12 below).

---

<sup>13</sup> <https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>

<sup>14</sup> <https://ptes.org/shop/just-in/hedgehog-highway/>

<sup>15</sup> <https://www.bostonseeds.com/products/wildflowers-seed/wildflower-seed-mixtures-20/bs12m-low-growing-wildflower-meadow-seeds.html> or <https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/flowering-lawn-mixture/>

## 5.11 CUMULATIVE EFFECTS

The Mid Suffolk District Council website was searched on 10 September 2023 for significant planning applications within 1km of the application site dating back by two years. Refused and withdrawn applications were not considered in relation to cumulative ecological effects.

The search returned a low number of minor residential schemes and householder applications for extensions and/or alterations to existing dwellings, including multiple barn conversions. **As such, no significant cumulative effects are considered likely with the proposed application.**

## 5.12 ENHANCEMENT OPPORTUNITIES

Recommended mitigation and compensation measures will address biodiversity losses that may arise from the scheme. To be consistent with local and national planning policy, development schemes should deliver biodiversity enhancements. To maximise biodiversity gains a minimum of 4 of the 7 enhancements (Table 5.1) are suggested.

**Table 5.1 Biodiversity enhancements**

Feature	Enhancement suggestion
Hedgerow planting	<p>1. A mixed native species hedgerow is proposed as part of the landscaping around the proposed cart lodge/store . A small length (5m) will be required to compensate for the loss of some trees between the house and the paddock. The remaining length of the proposed hedgerow should use a minimum of 6 native woody shrubs from the following list:</p> <ul style="list-style-type: none"> <li>• Common dogwood (<i>Cornus sanguinea</i>);</li> <li>• Field maple (<i>Acer campestre</i>)</li> <li>• Spindle (<i>Euonymus europaeus</i>)</li> <li>• Hawthorn (<i>Crataegus monogyna</i>)</li> <li>• Midland hawthorn (<i>C. laevigata</i>)</li> <li>• Hornbeam (<i>Carpinus betulus</i>)</li> <li>• Hazel (<i>Corylus avellana</i>)</li> <li>• Holly (<i>Ilex aquifolium</i>)</li> <li>• Guelder rose (<i>Viburnum opulus</i>); and</li> <li>• Cherry plum (<i>Prunus cerasifera</i>).</li> </ul>
Ornamental planting	<p>2. Any ornamental planting should utilise nectar rich plants to benefit pollinators and associated predators (e.g., foraging bats and hedgehogs). Planting should include nectar rich climbers such as traveller's joy (<i>Clematis vitalba</i>) and honeysuckle (<i>Lonicera periclymenum</i>), as well as night-scented species e.g., white jasmine (<i>Jasminum officinale</i>).</p> <p>These could be planted at 5m intervals along existing and proposed hedgerows and/or trained up walls, fences, posts and trellises.</p>
Suffolk heritage fruit cultivars	<p>3. Some traditional Suffolk heritage fruit trees<sup>16</sup> could be planted in the garden, which would enhance the biodiversity value of the wider site (e.g., pollinators</p>

<sup>16</sup> [Suffolk | Apples & Orchards Project \(applesandorchards.org.uk\)](http://Suffolk | Apples & Orchards Project (applesandorchards.org.uk))

Feature	Enhancement suggestion
	and windfall fruit for birds, mammals, and invertebrates) and provide the owners with a seasonal harvest.
Bats	4. Two bat boxes could be erected on mature tree(s) along the garden boundaries (exact locations agreed with a suitably experienced ecologist) – see Appendix A5.
Small passerine boxes	5. Two sparrow terraces, two robin/wren boxes and two starling boxes (Appendix A6) could be erected on the walls of the new dwelling and/or trees within the garden.  The boxes should be sited away from windows, patios, and pathways, avoid south-facing walls and be at an adequate height to avoid cat predation issues (exact locations agreed with a suitably experienced ecologist).
Log/brush piles	6. If any broadleaved trees are removed during vegetation clearance, they could be used to create some log/brush piles that provide amphibian refuge (including potentially for overwintering) habitat as well as provide habitat for fungi, dead wood invertebrates and solitary bees, which in turn will attract foraging small mammals and birds etc (Appendix A7).
Wildlife friendly compost heap	7. A wildlife friendly composting area (Appendix A8) could be created in a shaded corner of the garden, which will provide a further refuge and foraging habitat for a range of taxa (e.g., small mammals, amphibians, invertebrates, fungi, birds etc.) and will provide the owners will a sustainable source of compost.

**No peat-based composts be used for any planting or landscaping to preserve existing carbon stores and avoid damage to sensitive habitats.**

## 5.13

### CONCLUSIONS

The proposed avoidance, mitigation and compensation measures will ensure that the scheme will minimise biodiversity impacts whilst suggested enhancement measures have the potential to provide biodiversity gains in accordance with planning policy.

To maximise potential biodiversity benefits, the measures proposed should be secured through detailed design and appropriate planning conditions, scheme specific and/or as per the British Standard (BS 42020:2013). Relevant planning conditions could include:

- A Biodiversity Enhancement Strategy to detail compensation and enhancement measures, to be reflected in the detailed landscaping proposals and site plans for the scheme; and

- Condition D.3.7 (*Restrictions on occupation of development until specific biodiversity outcomes are achieved*) could be used to ensure mitigation and enhancement measures are successfully implemented.

## 6 References

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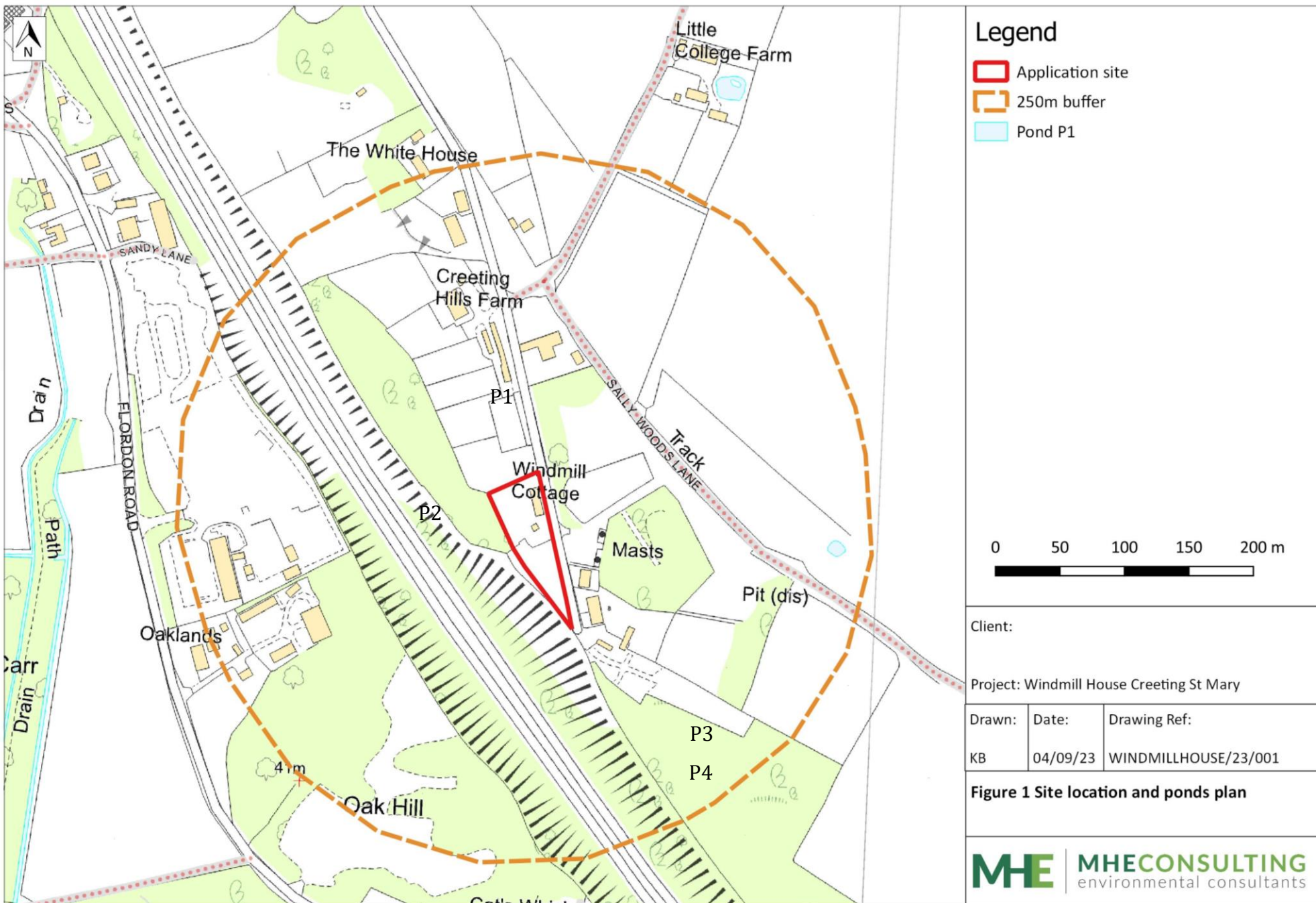
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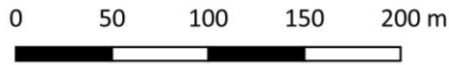


## Figures



### Legend

- Application site
- 250m buffer
- Pond P1



Client:

Project: Windmill House Creting St Mary

Drawn:	Date:	Drawing Ref:
KB	04/09/23	WINDMILLHOUSE/23/001

**Figure 1 Site location and ponds plan**

# Appendices

## **Appendix A1 Photos**



**Photo 1** East and south elevations of the existing house



**Photo 2** West elevations of the house



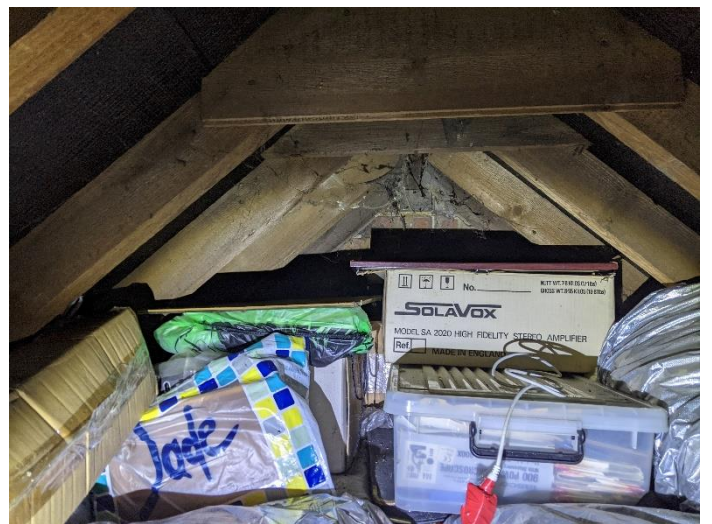
**Photo 3** West and north elevations with area of short and longer grassland.



**Photo 4** Horse paddock to the south of the garden.

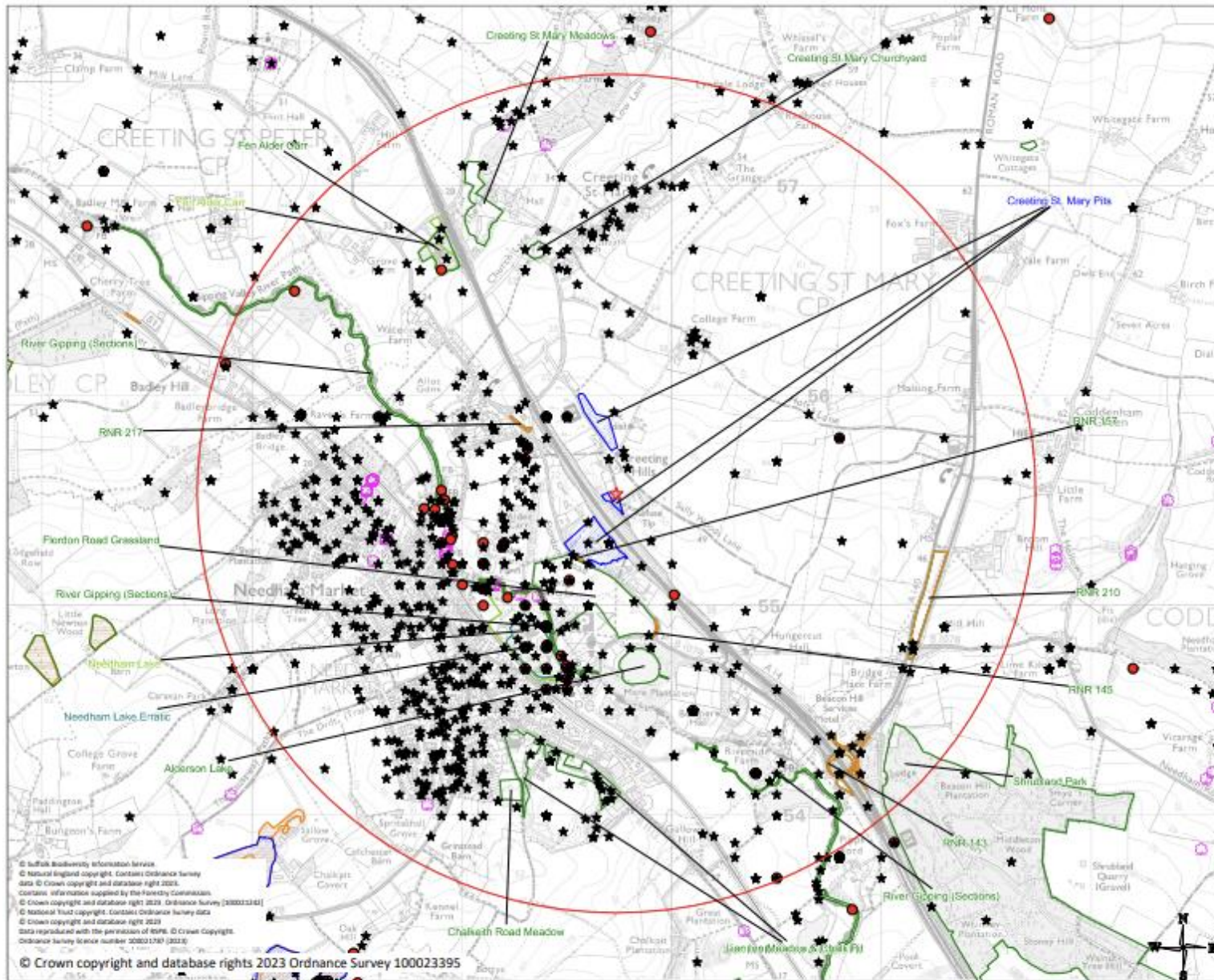


**Photo 5** Line of trees between the house and the paddock



**Photo 6** Roof void with lots of cobwebs

## **Appendix A2 SBIS data search plan**



- Data Enquiry**
- ☆ Search Point
  - Search Area
- Protected, Locally Scarce and Rare Species**
- ★ Record Locations (for grids of 6 fig. or greater)
  - Record Locations (for grids of 6 fig. or greater)
- Schedule 9 Species**
- Record Locations (for grids of 6 fig. or greater)
- Ancient/Veteran/Notable Trees**
- 
- Roadside Nature Reserve**
- 
- County Wildlife Sites**
- 
- County GeoSites**
- 
- SSSI**
- 
- LNR**
- 
- SPA**
- 
- SAC**
- 
- RAMSAR**
- 
- NNR**
- 
- SWT Reserve**
- 
- Ancient Woodland Inventory**
- 
- Other Public or Conservation Ownership/Management**
- Forestry Commission, National Trust (public access), RSPB (public access)
  - National Park
  - The Broads
  - ACNB
  - Suffolk Coast and Heaths or Dedham Vale

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Scale report: 1:18,000



Date: 21/07/2023 | Drawn by: Andy Mercer

**MHE Consulting (Windmill House, Creting Hills, Creting St Mary TM 09735 5534) 2km Data Enquiry**

## **Appendix A3 EclA criteria**



### A3.1 General criteria for geographic context/value

Designation	Example
<b>International</b>	<ul style="list-style-type: none"> <li>• SPA, SAC and Ramsar sites and the features that they have been designated for.</li> <li>• A sustainable area of habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of a larger whole.</li> <li>• A sustainable population of an internationally important species e.g. UK Red Data Book (RDB) species or European Protected Species (EPS) of unfavourable conservation status in Europe (e.g. Annex II species: bats, GCNs etc.), of uncertain conservation status or of global conservation concern in the UK BAP.</li> </ul>
<b>National</b>	<ul style="list-style-type: none"> <li>• SSSI or a discrete area that meets the selection criteria for designation.</li> <li>• A sustainable area of priority habitat identified included on the S. 41 NERC Act list or smaller areas of such habitat that are essential to maintain the viability of a larger whole.</li> <li>• A sustainable population of priority species (listed under S. 41 of the NERC Act 2006).</li> <li>• A sustainable population of a nationally important species i.e. RDB species not included in above category but which is listed on Schedules 5 or 8 of the WCA 1981 (as amended). Also, sites supporting a breeding population of such species or supplying a critical element of their habitat requirements.</li> <li>• A sustainable population of uncommon or threatened Annex IV EPS species at a UK level.</li> <li>• A nationally scarce species (occurs in 30-100 10km squares in the UK) that has its main UK population within the district.</li> </ul>
<b>County</b>	<ul style="list-style-type: none"> <li>• A viable area of habitat identified in the county BAP.</li> <li>• A County Wildlife Site.</li> <li>• A sustainable population of common or non-threatened Annex IV EPS species at a UK level.</li> <li>• A Nationally Scarce species that does not have its main population within the county.</li> <li>• Any BAP species not included in the 'national' category above for which a county Action Plan exists.</li> </ul>
<b>Local</b>	<ul style="list-style-type: none"> <li>• Individual members of local populations of priority or other nationally/internationally important species which are not in themselves key for maintaining a sustainable population (e.g. individual dog otter passing through area with no holts or resting sites).</li> <li>• Other habitats and species not in the above categories but are considered to have some value at the district/borough level.</li> </ul>

## Appendix A4 GCN poster

# Great Crested Newt

If seen by any employee, works must cease immediately and an ecologist be contacted for advice

It is an offence to intentionally or recklessly disturb, injure or kill great crested newts

Further information can be found at [www.arguk.org](http://www.arguk.org)



## **Appendix A5 Bat boxes**



Vincent Pro bat box



Schwegler 1FE



Woodstone multi-chamber box



Eco Kent bat box



Access to the bat boxes cut into the weather boarding. The holes can be cut by scalloping the underside of the board where it covered the board below to reduce water ingress.

## **Appendix A6 Bird boxes**



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Beautifully made FSC® certified timber nest box designed with starlings in mind. The 45mm entry hole allows the larger birds to nest in the box.

Features include drainage holes and one side that pivots open for easy end-of-season cleaning.

Nest box measures 31.5 x 18.5 x 18cm.

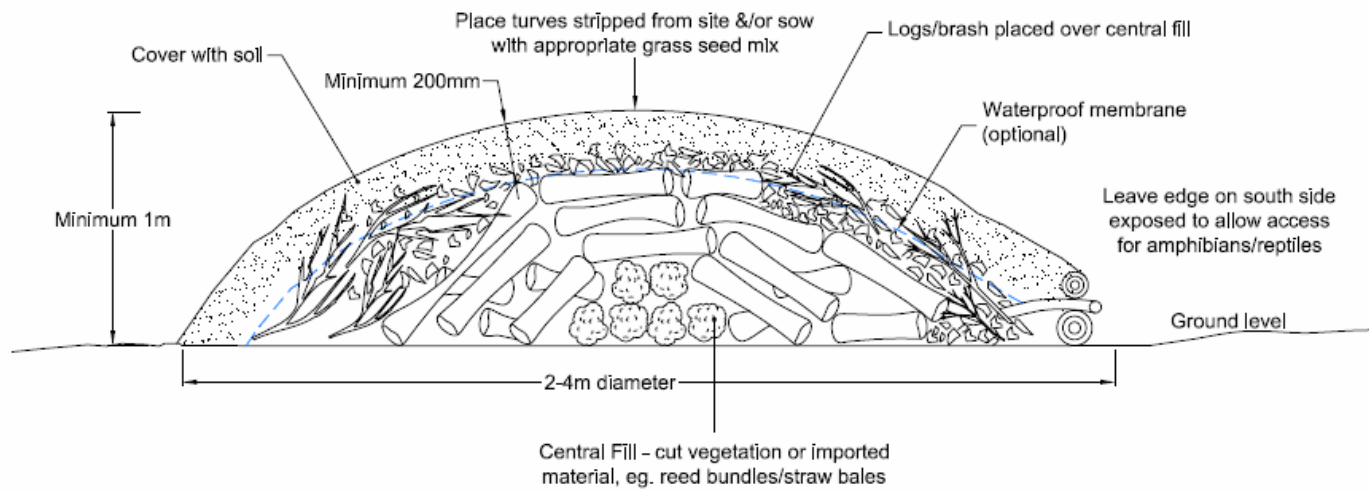
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## **Appendix A7 Log/brash piles**



**Brush/log pile recently created**



**Brush/log pile (c. 2 years old) with vegetation growing through and over**

**Appendix A8 Wildlife-friendly composting area**

## How to build a wildlife friendly compost heap...

- Clear an area.
- Stand a pallet up so its long edge sits on the ground.
- At either end of the pallet, hammer a stake between the two layers of the pallet.
- Place two pallets at right-angles to the first and once again secure with stakes.
- Secure the remaining pallet to the front using wire or string - this will allow you to remove it when you need to turn or empty your compost.



**Shaggy ink cap** - fungi help breakdown the contents of your compost heap.



**Snail** - will feed on the compost and provide food for many different birds.



**Grass snake** - if you are lucky a female may lay eggs in your heap during June or July.

### The compost heap's ingredients

Balance is the key to a good compost heap. To make a good mix you need more or less equal amounts of 'greens' and 'browns' plus small amounts from the 'others' list.

#### The Greens

##### Nitrogen-rich ingredients

- Comfrey leaves, nettles, young green weeds - avoid weeds with seeds, coffee grounds, grass cuttings, urine - diluted using 20 parts water to 1 part urine, raw vegetable peelings, tea bags and leaves, soft green prunings.

#### The Browns

##### Carbon-rich ingredients

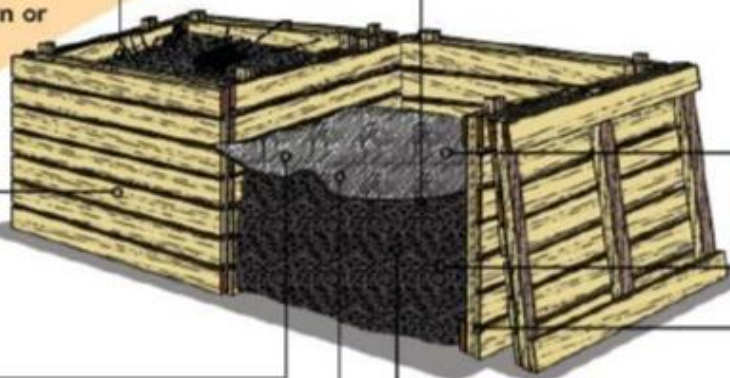
- Cardboard - cereal packets and egg boxes, waste paper - even shredded, old bedding plants, newspaper - although it is better to recycle them, hay and straw, wood shavings, fallen leaves.

#### Other Compostable Items

- Wood ash - in moderation, hair, crushed egg shells, natural fibres - such as wool or cotton.



**Woodlouse** - minibeasts are vital to a compost heap.



**Millipede** - they munch their way through the ingredients, turning it into a rich compost.



**Slow worm** - may breed and have their young in the heap.



**Common toad** - will find shelter in the damper parts of the heap.



**Worm** - a healthy compost heap needs worms.



**Hedgehog** - may visit at night to feed on snails and other invertebrates.