

Proposed residential restoration of the west wing of Oak Tree Farmhouse, Kenton, Suffolk



Ecological Survey Report – October 2023

MHE Consulting Ltd

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Executive Summary

MHE Consulting Ltd was instructed to undertake an ecological survey of a derelict wing of the 16th century Grade II Listed Oak Tree farmhouse at Oak Tree Farm, Kenton, Suffolk where it is proposed to renovate the derelict west wing into a separate dwelling to the farmhouse. The proposed layout includes the demolition of an existing garage to allow the construction of a cart lodge.

Areas of bare ground, hard standing and gardens are adjacent to the derelict wing of the farmhouse.

Two ponds P1 and P2 exist with 30m of the farmhouse. Both ponds are covered with common duckweed (*Lemna minor*) and in generally unfavourable condition for amphibians though low numbers may be supported. Riparian and other terrestrial habitat provides refuge, dispersal, and foraging opportunities for amphibians. The habitats adjacent to the farmhouse and garage are unsuitable for reptiles and no suitable habitat is present in the surrounding landscape, though occasional grass snake (*Natrix helvetica*) may pass through.

Bat emergence and dawn swarming surveys confirmed the presence of common pipistrelle (*Pipistrellus pipistrellus*) day roosts in the derelict wing with a maximum of 2 bats seen, whilst a brown long-eared (*Plecotus auritus*) was also seen flying inside the building towards the end of the third activity survey in June 2023.

Nesting birds were not recorded, though small passerines could nest within the derelict building and wren (*Troglodytes troglodytes*) were recorded entering the building to roost and may also nest.

Habitats on site provide adjacent to the farmhouse and garage offer foraging opportunities for hedgehog (*Erinaceus europaeus*).

Mitigation recommendations are provided with the aim of avoiding/minimising impacts upon species and/or their habitats. Biodiversity enhancement measures are proposed.

With the mitigation, compensatory habitat, and enhancement measures included, the proposed development is considered consistent with the relevant planning and wildlife guidance and legislation.

Introduction

1.1

Brief

MHE Consulting Ltd was instructed to undertake an ecological survey of the Grade II Listed farmhouse at Oak Tree Farm, Kenton, Suffolk (TM 19292 64647; Figure 1). Part of the farmhouse is in a poor condition and is listed on the Buildings at Risk Register and a planning application is to be submitted to restore the derelict western wing into a separate dwelling with detached cart lodge and landscaping.

Planning approval was granted in October 2020 (Ref: DC/20/03264). As the permission is due to lapse a new application is to be submitted.

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; and
- Make recommendations for mitigation (if required) as well as biodiversity enhancement opportunities.

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

1.2

Site location and description

The proposed development site (Figure 1) comprises a timber framed derelict western wing of the Grade II listed Oak Tree farmhouse (Photos 1 and 2). Areas of hard standing and lawn habitat surround the building with two ponds with riparian vegetation (Photos 3 and 4).

Photos referred to within this report are provided within 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

2.2.1

Planning policy

National Planning Policy Framework (NPPF)

The current National Planning Policy Framework (NPPF) was published on the 24 July 2018, superseding previous guidance (National Planning Policy Framework, 2012). 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 within which locally-prepared plans for housing and other development can be produced.

Planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

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/728643/Revised_NPPF_2018.pdf. Policies of particular relevance to development and biodiversity include 170, 175, 176 and 177.

170. 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.

175. 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 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 incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

176. 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 Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

177. The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

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 Mid Suffolk District can be found at <https://www.midsuffolk.gov.uk/planning/planning-policy/adopted-documents/mid-suffolk-district-council/>.

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 which fall under the protection of this legislation 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 (*Fallopia 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.

2.3.3

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 Sites of Special Scientific Interest (SSSI) 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’ (Special Protection Areas, SPAs, and Special Areas of Conservation, SACs), the protection of ‘European Protected Species’ (“EPS”), and the adaptation of planning and other controls for the protection of European Sites.

They have recently 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

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](https://www.legislation.gov.uk).

3

Survey methodology

3.1

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 were used to identify habitat types and suitability for particular protected/notable species/groups; and the Multi-Agency Geographic Information Centre (magic.defra.gov.uk) website was used to determine the presence of designated sites on or close to the site;
- Ordnance Survey maps were used to identify habitat types and suitability for particular species/groups; and
- Historical biological records (within 2km) for protected species and sites were provided by the Suffolk Biodiversity Information Service (SBIS).

From this exercise, it was concluded that the following legally protected species/groups may be using the site and/or land immediately adjacent to it:

- Amphibians including great crested newt (GCN) (*Triturus cristatus*)¹ and reptiles such as grass snake (*Natrix helvetica*)²;
- Mammals including bats¹;
- Breeding birds³ including Amber and Red Status⁴ species; and
- S. 41 list⁵ species such as hedgehog (*Erinaceus europaeus*) as well as butterflies and moths (Lepidoptera).

In the context of the ‘zone of influence’ of the scheme it is considered restricted to habitats and species on and within 100m of the site boundary.

3.2

Field survey

A site walkover was undertaken (27/05/2020) with a repeat inspection on the 01/06/2023 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 Schedule 9 plants. Photos are provided in Appendix A1.

3.2.1

Habitats and vascular plants

The site was walked with all distinct vegetation types and habitats as per the Phase 1 habitat survey methodology (JNCC, 2010) identified, and care taken to record as many species as possible.

3.2.2

Amphibians and reptiles

a) Amphibians

Two ponds P1 and P2 (Photos 3 and 4, Figure 2) are present within 100m of the west wing of the farmhouse proposed for renovation. These ponds were originally

¹ Great crested newts and all species of bats receive full protection under the WCA 1981 and Habitat Regulations 2017

² Widespread reptiles and amphibians receive partial protection under the WCA 1981.

³ All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

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

⁵ S. 41 of the NERC Act 2006 lists ‘habitats and species which are of principal importance for the conservation of biodiversity in England’

assessed in 2018 as part of surveys for a proposed residential conversion of the adjacent Oak Tree Farm Barn⁶ granted planning approval . Aquatic, emergent and bankside vegetation was surveyed where present and pond characteristics recorded for calculation of the Habitat Suitability Index (Oldham *et al.* 2000).

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

Ponds P1 and P2 were both torched in 2019 (07/05/19) after a bat emergence survey of the adjacent Oak Tree Farm Barn. Both ponds were also torched after the 1st emergence survey of the Oak Tree Farmhouse west wing (27/05/20) to assess if their conditions had changed.

b) Reptiles

Terrestrial habitat on and immediately adjacent to the application site was assessed with regards to the known habitat preferences of the widespread British reptile species.

3.2.3

Bats

a) Preliminary Roost Assessment (PRA)

Buildings present on the proposed development site were assessed with regards to their suitability for supporting roosting bats with reference to the Natural England Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016).

b) Trees

Existing trees were visually checked to assess their suitability for use by roosting bats using the following criteria:

1. All potential roosting cavities (e.g. natural cavities, rot holes, woodpecker holes, splits, peeling bark) were inspected from the ground using binoculars;
2. All potential niches would be assigned a category according to Bat Conservation Trust (BCT) protocols (Collins, 2016). These categories are listed below:
 - *High Suitability*: Trees with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat;
 - *Moderate Suitability*: Trees with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation;
 - *Low Suitability*: A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very

⁶ MHE Consulting (2019) Proposed Barn Conversion Oak Tree Farm, Kenton, Suffolk, Ecological Survey Report April 2019

limited roosting potential. However, the tree(s) are of a size and age that elevated surveys may result in features being found; or features which may have limited potential to support bats; and

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

c) Foraging/commuting habitat

Consideration was given to the value of foraging and/or commuting habitat to bats, such as linear vegetation structure (hedgerows) and ponds and these were assessed with reference to the BCT guidance (Collins, 2016).

d) Emergence surveys

Emergence and dawn surveys were undertaken on the 27 May 2020 and 19 June 2020 respectively following BCT Good Practice guidelines (Collins, 2016) as follows:

1. 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;
2. Dawn surveys commenced 2 hours prior to sunrise and ended when bat activity ceased;
3. 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; and
4. Numbers and species of bats were recorded to determine the significance (e.g. maternity roost, non-breeding roost, night roost or night/feeding perch) of any roosts identified.

3.2.4

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.

3.2.5

S.41 list habitats and species

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

3.2.6

Non-native invasive plant species

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

3.3

Survey constraints

Given the nature and context of the site, the timing of the survey visit was considered appropriate for this report.

3.4

Surveyors

Christian Whiting BSc (Hons) MSc MCIEEM MEECW has over 20 years' experience working as an ecologist and holds NE survey licences for bats (2015-14745-CLS-CLS - Bat Survey Level 2), and great crested newts (Class A licence 2015-17633-CLS-CLS). He is a Registered Consultant (Registration RC089) on the NE Bat Mitigation Class Licence (BMCL). He also holds a NE water vole Developers Class Licence CL31 (Intentional disturbance of water voles and damage/destruction of water vole burrows by means of 'Displacement') and is registered on the Environment Agency's (EA) and Water Management Alliance (Internal Drainage Board, IDB) water vole class licences respectively. His main areas of expertise are bats, vascular plants, amphibians and reptiles, otter, and water vole.

The emergence surveys were undertaken by 3 ecologists, 1 of which Christian Whiting holds a Level 2 survey licence.

3.5

Assessment

Impacts upon habitats and species have been assessed with reference to the CIEEM guidelines for Ecological Impact Assessment (2016).

The assessment includes potential impacts upon habitats and species during the construction and operational phases of the scheme. It considers direct and indirect, secondary and cumulative impacts and whether the impacts and their effects are short, medium long-term, permanent, temporary, reversible, irreversible, positive and/or negative.

Baseline conditions are based on the observations of this survey. Levels of significance and geographical contexts used have been defined according to best judgement and the criteria in Appendix A3. Where further surveys are deemed necessary this is addressed in Section 5.3.

4

Results

4.1

Brief

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

4.2

Baseline ecological conditions - desk study

4.2.1

Designated sites

Locally designated sites within 2km (Appendix A2) of the application site respectively are listed in Table 4.1. No SSSIs or other statutory designated sites are located within 2km of the application site, whilst SSSIs located within 5km would not be impacted by the proposed residential conversion.

Table 4.1 Locally designated sites

Site name and designation(s)
Aspall Wood CWS (Mid Suffolk 4)*
Debenham Meadow CWS (Mid Suffolk 51)
John Read's Meadow CWS (Mid Suffolk 2)
Page's Wood CWS (Mid Suffolk 3)

*listed on the Ancient Woodlands Inventory

Aspall Wood County Wildlife Site (CWS) is an isolated ancient woodland with medieval woodbanks along two boundaries. The woodland consists of ash (*Fraxinus excelsior*) and hazel (*Corylus avellana*) coppice with smaller areas of ash and hornbeam (*Carpinus betulus*) coppice and a small area of elm (*Ulmus sp.*). A few large ash, oak (*Quercus sp.*) and field maple (*Acer campestre*) trees are present. Ground flora is species poor being dominated by dog's mercury (*Mercurialis perennis*) with bramble (*Rubus fruticosus agg.*) and common nettle (*Urtica dioica*) though a wet area supports meadowsweet (*Filipendula ulmaria*).

Debenham Meadow CWS is a small ancient, unimproved and species rich meadow with green winged orchid (*Anacamptis morio*), yellow oat grass (*Trisetum flavescens*), and adder's tongue fern (*Ophioglossum reticulatum*) among other species.

John Read's Meadow CWS is a small mosaic of habitats on a brownfield site, with scrub, ponds, woodland and open grassland. The grassland is species rich with southern marsh orchid (*Dactylorhiza praetermissa*), water mint (*Mentha citrata*), adder's tongue fern and other species. Structurally the habitat is diverse with a gradient of grassland into shrub into woodland with undulating land.

Page's Wood CWS is an ancient medieval woodland by age and character, though is not listed on the Ancient Woodland Inventory possibly due to its small size. The wood is bordered by a mixed species hedgerow and ditch with the woodland itself comprised of a coppice layer of ash and field maple coppice with standards of oak and ash. Hazel is dominant in the understorey, while ground flora is relatively diverse for the small size of the site. Dog's mercury is abundant with twayblade

(*Neottia ovata*), common spotted orchid (*Dactylorhiza fuchsii*), early purple orchid (*Orchis mascula*), and herb Paris (*Paris quadrifolia*) present.

None of the above CWS have footpaths running through them, and the addition of a single residential dwelling to the local area would be considered to have a *Negligible* effect on the disturbance of these sites.

The application site falls within a SSSI Impact Risk Zone (E.G. Mickfield Meadows SSSI and Fox Fritillary Meadow, Framsden SSSI) though the proposed scheme does not meet any of the listed risk criteria.

4.2.2

Species

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

Table 4.2 Protected/notable species within 250m and 2km of the application site.

Scientific name	Common name	Legal/conservation status	<250m of site
Amphibians			
<i>Triturus cristatus</i>	GCN	EPS; Sch. 5; S. 41	-
Birds			
<i>Alauda arvensis</i>	Skylark	Red status; S. 41	-
<i>Alcedo atthis</i>	Kingfisher	Amber status; Sch. 1	-
<i>Apus apus</i>	Swift	Amber status	-
<i>Delichon urbicum</i>	House martin	Amber status	-
<i>Emberiza citrinella</i>	Yellowhammer	Red status; S. 41	-
<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>Streptopelia turtur</i>	Turtle dove	Red status; S. 41	-
<i>Sturnus vulgaris</i>	Starling	Red status	-
<i>Turdus philomelos</i>	Song thrush	Red status	-
<i>T. pilaris</i>	Fieldfare	Red status; Sch. 1	--
<i>Tyto alba</i>	Barn owl	Sch. 1	Yes
<i>Vanellus vanellus</i>	Lapwing	Red status; S. 41	-
Mammals - bats			
<i>Nyctalus noctula</i>	Noctule	EPS; Sch. 5; S. 41	-
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS; Sch. 5	-
<i>P. pygmaeus</i>	Soprano pipistrelle	EPS; Sch. 5; S. 41	-
Mammals - other			
<i>Arvicola amphibius</i>	Water vole	Sch. 5; S. 41	Yes
<i>Erinaceus europaeus</i>	Hedgehog	S. 41	-
<i>Lepus europaeus</i>	Brown hare	S. 41	-

Scientific name	Common name	Legal/conservation status	<250m of site
<i>Micromys minutus</i>	Harvest mouse	S. 41	-
Invertebrates			
<i>Coenonympha pamphilus</i>	Small heath	S. 41	-
<i>Lucanus cervus</i>	Stag beetle	Sch. 5; S. 41	-
Vascular plants			
<i>Scandix pecten-veneris</i>	Shepherd's-needle	S. 41	-

4.3

4.3.1

Baseline ecological conditions – field survey

Habitats and vascular plants

Descriptions of the habitats and the characteristic plants species present are provided below.

a) Built environment

The application site comprises a Grade II listed timber framed farmhouse which is in a poor state of repair with areas of hard standing to the north and lawn to the west and south. An area of ruderal vegetation exists around the walls with extensive ivy growth on the walls.

b) Ponds

Two ponds P1 and P2 are present on site (Photos 5 and 6, Figure 2).

2020 description: Pond P1 is a large but shallow pond heavily covered with duckweed (*Lemna minor*) and shaded by mature trees including English oak (*Quercus robur*), willow (*Salix* sp.), hawthorn (*Crataegus monogyna*), ash, blackthorn (*Prunus spinosa*) and English elm (*Ulmus minor*). Ground flora comprises a mix of grasses, herbs and ruderal species. Some common reed forms a zone of emergent vegetation to the north-east but otherwise the pond is generally lacking in macrophytes and emergent vegetation. The water is extremely turbid.

2023 description: The pond has been cleaned out since the previous surveys by the new owners of the adjacent barn. It now holds water all year round and some macrophytes have established. Unfortunately, some goldfish were visible which were introduced by the new owners.

Pond P2 (Photo 6) comprises a shallow, heavily shaded section to the south which was mostly dry at the time of the survey leading to a broader deeper pond to the north end adjacent to the barn. This too is heavily covered in duckweed with little in the way of emergent vegetation beside some patches of common reed around the north bank. Field maple, ash, blackthorn, hawthorn, English oak, weeping willow (*Salix babylonica*), sallow (*Salix* sp.), rowan (*Sorbus aucuparia*) and English elm. A scrub layer of elder (*Sambucus nigra*) and bramble is present with ground flora comprising a mix of grasses, herbs and ruderal species.

2023 description: The moat P2 is in the same condition as previously.

4.3.2

Amphibians and reptiles

a) Amphibians

The suitability of ponds P1 and P2 for GCNs was assessed using the GCN HSI assessment methodology. Pond P1 scored 0.508 = *Below Average Suitability* and pond P2 scored 0.693 = *Good Suitability* in 2018.

Both ponds were visually inspected prior to a 2nd bat emergence survey (07/05/19) of the adjacent Oak Tree Farm Barn and both ponds were torched to inspect for GCNs and other amphibians. Pond P1 was completely devoid of life with some sewage fungus evident at the northern end indicating organic enrichment and it is likely the pond dried in 2019 following a second consecutive drought. In 2020 the pond was in a similar condition with reduced water levels and no amphibians were noted.

Pond P2 held water but was reduced in coverage compared to when it was assessed in 2018. Duckweed covered some of the pond surface and where open water existed and the turbidity of the pond indicated significant enrichment from organic pollution, waterfowl faeces and/or fish. Torching of pond P2 following the bat survey in 2019 recorded no amphibians including no GCNs around the pond margins amongst emergent vegetation where you would normally find males displaying and female GCNs laying eggs.

Further torching of the ponds in 2020 after the emergence survey recorded no GCNs.

Based on the condition of these ponds it is considered unlikely that pond P1 will support an amphibian population at present though with higher maintained water levels and management, e.g. selective felling of some large trees along the southern and part of the western bank edge would reduce leaf litter and silting up of the pond. Pond P2 has potential to support a population of amphibians.

Newts lay eggs on macrophytes or submerged terrestrial plants where they can fold the leaves over to hide the eggs. Pond P2 is lacking in suitable egg laying plants like water mint (*Mentha aquatica*) and water forget-me-not (*Myosotis scorpioides*), but newts will lay eggs on leaf litter.

Habitat immediately surrounding these ponds offer suitable refuge habitat in the form of wooded areas and scrub, while the lawn areas in the gardens of the farmhouse provide foraging habitat.

Building rubble, stacked timber, brick plinths and brick piles provide suitable refuge and overwintering hibernacula for amphibians. The broader landscape however is predominantly arable farmland which is of no value except possibly for common toad (*Bufo bufo*), though animals may disperse to other nearby ponds by field margin hedgerows.

b) Reptiles

The habitat on the application site is generally unsuitable for reptiles. Occasional grass snake could pass through the site particularly with the presence of ponds and potential prey (e.g., amphibians) nearby.

4.3.3

Bats

a) PRA

The west wing of the farmhouse is constructed from a timber frame with remnants of the wattle and daub walls, with a pantile roof and extensive ivy (*Hedera helix*) growth. Due to the poor condition of the west wing, it was not possible to inspect the upper floor of the building and only limited areas of the ground floor.

A small number of pipistrelle droppings were found on the ground floor indicating bats flying in and out of the building and possible day roosting in the building.

The barn supports *Moderate suitability for roosting bats* as the small number of droppings recorded would indicate use by small numbers (e.g. non-maternity roosts) of common species.

b) Tree assessment

Some willow scrub adjacent to the barn support no suitable roosting niches.

c) Foraging and commuting habitat.

The ponds and their bankside vegetation provide suitable foraging habitat for pipistrelles bats, whilst Natterer's (*Myotis nattereri*).

d) Emergence survey results

i) 27/05/20

The emergence survey (Figure 2) was undertaken during suitable weather with negligible winds (BS1 - 2), no precipitation, cloud cover of 30%, and warm conditions with a starting temperature of 15°C. Sunset was at 21:00 with the survey commencing at 20:45 and ended at 22:35.

A common pipistrelle emerged at 21:24 from a tile near the ridge on the south facing roof (Figure 2). A second common pipistrelle emerged (21:37) from under a tile on the habitable section of the farmhouse.

Common pipistrelles and soprano pipistrelles were observed foraging over both ponds with up to 8 soprano pipistrelles observed foraging over pond P1 indicating the presence of a maternity roost locally.

ii) 18/06/20

The dawn survey (Figure 3) was undertaken during suitable weather with low wind speeds (BS0 - 1) with no precipitation and cloud cover at 50%. The starting temperature was 14°C with a temperature of 13.2°C at the end. Sunrise was at 04:33 with the survey commencing at 02:45 and ended at 04:30.

Two common pipistrelles (03:57) entered the 1st floor of the west wing (Figure 4) and did not leave and are assumed to have roosted. A common pipistrelle entered (04:01) under a tile on the occupied section of the farmhouse (Figure 3).

ii) 01/06/23

The emergence survey (Figure 4) was undertaken during suitable weather with low wind speeds (BS0 - 1) with no precipitation and cloud cover at 30%. The starting temperature was 16°C with a temperature of 15.1°C at the end. Sunset was at 21:06 with the survey commencing at 20:50 and ended at 22:45.

A common pipistrelle (21:28) emerged from the gable end of the building (Figure 4) with a second common pipistrelle emerging at 21:34 from under a tile on the farmhouse roof. A third common pipistrelle emerged from the eaves of the south elevation at 21:46. A BLE bat was seen flying inside the building at 22:28 indicating use as a night or possibly day roost.

4.3.4

Nesting birds

No nesting birds were recorded within the barn at the time of the survey (late in the bird breeding season). Bird droppings were present on the lower floor of the derelict wing of the farmhouse indicative of roosting birds with wren (*Troglodytes troglodytes*) and robin (*Erithacus rubecula*), whilst a wren was observed entering the building to roost during the dusk emergence bat survey.

The area around Oak Tree Farm is noted to be a breeding distribution area by the Bird Conservation Targeting Project for both turtle dove and grey partridge (BTO, 2011).

4.3.5

S. 41 list habitats and species

a) Habitats

The nearby ponds may constitute S. 41 listed habitats if they meet some biodiversity related criteria such as the presence of Internationally protected species (i.e. GCNs) or assemblages of scarce invertebrates.

b) Species

Hedgehog may make use of the lawn and ruderal habitat adjacent to the garage and within the gardens of the farmhouse.

4.3.6

Non-native invasive plants

None recorded on site.

4.4

Geographic context

The geographic context of a feature is useful in defining the importance of that feature during assessment of impacts. For this report, the geographic frames of reference for the habitats and species present on site are provided in Table 4.3; values are based upon best judgement and the criteria in Table A3.1.

Table 4.3 Feature value based on geographic context and criteria

Feature	Value
---------	-------

Ponds, lawn and ruderal habitat	Local
Amphibians and reptiles	Local
Bats	Local
Nesting birds	Local
Hedgehog	Local

5

Assessment and recommendations

5.1

Description of proposed development

It is proposed to convert a Grade II Listed timber framed barn into a dwelling at Oak Tree Farm, Suffolk.

The assessment and recommendations below provide a preliminary assessment of mitigation, compensation and enhancements for the proposed development based on the drawings available at the time of writing; they should be updated accordingly as the scheme is subsequently amended.

5.2

Assessment of Impacts

This assessment made with reference to the 2016 CIEEM guidelines to Ecological Impact Assessment (EcIA) aims to:

- Identify and characterise impacts;
- Avoid, and where necessary incorporate mitigation measures to reduce any impacts;
- Assess the significance of residual effects;
- Identify appropriate compensation measures to offset significant residual effects; and
- Identify opportunities for ecological enhancement where feasible.

The scale of impacts has been assessed with reference to the criteria in Table A.3.

5.3

Further survey requirements

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

Habitats and vascular plants

a) Potential impacts

Site clearance works will result in the permanent loss of ruderal and scrub habitat adjacent to the barn considered a **negative** impact upon habitats at the Local level. The impacts upon species associated with the habitats present on the site, and corresponding mitigation including timing and methods in Sections 5.5 to 5.8.

b) Mitigation

Any trees/scrub located adjacent to temporary builder's compounds should be protected with temporary fencing (e.g. Heras) and Root Protection Areas (RPA) as required.

To avoid impacts to the nearby ponds Best Practice construction measures should be used to avoid and/or minimise the risk of pollution. Measures may include, but are not exclusive to:

- Locating any site compounds (including any fuel storage) away from any ponds or any ditches that discharge into the ponds;
- Limiting topsoil removal as required and covering topsoil whilst stockpiled;
- Cleaning machinery in designated areas with a sump and re-using waste water where possible or discharging via a sewer or tanker only;
- Storing chemical and fuels securely within double-bunded bowsers or chemical stores (with a 110% capacity to contain any spillage) away from the watercourse;
- Using water based, non-toxic and biodegradable chemicals and fuels where possible;
- Mixing and washing chemicals and associated equipment in designated areas with waste water safely disposed of via mains sewerage or tanker as appropriate;
- Use of biodegradable hydraulic and fuel oils;
- Having adequate site security in place; regularly checking equipment for failures and/or leaks; and
- Keeping spill kits and booms present on the site and ensuring staff are trained in their use.

Further information is available via the Guidance for Pollution Prevention - Works and maintenance in or near water: GPP 5 January 2017 document, produced by Natural Resources Wales (NRW), the Northern Ireland Environment Agency (NIEA) and the Scottish Environment Protection Agency (SEPA)⁷. Once operational, impacts from sewerage discharges will be avoided through connection to an on-site sewage treatment system.

c) *Compensation*

None required.

d) *Residual effects*

Subject to the mitigation being followed, it is considered likely that once planting has matured, there will be a **negligible** impact upon habitats present on site.

5.5

Amphibians and reptiles

a) *Potential impacts*

During the construction phase ground clearance and construction works could result in the injury or death of individual animals, considered a potential **negative effect** upon animals at the Local level.

Once operational, closed surface water drainage systems (e.g., gully pots connected to soakaways with no exit to ditches or ponds) have the potential to trap

⁷ <http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>

and kill lots of individual animals, considered a **significant negative effect** at the Local level.

The proposed renovation works will result in the loss of potential terrestrial refuge and foraging habitat considered a **negative effect** at the Local level.

b) Mitigation

The site is not considered likely to support any significant amphibian or reptile populations given it comprises mostly of hard standing with some ruderal/scrub habitat. However, amphibians could seasonally use the ruderal habitat, whilst brick and timber piles provide potential refuge habitat. Therefore, the following good practice construction measures are recommended:

1. Areas of retained grassland habitat within the works footprint should be clearly demarcated and fenced to minimise unnecessary impacts to adjacent habitats;
2. Heras fencing or similar should be used to protect all retained features such as woodland and scrub;
3. The ruderal and scrub habitat to the south of the barn should be reduced in height to ground level to reduce the risk of amphibians seeking refuge, including for overwintering. It should be cut using a 2-stage cut as follows:
 - The first cut should be to c. 150mm with the arisings raked off;
 - The area should be left for a minimum of 1 hr (preferably overnight) to allow any animals to move and the second cut should be to just above ground level. The arising should again be raked off to prevent any wildlife seeking refuge.
4. Footings and concrete slabs should be poured during the morning where possible to ensure it has hardened off prior to evening to reduce the risk of animals touching 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. Concrete mixers and shovels, rakes, boots etc. must be cleaned off in a safe location whereby any washing will not enter ponds P1 and P2 or any connected ditches;
7. All building materials should be stored on bare ground or hard standing, or stored off the ground on pallets;
8. Any building waste stored on site temporarily should be stored on bare/hard ground or in skips to prevent amphibians or reptiles from seeking refuge; and
9. 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.

Any surface water drainage should preferably discharge directly into either of the 2 ponds or a ditch. If soakaways are used the surface water down pipes should

discharge into sealed gully pots which amphibians cannot enter. Any driveway gully pots which do not connect directly to open ditches or drains should be sited next to a wildlife kerb (e.g. <https://www.aco.co.uk/products/wildlife-kerb>) or located at least 10cm away from the kerb edge (Muir, 2012) to significantly reduce the risk of amphibians including GCNs becoming trapped.

c) *Compensation*

None required.

d) *Residual effects*

The mitigation and compensation prescribed will ensure there is **negligible** effect upon individual animals during the construction phase of the scheme.

5.6

Bats

a) *Potential impacts*

The proposed re-roofing and internal conversion of the derelict wing of the farmhouse will result in the loss of common pipistrelle day roosts and a BLE bat night roost considered a **significant negative effect** at the Local level.

During construction works, bats could be physically injured or killed during removal of the roof and any timbers requiring repair considered a **significant negative** impact upon bats at the Local level.

Lighting during both construction and operational phases has the potential to impact the emergence, commuting and foraging behaviour of bats and affect exposure to predators. Together, these impacts are considered a temporary (construction phase) to permanent (operational phase) **significant negative effect** at the Local level.

Research has shown bats can become entangled in modern breathable roofing membranes such as Tyvek and other woven membranes if used under clay pantiles or peg/plain tiles (Waring *et al.*, 2013). Such impacts during the operational phase of the scheme would be considered a **negative effect** at the Local level.

b) *Mitigation*

i) Permanent roost loss - Legal compliance

An EPS Mitigation bat licence will be required to legalise the loss of the existing common pipistrelle day roosts. Licences can only be granted by Natural England if the proposals meet the three derogation tests as follows:

1. **The development must be for “preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences for the environment”;**

The proposed development will provide a new dwelling and therefore contribute to reducing the UK housing shortage. Therefore, the proposed development is for imperative reasons of overriding public interest (IROPI) and complies with this test.

2. **There is no satisfactory alternative; and**

The existing wing is in a poor condition structurally and without maintenance would become unsuitable for roosting bats in a few years. Therefore, the proposed development complies with this test.

3. The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range.

As the proposed development will result in the loss of roosts used by small numbers of common species the FCS in their natural range will be maintained and the condition is met.

ii) Light disturbance of roosts

During both construction and upon completion of the proposed renovation the use of lighting needs to be positioned to avoid illumination of retained habitats such as trees or hedgerows. Exterior lighting design will be made with reference to current guidance⁸⁹ and will consider:

Type of lamp (light source): Light levels should be as low as possible as required to fulfil the lighting need. Lamps 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 grassland, hedgerows, scrub and the watercourse. This can be achieved by restricting the height of the lighting columns 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' on residential properties (up to 1 minute).

c) Compensatory habitats

Bat boxes (Appendix A4) should be erected on trees within the grounds of the farmhouse for use as holding boxes for any bats encountered during the roof strip and works to the timber frame. These can be retained as long-term compensatory roosts. Two ridge access points should also be created (Appendix A4).

If exist and/or reclaimed roof tiles are used to re-roof the proposed new dwelling a condition of an EPSM bat licence would be that the roof must use a bat friendly underfelt. The only products that be used for pantiles or plain tiles is the traditional

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

roofing felt Type 1F or a breathable sarking board (e.g. Hunton Sarket, Pavatex Isolair).

d) Residual impacts

With the mitigation prescribed there are **no significant** residual impacts anticipated from this proposed development.

5.7

Nesting birds

a) Potential impacts

During the construction phase works to repair the timber frame could result in the disturbance, injury or death of individual birds, and the destruction of nests and eggs which would be considered a potential **negative effect** upon bird species at the Local level.

b) Mitigation

During the construction phase, the following measures should be taken to avoid impacts upon breeding birds:

1. The builder's compound should be located away from any nearby trees or scrub to reduce noise disturbance; and
2. Works to convert the derelict wing of the farmhouse including stripping roof tiles and repairing of timbers and any adjacent scrub clearance (e.g., to the south of the barn) should be undertaken outside of the period March-August inclusive. Where this is not possible, a check for breeding birds by a suitably experienced ecologist should be undertaken prior to clearance commencing; and
3. If any nesting birds are found, they must be left until the young have fledged.

c) Compensation

Two of the combined robin/wren boxes and a sparrow terrace (Appendix A5) should be erected on trees nearby.

d) Residual effects

The mitigation and compensation prescribed will ensure there are **negligible** impacts upon breeding birds during the construction and operational phases of the scheme.

5.8

S. 41 list species

a) Potential impacts

During the construction phase hedgehog could potentially die or become injured when falling into any open excavations (e.g. service runs) including wet concrete or take shelter in piles of building materials on site that are subsequently moved.

Such impacts are assessed as a **negative** effect upon individuals at the Local level.

b) Mitigation

The ground floor of the western wing proposed for residential conversion should be cleared by hand of any ruderal vegetation and any bricks etc in the autumn to avoid impacts on 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 animals, until temperatures are regularly (6 consecutive days/nights) 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, and materials removed from buildings demolished should be placed into skips that animals cannot access. Trenches should be covered overnight or mammal ladders (medium to large branches, rough pieces of timber) placed to enable animals to escape.

c) *Compensation*

None required.

d) *Residual effects*

No significant residual impacts are predicted.

5.9

Cumulative effects

A search of the Mid Suffolk District Council planning website was undertaken (21/08/2020) with a 1km buffer of the site searched dating back by two years, however only the approved scheme for the conversion of the Oak Tree Farm Barn (Ref: DC/19/04118) where common species of bats were recorded roosting.

The approved scheme and the proposed renovation of the west wing of the farmhouse into a separate dwelling will also result in the loss of small numbers of common species. The bats are likely to use both buildings interchangeably. The loss of the roosts would be significant at the local level but the favourable conservation status of the species will not be adversely affected.

5.10

Enhancement opportunities

If mitigation and compensation are implemented as advised, the scheme will result in No Net Loss (NNL) of biodiversity. To be consistent with planning policy, development schemes should deliver Biodiversity Net Gain (BNG).

To deliver a significant BNG a minimum of 5 of the 10 enhancements listed in Table 5.1 should be implemented in addition to the proposed landscaping of the site.

Table 5.1 Enhancement opportunities

Feature	Enhancement suggestion
Amphibians	Ponds P1 and/or P2 may be enhanced for amphibians by implementing the following: 1) Reduce shade by thinning some bankside trees, particularly on the south or east side of the pond; 2) Desilt and clean out the leaf litter and branches to deepen, leaving removed material within 2m of the pond edge for at least two days to allow any

Feature	Enhancement suggestion
	<p>invertebrates to disperse. Removed branches may be added to the log pile;</p> <p>3) If local topography allows, feed rainwater from the renovated west wing into ponds P1 or P2 to maintain a consistent water level throughout the year and reduce the residence time within the ponds through increased flushing;</p> <p>4) Create a log pile by pond P2 for hibernating amphibians and invertebrate prey using logs from the removed trees</p> <p>5) Plant bank side (BS), marginal (M), emergent (E) and some floating leaved (FL) macrophytes wing species:</p> <ul style="list-style-type: none"> • Water mint (<i>Mentha aquatica</i>) M; • Water forget-me-not (<i>Myosotis scorpioides</i>) M; • Broad-leaved pondweed (<i>Potamogeton natans</i>) FL; • Yellow Flag Iris (<i>Iris pseudacorus</i>) E; • Purple loosestrife (<i>Lythrum salicaria</i>) BS; • Marsh marigold (<i>Caltha palustris</i>) M; and • Ragged robin (<i>Lychnis flos-cuculi</i>) BS. <p>When planting the macrophytes it is essential to ensure that non-native invasive species are not accidentally introduced. (https://www.legislation.gov.uk/ukpga/1981/69/schedule/9)</p>
Hedgerows	<p>6) A new hedgerow proposed to mark the garden boundaries between the farmhouse and the renovated west wing should use native species and be species-rich using a minimum of 6 of the following species:</p> <ul style="list-style-type: none"> • Hawthorn should form (e.g. 50 - 60%) a significant component of the hedgerow to provide protection for nesting birds and small mammals. The remaining woody shrubs should be a mix selected from the following species: • Bird cherry (<i>Prunus cerasifera</i>): 10% - This species would provide food for birds and mammals and help reduce cat predation; • Common dogwood (<i>Cornus sanguinea</i>): 5 - 10% - Provides autumn/winter colour with the stems and the berries are eaten by wildlife • Field maple (<i>Acer campestre</i>): 10% - Provides colour to the hedgerow and the seeds are eaten by small mammals; • Hazel (<i>Corylus avellana</i>): 5 to 10% - Provides autumn food for small mammals. Alternatively,

Feature	Enhancement suggestion
	<p>they could be planted as hazel coppice for coppicing in the future;</p> <ul style="list-style-type: none"> • Holly (<i>Ilex aquifolium</i>): 10% - Provides a great form and some screening all year round and berries for birds; • Guelder rose (<i>Viburnum opulus</i>): 5 - 10% - Provides great autumn colour and berries; • Dog rose (<i>Rosa canina</i>): 5% - Provides attractive blooms with nectar (insects), scent (for the residents of the new dwelling), and hips for small mammals; • Spindle (<i>Euonymus europaeus</i>): 5% - Provides excellent autumn colour and the seeds are eaten by wildlife; • Crab apple (<i>Malus sylvestris</i>): 2.5% - Provides blossom (insects) and fruit (wildlife). • Wild pear (<i>Pyrus pyraster</i>): 2.5% - Provides blossom (insects) and fruit (wildlife).
Bats	7) Bat boxes (3) such as timber Kent bat boxes or Schwegler woodcrete boxes or similar could be mounted on trees around pond P1 or adjacent to pond P2 to provide bat roosting opportunities (Appendix A4).
Birds	8) Bird boxes for small passerines (Appendix A5) could be erected on suitable trees.
Deadwood invertebrates	9) Evergreen climbers such as honeysuckle (<i>Lonicera sp</i>) or wild clematis (<i>Clematis vitalba</i>) could be planted along new hedgerows or fence lines and amongst existing trees to provide a nectar source for insects.
Invertebrates	10) A stag beetle loggery could be constructed (Appendix A6).

5.11

Conclusions

Subject to the recommendations made in Section 5, it is anticipated that the proposed development is consistent with the relevant regulatory and planning policy guidance and wildlife laws.

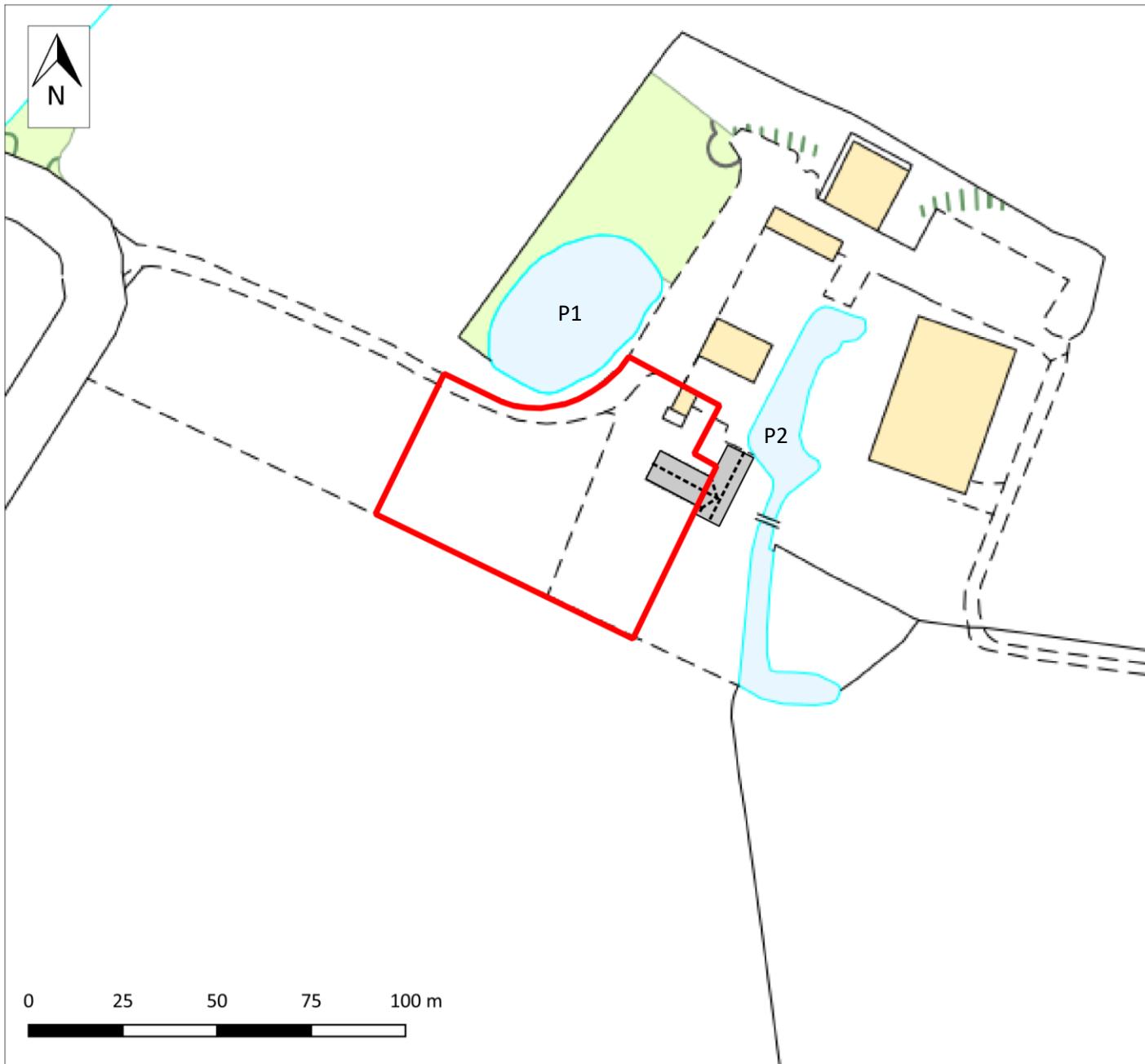
Potential negative ecological impacts resulting from the proposed development should be mitigated or compensated for as recommended and should be secured through use of planning conditions specific to breeding birds (e.g. BS 42020:2013 D.3.2.1) and bats (e.g. BS 42020:2013 D.3.5).

If the recommended mitigation measures are implemented, no significant adverse residual effects are anticipated; subject to the proposed planting/seeding, together with any enhancements, there will be a net biodiversity gain.

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Figures



Client: Mary Clarkson

Project: Oak Tree Farmhouse, Kenton, Suffolk

Drawn:	Date:	Drawing Ref:
CW	22/08/20	OAKTREEFARMHOUSE/ES/001

Figure 1 Site location and ponds plan



Legend

← Common pipistrelle emergence

Client: Mary Clarkson

Project: Oak Tree Farmhouse, Kenton, Suffolk

Drawn:	Date:	Drawing Ref:
CW	22/08/20	OAKTREEFARMHOUSE/ES/002

**Figure 2 Bat emergence survey results
(27/05/20)**



Legend

→ Common pipistrelle entered roost

Client: Mary Clarkson

Project: Oak Tree Farmhouse, Kenton, Suffolk

Drawn:	Date:	Drawing Ref:
CW	22/08/20	OAKTREEFARMHOUSE/ES/003

Figure 3 Bat dawn swarming survey results (18/06/20)



Legend

→ Common pipistrelle emergence

Client: Mary Clarkson

Project: Oak Tree Farmhouse, Kenton, Suffolk

Drawn: Date: Drawing Ref:

CW 22/08/20 OAKTREEFARMHOUSE/ES/002

**Figure 4 Bat emergence survey
results (01/06/23)**

Appendices

Appendix A1 Photos



Photo 1 North and west gable end of western wing of Oak Tree Farmhouse



Photo 2 South and west gable end of western wing of Oak Tree Farmhouse

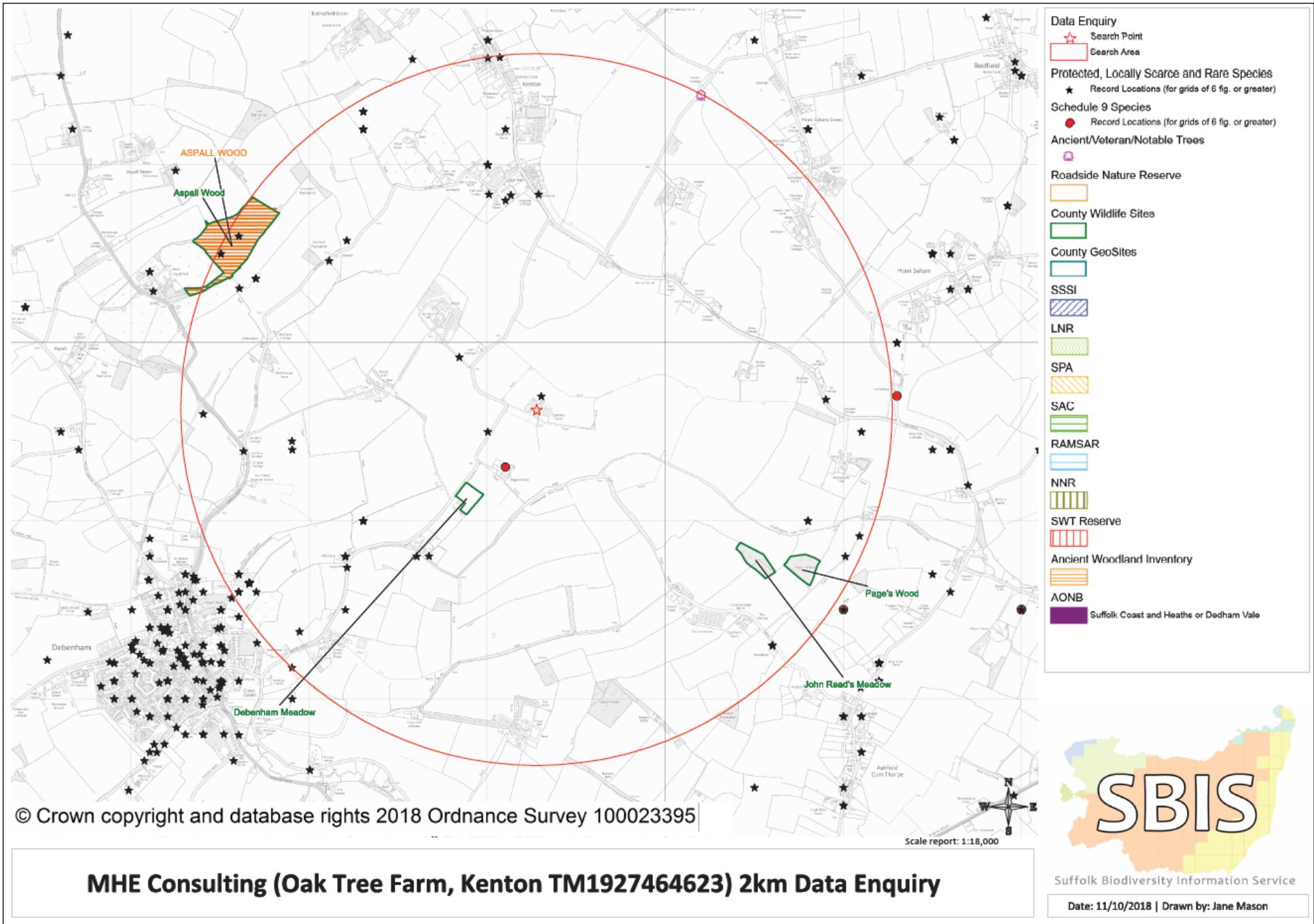


Photo 3 Pond P1 (2018) with c. 80cm drawdown



Photo 4 Pond P2 (2018)

Appendix A2 SBIS Data map



Appendix A3 EcIA assessment criteria

A3.1 General criteria for categorising value of ecological features

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.

Table A3.2 Criteria for assessing the scale of ecological impacts

Scale of Impact	Description of effect on its own or in combination with other proposals
Major negative	<ul style="list-style-type: none"> • An adverse effect on the integrity of the habitat/site in terms of the coherence of its ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and /or population levels of species of interest; and/or • Adverse impacts leading to permanent loss of population/sub-population/assemblage or its ability to remain viable.
Negative	<ul style="list-style-type: none"> • An adverse effect on the habitat/site significant in terms of its ecological objectives, but not adversely affecting its integrity; and/or • Adverse impacts leading to measurable long-term damage to or loss of populations/sub-populations/assemblages though not likely to compromise long-term viability.
Minor negative	<ul style="list-style-type: none"> • Some adverse effect on the habitat/site but no adverse effect on the integrity nor obvious adverse effect in terms of its ecological objectives; and/or • Adverse impacts affecting a few individuals when this would not be likely to be measurable or significant in terms of population dynamics.
Negligible	<ul style="list-style-type: none"> • No significant impact in either direction.
Minor Positive	<ul style="list-style-type: none"> • Some positive effect on the habitat/site likely to enhance the wildlife and habitat of the site, although unlikely to affect its ecological objectives; and/or • Positive impacts affecting a few individuals, although this would be unlikely to be measurable or significant in terms of population dynamics.
Positive	<ul style="list-style-type: none"> • A positive effect on the habitat/site in terms of its ecological objectives, although unlikely to have a positive effect on its integrity; and/or • Positive impacts leading to measurable long-term enhancement to or improvement of populations/ sub-populations/ assemblages though unlikely to improve long-term viability.
Major positive	<ul style="list-style-type: none"> • A positive effect on the integrity of the habitat/site in terms of the coherence of its ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/ or population levels of species of interest; and/or • Positive impacts leading to permanent improvement of a population/ sub-population/ assemblage or its ability to remain viable.

Appendix A4 Bat boxes

Rumburgh Buck | Rugby Union - BBC Sport | Bat Boxes | NHBS Practical Conservation | Schwegler 1FE Bat Access Panel

Servicing the UK's ecologists since 2001 | Specialists in bat detectors & survey equipment | Next-day UK delivery

SCHWEGLER 1FE BAT ACCESS PANEL

Product code: 10611

£49.96 ex VAT

In Stock

Quantity: 1

ADD TO BASKET Or **ADD TO QUOTE**

Description **In The Field** **More Info** **Delivery** **Returns**

The 1FE Schwegler bat access panel provides a smart, bat-friendly way for them to enter into cavity walls. This is particularly useful as bats prefer to continue using familiar nesting places. When older/historic buildings are refurbished or converted, these units can be installed so that bats continue to have access to their existing roosts. (We recommend installing multiple units).

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 rainproof and draught-free
Crevices can be between 15 and 25 mm wide
Fixing may be by use of brackets, durable bands 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 Group

This design has been developed by Kent Bat Group.
We'd like to know how successful it is. Please send any comments or records of bat use soon after installation to kentbatgroup@btconnect.com.
With thanks to Colin Shrimpton for help in producing the prototype and Lloyd Bore for providing plans.

Kent Bat Group
www.kentbatgroup.org.uk
Reg Charity No. 1079767

Schwegler 2F-DFP

Appendix A5 Bird boxes

RSPB giving nature a home

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Home > RSPB Robin and wren diamond nestbox

Order online or call us on 0345 034 7733

RSPB Robin and wren diamond nestbox

£12.99

Qty 1 In stock | ADD TO BASKET

Product information | Advice | Specifications | Delivery Returns

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.

Installing your nestbox

For secure and stable fixing, there are two hanging tabs attached to the



Rumburgh Buck | Rugby Union - BBC Sport | Bat Boxes | NBHS Practical Conservation | Cedarplus Triple Sparrow House | +

Stow Agricultural Limited [GB] | https://www.wildcare.co.uk/cedarplus-sparrow-terrace-nest-10902.html

Apps | UK Grid Reference ... | National Biodiversity ... | Jacobs Engineering ... | Bing Maps | ~ Santander Online... | Microsoft Office Ho... | Welcome to Accele... | People Portal | HomeServer | Jacobs Eng...

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SERVING THE UK'S ECOLOGISTS SINCE 2001 | SPECIALISTS IN BAT DETECTORS & SURVEY EQUIPMENT | NEXT-DAY UK DELIVERY

Home > Nest Boxes > Bird Boxes > Sparrow Terraces > Cedarplus Triple Sparrow House

CEDARPLUS TRIPLE SPARROW HOUSE
Product code: 10902

£37.46 ex VAT

In Stock

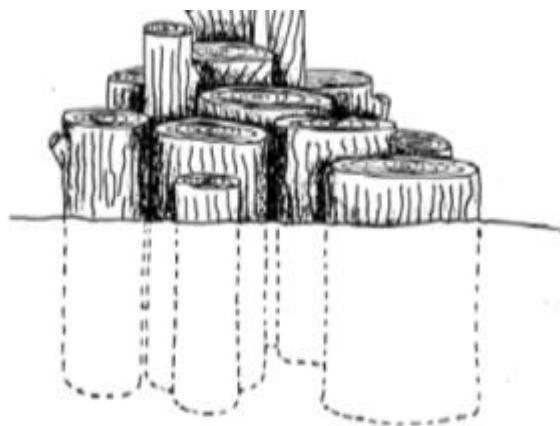
Quantity 1 | ADD TO BASKET | Or | ADD TO QUOTE

Description | More Info | Delivery | Returns

Give our sparrow population much-needed help with this sturdy, attractive designed house. Both house and tree cavities are suitable birds that like to nest in colonies. The Triple Sparrow House is designed to



Appendix A6 Stag beetle artificial breeding sites



Traditional simple loggery

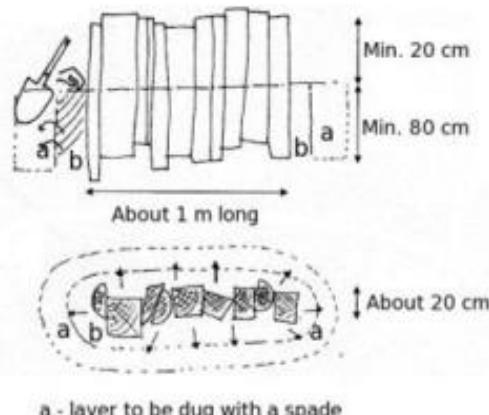
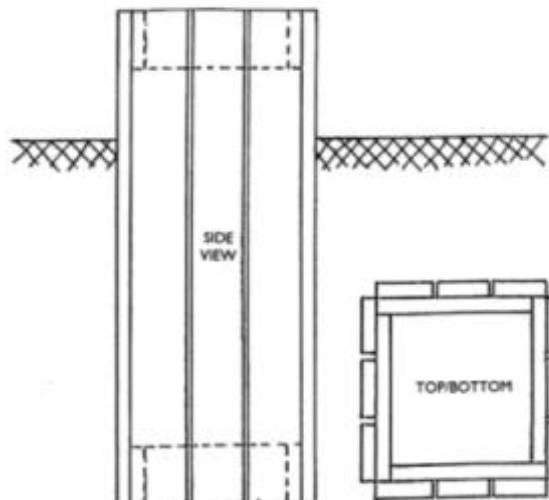
Large logs (10-50cm diameter) of hardwood (e.g. oak, beech, sycamore, ash) with bark still attached should be sunk circa 60cm into the ground, in partially shaded areas.

Artificial breeding box

Developed by Colin Hawes of the Suffolk Naturalists' Society.

Made of hardwood timber, 2cm thick, a box 49 (H) x 21.5 (W) x 21.5cm (D) open at each end top and bottom, covered on the four sides with 61cm (H) x 7cm (W) x 2cm (D) slats, leaving <1cm gaps between (to allow access to beetles and larvae) to make total length of 61cm.

One end covered with fine wire mesh to enable drainage, the other open. Filled with damp hardwood sawdust and fine woodchips, sunk 45cm into the ground with open end standing c. 7cm above soil level.



Paul Hendriks, March 2006

Dutch nesting posts

They are built with aligned vertical posts of decayed oak wood. The posts are about 1 meter long, 20 cm thick, and buried to a depth of 80 cm, close to each other.

For monitoring them all that is needed is to dig a ring around the posts (Area a) about 60 cm deep, and then carefully scrape the soil away (by hand) from around the wood (Area b). **This must not be done from June - September in order not to disturb the pupation stage.**

These are a versatile option and are easy to monitor as described above.