
Ecology Report

PROPOSED DEVELOPMENT
Rathkeltair Lodge, Fornham St Martin, Suffolk

November 2021



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Executive Summary

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of an existing dwelling and adjacent land at Rathkeltair Lodge, Fornham St Martin, Suffolk. A planning application will be submitted to West Suffolk Council to demolish the existing dwelling and construct a replacement dwelling including cart lodge, workshop and swimming pool/gym complex, a large single-storey garage, and a two-storey barn.

The site currently comprises a large, detached dwelling of brick construction at the edge of a formerly arable field now dominated by a range of ruderal plant species. The site is enclosed by hedgerows with mature trees to the east, south and west, while the north boundary consists of a low wooden fence. Some fruit trees exist adjacent to the northern site boundary.

Bat emergence surveys confirmed the presence of day roosting common pipistrelle, soprano pipistrelle and brown long-eared bats.

The surrounding environment will provide nesting, refuge, and foraging opportunities for a range of garden birds, common amphibians and potentially common reptiles such as grass snake (*Natrix helvetica*), bats (foraging and commuting), hedgehogs (*Erinaceus europaeus*), brown hare (*Lepus europaeus*) and potentially some S.41 list invertebrates.

Recommendations are made to avoid wildlife offences and ecological impacts. Where impacts cannot be avoided, measures are proposed to mitigate remaining effects including timing of works, good working practices and proceeding under a Natural England European Protected Species Mitigation licence, 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 an existing dwelling and adjacent land at Rathkeltair Lodge, Fornham, Suffolk (TL 85525 66343, Figure 1). A planning application is to be submitted to West Suffolk Council to demolish the existing dwelling and construct a replacement dwelling with leisure complex below and separate single-storey garage and two-storey barn.

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 (Figure 1) comprises a dwelling of brick construction with plain tile roof. The site includes hardstanding around the dwelling and ruderal vegetation to the north, though the majority of site is composed of bare ground showing signs of colonisation by ruderal species. Some mature fruit trees exist to the north of the dwelling by the site boundary. An arable field exists to the north of the site which used to support fruit trees as shown on historical aerial photos.

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/attachment_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 SSSIs;

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 SPAs, possible SACs, 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. Planning policies and supporting documents that are used to plan, deliver, and monitor development across the West Suffolk District area can be found at https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/west-suffolk-local-plan-former-forest-heath-and-st-edmundsbury-areas.cfm.

2.3

LEGISLATION

2.3.1

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.

2.3.2 *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 mantegazzanum*) 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.

2.3.3 *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.

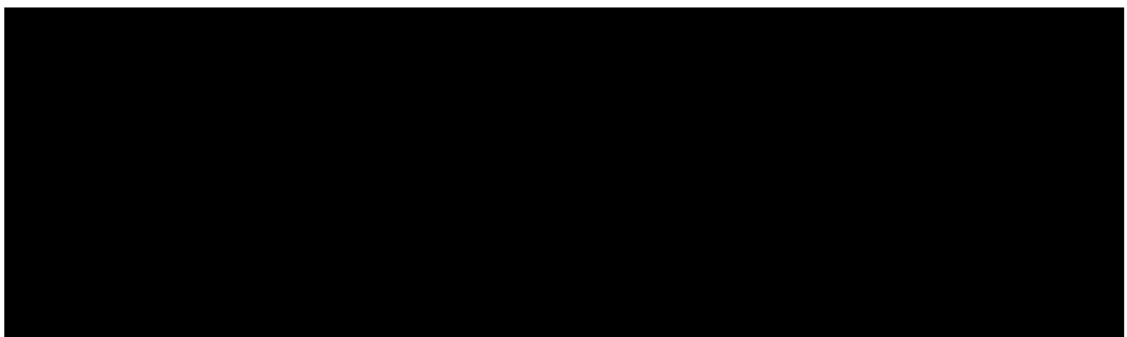
2.3.4 *The Conservation of Habitats and Species Regulations 2017*

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.

2.3.5



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 42020:2013¹);
- 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, Natural England (NE) open source data, 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; and
- Historical SBIS biological records: species and locally designated site records within 2km of the sites.

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 smooth newt (*Lissotriton vulgaris*)
- Mammals including bats²;
- Breeding birds² including Red and Amber status³ species; and
- S. 41⁴ list habitats such as hedgerows, and species such as hedgehog (*Erinaceus europaeus*).

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

3.3 FIELD SURVEY

An initial site walkover was undertaken on the 14 February 2017, followed up by a further walkover on 14 July 2021 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.

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

² All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

³ The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 4 (Eaton *et al.*, 2015).

⁴ 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 sites were 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

OS Maps show no ponds within 250m of the site.

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

Recommendations are provided in chapter 5 to avoid impacts on GCNs and common amphibians.

b) Reptiles

Habitats on and around the application sites 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 existing dwelling was assessed for Bat Roosting Potential (BRP) with reference to NE's Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). Evidence of roosting bats was recorded if observed.

b) Tree roost potential

Any trees present on the site were assessed with regards to their suitability for supporting roosting bats as per the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). Evidence of roosting bats was recorded if observed.

c) Foraging and commuting habitat

Consideration was given to the value of any potential foraging and commuting habitats (i.e., hedgerows, trees, ponds) on the application site (Collins, 2016).

d) Dusk emergence survey

Two dusk emergence surveys were undertaken (14/07/21 and 13/09/21) as per the following methodology:

- The emergence surveys commenced 15 minutes prior to and for up to 1.5 hours after sunset to cover the main emergence period and when some bats may return to the roost;
- Bat activity such as bats leaving or returning to roost within buildings on site was recorded. In addition, commuting bats and foraging bats were recorded;
- Numbers and species of bats were recorded to determine the significance of any roosts identified;
- A FLIR Scion thermal scope (Plate 1) was used to monitor the west and south elevations of the house for both surveys and 2 ecologists with full spectrum bat

detectors (e.g., Elekon Batlogger M and Wildlife Acoustics Echo Meter Touch 2) observed the north, east and south elevations.



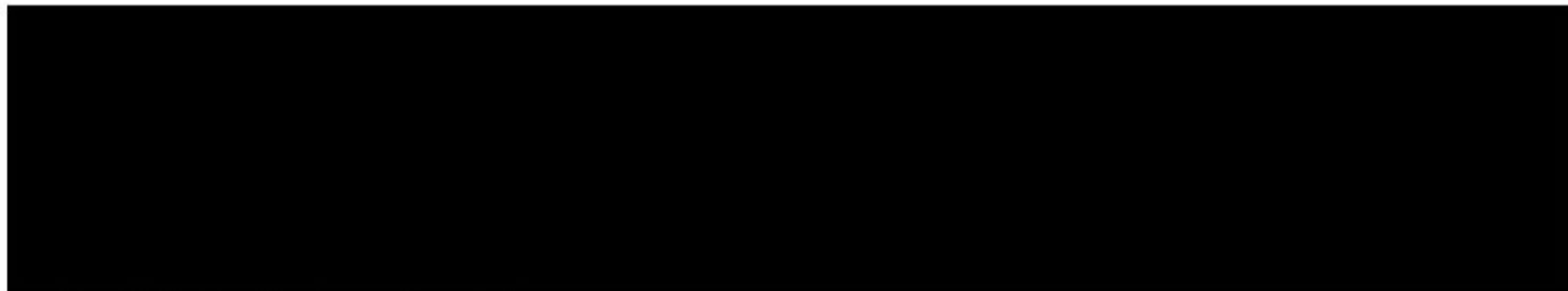
Plate 1 West and south elevations of Rathkeltair Lodge – 14/07/21

3.3.5

Nesting birds

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

3.3.6



3.3.7

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 and invertebrates were assessed based on their habitat preferences.

3.3.8

Non-native invasive plant species

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

3.4

SURVEY CONSTRAINTS

Given the nature of the site 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 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), (CL29/00213) and great crested newts (Class A licence 2015-17633-CLS-CLS). He is a Registered Consultant (Registration RC089) on NE's Bat Mitigation Class Licence (BMCL) and is an agent under the Environment Agency's and Water Management Alliance 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.

The bat emergence surveys were undertaken by Christian Whiting (first survey), Alex Gregory (both surveys) and Jake Brendish (second survey).

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 (LNR) and County Wildlife Site (CWS) within 2km and nationally designated sites within 5km are listed in Table 4.1. there are no internationally designated sites located within 13km of the application site boundary.

Table 4.1 Relevant designated sites

| Site Name | Designation |
|---------------------------------------|-------------|
| Ash Tree Belt | CWS |
| Ash Tree Clump | CWS |
| Farm Covert | CWS |
| Moreton Hall Community Woods | LNR |
| The Glen Chalk Caves, Bury St Edmunds | SSSI |

Locally designated sites

Three CWSs and one LNR within 2km of the application site are listed below.

Ash Tree Belt and Ash Tree Clump CWS lack citations, though both are small areas of ancient woodland.

Farm Covert CWS is densely planted with conifers, although a fringe of sycamore and elm remains around the edge of the wood. The understorey consisting of hazel, hawthorn and crab apple is dense in places and provides suitable habitat for a wide range of woodland birds. The ground flora which is dominated by nettle, cow parsley and ivy has suffered from the heavy shade cast by the tree canopy.

Moreton Hall Community Woods is an 18.5-hectare LNR in Bury St Edmunds, consisting of six separate areas.

Given the scale, nature and location of the development, there are no anticipated significant effects upon the features of the sites.

Nationally designated sites

The Glen Chalk Caves SSSI consists of a series of tunnels excavated horizontally in chalk, and totalling about 200m in length. The tunnels radiate outwards from a pit which also contains a disused lime-kiln. Five species of bats regularly use the tunnels and the lime-kiln for hibernation between September and April. The bat population has been continuously monitored since 1947 and is the subject of continuing detailed scientific studies. The caves are used principally by Daubenton's bat (*Myotis daubentonii*) and Natterer's bat (*M. nattereri*), but brown long-eared bats (*Plecotus auritus*) are frequent with occasional visits by whiskered (*M. mystacinus*) and Brandt's (*M. brandti*). The rare barbastelle (*Barbastella barbastellus*) was seen once, as was a pipistrelle (*Pipistrellus*

pipistrellus) near the entrance, which was later recovered 63km away 11 years after. A Lesser horseshoe (*Rhinolophus hipposideros*) was resident for 4 months in 1958–1959 and was only the third record for that species for eastern England.

The application site lies within a SSSI Impact Risk Zone (IRZ) but does not meet the listed criteria to warrant further consultation between the Local Planning Authority and Natural England. No significant effects are anticipated on the features of the designated site, while the application site is distant enough to avoid lighting impacts on bats commuting to and from the SSSI.

4.2.2

Species

a) Relevant biological records

No protected or notable species records exist from within the property site boundary, with species located 100m of the site highlighted in bold. Table 4.2 identifies species records for within 2km the application site boundary.

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

| Scientific Name | Common name | Legal/conservation status |
|----------------------------------|-------------------------|---------------------------|
| Amphibians and reptiles | | |
| <i>Lissotriton vulgaris</i> | Smooth newt | Sch. 5 |
| <i>Rana temporaria</i> | Common frog | Sch. 5 |
| Bats | | |
| <i>Myotis daubentonii</i> | Daubenton's bat | Sch. 5 |
| <i>Myotis nattereri</i> | Natterer's bat | Sch. 5 |
| <i>Nyctalus noctula</i> | Noctule | Sch. 5; S. 41 |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle | Sch. 5 |
| <i>Pipistrellus pygmaeus</i> | Soprano pipistrelle | Sch. 5; S. 41 |
| <i>Plecotus auritus</i> | Brown long-eared bat | Sch. 5; S. 41 |
| Birds | | |
| <i>Alauda arvensis</i> | Skylark | S. 41 |
| <i>Emberiza citrinella</i> | Yellowhammer | Red Status; S. 41 |
| <i>Jynx torquilla</i> | Wryneck | Red Status; Sch. 1 |
| <i>Passer domesticus</i> | House sparrow | Red Status; S. 41 |
| <i>Streptopelia turtur</i> | Turtle dove | Red Status; S. 41 |
| <i>Tyto alba</i> | Barn owl | Sch. 1 |
| Invertebrates | | |
| <i>Satyrion w-album</i> | White-letter hairstreak | Sch. 5; S. 41 |
| <i>Pareulype berberata</i> | Barberry carpet | Sch. 5; S. 41 |
| Other mammals | | |
| <i>Erinaceus europaeus</i> | Hedgehog | S. 41 |
| <i>Lepus europaeus</i> | Brown hare | S. 41 |

4.2.3

Priority habitats

No priority habitats exist within the bounds of the application site, though nearby areas include broadleaved woodland c. 300m southeast and wood-pasture and parkland c.200m north of the application site.

4.2.4

Natural England Class Licence and eDNA records

Assessment of Natural England's GCN class licence return data and eDNA pond survey records show the closest positive record to be located c. 3km south of the application site (dated 2016), which is outside the normal dispersal range of the species.

4.3

BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

4.3.1

Habitats and vascular plants

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

a) Built environment

The main building is a two-storey brick dwelling with a plain tiled roof. The northwest elevation supports a flat-roofed, single-storey extension, also of brick construction.

b) Ruderal vegetation

The site is dominated by former gardens for Rathkeltair Lodge which have become overgrown and then disturbed during building works for the new property built to the east on the site of a former apple store. Areas of disturbed ground exist following disturbance.

Forbs present include bugloss (*Anchusa arvensis*), common chickweed (*Stellaria media*), common ragwort (*Jacobaea vulgaris*), evening primrose (*Oenothera sp.*), garlic mustard (*Alliaria petiolata*), groundsel (*Senecio vulgaris*), nipplewort (*Lapsana communis*), opium poppy (*Papaver somniferum*), parsley-piert (*Aphanes arvensis*), prickly sow-thistle (*Sonchus asper*), scentless mayweed (*Tripleurospermum inodorum*), spear thistle (*Cirsium vulgare*), tobacco (*Nicotiana sp.*), weld (*Reseda luteola*), white campion (*Silene latifolia*) and Yorkshire fog (*Holcus lanatus*).

c) Bare ground

An access drive leads from the site entrance to the southeast side of the dwelling.

i) Hedgerows and trees

The site is enclosed on all but the north side by species-poor hedgerows and trees consisting of ash (*Fraxinus excelsior*), bramble (*Rubus fruticosus agg.*), elm (*Ulmus sp.*), field maple (*Acer campestre*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*) and pedunculate oak (*Quercus robur*). Some mature Scot's pine (*Pinus sylvestris*) exist along the western site boundary.

4.3.2

Amphibians and reptiles

a) Ponds

OS maps indicated no ponds within 250m of site, though several ditches and drains exist within close proximity.

d) Terrestrial habitat

i) *Amphibians*

Suitable refuge and dispersal habitat is offered by the hedgerows bordering site, while the unmanaged ruderal and grassy areas provide additional dispersal habitat. Brash piles may also be used for hibernation.

ii) Reptiles

Local historical records list no reptiles within 2km, but the site offers potential refuge habitat for common species such as grass snake (*Natrix helvetica*) which are the most common species in arable landscapes. Given the disturbed nature of the site and dominance by ruderal species and heavy shading of much of the site, the presence of slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) is considered unlikely.

4.3.3

Bats

a) Building assessment

Some lifted or slipped plain tiles are present on the roof of the dwelling and the porch. The single-storey extension featured gaps leading into the narrow roof void just below the guttering. An inspection of the roof void (Photo 7) in February 2017 found c. 50 likely long-eared droppings (Photos 8)

b) Tree roost assessment

A small number of trees (see separate arboricultural impact assessment) require felling or some de-limbing works. Inspection of those trees (e.g. Photos 9 and 10) identified no trees supporting evidence of roosting bats.

c) Foraging and Commuting Habitat

The diversity of wildflowers, native and otherwise, across the site is likely to support a strong population of nectar-feeding invertebrates, of which night-flying Lepidoptera and Diptera likely hold greatest importance for bats. The hedgerows and trees enclosing the site provide commuting routes and additional foraging habitat. The dwelling itself is situated close to a line of trees, providing cover for any bats potentially emerging from the house.

d) Bat activity survey

i) First dusk emergence survey (14/07/21)

The survey was undertaken during optimal weather conditions with 20% cloud cover; a light breeze (BS1-2) and temperatures of 18°C at the survey start, dropping to 16°C at the end. Sunset was at 21:12. The survey commenced at 21:00 and ended at 22:30 when bat activity ceased.

A soprano pipistrelle was observed emerging from the porch at 21:31. A common pipistrelle bat was seen emerging from the north-west hip at 21:34.

With respect to commuting or foraging bats recorded during the survey the first registration was of a soprano pipistrelle (*Pipistrellus pygmaeus*) commuting along hedgerows at 21:22. Common (*P. pipistrellus*) activity was near constant from then until the end of the survey with some soprano pipistrelle registrations. A possible Nathusius' pipistrelle (*Pipistrellus nathusii*) was recorded to the east of site at 22:08, and a noctule (*Nyctalus noctula*) passed high overhead at 22:16.

ii) Second dusk emergence survey (13/09/21)

The survey was undertaken during optimal weather conditions with 50% cloud cover; a mild breeze (BS2-3) and temperatures of 16°C at the survey start, dropping to 14°C at the end. Sunset was at 19:15. The survey commenced at 19:00 and ended at 20:45 when bat activity ceased.

A soprano pipistrelle exited the dwelling from above the porch at 19:30 and a brown long-eared bat (*Plecotus auritus*) emerged from the north-west hip at 19:52, both confirmed via thermal scope footage.

With respect to species recording commuting or foraging the first registration was of a noctule, seen high above the site at 19:21. Common pipistrelle activity once again remained high throughout the survey, with frequent social calls. A second noctule was heard at 19:41 to the west of site.

4.3.4 *Nesting birds*

No nests or nesting behaviour were observed, though hedgerows enclosing the site may support Red Status passerines such as dunnock (*Prunella modularis*) and yellowhammer (*Emberiza citrinella*). The ruderal field is likely to support small mammals and may therefore be used as foraging habitat by raptors such as kestrel (*Falco tinnunculus*).

4.3.5



4.3.6 *S. 41 list habitats and species*

a) Habitats

The roadside sections of native hedgerow are too gappy and are not considered to constitute S. 41 habitats. The small number of fruit trees to the north of the dwelling are not considered to meet the qualifying criteria for an orchard habitat.

b) Species

The ruderal habitat provides foraging habitat for hedgehog which may also nest/seek refuge in the base of the hedgerows. The various wildflowers may provide food for 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 sites are provided in Table 4.3; values are based upon the criteria in Table A3.1 and expert best judgements.

Table 4.3 Feature value based on geographic context

| Feature | Value |
|--|-------|
| Ruderal, hedgerows, broad-leaved and coniferous trees, fruit trees, and shrubs | Local |
| Amphibians and reptiles | Local |
| Bats | Local |
| Nesting 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 developments, 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

Proposed works include the demolition of the existing dwelling and construction of a replacement two-storey dwelling with below-ground pool and gym complex and separate single-storey garage and two-storey barn to the west of site.

The proposed development will result in the destruction of bat roosts used by two common species, whilst any tree removal will result in the loss of potential bird nesting and song perch habitat. Clearance of ruderal vegetation and subsequent building works have the potential to impact small mammals such as hedgehog, whilst amphibians and potentially grass snake could become trapped in open excavations or seek refuge in rubble piles or spoil heaps.

Assessments and recommendations below are based on drawings provided by MS2 Architectural Consultants Ltd (Drawing Nos: 781-001 to 781-003) and information available at the time of writing and should be updated accordingly as the scheme is subsequently amended.

5.3 FURTHER SURVEYS REQUIRED

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.

No significant habitat manipulation, clearance, or change from current management regimes should occur prior to development commencing, other than as specified below, without advice from a suitably experienced ecologist.

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, ground-breaking and construction operations will result in the permanent loss of a large area of ruderal habitat along with two trees considered a negative effect at the local level.

b) Mitigation

Retained hedgerows, shrubs, and trees should be protected from damage with Heras (or similar) fencing during the construction phase.

c) Residual effects

The loss of a large area of wildflower flower-rich ruderal vegetation constitutes a minor residual effect and some requires compensation.

5.6 AMPHIBIANS AND REPTILES

a) Potential impacts

Ground-breaking and construction activities have the potential to result in the entrapment, injury and mortality of animals due to the presence of trenches (including caustic substances such as wet concrete) and building materials which animals may seek refuge within.

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. Such impacts could also result in permanent negative effects upon low numbers of individuals at the local level.

b) Mitigation

To avoid impacts upon amphibians, including potentially GCNs, good practice precautionary methods should be followed for the scheme, to include the following measures:

1. Areas of ruderal vegetation within and immediately adjacent to the works area should be maintained short prior to and during construction.
2. 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;
3. 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. Any

- animals (except for GCN) present should be moved to retained hedgerows and/or other boundary habitats providing adequate cover;
4. 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;
 5. 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;
 6. Any excess concrete should be poured into a concrete skip, so it can then set to prevent animals coming into contact.
 7. All building materials and waste materials should be stored on hardstanding or stored off the ground on pallets to reduce risk of animals seeking refuge; and
 8. Should any GCNs (Appendix A4) 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. The poster in Appendix A4 should be erected in the welfare facilities provided for construction staff onsite.

Surface water drainage can significantly impact amphibian populations by trapping animals which fall into gully pots. Therefore, gully pots should be avoided where possible and permeable paving should be used whereby amphibians cannot become trapped in silt traps or attenuation crates.

Should any gully pots be used they should use small diameter (6mm) grates where possible or discharge via pipes without silt traps straight into a ditch or SuDS attenuation basin/pond They should also be positioned ≥ 100 mm from the roadside; OR a wildlife-kerb⁵ must be installed adjacent to each gully pot; AND a gully pot ladder⁶ placed into each gully pot.

Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen⁷ to prevent amphibians entering drains.

c) Residual effects

With mitigation measures proposed, no significant effects are anticipated during either the construction or operational phases.

5.7

BATS

a) Potential impacts

i) Roosting bats

Demolition of the dwelling will result in the destruction of day roosts for soprano pipistrelle and brown long-eared bat.

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 considered a potential significant effect at the local level.

⁵ e.g. <https://www.aco.co.uk/products/wildlife-kerb>

⁶ <https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder>

⁷ <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

Lighting impacts relate to security lighting external to the buildings, and potentially from light spillage resulting from internal lighting once the buildings are in use. In this instance, impacts on the pond and woodland above are most important.

iii) Commuting and foraging habitat

The removal of a large area of wildflower-rich ruderal habitat is considered a significant loss in terms of site foraging potential.

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 scale.

In combination, the above impacts have the potential to result in a significant effect upon the conservation status of bats at a local level.

b) Mitigation

i) Roosting bats

To ensure offences are avoided, works will need to proceed under the Bat Mitigation Class Licence (BMCL) CL21. A licensed bat ecologist will be required to brief the demolition contractors prior to supervising the demolition of the existing dwelling. The roof void should be inspected for the presence of bats prior to the removal of roof tiles and lifting of lead flashing around chimneys by hand. Any bats encountered will be moved to holding boxes erected on trees and to be retained for a minimum of 5 years as a condition of the BMCL.

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^{8,9}:

- *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 mature broadleaved trees and hedgerows. 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'.

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

⁹ www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

iii) Commuting and foraging habitat.
As per Section 5.5

iv) Roofing membranes

The new dwellings should use bat friendly roofing felt (e.g. Type 1F) if handmade clay pantile or plain tiles are to be used and behind weather-boarding. If tight fitting tiles (e.g. interlocking pantiles or machine-made plain tiles) or slates or concrete weather-boarding are used, BRM can be used if gaps are less than 5mm, to ensure bats cannot come into contact with the BRM.

c) Residual effects

Destruction of the roost constitutes a significant residual effect and will require compensation.

5.8

NESTING BIRDS

a) Potential impacts

Removal of the dwelling and extension will result in the loss of potential nesting sites for common garden species. Building works/demolition during the breeding season (March to August inclusive) could result in the destruction of nest, eggs and or young.

The proposed dwelling and single-storey storage barn offer enhancement opportunities for nesting birds whilst the open-fronted cart lodge provides nesting opportunities for swallow (*Hirundo rustica*) in particular.

b) Mitigation

Commencement of the building works and vegetation clearance 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 effects

No significant effects anticipated.

5.9

OTHER S. 41 LIST HABITATS AND SPECIES

a) Potential impacts

Construction works could accidentally damage adjacent retained habitats representing foraging habitat for hedgehogs. 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 wet 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.

Combined, the above impacts would result in negative effects upon local individuals.

b) Mitigation

Site clearance should always consider the potential presence of hedgehogs with vigilance, with no clearance of dense vegetation undertaken when temperatures are regularly below 6°C. Animals encountered at other times should be allowed to move or moved to suitable cover, e.g. base of 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 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 highway¹⁰ should be provided at either end of the fencing run with signage.¹¹

c) Residual effects

Direct impacts upon hedgehog will be avoided, though the decline in local foraging potential remains a significant residual impact.

5.10

COMPENSATION

Significant negative residual effects upon habitats and species requiring compensation relate to the loss of bat roosting habitat (i.e., destruction of the dwelling) as well as the loss of areas of ruderal vegetation, with the associated impacts on amphibians, reptiles, birds, hedgehogs and invertebrates.

To compensate for the loss of the bat roost, the likely compensation will be:

- 3x woodstone/woodcrete roost boxes (see Appendix A5) erected on or incorporated into the walls of the new dwelling or storage barn (on the 1 each on the east, west and south elevations); and
- Three wooden bat boxes (2 Kent bat boxes and 1 Vincent Pro box) on suitable mature trees in the garden.

Full details of any compensation required will be agreed with Natural England as part of a bat licence application.

To compensate for the loss of foraging habitat suitable for a range of species, garden and/or ornamental planting must use native, nectar-rich species. Any lawn to be sown must use a low-level flowering lawn seed¹² mix or turf¹³ to benefit pollinators and foraging amphibians and mammals.

5.11

CUMULATIVE EFFECTS

The West Suffolk Council website was searched on the 4th November 2021 for planning applications within 1km dating back 2 years. Refused and withdrawn applications were not considered.

The search returned a relatively small number of applications for extensions/alterations to existing dwellings. Given the scale and type of the applications identified, no significant cumulative effects are considered likely.

¹⁰ <https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>

¹¹ <https://ptes.org/shop/just-in/hedgehog-highway/>

¹² <https://wildseed.co.uk/mixtures/view/56/flowering-lawn-mixture>

¹³ <https://www.wildflowerlawnsandmeadows.com/wild-flower-turf/extra-floristic-low-flowering-lawn-turf-with-wild-orchid-seed/>

5.12

ENHANCEMENT OPPORTUNITIES

Table 5.1 details a number of suggested enhancement measures which could be implemented to maximise biodiversity gains. A minimum of 3 of the 5 options should be implemented.

Table 5.1 Enhancement opportunities

| Feature | Enhancement suggestion |
|-----------------------------------|---|
| Native hedgerows | <p>1. A native species rich hedgerow should be planted along the northern site boundary using a minimum of 8 species.</p> <p>Native species that do not 'shed' or hold their leaves into winter, creating a year-round dense screen, whilst providing an important habitat for garden birds, small mammals, invertebrates and amphibians include:</p> <ul style="list-style-type: none"> • Beech (<i>Fagus sylvatica</i>); • Hornbeam (<i>Carpinus betulus</i>); • Holly (<i>Ilex aquifolium</i>); and • Wild privet (<i>Ligustrum vulgare</i>) <p>The following species should also be considered to provide autumn berries and fruits for wildlife whilst providing autumn colour:</p> <ul style="list-style-type: none"> • Common dogwood (<i>Cornus sanguinea</i>); • Field maple; • Cherry plum (<i>Prunus cerasifera</i>); • Hawthorn; • Spindle (<i>Euonymus europaeus</i>); • Hazel (<i>Corylus avellana</i>); • Dog rose (<i>Rosa canina</i>); and • Crab apple (<i>Malus sylvestris</i>). |
| Ornamental planting | <p>2. Any ornamental planting should utilise nectar rich plants for the benefit of pollinators and associated predators (e.g., foraging bats and hedgehogs).</p> <p>Planting should include nectar rich climbers such as traveller's joy (<i>Clematis vitalba</i>) and honeysuckle (<i>Lonicera periclymenum</i>), which could be planted at 5ft intervals along existing and proposed hedgerows or trained up fences, posts, or trellises.</p> |
| Birds | <p>3. Three nest boxes (Appendix A6) could be mounted either on suitable planted trees or, in the case of house martin and starling nests, erected on the east elevation of the new barn.</p> |
| Bats | <p>4. Two multi-chamber (Appendix A5) or colony boxes could be mounted on the northwest elevation of the new dwelling for use as hibernation roosts.</p> |
| Wildlife friendly composting area | <p>5. A composting area (Appendix A7) could be created to provide a supply of sustainable organic fertiliser, at the same time creating a vital refuge for a variety of</p> |

| | |
|--|--|
| | <p>invertebrates, amphibians (e.g. common frog and common toad) and possibly reptiles (e.g. slow-worm and grass snake).</p> <p>Composting areas are also likely to attract foraging birds (by day) and hedgehogs (at night).</p> |
|--|--|

Peat based composts will not be used for any planting or landscaping in order to preserve existing carbon stores and avoid damage to sensitive habitats.

5.13

CONCLUSIONS

With the avoidance, mitigation and compensation measures suggested, the scheme will minimise biodiversity impacts and provide some enhancements.

Measures proposed should be secured through appropriate planning conditions as per the British Standard (BS 42020:20131). These could include conditions specific to breeding birds (e.g., D.3.2.1), bats (D.3.5 and D.3.6), and a Biodiversity Method Statement (e.g., BS 42020:2013 D.2.1) or equivalent document used to detail mitigation, compensation and enhancement implementation and associated monitoring.

Works must proceed under the Bat Mitigation Class Licence to ensure wildlife offences are avoided.

6 References

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CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

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Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341.

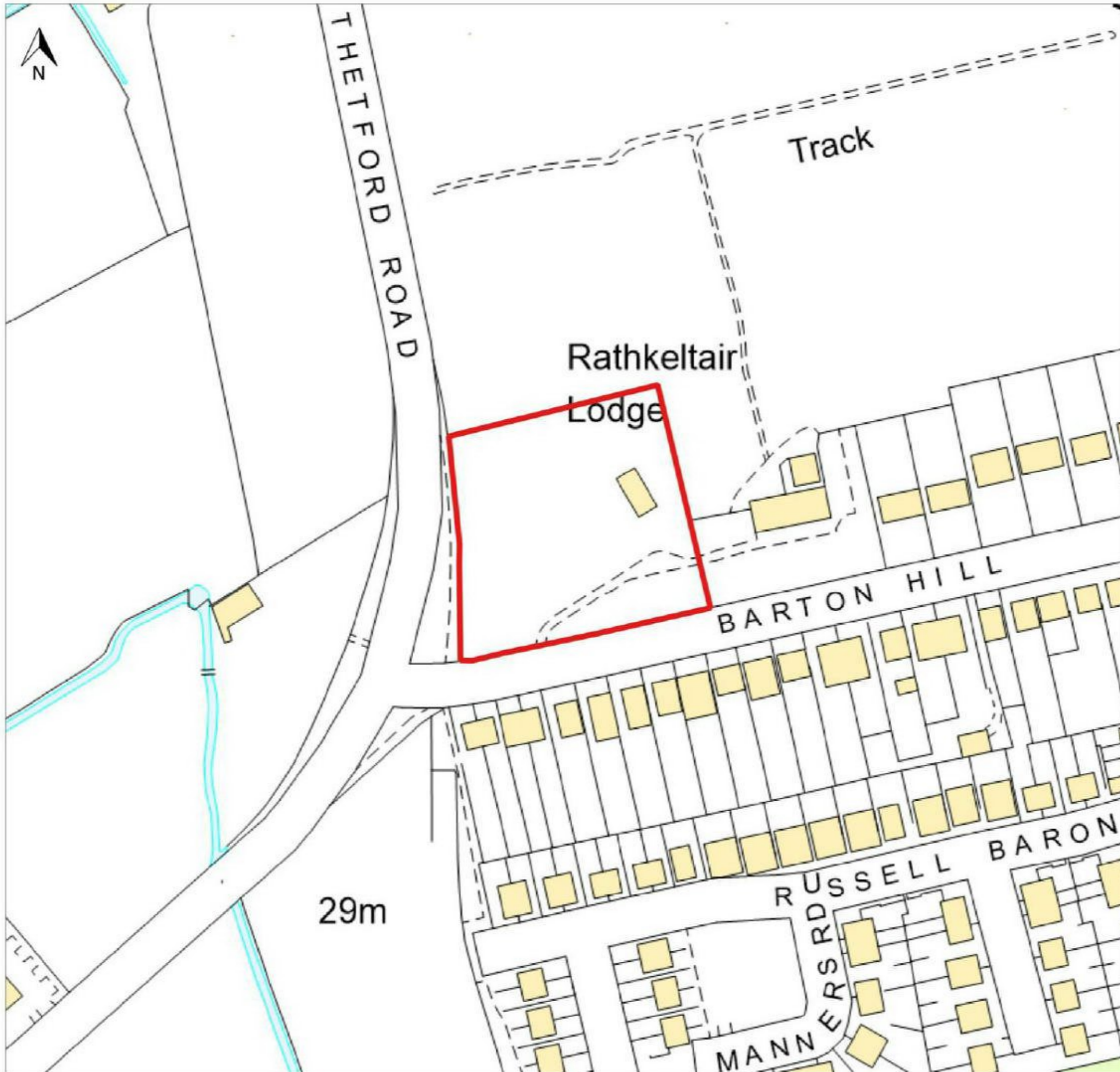
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Muir, D. (2012), Amphibians in drains project report summary. *Biodiversity News*, 59, 16-18.


Scottish Badgers (2018) Surveying for Badgers: Good Practice Guidelines. Version 1.

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Figures



Legend

 Site boundary

Client: Mr J. Hall





Project: Rathkeltair Lodge, Barton Hill, Fornham St Martin, Suffolk

| | | |
|--------|----------|--------------------------|
| Drawn: | Date: | Drawing Ref: |
| CW | 09/11/21 | RATHKELTAIRLODGE/ECO/001 |

Figure 1 Site location plan



Legend





-  Surveyor
-  Thermal scope
-  Soprano pipistrelle emergence
-  Common pipistrelle emergence

| | | |
|---|----------|--------------------------|
| Client: Mr J. Hall | | |
| Project: Rathkeltair Lodge, Barton Hill, Fornham St Martin, Suffolk | | |
| Drawn: | Date: | Drawing Ref: |
| CW | 09/11/21 | RATHKELTAIRLODGE/ECO/001 |

Figure 2 Bat emergence survey 1 (14 July 21)



Legend

-  Surveyor
-  Thermal scope
-  Soprano pipistrelle emergence
-  Brown long-eared emergence

| | | |
|---|----------|--------------------------|
| Client: Mr J. Hall | | |
| Project: Rathkeltair Lodge, Barton Hill, Fornham St Martin, Suffolk | | |
| Drawn: | Date: | Drawing Ref: |
| CW | 09/11/21 | RATHKELTAIRLODGE/ECO/003 |

Figure 3 Bat emergence survey 2 (13 September 21)

Appendices

Appendix A1 Photos



Photo 1 Southwest elevation of Rathkeltair Lodge



Photo 2 Northwest and northeast elevations of dwelling



Photo 3 Southeast elevation of dwelling



Photo 4 Existing driveway from site entrance to east of dwelling



Photo 5 Unmanaged former gardens with ruderal plant species and line of mature trees



Photo 6 View northwest across unmanaged field



Photo 7 Tree to be felled

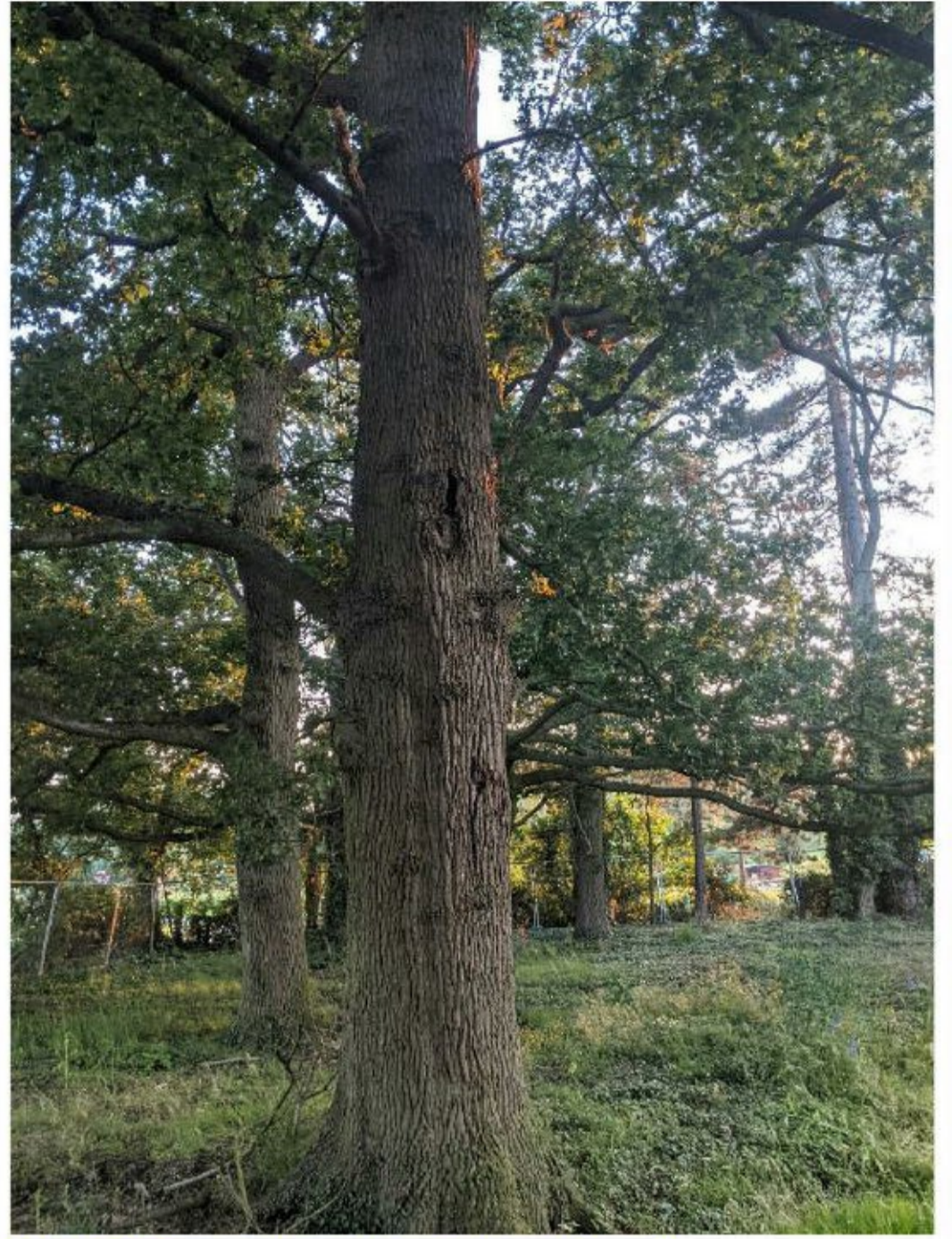


Photo 8 Tree with cavity – to be retained

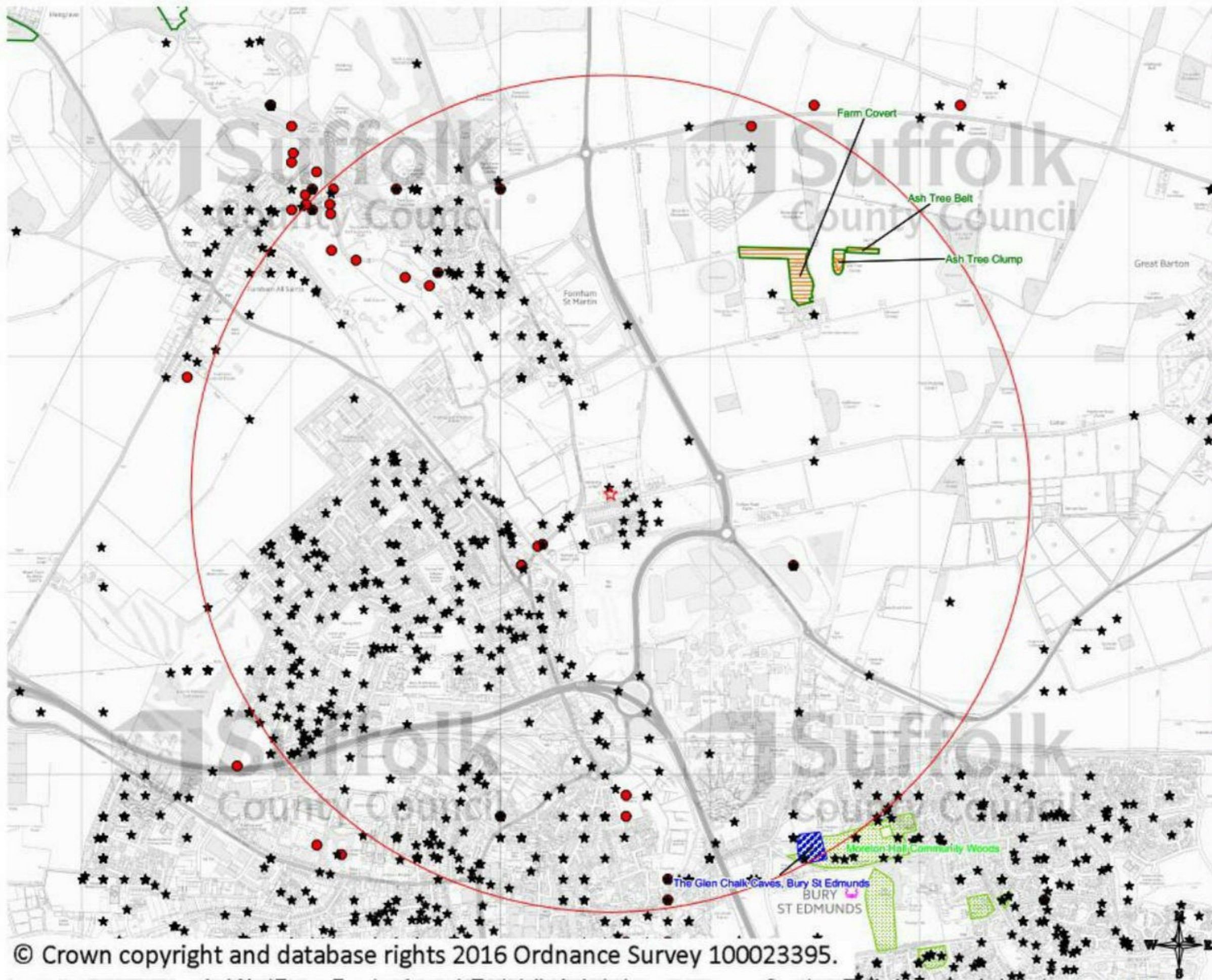


Photo 9 Roof void of Rathkeltair Lodge



Photo 10 Likely long-eared droppings

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)

Schedule 9 Species

- Record Locations (for grids of 6 fig. or greater)

Ancient/Veteran/Notable Trees

-

Roadside Nature Reserve

-

County Wildlife Sites

-

County GeoSites

-

RIGS

-

SSSI

-

LNR

-

SPA

-

SAC

-

RAMSAR

-

NNR

-

SWT Reserve

-

Ancient Woodland Inventory

-

AONB

- Suffolk Coast and Heaths or Dedham Vale

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Scale report: 1:18000



Suffolk Biodiversity Information Service
Date: 21.12.2016 | Drawn by: Ben Heather

MHE Consulting (Barton Hill, Fornham TL8552566343) 2 Km Data Enquiry

Appendix A3 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. • A sustainable population of a 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 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



Appendix A5 Bat boxes

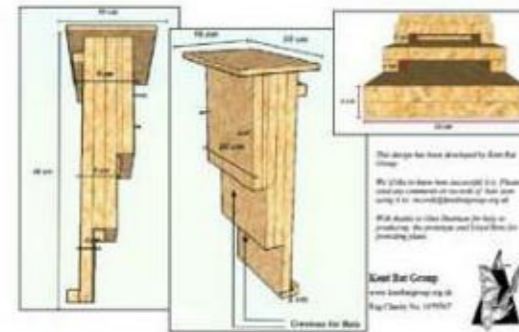
The Kent bat box

Simple to construct, self-cleaning and low maintenance.

The only critical measurement is the width of the crevices—these should be no larger than suggested. Other measurements are approximate.

Materials and construction
Box to be made from untreated rough-sawn timbers. Timber should be c.20mm thick. The box should be rafterproof and draught-free. Crevices can be between 25 and 28 mm wide. Fixing may be by use of brackets, durable bonds or wires.

Location
Boxes are best fixed as high as possible in a sheltered wind-free position, exposed to the sun for part of the day. They can be fitted to walls, other flat surfaces or trees. A clear flight line to the entrance is important.



Kent bat box

habibat.co.uk/category/bat-boxes/habibat-unfaced-bat-box

UK Grid Reference... National Biodiversit... Bing Maps... Santander Online... Microsoft Office Ho... Jacobs Engineering... Worldwide sunrise...

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Habibat Unfaced Bat box

- Other Options -

Plinth Colour Options: Red, Blue or Buff
Dimensions: 215 mm wide x 440 mm high x 102 mm deep
Material: Concrete plus plain facing (for rendering over)
Weight: approximately 7 kg

The Habibat Bat Box is a large, solid box made of insulating concrete which provides an internal roost space, and can be seamlessly integrated into the fabric of a building as it is built or renovated. Suitable for most species commonly found in the UK, this single chambered unit features an integrated V system to increase the surface for bats to roost against, whilst allowing them to move around.

The Habibat Bat Box can be faced with a number of products to suit the design build. This includes, brick, block, stone, wood or a rendered finish, ensuring the box is unobtrusive and aesthetically pleasing. There are a choice of 3 plinth colours available: smooth blue, smooth red, or buff.

BIM
BIM versions of the Habibat 001 Bat Box are available for download, to request these please [contact us](#).



Vincent Pro bat box

Gridford - Google Maps | maximising the biodiversity | Meadow mixtures for differ... | EM7 - Meadow Mixture for | 1FF Schwegler Bat Box With | Schwegler 1FF Bat Box - The |

nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel

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Schwegler 1FF

Appendix A6 Bird boxes



RSPB Robin and wren diamond nestbox

Product Code: R401640

£ 13.99

★★★★☆ [Read all reviews](#)

Best-selling, diamond shaped, open-fronted nest box attractive to robins, wrens, pied wagtails and spotted flycatcher.

Beautifully made from FSC timber, roof treated with safe, non-toxic, water-based preservative. UK made.

[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 5th January 2021 and is subject to availability
- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer

RSPB Sparrow terrace nest box

Product Code: R407816

Qty

£ 29.99



[Product Information](#) [Product details](#) [Ratings & Reviews](#)

PROMOTIONAL NEST BOXES!

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- Offer ends 5th January 2020 and is subject to availability
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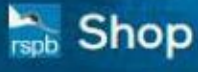


In Stock

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Bird food

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Bird care > Bird houses & nest boxes > Garden bird nest boxes > Apex starling nestbox

Print

Apex starling nestbox

Product Code: R405836

Qty

£ 23.99



In Stock

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- Offer ends 5th January 2020 and is subject to availability
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- Not available in conjunction with any other offer



Appendix A7 Wildlife friendly composting area

How to build a wildlife friendly compost heap...

NB Commercially available alternatives could be installed e.g. <https://www.griggsagri.co.uk/hutton-compost-bin-230-litre.html>

- 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.



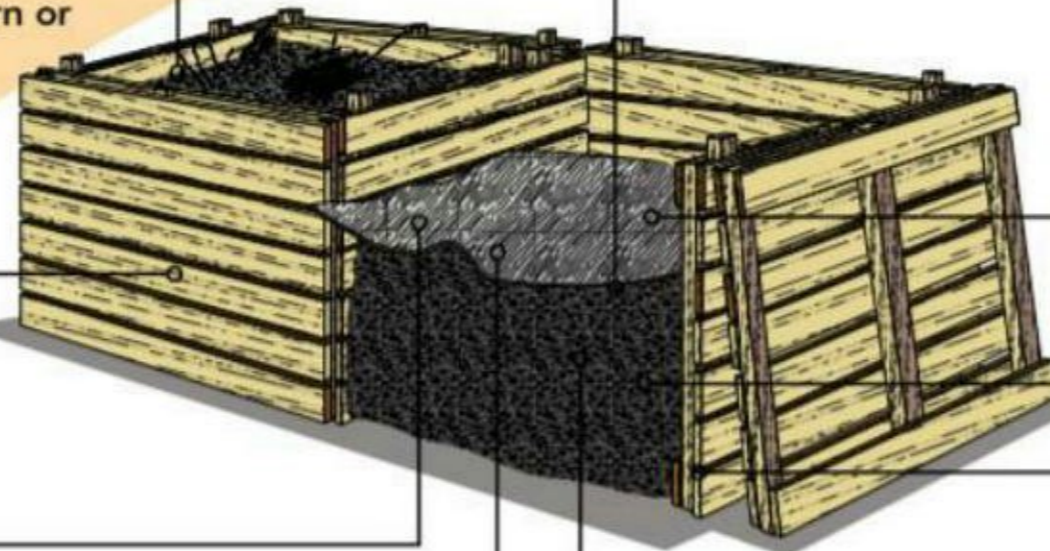
Snail - will feed on the compost and provide food for many different birds.



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



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.

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.