
Ecology Report

PROPOSED RESIDENTIAL DEVELOPMENT
Land to the rear of Threeways, Drinkstone Green, Bury
St Edmunds, Suffolk

January 2024



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Executive Summary

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of land at Land to the rear of Threeways, Drinkstone Green, Bury St Edmunds, Suffolk IP30 9TL. A planning application is to be submitted to Mid Suffolk District Council to construct a new dwelling and cart lodge on land contained within an existing residential garden.

The application site forms part of an existing residential garden containing areas of hard standing and lawn, with a greenhouse and two small sheds, scattered trees and shrubs (non-native), flower/vegetable beds, a length of native hedgerow and an ornamental pond (P1).

Several waterbodies exist within 250m of the application site, whilst pond P1 on site was assessed as supporting *Poor habitat suitability* for great crested newts (GCNs) (*Triturus cristatus*) due to it being densely stocked with fish.

The terrestrial habitats on site and immediately adjacent provide suitable refuge and foraging opportunities for amphibians, nesting, song perch and foraging habitat for a range of common garden bird species and hedgehogs (*Erinaceus europaeus*), and moderate value foraging and commuting habitats for bats. These habitats may also support some S.41 list invertebrates.

An existing native boundary hedgerow is considered to meet the qualifying criteria as an S. 41 list habitat as defined within the Natural Environment and Rural Communities (NERC) Act 2006.

Recommendations are made to avoid wildlife offences and ecological impacts, particularly in relation to protected species. Where impacts cannot be avoided, measures are proposed to mitigate remaining effects including timing of works, good working practices with necessary compensation detailed. Biodiversity enhancements are proposed.

1 Introduction

1.1 BRIEF

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of land at Land to the rear of Threeways, Drinkstone Green, Bury St Edmunds, Suffolk (NGR TL9598060233; Figure 1). A planning application is to be submitted to Mid Suffolk District Council to construct new dwelling and cart lodge on land contained within an existing residential garden.

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 application site is located off Cross Steet, Drinkstone Green (Figure 1) and forms part of an existing residential garden containing areas of hard standing and lawn, with a greenhouse and two small sheds, scattered trees and shrubs, vegetable beds, a length of native hedgerow and an ornamental pond (Photos 1 to 13).

The site surrounded by dwellings and amenity grassland (e.g. horse paddocks and playing field). Seven ponds are located within 250m of the site boundary (Figure 2).

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 recently revised in December 2023. 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 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/media/64f991c99ee0f2000fb7c001/NPPF_Sept_23.pdf.

Policies of particular relevance to development and biodiversity include 174 to 182.

180. 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.

181. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to

maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

182. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas and should be given great weight in National Parks. Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

183. When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

184. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 176), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate unless it is compatible with its special character.

185. To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity. English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters. For the purposes of paragraphs 176 and 177, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined. Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system. Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

186. 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, 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 Sites of Special Scientific Interest;
- 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.

187. The following should be given the same protection as habitats sites:

- a) potential Special Protection Areas and possible Special Areas of Conservation.
- b) listed or proposed Ramsar sites.
- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

188. 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. Babergh and Mid Suffolk Councils are currently in the process of creating a joint local plan, which will provide a framework for shaping and guiding future development in both districts until the year 2037.

Part 1 of the Joint Local Plan was adopted by Mid Suffolk District Council on 20 November 2023 and by Babergh District Council on 21 November 2023. This can be found at: <https://www.midsuffolk.gov.uk/joint-local-plan>. Within this document, Policy LP16 covers matters relating to biodiversity & geodiversity and states that all development must follow the biodiversity mitigation hierarchy and:

- a) Protect designated and, where known, potentially designated sites. Proposed development which is likely to have an adverse impact upon designated and potentially designated sites, or that will result in the loss or deterioration of irreplaceable biodiversity or geological features or habitats (such as ancient woodland and veteran/ancient trees) will not be supported;

b) Protect and improve sites of geological value and in particular geological sites of international, national and local significance;

c) Conserve, restore and contribute to the enhancement of biodiversity and geological conservation interests including Priority habitats and species. Enhancement for biodiversity should be commensurate with the scale of development;

d) Where possible plan positively for the creation, protection, enhancement and management of local networks of biodiversity with wildlife corridors that connect areas. This could include links to existing green infrastructure networks and areas identified by local partnerships for habitat restoration or creation so that these ecological networks will be more resilient to current and future pressures;

e) Identify and pursue opportunities for securing measurable net gains, equivalent of a minimum 10% increase, for biodiversity. The Councils will seek appropriate resources from developers for monitoring of biodiversity net gain from developments. Where biodiversity assets cannot be retained or enhanced on site, the Councils will support the delivery of net gain in biodiversity off-site. Householder applications may not require a formal BNG assessment; and

f) Apply measures to assist with the recovery of species listed in S41 of the NERC Act 2006.

Development which would have an adverse impact on species protected by legislation, or subsequent legislation, will not be permitted unless there is no alternative, and the LPA is satisfied that suitable measures have been taken to:

- a) Reduce disturbance to a minimum.
- b) Maintain the population identified on site.
- c) Provide adequate alternative habitats to sustain at least the current levels of population.

Where appropriate, the LPA will use planning obligations and/or planning conditions to achieve appropriate mitigation and/or compensatory measures and to ensure that any potential harm is kept to a minimum.

A supplementary planning document specific to biodiversity and trees is expected to be published in the summer of 2024.

2.2.3

Biodiversity Net Gain Interim Planning Guidance Note for Suffolk

An Interim Biodiversity Net Gain Planning Guidance Note for Suffolk¹ in February 2023 provides detailed guidance for applicants and decision makers in local authorities across Suffolk during the interim period before Spring 2024 when a measurable biodiversity net gain of at least 10% was to become a mandatory requirement for all major developments (and minor developments from April 2024), with some exceptions (e.g. householder applications² and those where development will result in habitat losses below the threshold of 25m² and will not impact a priority habitat³).

Paragraph 3.2 of the Interim Guidance Note states that:

For the purposes of this interim guidance authorities (in Suffolk) will be requesting at least 10% biodiversity net gain on all major developments.

¹<https://democracy.ipswich.gov.uk/documents/s36985/PD-22-14%20Appendix%201%20%20Suffolk%20Wide%20BNG%20Guidance%20Document.pdf>

² https://midsuffolk.gov.uk/w/biodiversity-net-gain?p_i_back_url=%2Fsearch%3Fq%3Dbng

³<https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments#small-developments-exempt-until-april-2024>

Major developments include:

- i) Where the number of dwellings to be provided is ten or more.
- ii) Where the number of dwellings to be provided is not known, a site area of more than 0.5 hectares.
- iii) Provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more, or
- iv) Development carried out on a site having an area of one hectare or more.

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.

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 42020:2013⁴);
- 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.

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 and reptiles, including great crested newt (*Triturus cristatus*) and grass snakes (*Natrix helvetica*);
- Mammals including badgers⁵ and bats⁶;
- Breeding birds⁷ including Red and Amber status⁸ species; and
- S. 41⁹ list habitats such as hedgerows, and species such as hedgehog.

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 15 December 2023 to 1) record habitats present; and 2) assess the value of the habitats present for protected and notable 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 are provided in Appendix A1.

⁴ BSI Standards publication BS 42020:2013 Biodiversity – Code of practice for planning and development.

⁵ Badgers and their setts are afforded protection by the PBA 1992.

⁶ All species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.

⁷ All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

⁸ The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 5 (Stanbury *et al.*, 2021).

⁹ S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

3.3.1 *Habitats and vascular plants*

The site was walked with all distinct vegetation and habitat types, and any features of interest identified using the UK Habitat Classification methodology (UKHab Ltd., 2023). Care was taken to record habitat indicator species.

3.3.2 *Amphibians and reptiles*

a) Amphibians

Seven ponds exist within 250m of the application site boundary (Figure 2), including a small ornamental pond P1 located within the site boundary (Photo 13). The pond and one other P2 (Photo 14) located c. 90m to the west were assessed for their suitability to support breeding GCNs, and other common amphibians, using the GCN Habitat Suitability Index (HSI) as developed by Oldham *et al.* (2000). Access to assess the other 6 ponds was not secured.

The terrestrial habitat suitability of the site was assessed with respect to refugia, and foraging habitat based on the known habitat preferences of GCN and widespread amphibians such as common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*), and common toad (*Bufo bufo*).

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 Bat Conservation Trust (BCT) “Bat Surveys: Good Practice Guidelines, 4th edition” (Collins, 2023) and updated Bat Mitigation Guidelines (Reason and Wray, 2023).

The criteria used to determine the level of Bat Roost Potential (BRP) of buildings is outlined in Table 3.1 below.

Table 3.1 Bat Roost Potential (BRP) of buildings.

Bat Roost Suitability	Description
<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. However, a small

	element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels.

b) Tree roost potential

Existing trees around the site boundaries were visually checked to assess their suitability for use by roosting bats, using the criteria outlined in the BCT “Bat Surveys: Good Practice Guidelines, 4th edition” (Collins, 2023) and summarised in below in Table 3.1.

Table 3.1 Guidelines for assessing the suitability of trees for roosting bats on proposed development sites.

Suitability	Description
NONE	Either no Potential Roosting Features (PRFs) in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present.
PRF	A tree with at least one PRF present. Where a PRF is recorded a further distinction is made between those that are likely to only be suitable for individual/low numbers of bats (PRF – I) or multiple bats (PRF – M) such as a maternity colony.

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 4.1 of the BCT guidelines.

Table 3.2 Commuting and foraging habitats

Suitability	Description
<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. However, a small element of uncertainty remains in order to account for non-standard behaviour.
<i>None</i>	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year.

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**

Botanical assessments are ideally best carried out between April and October. However, given the nature of the site (e.g. well-kept residential garden) and the survey carried out, the timing of the survey visit was considered appropriate for this report.

3.5 **SURVEYORS**

The initial site survey was undertaken by Alex Gregory BSc (Hons). Alex has over two years' experience conducting habitat and Ecological Impact Assessments (EclA's), as well as undertaking surveys for amphibians, bats, reptiles, badger, 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) within 2km and nationally designated sites within 5km of the application site, with the approximate straight-line distances from the site, are listed below in Table 4.1. There are no internationally designated sites within 13km of the site boundary.

Table 4.1 Relevant designated sites

Site name	Site designation
Bucks Wood*	CWS
Coronation Meadow	CWS
Drinkstone Meadow	CWS
Hessett Nature Reserve	CWS
Hinderlay Wood*	CWS
Pumping Station Meadow	CWS
Bradfield Woods*	NNR; SSSI
Norton Wood*	SSSI
Thorpe Morieux Woods*	SSSI

*Listed on the Ancient Woodland Inventory for England or Suffolk.

Locally designated sites

No Local Nature Reserves are located within 2km. Six County Wildlife Sites (CWS) were identified within this distance; they are listed below:

Bucks Wood CWS is a small wood, situated in an intensively farmed landscape, to the north of Gedding Hall, listed in the Suffolk Ancient Woodland Inventory. A public footpath runs along the western margin of the wood. The entire wood was clear felled a few years ago. Subsequently it was replanted with a mixture of conifers and hardwoods which are now approximately 5-6m high. Beneath the tree canopy is a dense layer dominated by bramble (*Rubus fruticosus agg.*).

Coronation Meadow CWS is a small area of unimproved species-rich grassland at the end of a long thin roadside meadow. The site has a northerly aspect on a gentle slope between Felsham Road and the Rattlesden River. It is hedged on three sides and the Rattlesden parish boundary runs along the western margin of the site. These surrounding hedges are structurally diverse, connecting the meadow to the wider landscape and providing forage and shelter for a range of fauna. The site is particularly notable for the occurrence of oxlip (*Primula elatior*), a nationally scarce species which occurs in ancient woodlands. Other uncommon plants recorded here are adder's-tongue fern (*Ophioglossum vulgatum*) and twayblade orchid (*Neottia ovata*).

Drinkstone Meadow CWS is located to the north of The Street, east of Drinkstone village. The meadow is composed of a mosaic of plant communities with an area of semi-improved grassland and two meadows of marshy grassland and ditches with species characteristic of wet ground conditions. The site norther boundary is delineated by the Black Bourn water course which, along with a network of hedgerows, offers

connectivity to other similar semi-natural habitats. There is also uninterrupted connection to the area of habitat mosaic to the north. The site offers a degree of structural diversity with two blocks of woodland and along the eastern boundary there is also a dense patch of scrub where it joins the southern boundary.

Hessett Nature Reserve CWS is located to the east of Hessett village and contains a mosaic of habitats, including waterbodies, woodland, grassland, and scrub. The waterbodies, which have been created from disused gravel pits, support a good range of water birds, whilst grassed areas support bee orchids (*Ophrys apifera*), grass vetchling (*Lathyrus nissolia*), and common broomrape (*Orobanche minor*).

Hinderlay Wood CWS is a small ancient woodland is situated north of Gedding, within an intensively farmed landscape. It is partly enclosed by a medieval woodbank and ditch and a dense species-rich hedge borders the wood along the southern boundary. Hinderlay Wood has a coppice with standards structure, ash (*Fraxinus excelsior*) is the dominant species in the tree layer with hazel (*Corylus avellana*) forming the understorey. Field maple (*Acer campestre*) and elm (*Ulmus procera*) become more common in the western part of the wood. Additional woody species include willow (*Salix cinerea*), common dogwood (*Cornus sanguinea*), elder (*Sambucus nigra*) and blackthorn (*Prunus spinosa*). Yellow archangel (*Lamium galeobdolon*) and wood spurge (*Euphorbia amygdaloides*), two indicator species restricted to ancient woods, are present in small quantities. There are abundant fallen trees, with deadwood in varying states of decay. Both greater (*Dendrocopos major*) and lesser spotted woodpeckers (*Dryobates minor*) which are dependent on dead wood have been recorded on this site. Additional habitat is provided by a stream which flows from east to west. The waterlogged stream edge is colonised by brooklime (*Veronica beccabunga*).

Pumping Station Meadow CWS is a small meadow enclosed by dense native hedgerows situated to the north of the village of Drinkstone. A large portion of the meadow is dominated by meadowsweet (*Filipendula ulmaria*) although it is becoming increasingly overgrown by a dense growth of thistles (*Cirsium vulgare*). Several wetland plants still exist amongst the flora including rare species such as ragged-robin (*Silene flos-cuculi*) and hairy sedge (*Carex hirta*). Of particular botanical value is a thriving population of the once common (but now scarce in Suffolk) betony (*Stachys officinalis*).

Given the limited nature of the proposal, no significant impacts upon any of the locally designated sites are anticipated.

Nationally designated sites

Bradfield Woods National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) comprises a series of ancient woodlands which have been traditionally coppiced since the mid-13th Century. The combination of coppice management and great complexity of soil types and drainage present throughout the site has produced diverse and unusual communities of plants; over 370 species of plants have been recorded, a total only surpassed in 2-3 other locations. Notable species present include oxlip, herb-Paris (*Paris quadrifolia*), ramsons (*Allium ursinum*), water avens (*Geum rivale*), wood spurge and several species of orchid.

The woods support hazel dormouse (*Muscardinus avellanarius*) and other small mammals, which favour coppiced stools, a range of woodland birds, including a large breeding population of nightingale (*Luscinia megarhynchos*), and numerous species of invertebrate. A large pond adds extra ecological value, and several small streams and

ephemeral pools support plants which require high humidity such as bryophytes and ferns.

Norton Woods SSSI is an ancient coppice-with-standards woodland with small, more recent additions of secondary woodland. The wood is situated on a gently sloping plateau on weakly acidic soils of sand and loess over boulder clays. Much of the wood is of the acid pedunculate oak (*Quercus robur*) – hazel – ash woodland type with abundant birch (*Betula sp.*). There are also areas of wet ash – maple (*Acer sp.*) and pedunculate oak – hornbeam (*Carpinus betulus*) woodland. The ground flora includes several uncommon plants, and a characteristic flora has developed on a series of wide rides. The wood is bisected by a railway line.

Thorpe Morieux Woods SSSI are three ancient coppice woods on poorly drained boulder clays. The woods show gradation from alkaline to acidic conditions depending on the thickness of a surface deposit of sand and loess. All three woods are under active coppice management and have entirely semi-natural stands. The ground flora contains several uncommon species, is diverse and is notable for the large populations of oxlip - a scarce local species. Thorpe and Felsham Woods are located within 5km of the application site boundary on acid soils and contain very little field maple; therefore oak-hazel-ash woodland predominates. There are also areas of secondary woodland with no coppice layer. Many species that are indicators of ancient woodland occur including wood anemone (*Anemone nemorosa*), wood sorrel (*Oxalis acetosella*), wood spurge, wood melick (*Melica uniflora*), herb-Paris and early purple orchid (*Orchis mascula*). Several wet hollows with marsh marigolds (*Caltha palustris*) and lesser pond sedge (*Carex acutiformis*) are also present. Wet rides have been created that are surrounded by dominant meadowsweet, tufted hairgrass (*Deschampsia cespitosa*) and rough meadow-grass (*Poa trivialis*) with creeping buttercup (*Ranunculus repens*), water avens and soft rush (*Juncus effusus*).

The application site lies within a SSSI Impact Risk Zone but does not meet any of the criteria for consideration (e.g., airports, helipads and other aviation proposals.). No significant impacts or effects are anticipated in relation to any of the features of the nationally designated sites.

4.2.2 *Priority habitats*

The Magic Map database identifies an area of deciduous woodland located c. 191m northwest of the site boundary. No other priority habitats are shown within the 250m zone of influence.

4.2.3 *Species*

No protected or notable species records exist from within the application site boundary but relevant records within 250m (**in bold**) (where geographical precision is < 1km) and 2km of the application site are provided in Table 4.2.

Table 4.2 Protected/notable species, relevant to the scheme, within 2km of site.

Latin Name	Common Name	Designation
Amphibians and reptiles		
<i>Bufo bufo</i>	Common toad	WCA5; S. 41
<i>Lissotriton vulgaris</i>	Smooth newt	WCA5
<i>Natrix helvetica</i>	Grass snake	WCA5; S. 41
<i>Rana temporaria</i>	Common frog	WCA5
<i>Triturus cristatus</i>	Great crested newt	EPS; WCA5; S. 41
Bats		

<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
Birds		
<i>Apus apus</i>	Swift	Red Status
<i>Chloris chloris</i>	Greenfinch	Red Status
<i>Cuculus canorus</i>	Cuckoo	Red Status; S. 41
<i>Delichon urbicum</i>	House martin	Red Status
<i>Emberiza citrinella</i>	Yellowhammer	Red Status; S. 41
<i>Falco tinnunculus</i>	Kestrel	Amber Status
<i>Gallinula chloropus</i>	Moorhen	Amber Status
<i>Linaria cannabina</i>	Linnet	Red Status
<i>Passer domesticus</i>	House sparrow	Red Status; S. 41
<i>Perdix perdix</i>	Grey partridge	Red Status; S. 41
<i>Prunella modularis</i>	Dunnock	Amber Status
<i>Pyrrhula pyrrhula</i>	Bullfinch	Amber Status
<i>Streptopelia turtur</i>	Turtle dove	Red Status; S. 41
<i>Sturnus vulgaris</i>	Starling	Red Status
<i>Troglodytes troglodytes</i>	Wren	Amber Status
<i>Turdus philomelos</i>	Song thrush	Amber Status
<i>T. viscivorus</i>	Mistle thrush	Red Status
<i>Tyto alba</i>	Barn owl	WCA1i
Invertebrates		
<i>Satyrrium w-album</i>	White-letter hairstreak	WCA5; S. 41
Other mammals		
<i>Arvicola amphibius</i>	Water vole	EPS; 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>Mustela putorius</i>	Polecat	S. 41

4.2.4

NE open source GCN records

Assessment of Natural England's GCN class licence returns data, and pond survey records show the closest positive record to be located c. 350m north of the application site (dated 2016), which within the normal dispersal range of the species. SBIS also hold records of GCN presence from 2016 (x3 individuals) in a pond (P2) located c. 90m west of the application site.

4.3

BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

4.3.1

Habitats and vascular plants

Descriptions of the habitats (Appendix A1) and the characteristic plants species present are provided below.

The western part of the application site contains paved (**u1b developed land, sealed surface**) and gravelled surfaces (**u1c artificial, unvegetated - unsealed surface, 32 scattered trees, 523 non-native, 847 introduced shrub**), an ornamental fishpond (**r1a6 other eutrophic standing water, 46 ornamental**), a greenhouse (**u1b5 buildings**) and some scattered, non-native trees and shrubs including *Pinus* sp., *Euonymus* sp., *Berberis* sp., and *Choisya* sp. specimens (Photos 1 to 5).

The eastern part of the application site contains areas of managed lawn (**g4 modified grassland, 108 frequently mown, 32 scattered trees, 523 non-native, 846 flower bed, 847 introduced shrub**) with some scattered non-native trees and shrubs (e.g. *Acer davidii*), flower/vegetable beds and a fruit cage, and two small timber-framed sheds (**u1b5 buildings**) (Photos 6 to 9).

The lawn is species-poor (average of <5 plants m²) and dominated by perennial rye grass (*Lolium perenne*) and annual meadow grass (*Poa annua*), which represented >80% of the ground flora. Common forbs recorded infrequently were common daisy (*Bellis perennis*), creeping buttercup (*Ranunculus repens*), common catsear (*Hypochaeris radicata*) and selfheal (*Prunella vulgaris*).

A wooden fence (**u1e built linear features**) extends along the northern site boundary, separating the site from an adjacent residential garden (Photo 10).

A length of native hedgerow (**h2a6 other native hedgerows**) marks the southern and eastern site boundaries (Photos 11 and 12). The hedge is mostly hawthorn (*Crataegus monongyna*) with elm (*Ulmus* sp.) but has a discrete section of holly (*Ilex aquifolium*). Some bramble (*Rubus fruticosus* agg.) and ivy (*Hedera helix*) is also present.

A narrow grass verge (**g4 modified grassland**) is associated with the roadside face of the hedgerow. The verge is dominated by perennial ryegrass with Yorkshire fog (*Holcus lanatus*) and annual meadow grass abundant. Frequently recorded forbs were common daisy, common nettle (*Urtica dioica*) and ground ivy (*Glechoma hederacea*) with dandelion (*Taraxacum officinale* agg.), creeping cinquefoil (*Potentilla reptans*) and groundsel (*Senecio vulgaris*) infrequent.

4.3.2

Amphibians and reptiles

a) Ponds

Seven ponds are located within 250m of the application site boundary (Figure 2), including a small ornamental pond P1 (Photo 13) in the centre of the site.

Pond P1 is a small ornamental pond (c. 10m²) which is densely stocked with fish (e.g. goldfish and/or carp), with turbid water and no macrophytes. It was assessed as supporting Poor habitat suitability for breeding GCNs (HSI score = 0.35). The HSI assessment scores and calculation results are displayed in Table 4.3 below.

Table 4.3 Pond (P1) HSI survey results

Factor	Assessment	HSI score
Location	Optimal	1
Pond area	10m ²	0.05
Pond drying	Never	0.9
Water quality	Poor	0.33
Shade	20%	1
Waterfowl	None	1
Fish	Dense population	0.01
Ponds within 1km (density)	16/3.14=5.1	1
Terrestrial habitat	Average	0.33
Macrophytes	0%	0.3
HSI score	Poor	0.35

P2 (Photo 14) is located c. 90m west of the application site. GCNs have previously been recorded within this pond when it was surveyed in 2016 but it now has very turbid water

with limited macrophytes and evidence of waterfowl damage. The immediate surroundings offer both potential foraging and refuge opportunities (e.g., marginal aquatic and ruderal vegetation), although the adjacent land (e.g., managed grassland and hardstanding surfaces) supports sub-optimal terrestrial habitat for GCNs.

The habitat suitability of pond P2 for breeding GCNs was assessed as Average (HSI score = 0.59). The HSI assessment scores and calculation results are summarised in Table 4.4 below.

Table 4.4 Pond (P2) HSI survey results

Factor	Assessment	HSI score
Location	Optimal	1
Pond area	315m ²	0.6
Pond drying	Sometimes	0.5
Water quality	Poor	0.33
Shade	20%	1
Waterfowl	Minor	0.67
Fish	Possible	0.67
Ponds within 1km (density)	16/3.14=5.1	1
Terrestrial habitat	Poor	0.33
Macrophytes	10%	0.35
HSI score	Average	0.59

No access was secured to assess any of the remaining five ponds located within 250m for their suitability as breeding habitat for GCNs.

b) Terrestrial habitat

i) *Amphibians*

The managed lawn areas offer suitable foraging habitat for amphibians during warm humid/wet nights. The hedgerows and shrubs, which extend along the garden boundaries, provide cover, and refuge habitat. Further discrete refuge opportunities also exist beneath rubble/spoil piles left in the garden (Photo 15) as well as the composting area (Photo 16).

ii) *Reptiles*

Habitats on site (e.g. gravel, paving and managed lawn) are typically considered to be unsuitable habitats for common reptiles, including species such as slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) which characteristically favour a mosaic of habitats containing scattered scrub and tussocky grassland – which affords cover (e.g., refuge from predators) as well as open areas for basking. Common lizards are also less likely to be found in residential gardens as they are susceptible to predation by domestic cats.

When considering the above factors, the overall habitat suitability for reptiles was assessed as low.

4.3.3

Bats

a) Building Assessment

The greenhouse and timber framed sheds were assessed as supporting None (greenhouse) and Negligible (sheds) bat roosting potential (BRP) respectively.

b) Preliminary Ground Level Tree Roost Assessment (PGLTRA)

None of the trees on site were identified as supporting obvious potential roosting features (PRFs) when assessed from ground level.

c) Foraging/commuting habitat

The hedgerows and shrubs around the garden boundaries are relatively well connected to other linear features in the wider landscape (e.g. hedgerows and tree lined gardens) and are likely to function as a local commuting corridor(s). Habitats within the garden (e.g. scattered trees/shrubs and pond) will also provide some foraging opportunities although most trees present are non-native specimens and will support less invertebrate prey species than native broadleaved species.

Overall, the site was assessed supporting Moderate bat foraging and commuting habitat value (Collins 2023).

4.3.4

Nesting birds

No evidence of nesting birds was found in the greenhouse or sheds. Trees, shrubs and hedgerows on the site provide suitable nesting opportunities for small passerines such as dunnock (*Prunella modularis*) (Amber Status), house sparrow (*Passer domesticus*) (Red Status, S. 41) and wren (*Troglodytes troglodytes*) (Amber Status). Potential for larger species like stock dove (*Columba oenas*) (Amber Status) and song thrush (*Turdus philomelos*) (Amber Status) exist in taller, mature specimens.

4.3.5

Badger

No evidence of badgers was recorded during the site survey.

4.3.7

S. 41 habitats and species

a) Habitats

The hedgerow extending along the southern and eastern boundary comprises >80% native shrub species, with a length >20m and gaps of <5m, and therefore meets the criteria for a S. 41 hedgerow habitat. No other priority habitats are present on site.

b) Species

Hedgehogs may forage over the lawn and seek refuge within hedgerows/shrubs. The trees/shrubs in the garden may also support some S. 41 list invertebrates, including Lepidoptera.

4.3.8

Non-native invasive plants

No Schedule 9 WCA 1981 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 4.5; values are based upon the criteria in Table A2.1 and expert best judgements.

Table 4.5 Feature value based on geographic context

Feature	Value
lawn, trees/shrubs, hedgerow, and pond	Local
Amphibians	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 construct a new dwelling and cart lodge on land contained within an existing residential garden. It will result in the permanent loss of an area of lawn (modified grassland) and some non-native/ornamental trees, shrubs and plants and a small ornamental pond. A short section of native hedgerow will require removal to create a new vehicular access of Cross Street. Combined, this has the potential to impact amphibians, foraging and commuting bats, nesting birds, small mammals such as hedgehogs, and S.41 list invertebrate species.

The assessment and recommendations below provide preliminary recommendations for mitigation and enhancements for the proposed development. They are based on drawings provided by Wincer Kievenaar Architects Ltd., which include a Proposed Site Plan (Drawing No. 5784 PA_01), a Site Location Plan (Drawing No. 5784 SU_02 - A) and Proposed Street Elevation (Drawing No. 5784 PA_04), 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 activities will result in the permanent loss of areas of lawn (modified grassland), some vegetable beds, an ornamental fishpond, and trees/shrubs and flowers in the footprint of the new dwelling and cart lodge as well as a short length of native hedgerow for access and visibility requirements. These losses constitute a minor negative effect at the Local level.

Any accidental damage to retained terrestrial habitats (e.g., lawn areas, boundary hedgerows, trees, and shrubs) during construction would result in a significant negative effect at the Local level.

a) Mitigation

To prevent damage to retained habitats, the builder's compound (if required) should be sited away from retained boundary features.

The works footprint and associated disturbance should be minimised in extent as much as possible. Retained sections of hedgerow, trees/shrubs, and grassed areas should be protected with temporary fencing (e.g., Heras) to prevent above ground damage and Root Protection Areas (RPAs) should be used to inform the detailed design.

c) Residual effects

The loss of lawn, trees/shrubs and a short length of hedgerow will result in a minor negative residual effect at the Local level and requires compensation (see section 5.10).

5.6 AMPHIBIANS AND REPTILES

a) Potential impacts

Vegetation clearance, ground-breaking and construction activities will result in the temporary disturbance to and permanent loss of areas of potential foraging (e.g., lawn) and refuge habitats (e.g., woody shrubs and hedgerow) 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 and/or building materials.

Accidental damage/pollution of pond P1 could potentially harm any animals, including any GCNs present (although this is considered unlikely due to the dense fish population present). On completion of the development, the use of gulley pots or similar as part of a surface water drainage system can result in the entrapment of amphibians (Muir, 2012).

Combined, such impacts could result in permanent negative effects upon low-to-moderate numbers of individuals considered a negative effect at the Local level.

b) Mitigation

As per 5.5.

As GCNs are highly likely to be absent from pond P1, to ensure the following good working practices would likely avoid direct impacts upon GCNs and other amphibian species also present and would likely ensure offences are avoided. These should include:

1. All lawn/grassed areas on site should be kept short prior to and during construction.
2. Clearance of any taller vegetation (e.g. hedgerows and woody shrubs) should be undertaken sensitively during the months of April to September inclusive. Hand tools (e.g., strimmers and hedge trimmers) should be used to take taller vegetation down to ground level using a 2- stage cut 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.
 - Maintained near to ground level until works commence.
3. Any refugia present that requires removal (e.g., rubble piles) 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.
4. Where possible during the construction phase, and only after clearance as described above, open ground works should be undertaken during November to February inclusive, when amphibians are not active or during a hot, dry period when animals are less likely to move across grassland/open areas at night.
5. Excavations at other times must be filled on the same day as excavation where possible to prevent animals falling in. Where this is not possible the trenches must be covered overnight with ply/OSB sheets and damp sand used to fill any gaps. Larger excavations should have mammal ladders (e.g., rough planks securely placed at an angle to allow safe egress) installed.
6. Open excavations will be inspected for the presence of amphibians, reptiles, and small mammals immediately prior to filling with any aggregates or concrete.
7. Concrete pours will be undertaken in the morning to allow them to harden prior to the evening when amphibians become active or must be covered overnight.
8. Excess cement/concrete must be disposed of in such a way as to prevent contact with animals e.g., poured into a concrete skip and covered.
9. Any caustic materials (e.g., concrete) to be hand mixed must be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day's use to prevent animals coming into contact.
10. All building materials will be raised off the ground on pallets and away from sensitive boundary habitats (e.g., hedgerows).
11. All building waste must be removed from site as promptly as possible to prevent animals seeking refuge.
12. The GCN poster in Appendix A3 should be erected in the welfare facilities provided for construction staff on site.
13. 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 (e.g., in the garden to the west of the application site).

14. Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen¹⁰ or similar to prevent amphibians entering drains.
15. If gully pots are required, they should use small diameter (6mm) grates where possible. Any installed gully pots should be situated $\geq 100\text{mm}$ from the roadside, OR a wildlife-kerb¹¹ must be installed adjacent to each gully pot AND a gully pot ladder¹² placed into each gully pot.

c) *Residual effects*

With mitigation measures proposed, no significant effects are anticipated.

5.7

BATS

a) *Potential impacts*

i) Roosting bats

None anticipated.

ii) Foraging and commuting habitats

Vegetation clearance will result in the relatively small net loss of local foraging and commuting habitat available though not considered significant in terms of conservation status, such that effects are not considered significant at the Local level.

iii) 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 buildings, and potentially from spillage of internal lighting once they are in use. In this instance, impacts on retained mature trees, shrubs and hedgerows along the site boundaries are considered most relevant.

iv) Roofing membranes

Research has shown bats can become entangled in modern breathable roofing membranes if used under clay pantiles or peg/plain tiles (Waring *et al.*, 2013) or behind weatherboarding. Without mitigation, the impacts above could result in significant effects at a Local level.

b) *Mitigation*

i) Foraging and commuting habitat

Mitigation as per section 5.5.

ii) Light disturbance

Exterior lighting (as well as temporary security lighting during the construction phase) design must minimise lighting impacts upon retained natural habitats, including the pond, mature trees/shrubs and boundary hedgerow, and should follow current guidance as necessary^{13,14}:

- *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

¹⁰ <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

¹¹ e.g. <https://www.aco.co.uk/products/wildlife-kerb>

¹² <https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder>

¹³ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

¹⁴ www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

lights should be used using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 °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 mature trees/shrubs, boundary hedgerow and the pond. This can be 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) Roof membrane

Bat friendly roofing felt (e.g., Type 1F or a breathable sarking board e.g., Hunton Sarket or Pavatex Isolair) should be used if handmade clay pantiles or plain tiles are proposed for the new dwelling and cart lodge. Until recently non-bitumen coated roofing membranes (NBCRM) would not be licensed by Natural England. However, a NBCRM which has passed a *snagging propensity test* as defined by Natural England and the Bat Conservation Trust¹⁵ may be approved as part of an EPS Mitigation licence application.

If tight fitting tiles (e.g., interlocking pantiles or machine-made plain tiles), slates or concrete weatherboarding are used, NBCRMs can be used if gaps are less than 5mm or can be sealed with sealant to ensure bats cannot enter and come into contact with the NBCRM.

c) Residual effects

With mitigation implemented, most impacts will be avoided, such that residual effects (related to very minor losses of foraging habitat) are considered not significant in relation to conservation status of bat species at a Local level.

5.8

NESTING BIRDS

a) Potential impacts

The clearance of shrubs, hedgerow and trees may result in the disturbance and destruction of active nests, if undertaken during the breeding season. Increased noise levels (during construction) could also affect the ability of birds to hold territories during the breeding season whilst accidental damage to retained trees and shrubs could also affect breeding success and/or result in the destruction of active nests.

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

b) Mitigation

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 and

¹⁵ <https://www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-coated-roofing-membranes>

supervision must be undertaken by a suitably experienced ecologist immediately prior to and during the removal of the hedgerow trees/scrub. If any active nests are present, works within 5m must wait until the young have fledged.

c) Residual effects

With mitigation effects upon active nests will be avoided although loss of nesting habitat in the section of hedgerow and trees that require removal should be compensated (see section 5.10).

5.9

OTHER S. 41 LIST HABITATS AND SPECIES

a) Potential impacts

The removal of a small section of hedgerow would result in the loss of a small length of Priority S. 41 Habitat, which is considered a significant negative effect at the local level.

Clearance of hedgerow vegetation and lawn will result in the loss of foraging, refuge (including potentially for overwintering), and nesting habitat for hedgehog.

During construction, hedgehogs could potentially fall into open trenches resulting in entrapment and possible injury and mortality of individuals due to falling in or becoming in contact with caustic substances such as fresh concrete. Erection of ecological barriers (e.g., timber panel fencing) 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.

Any hedgerow clearance should be undertaken in early autumn to avoid impacts upon nesting hedgehog. If clearance is required in the spring to avoid nesting bird issues, vegetation should be retained to no lower than 300mm above ground level to avoid injury or harm to hibernating hedgehog until temperatures are regularly (6 consecutive days/nights) maintained above 6°C. Clearance at other times of year should be undertaken with prior checks/supervision by an ecologist.

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

The use of close board fencing should be minimised, with native species-rich hedgerows preferable where boundary features are required. If close board fencing were to be installed, then at least one hedgehog highway¹⁶ should be provided at either end of each fencing run with signage.¹⁷

c) Residual effects

Direct impacts upon hedgehogs will be avoided with no significant residual impacts anticipated.

¹⁶ <https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>

¹⁷ <https://ptes.org/shop/just-in/hedgehog-highway/>

5.10

COMPENSATION

Residual significant negative effects upon habitats and species related to the proposed development include the loss of areas of lawn, some ornamental trees, shrubs and flowers as well as a short length of native roadside hedgerow (S. 41 habitat) to accommodate the new site access and for visibility requirements. Combined these are of value to various species for foraging, nesting, and overwintering habitats.

New native hedgerow

To compensate for the loss of the short length of native hedgerow, a new species-rich hedgerow could be planted along some (or all) of the western site boundary. The new hedge should comprise c. 50% native thorny species such as common hawthorn, Midland hawthorn (*C. laevigata*) and/or plum cherry (*Prunus cerasifera*). All three species provide food for birds and mammals and help reduce cat predation. Bird cherry is much less invasive compared to blackthorn which will readily sucker.

To further maximise the biodiversity value of the new hedgerow a minimum of 5 of the following species should also be used:

- Common dogwood.
- Crab apple (*Malus sylvestris*).
- Field maple.
- Guelder rose (*Viburnum opulus*).
- Hazel.
- Holly.
- Hornbeam.
- Dog rose (**NOT** Japanese rose (*Rosa rugosa*)).
- Spindle (*E. europaeus*); and
- Wild privet (*L. vulgare*) (**NOT** garden privet *L. ovalifolium*).

Native trees

To offset the loss of any trees/shrubs in the garden two traditional Suffolk heritage fruit trees¹⁸ could be planted in the proposed garden area to the west of the new dwelling. This would enhance the biodiversity value of the wider site (e.g., pollinators and windfall fruit for birds, mammals, and invertebrates) and provide the new homeowners with a chance to pick and eat locally sourced fruit.

Nesting birds

The loss of bird nesting (e.g., hedgerow removal) habitat can be compensated through the erection of 2x sparrow terraces and 2x starling nest boxes (Appendix A4), which should be erected on site at locations agreed with a suitably experienced ecologist.

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

5.11

CUMULATIVE EFFECTS

The Mid Suffolk Council website was searched on 8 January 2024 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.

¹⁸ [Suffolk | Apples & Orchards Project \(applesandorchards.org.uk\)](https://www.suffolk.gov.uk/apples-and-orchards-project)

The search returned a several number of householder applications for extensions and/or alterations to existing dwellings in addition to an application to erect a replacement dwelling (DC/22/00374) and another to create a new access for livestock (DC/22/00038). No applications for major development were returned.

There is no indication from the above applications that there will be any significant cumulative impact with the current application.

5.12

ENHANCEMENT OPPORTUNITIES

It should be noted that from Spring 2024 it is anticipated that all planning permissions granted in England (with a few exemptions) will be formally required to deliver at least 10% biodiversity net gain (see Section 2.3.1). Quantitative assessments of habitat losses and gains using the Defra Metric will therefore be necessary.

Mitigation and compensation measures proposed will ensure negative ecological effects are minimised. However, to be consistent with planning policy, biodiversity gains could be delivered through suggested enhancement measures.

To maximise potential biodiversity gains 4 of the 5 options listed in Table 5.1 should be implemented.

Table 5.1 Biodiversity enhancements

Feature	Enhancement suggestion
Nectar rich climbers	<p>1. Any ornamental planting should utilise nectar rich plants to benefit pollinators and associated predators (e.g., foraging bats and hedgehogs).</p> <p>Planting should include nectar rich native climbers such as wild honeysuckle (<i>Lonicera periclymenum</i>) and ornamental climbers such as jasmine (e.g., <i>Trachelospermum jasminoides</i>) which could be planted at 5ft intervals along existing/new hedgerows and/or trained up walls, fences, posts, and trellises.</p>
Flowering lawn	<p>2. The proposed lawn areas could be seeded or turfed with a flowering lawn seed mixture¹⁹ or turf²⁰ 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.</p>
Integrated swift bricks	<p>3. Swift boxes (e.g., Manthorpe swift brick) could be installed into the walls of the new dwelling (minimum of 6 bricks) on the north or east elevation (exact location to be agreed with a suitably experienced ecologist).</p> <p>A speaker connected to an MP3 player should be fitted in one of the boxes erected on each of the gable ends and swift return calls must be played during May</p>

¹⁹ <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/>

²⁰ <https://www.wildflowerlawnsandmeadows.com/wild-flower-turf/extra-floristic-low-flowering-lawn-turf-with-wild-orchid-seed/> or <https://www.turfonline.co.uk/product/species-rich-lawn-turf/>

Feature	Enhancement suggestion
	and early June as they will attract swifts returning to the UK and prospecting for potential nest sites ²¹ .
Bats	<p>4. Three bat boxes could be erected under the south or east facing soffit/eaves of the proposed dwelling, positioned away from windows and doors (exact locations agreed with a suitably experienced ecologist).</p> <p>Bat boxes could be wall mounted, such as the Schwegler 1FE, Kent bat box and Vincent Pro Bat Box, or integrated into the walls of the dwelling (e.g., lbstock bat box) (Appendix A5).</p>
Log/brash piles	<p>5. Log/brash piles (Appendix A6) could be created and sited within the garden using logs/brash from any trees/shrubs and hedgerow (broadleaved species only – not conifers) requiring felling during construction works.</p> <p>Log/brash piles provide important refuge habitats for amphibians/reptiles and are likely to support a range of fungi, dead wood invertebrates and solitary bees, which in turn will attract foraging small mammals and birds etc.</p>

Peat-based composts will not be used in any planting scheme to avoid impacts upon habitats and carbon storage.

5.13

CONCLUSIONS

Ecological impacts resulting from the proposed design have where possible been avoided or minimised through design, mitigation, and compensation measures.

Ecological impacts resulting from the proposed design have where possible been avoided or minimised through design, mitigation, and compensation measures. 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:

- BS 42020:2013 D.2.1 to provide a Biodiversity Method Statement to detail mitigation.
- A Biodiversity Enhancement Strategy to detail compensation and enhancement measures, to be reflected in the detailed landscaping proposals and site plans for the scheme.
- BS 42020:2013 D.3.2.1. nesting bird check (by suitably experienced ecologist) prior to hedgerow/tree clearance.
- BS 42020:2013 D.3.5 to limit lighting design impacts upon bats and other wildlife.
- BS 42020:2013 D.3.7 Restrictions on occupation of development until specific biodiversity outcomes are achieved or BS 42020:2013 D.3.8 to ensure mitigation, compensation and enhancement measures are successfully implemented

²¹ <https://peakboxes.co.uk/knowledge-learning-blog/2019/10/13/attracting-swifts-sound-systems>

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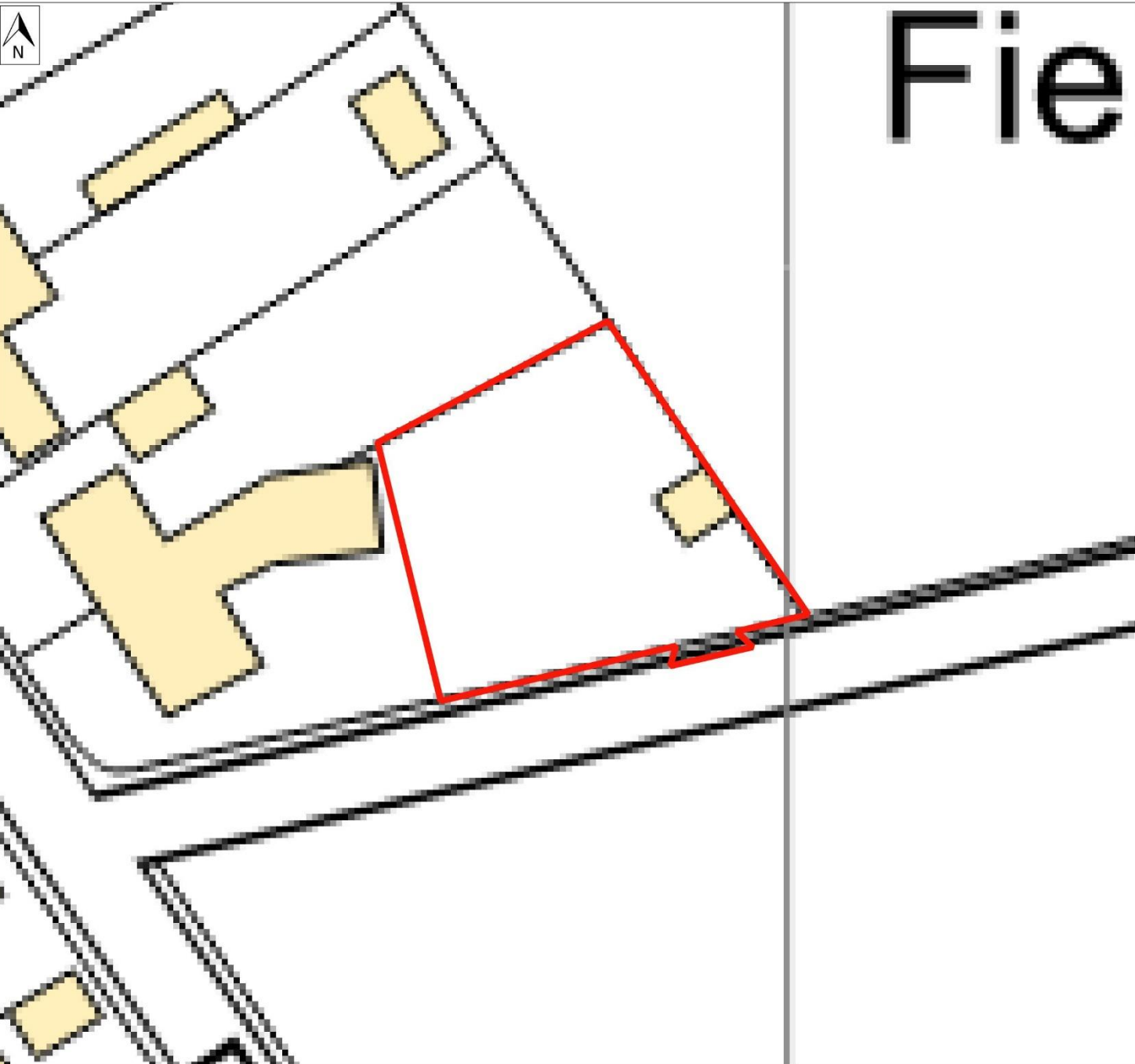
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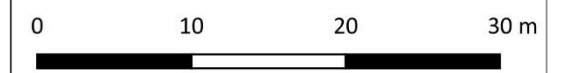
Figures



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Legend

 Application site boundary

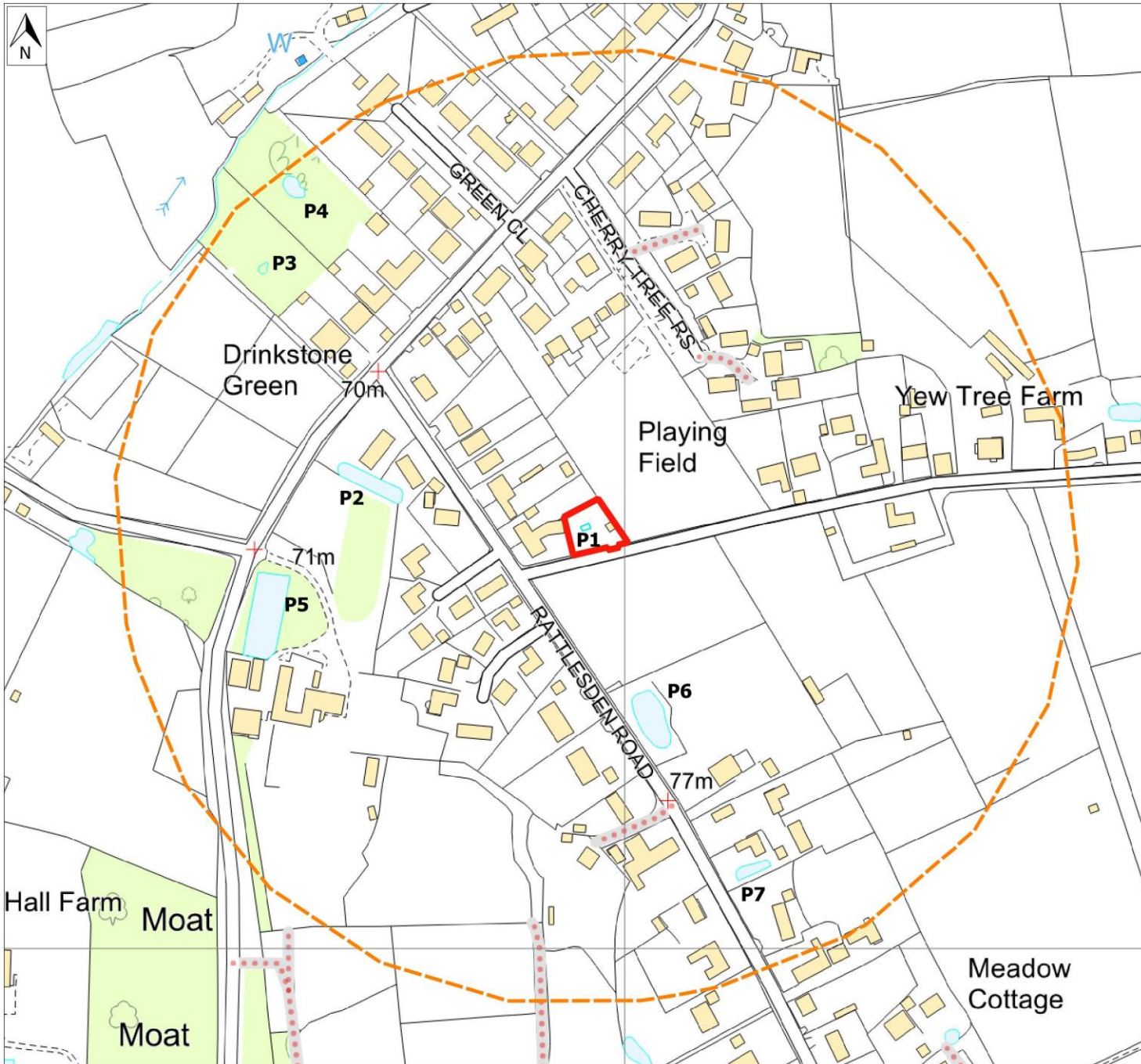


Client: Herin Investments Ltd.

Project: Land to the rear of Threeways, Drinkstone Green, Bury St Edmunds, Suffolk

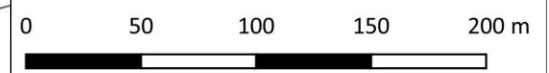
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Figure 1 Site location plan



Legend

- Application site boundary
- 250m buffer
- Pond



Client: Herin Investments Ltd.

Project: Land to the rear of Threeways, Drinkstone Green, Bury St Edmunds, Suffolk

Drawn:	Date:	Drawing Ref:
AG	20/12/23	THREWAYSDRINK/ESR/23/002

Figure 2 Ponds location plan

Appendices

Appendix A1 Photos



Photo 1 Gravel surface and trees/shrubs in the far northwest corner of the application site – looking W



Photo 2 Paving, gravel and shrubs in the northwest corner of the application site – looking E



Photo 3 Paving, trees/shrubs and pond in the western part of the application site (central) – looking E



Photo 4 Greenhouse in the southwest corner of the application site – looking E



Photo 5 Looking north along western site boundary



Photo 6 Lawn area and non-native trees and shrubs in the southeast part of the garden – looking W



Photo 7 Lawn, shrubs and fruit cage/vegetable beds in the Eastern part of the application site – looking NW



Photo 8 Fruit cage and vegetable beds in the eastern part of the application site – looking SW



Photo 9 Small Timber framed sheds in the southeast corner of the application site



Photo 10 Fence and shrubs along northern site boundary – looking W



Photo 11 Hedgerow along southern and eastern site boundaries – looking E



Photo 12 Roadside view of hedgerow where new vehicular access is proposed off Crossing Road



Photo 13 Small ornamental Pond P1 in the garden



Photo 14 Pond P2



Photo 15 Rubble pile left in the garden with potential to be used as an amphibian hibernaculum



Photo 16 Composting area with potential to be used as an amphibian hibernaculum

Appendix A2 EclA criteria

A3.1 General criteria for geographic context/value

Designation	Example
International	<ul style="list-style-type: none"> • SPA, SAC and Ramsar sites and the features that they have been designated for. • 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. • 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.
National	<ul style="list-style-type: none"> • SSSI or a discrete area that meets the selection criteria for designation. • 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. • A sustainable population of priority species (listed under S. 41 of the NERC Act 2006). • 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. • A sustainable population of uncommon or threatened Annex IV EPS species at a UK level. • A nationally scarce species (occurs in 30-100 10km squares in the UK) that has its main UK population within the district.
County	<ul style="list-style-type: none"> • A viable area of habitat identified in the county BAP. • A County Wildlife Site. • A sustainable population of common or non-threatened Annex IV EPS species at a UK level. • A Nationally Scarce species that does not have its main population within the county. • Any BAP species not included in the 'national' category above for which a county Action Plan exists.
Local	<ul style="list-style-type: none"> • 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). • Other habitats and species not in the above categories but are considered to have some value at the district/borough level.

Appendix A3 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



Appendix A4 Bird boxes



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RSPB Sparrow terrace nest box

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Provides three separate nest boxes in one FSC® certified timber terrace, each with its own 32mm entrance hole. Beautifully made in the UK.

RSPB nest boxes provide a safe and snug place for birds to roost and nest. Unlike cheaper alternatives, our [bird houses](#) are made from sustainable FSC® certified timber and have excellent insulation properties. This makes them warm in winter and cool in summer. RSPB nest boxes are carefully designed with correct dimensions and ventilation, without perches for intruders to grip onto and threaten the occupants.

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SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
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Bird care > Bird houses & nest boxes > Garden bird nest boxes > Apex starling nestbox

Print



Apex starling nestbox

Product ID: R405836

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★★★★☆ [Read all reviews](#)

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.

[Read full information](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
- Offer ends 4 January 2023 and is subject to availability
- Loyalty points can be collected/redeemed as usual

Appendix A5 Bat boxes



Kent bat box



Ibstock integrated bat box



Vincent Pro Box

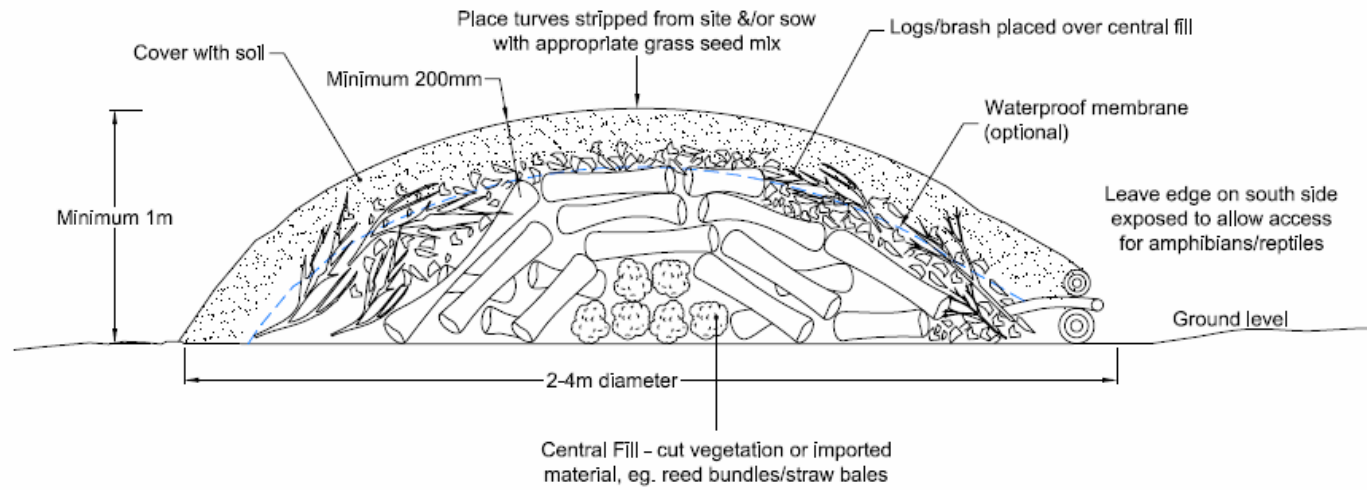


Schwegler 1FE



Access to the bat boxes cut into 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 Log/brash piles



Brush/log pile recently created



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