
Ecology Report

PROPOSED EXTENSIONS AND GARAGE
Brookside, Gedding Road, Drinkstone Green, Bury St
Edmunds, Suffolk

October 2023



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Contents Amendment Record

REPORT NUMBER: BROOKSIDEDRINKSTONE/2023/ER/001

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Initial draft	03/10/2023	H. Evans
1	1	Internal review	11/10/2023	C. Whiting

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Executive Summary

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of an existing bungalow and adjacent land at Brookside, Gedding Road, Drinkstone Green, Bury St Edmunds, Suffolk. A planning application is to be submitted to Mid Suffolk District Council for works including an extension off the northeast elevation of the bungalow, two extensions to the footprint of the northwest elevation gable ends, the demolition of a conservatory off the southeast elevation to be replaced by another extension and the construction of a new garage building in the northwest of the plot. The application site comprises an existing bungalow, hardstanding surfaces and gardens containing areas of grassland/lawn, hedgerows, trees, and shrubs of varying maturity, with a vegetated pond in the southwest of the site.

Several waterbodies exist within 250m of the application site – including one within the site boundary (P1), which was assessed as supporting *average habitat suitability* for great crested newts (GCNs) (*Triturus cristatus*). It is therefore recommended that water samples are collected from P1, during the next accepted survey window (15 April - 30 June 2024) and sent for eDNA analysis to confirm the presence or absence of GCNs within the pond. In terms of terrestrial habitats, grassed areas provide foraging opportunities for amphibians whilst longer vegetation, shrubs and hedgerows provide potential refuge habitat for amphibians and reptiles. Most common reptiles are likely to be absent from the site, except for grass snakes (*Natrix helvetica*), which may travel through the site and hunt in the pond. The sites overall terrestrial habitat suitability for supporting common amphibians and reptiles was assessed as *low*.

The dwelling supports a very limited number of potential access points and roosting niches, but as the loft contained two bat droppings, the bungalow was assessed as supporting a *low* level of Bat Roost Potential (BRP). One bat activity survey was carried out on 19 September 2023, it was concluded that roosting bats are likely absent from the building since no emergences were observed. The development will not require derogation under a European Protected Species Mitigation Licence (EPSML) from NE.

Habitats present on site and immediately adjacent provide *moderate* value bat foraging and commuting opportunities (e.g., mature trees/shrubs, hedgerows, and pond), The removal of immature trees/shrubs and a length of hedgerow is unlikely to affect roosting bats. These losses are considered insignificant, relative to the foraging and commuting opportunities provided by adjacent habitats of greater value (e.g., nearby woods and ponds). A *low* level of commuting and foraging activity was observed during the bat activity survey where boundary features appeared to be of significance.

The site supports bird nesting, song perch and foraging opportunities (e.g., mature trees/shrubs and hedgerows), and foraging and refuge opportunities for mammals such as hedgehogs (*Erinaceus europaeus*), which have been historically recorded very near to the site. These habitats may also support some S.41 list invertebrates. The removal of trees/shrubs and a length of hedgerow could impact upon birds, if undertaken during the nesting season, and these losses will require compensation.

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

1 Introduction

1.1 BRIEF

MHE Consulting Ltd were instructed to undertake an ecological survey and assessment of an existing bungalow and adjacent land at Brookside, Gedding Road, Drinkstone Green, Bury St Edmunds, Suffolk, IP30 9TG (TL 95866 60282; Figure 1).

A planning application is to be submitted to Mid Suffolk District Council for works including four small single storey extensions to the bungalow (following demolition of an existing conservatory), and the construction of a new garage building and parking area in the northwest of the site.

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 comprises an existing bungalow with areas of hard standing, areas of lawn, trees, shrubs, hedgerows, a ditch, and a pond (Photos 1 to 12, Figure 1). The site is located within the small settlement of Drinkstone Green which is surrounded by predominantly agricultural landscape with arable farmland, some areas of grassland (e.g., for horses and livestock) and blocks of woodland. Seven ponds and a small watercourse are located within 250m of the site boundary (Figure 2).

Photos are provided in Appendix A1.

2 Planning policy and legislation

2.1 INTRODUCTION

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

2.2 PLANNING POLICY

2.2.1 *National Planning Policy Framework (NPPF)*

The National Planning Policy Framework was originally published in 2012 and 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 SSSI;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

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

- a) potential Special Protection Areas and possible Special Areas of Conservation;
- 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.

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

2.2.2

Local Plan

Adopted local plans provide the framework for development across England, and include policies related to conserving and enhancing the natural environment.

Existing planning policies and supporting documents used to plan, deliver, and monitor development across the Mid Suffolk District Council area can be found at:

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

The Babergh and Mid Suffolk District Councils are currently in the process of creating a joint local plan.

2.3

LEGISLATION

2.3.1

Environment Act 2021

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

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

Section 40 places a duty on every public body in exercising its functions, to have regard to the purpose of conserving biodiversity; this includes restoring or enhancing populations or habitats. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and public-sector decision making. *Species and habitats of principal importance* in this respect are those published under Section 41 (“S. 41”) of the NERC Act 2006.

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

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

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

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

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

2.3.5 *The Conservation of Habitats and Species Regulations 2017*

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

They have been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit.

Under the Regulations, competent authorities i.e., any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the relevant EC Directives.

2.3.6

Protection of Badgers Act 1992

The Protection of Badgers Act 1992 (hereafter “PBA 1992”) consolidates and improves upon the previous Badgers Act 1973, Badgers Act 1991, and Badgers (Further Protection) Act 1991. Under the PBA 1992 (except when holding a licence to do so) it is illegal for a person to wilfully; kill, injure, take, possess, sell, or otherwise cruelly treat a badger. It is also illegal to dig out, damage, destroy, or obstruct entry to setts (including by use of dog(s)). Further information on offences, exceptions, and penalties are listed on the PBA 1992 on legislation.gov.uk.

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, and the MAGIC website (<http://magic.defra.gov.uk/>): These were used to identify habitat types including priority habitats, suitability for particular species/groups, and the locality of nationally and internationally designated sites;
- Natural England (NE) open source protected species and habitat survey data; and
- Historical biological records: species and locally designated site records within 2km of the site were provided by the Suffolk Biodiversity Information Service (SBIS; Appendix A2).

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

- Amphibians and reptiles, including great crested newt (*Triturus cristatus*) and grass snakes (*Natrix helvetica*);
- Mammals including badgers² and bats³;
- Breeding birds⁴ including Red and Amber status⁵ species; and
- S. 41⁶ list habitats such as hedgerows, and species such as hedgehog.

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

3.3 FIELD SURVEY

An initial site walkover was undertaken on the 29 August 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,

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

² Badgers and their setts are afforded protection by the PBA 1992.

³ All species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.

⁴ All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

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

⁶ S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

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.

3.3.1 *Habitats and vascular plants*

The site was walked with all distinct vegetation and habitat types, and any features of interest identified using the UK Habitat Classification methodology (Butcher et al., 2020). Care was taken to record habitat indicator species.

3.3.2 *Amphibians and reptiles*

a) Amphibians

Seven water bodies exist within 250m of the application site boundary with P1 (Photo 11) within the site itself in the southern corner (Figure 2). It was assessed for its suitability to support breeding GCNs, and other common amphibians, using the GCN Habitat Suitability Index (HSI) as developed by Oldham *et al.* (2000). Access to assess the other 6 ponds was not secured.

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

b) Reptiles

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

3.3.3 *Bats*

a) Preliminary Roost Assessment

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

Table 3.1 Bat Roost Potential (BRP) of buildings.

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

b) Tree roost potential

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

Table 3.2 Bat Roost Potential (BRP) of trees

Bat Roost Suitability	Description
<i>Confirmed presence</i>	Bat presence confirmed during the scoping survey
<i>High</i>	Trees with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.
<i>Moderate</i>	Trees with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status.
<i>Low</i>	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential. <i>NB The tree(s) are of a size and age that elevated surveys may result in features being found; or features which may have limited potential to support bats</i>
<i>Negligible</i>	Negligible habitat features on site likely to be used by roosting bats

All potential roosting cavities (e.g., natural cavities, rot holes, woodpecker holes, splits, peeling bark) were inspected from the ground using binoculars where necessary. Any cavities with the potential to support roosting bats were inspected with an endoscope and/or a small LED torch as necessary. All potential roosting niches were checked for the presence of bats (alive or dead), faecal staining, fur and/or scratch marks around the entrance and droppings within the cavities or attached to the trunk/bough below the entrance.

c) Foraging and commuting habitat

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

Table 3.3 Commuting and foraging habitats

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

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

d) Dusk emergence survey

An emergence survey of the bungalow was undertaken (19/09/23) as per the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). The following survey protocol was adopted:

- The emergence survey commenced 15 minutes prior to and for up to 2 hours after sunset to cover the main emergence period and when some bats may return;
- Bat activity such as bats leaving or returning to roost within the building was recorded. In addition, commuting bats and foraging bats were recorded;
- Ecologists used full spectrum Wildlife Acoustic Echo Meter Touch Pro and Elekon Batlogger M full spectrum detectors; and
- HikMicro Mini 2+, Lynx Pro LH15 thermal imaging scope and a HikMicro E20 thermal add on for smart phones (Plates 1 to 3) and a were used to cover access points during the survey (Figure 4).

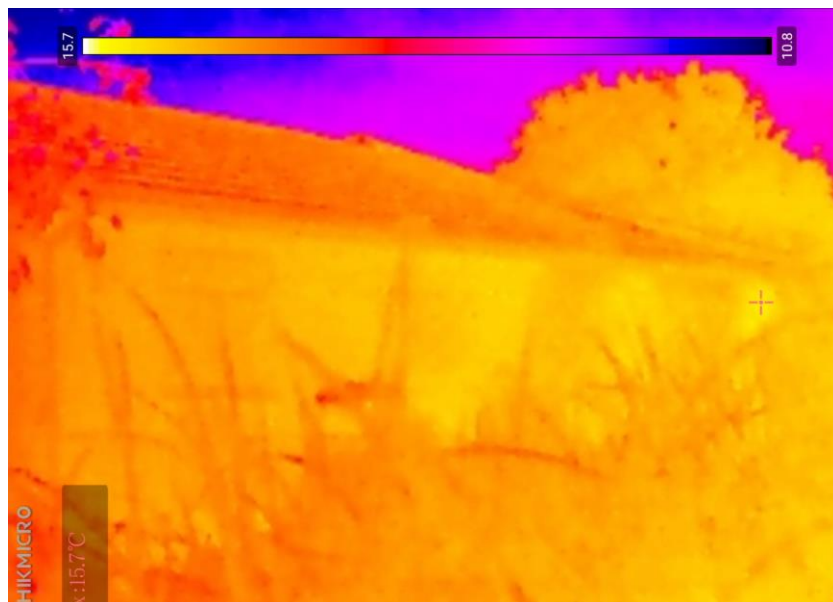


Plate 1 HikMicro Mini 2+ view of potential access/egress points



Plate 2 HikMicro Lynx Pro view of potential access/egress points



Plate 3 HikMicro E20+ view of potential access/egress points

3.3.4

Nesting birds

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

3.3.5

Badger

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

3.3.6

S.41 list habitats and species

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

3.3.7

Non-native invasive plant species

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

3.4

SURVEY CONSTRAINTS

Given the nature of the site and the surveys carried out, the timing of the survey visits is considered appropriate for this report. The pond (P1) was accessible for assessment, no permission was secured to survey any of the additional ponds identified within 250m of the site boundary.

3.5

SURVEYORS

The site survey and building inspection were undertaken by ecologist Alex Gregory, BSc (Hons) who has over two years' experience surveying habitats for species including amphibians, bats, reptiles, and birds. Alex was assisted with the bat activity survey by ecologists Hannah Evans and Jill Wylie.

3.6

ASSESSMENT

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

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

4 Results

4.1 INTRODUCTION

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

4.2 BASELINE ECOLOGICAL CONDITIONS - DESK STUDY

4.2.1 *Designated sites*

Any locally designated sites (e.g., Local Nature Reserves) within 2km and nationally designated sites within 5km of the application site, with the approximate straight-line distances from the site, are listed below in Table 4.1. There are no internationally designated sites within 13km of the site boundary.

Table 4.1 Relevant designated sites

Site name	Site designation	Distance
Bucks Wood*	CWS	1.1km SW
Coronation Meadow	CWS	1.9km S
Drinkstone Meadow	CWS	1.8km N
Hessett Nature Reserve	CWS	1.8km NW
Hinderlay Wood*	CWS	1.2km SW
Pumping Station Meadow	CWS	700m N
Bradfield Woods*	NNR; SSSI	3.2km SW
Norton Wood*	SSSI	4.1km N
Thorpe Morieux Woods*	SSSI	4.6km S

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

Locally designated sites

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

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

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

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

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

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

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

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

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

Nationally designated sites

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

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

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

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

The application site lies within a SSSI Impact Risk Zone but does not meet any of the criteria for consideration (e.g., all applications except householder). No significant impacts or effects are anticipated in relation to any of the features of the designated site.

4.2.2 *Priority habitats*

The Magic Map database identifies an area of deciduous woodland (priority habitat) located c. 65m northwest of the site boundary. No other priority habitats are shown within the 250m zone of influence.

4.2.3 *Species*

Records of GCN exist from within the application site boundary. Table 4.2 identifies, where data resolution allows, species records within 250m (**in bold**) or 2km of the application site boundary.

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

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

<i>Plecotus auritus</i>	Brown long-eared	EPS; WCA5; S. 41
Birds		
<i>Apus apus</i>	Swift	Red Status
<i>Chloris chloris</i>	Greenfinch	Red Status
<i>Cuculus canorus</i>	Cuckoo	Red Status; S. 41
<i>Delichon urbicum</i>	House martin	Red Status
<i>Emberiza citrinella</i>	Yellowhammer	Red Status; S. 41
<i>Falco tinnunculus</i>	Kestrel	Amber Status
<i>Gallinula chloropus</i>	Moorhen	Amber Status
<i>Linaria cannabina</i>	Linnet	Red Status
<i>Passer domesticus</i>	House sparrow	Red Status; S. 41
<i>Perdix perdix</i>	Grey partridge	Red Status; S. 41
<i>Prunella modularis</i>	Dunnock	Amber Status
<i>Pyrrhula pyrrhula</i>	Bullfinch	Amber Status
<i>Streptopelia turtur</i>	Turtle dove	Red Status; S. 41
<i>Sturnus vulgaris</i>	Starling	Red Status
<i>Troglodytes troglodytes</i>	Wren	Amber Status
<i>Turdus philomelos</i>	Song thrush	Amber Status
<i>T. viscivorus</i>	Mistle thrush	Red Status
<i>Tyto alba</i>	Barn owl	WCA1i
Invertebrates		
<i>Satyrium w-album</i>	White-letter hairstreak	WCA5; S. 41
Other mammals		
<i>Arvicola amphibius</i>	Water vole	EPS; WCA5; S. 41
<i>Erinaceus europaeus</i>	Hedgehog	S. 41
<i>Lepus europaeus</i>	Brown hare	S. 41
<i>Lutra lutra</i>	Otter	EPS; WCA5; S. 41
<i>Meles meles</i>	Badger	PBA 1992
<i>Mustela putorius</i>	Polecat	S. 41

4.2.4

NE open source GCN records

Assessment of Natural England's GCN class licence returns data, and pond survey records show the closest positive record to be located c. 300m northeast of the application site (dated 2016), which within the normal dispersal range of the species. SBIS also hold records of GCN presence in P1, within the site boundary, where three individuals were observed in 2016.

EPSML for bats do not exist from within 2km of the application site. The closest granted licence is for a location c. 4.5km southeast of the site.

4.3

4.3.1

BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

Habitats and vascular plants

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

a) Built environment

(u1b5 buildings, u1b developed land, sealed surface)

The building (**u1b5**) proposed for extension is U-shaped, front gable, bungalow of brick construction with pitched plain tile roofs (Photo 1) and two gable ends on the northwest elevation, with the garage entrance on the western section (Photo 2). A small conservatory is present off the southeast elevation (Photo 3). Along the northeast

elevation is a path of stone slabs (Photo 4) leading to a patio area adjacent to the east section of the northwest elevation (Photo 5). Along the southeast elevation is a gravel path (Photo 6) leading to the front of the house. This connects to the existing gravel parking area and driveway which provides access through the middle of the northwest site boundary, off the southeast of Gedding Road (Photo 7) (**u1b**). A small green house exists (Photo 8) within one of several areas of managed lawn.

b) Gardens and boundary features

(g4 modified grassland, 108 mown, 203 mature tree, 200 tree, 846 flower beds, 847 introduced shrubs, h2b other hedgerows)

A small length of cherry laurel (*Prunus laurocerasus*) hedge (**h2b**) encloses the northwest lawn (**g4, 108**) area, along the western edge of the current driveway (Photo 7). The area contains two plum (*Prunus domestica*) trees (**200**) and a flower bed (**846**) with buddleia (*Buddleia davidii*) and guelder rose (*Viburnum opulus*) shrubs (**847**) (Photo 8). A mature oak (*Quercus robur*) tree (**203**) exists along the northwest site boundary (Photo 9), to the west of the site access, with a hawthorn (*Crataegus monogyna*) tree (**200**) located in the west corner of the site. The mown lawn (**g4, 108**) features species such as selfheal (*Prunella vulgaris*), creeping cinquefoil (*Potentilla reptans*), red fescue (*Festuca rubra*), white clover (*Trifolium repens*) and Yorkshire fog (*Holcus lanatus*), along with an existing greenhouse where the new garage building is proposed.

Along the northwest site boundary, to the east of the access, is a flower bed (**846**) containing ornamental shrubs (**847**). The adjacent lawn area (**g4, 108**) extends round to the northeast (Photo 10) of the bungalow and contains species including selfheal, ragwort (*Jacobaea vulgaris*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*) perennial ryegrass (*Lolium perenne*). A conifer (*Pinus sp.*) tree (**200**) and a mature willow (*Salix babylonica*) tree (**203**) are in the northern corner of the site with additional hedgerows (**h2b**) occupying the remainder of the northwest and northeast site boundaries.

c) Water bodies and adjacent habitat

(r1 open standing water, 41 ponds non-priority, 50 ditch, f2d marginal aquatic vegetation, 81 ruderal, 16 tall forb)

A pond P1 (**r1, 41**) is located at the southwest site boundary (Photo 11), connected to a dry ditch (**50**) at the west end (Photo 12). Some macrophytes are present along with marginal vegetation (**f2d**) such as water mint (*Mentha aquatica*), branched bur-reed (*Sparganium erectum*), soft rush (*Juncus effusus*) and fringed willowherb (*Epilobium ciliatum*). A narrow strip of wildflowers exists along the northeast and northwest edges of P1. Species recorded in the tall ruderal vegetation (**81, 16**) include red (*Silene dioica*) and white campion (*Silene latifolia*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum officinale agg.*) and oxeye daisy (*Leucanthemum vulgare*).

4.3.2

Amphibians and reptiles

a) Ponds

Seven waterbodies are located within 250m of the application site boundary (Figure 2). P1 (Photo 11) is located at the southwest site boundary, the water is very turbid with multiple ducks observed. Limited macrophytes are present along with some marginal vegetation. A narrow strip of wildflowers and ruderal vegetation exists along the north and west edges of P1, along with a small dry ditch which is connected to the northwest end of the pond. The immediate surroundings offer both potential foraging and refuge opportunities (e.g., marginal aquatic and ruderal vegetation), although the adjacent land (e.g., managed grassland and hardstanding surfaces) supports sub-optimal terrestrial habitat for GCNs.

P1 was assessed for its habitat suitability to support breeding GCN, and other common amphibians, GCNs were recorded within this pond when it was surveyed in 2016. The HSI assessment scores and calculation results are summarised in Table 4.3 below.

Table 4.3 Pond (P1) HSI survey results for Brookside, Drinkstone, Suffolk.

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

The ponds habitat suitability for GCNs is assessed as *Average* (HSI score = 0.59), this represents a 59% probability that the species are present within the pond, although the result is at the lowest limit of the average category, on the boundary of a below average assessment score.

The new garage building will result in the loss of suitable terrestrial habitat for GCN within 100m of P1 and has the potential to cause minor disturbance to individual GCNs if they are found to be present within the pond. The NE rapid risk assessment calculator tool suggests that the development proposals represent an *amber* level of risk. This indicates that, if the development were to proceed without a licence, it is likely that an offence will be committed. The assessment results are shown in Table 4.4, below.

Table 4.4 GCN rapid risk assessment results for Brookside, Drinkstone Green

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.05
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Minor disturbance of newts	0.5
	Maximum:	0.5
Rapid risk assessment result:	AMBER: OFFENCE LIKELY	

b) Terrestrial habitat

i) *Amphibians*

The gardens surrounding the bungalow support areas of suitable terrestrial foraging habitat (e.g., lawn and tall vegetation) and limited refuge opportunities (e.g., shrubs and hedgerows) for common amphibians.

ii) Reptiles

The pond offers suitable hunting habitat for grass snake, of which a population have been historically recorded within 250m of the site (although most recently in 2005). However, the short grassland/lawn and gravel areas surrounding the bungalow are considered suboptimal terrestrial habitats for most common reptiles, including species such as slow-worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). These species typically prefer a mosaic of tall, tussocky grassland (containing anthills - indicating an absence of recent management) and scattered scrub, which provide cover from predators and open areas for basking. As such, the overall value of the site for reptiles was assessed as *low*.

4.3.3

Bats

a) Building Assessment

The existing bungalow is a brick built, single storey, U-shaped building with two gable ends off the sections on the northwest elevation. The pitched roofs are constructed of tightly fitting interlocking plain tiles, with few gaps and well-sealed ridge tiles. A chimney is present on the northwest elevation, on the middle section, adjacent to the east section valley. A small gap between tiles was identified on the exterior of the roof, near the lead flashing around the chimney, which appear to be generally flush and well-sealed (Photo 13).

On the southeast elevation exterior, adjacent to the west of the conservatory, a small hole in the soffit was identified (Photo 14), apart from this the building is well sealed at the eaves with plastic soffits, guttering and anti-bird wire present. Photo-voltaic cells are present on the southeast roof pitch of the middle section. The loft and the interior of the garage (northwest elevation, west side of the bungalow) are both lined with Type 1F underfelt, between timber beams, struts, and rafters (Photos 15 and 16). The garage walls are constructed of bricks and breezeblocks.

Inside the loft of the bungalow to the east and west of the chimney stack, two individual old bat droppings were identified, they appear to be consistent in shape and size with a BLE (Photo 17) and pipistrelle sp. (Photo 18). The bungalow supports limited PRFs both internally and externally, with few access points recorded. A very low number of droppings were observed in the loft space, the lack of significant accumulations indicates that no maternity roost is present within the building which is therefore assessed as supporting a *low* level of BRP.

A small conservatory exists off the southeast elevation, (due to be demolished), constructed of glass and plastic, along with a greenhouse in the northwest lawn area. No PRFs were identified, and no evidence of roosting bats was found in either of the structures which were determined to support *negligible* BRP.

b) Tree Roost Assessment

Several mature trees exist within the grounds, none of which support potential roosting features (PRFs) such as cavities, split limbs, peeling bark, and woodpecker holes. A mature oak is to be retained which may support PRFs not visible from ground level. They are all assessed as supporting *negligible* BRP.

c) Foraging/commuting habitat

The gardens at Brookside support suitable bat foraging habitats (e.g., grassland, mature trees and shrubs, boundary hedgerows, and pond). These habitats retain some connectivity to other suitable habitats and likely roosting sites (e.g., residential properties with mature gardens containing trees to the southwest) in the wider

landscape and were assessed as being of *moderate* value to commuting bats (Collins, 2016).

d) Emergence survey results - 19/09/23 (Figure 4)

The weather was dry with 90% cloud cover and 30km/h wind speeds. The temperature at the start of the survey was 19°C dropping to 18°C at the end. Sunset was at 19:03, with the survey commencing at 18:48 and ending at 20:33.

No bats were observed emerging from the building, with a low amount of foraging and commuting behaviour observed. The first registration, at 19:30, was that of two common pipistrelle bats flying through the garden area to the northwest of the property, from the trees adjacent to the site's southwest boundary. Common pipistrelles were observed circling the bungalow and foraging in this location, particularly in front of the garage, for the remainder of the survey. A registration of a soprano pipistrelle was also recorded at 19:30. At 19:38 a single common pipistrelle was seen flying over the building from the northeast towards the southwest. From 19:52 the occasional registration of a BLE was recorded, although unseen, the registrations indicate foraging behaviour in the northeast and northwest gardens. Multiple passes of a noctule (*Nyctalus noctula*) were also recorded between 19:55 and 19:59.

4.3.4 *Nesting birds*

No evidence of nesting birds was found in the bungalow, garage, greenhouse, or conservatory. Trees, shrubs, and hedgerows on the site provide suitable nesting opportunities for small passerines such as dunnock (Amber Status), house sparrow (Red Status, S. 41) and wren (Amber Status). Potential for larger species like stock dove (*Columba oenas*) (Amber Status), song thrush (Amber Status) and woodpeckers exists in taller, mature trees at the site boundaries. A tawny owl (*Strix aluco*) was heard calling during the bat activity survey.

4.3.5 *Badger*

No evidence of badgers was recorded during the site survey.

4.3.7 *S. 41 habitats and species*

a) Habitats

The land where building works are proposed is managed as a residential garden containing areas of gravel, lawn, hedges, ornamental shrubs and some trees. Two plum trees and a length of common laurel hedge will be removed to necessitate the construction of the new garage building, the hedge is not considered to be a priority habitat.

b) Species

Hedgehog may occasionally be present on the site which provides potential foraging and refuge habitat (e.g., shrubs and hedgerows) with hedgehog recorded at the site boundary in 2019. While mature trees, shrubs, and hedgerows could support some S. 41 list invertebrates, such as Lepidoptera, and the pond may support aquatic invertebrates including Odonata larvae.

4.3.8 *Non-native invasive plants*

No Schedule 9 WCA 1981 non-native invasive species were recorded within the application site boundary.

4.4

GEOGRAPHIC CONTEXT

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

Table 4.4 Feature value based on geographic context

Feature	Value
Grassland, trees, shrubs, hedgerow, and pond	Local
Amphibians and reptiles	Local
Bats	Local
Nesting and foraging birds	Local
S. 41 habitats and species	Local

5 Assessment and recommendations

5.1 INTRODUCTION

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

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

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

5.2 DESCRIPTION OF PROPOSED DEVELOPMENT

Planning permission is being sought to construct four single storey extensions to the footprint of the existing bungalow at Brookside, Drinkstone Green, as well as the construction of a new garage building in the northwest of the site.

Works will require the permanent loss of small areas of lawn and the removal of a short section of laurel hedgerow, and shrubs. Combined, this has the potential to impact upon amphibians, bats, nesting birds and hedgehogs.

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

5.3 NEED FOR FURTHER SURVEYS

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

It is recommended that P1 is surveyed for GCN eDNA within the next allowed survey window (15 April to 30 June 2024) to confirm the continued presence or absence of the species on the site. The results would determine if a GCN mitigation licence will be required to legalise the proposed works or whether a Precautionary Working Method Statement could be used.

5.4 ASSESSMENT OF IMPACTS

The EclA assessment process (CIEEM, 2018) involves:

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

The emphasis in EclA is on the assessment of 'significant effects' i.e., an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In broad terms significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species including extent, abundance, and distribution.

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

5.5 HABITATS AND VASCULAR PLANTS

a) Potential impacts

Vegetation clearance and construction activities will result in the permanent loss of areas of lawn/short grassland and the removal of two immature trees, a length of hedgerow, and some shrubs in the footprints of the new extensions and proposed garage building. These losses constitute a minor negative effect at the Local level.

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

Building works could potentially cause damage to the nearby pond and ditch through accidental pollution and siltation. This would have a negative impact at the Local level.

a) Mitigation

i) Terrestrial habitats

Vegetation clearance should be undertaken only within the application site boundary. As good practice, the building contractors site compound should be located off grassed areas and away from retained trees and hedgerows, ideally on the existing gravel driveway. Retained trees and hedgerows should also be protected from damage with Heras (or similar) fencing and Root Protection Areas (RPAs) should be used to inform the detailed design.

ii) Aquatic habitats

A contractor Risk Assessment Method Statement (RAMS) should be developed ahead of works commencing to ensure Good Practice measures are used to avoid and/or minimise the risk of pollution upon the pond and ditch. Measures may include, but are not exclusive to:

- Locating any site compounds (including any fuel storage) away from the pond;
- Limiting topsoil removal as required and covering topsoil whilst stockpiled;
- Cleaning machinery in designated areas with a sump and re-using wastewater 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 pond;
- Using water based, non-toxic and biodegradable chemicals and fuels where possible;
- Mixing and washing chemicals and associated equipment in designated areas with wastewater 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.

Although prepared for other areas of the UK, useful 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.

c) Residual effects

The loss of two native fruit trees, shrubs and a length of hedgerow will result in a minor negative residual effect at the Local level and requires compensation, which should be included as part of any final landscaping scheme.

5.6

AMPHIBIANS AND REPTILES

a) Potential impacts

Vegetation clearance, ground-breaking and construction activities will result in the temporary disturbance and permanent loss of areas of potential foraging (e.g., lawn/grassland) and refuge habitats (e.g., woody shrubs and hedgerows) with potential entrapment resulting in the injury and mortality of individuals due to the presence of trenches, caustic materials such as wet concrete, and temporary stockpiles of soil and/or building materials.

Accidental damage/pollution of nearby waterbodies could harm any animals, including any GCNs present. On completion of the development, the use of gully pots or similar as part of a surface water drainage system can result in the entrapment of amphibians (Muir, 2012).

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

b) Mitigation

As per 5.5.

If a positive GCN eDNA result was returned from P1 then to mitigate impacts on GCNs a Precautionary Working Method Statement should be submitted to the LPA for approval.

Good working practises would likely avoid direct impacts upon other amphibian species present (and potentially grass snakes). These should include:

1. All lawn/grassed areas within and near the works footprint should be kept short prior to and during construction.
2. Clearance of any taller vegetation should be undertaken sensitively during the months of April to September inclusive. Hand tools (e.g., strimmers and hedge trimmers) should be used to take taller vegetation down to ground level using a 2-stage cut as follows:
 - A first cut to be taken to 150mm above ground level with brash raked prior to being removed from site;

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

- After at least 1 hour (preferably overnight), a second cut to ground level; and
 - Maintained near to ground level until works commence.
3. Excavations should be undertaken during hot dry weather (or the winter months as the short grassland is unsuitable for overwintering) when GCNs would remain in the ponds or seek cover in woodland or hedgerows to reduce the risk of animals falling into open trenches.
 4. Open trenches that require leaving open to allow building inspector sign off should either be covered overnight, or amphibian/mammal ramps should be created to allow animals to escape and the excavations should be inspected daily and immediately prior to infilling.
 5. Any animals (except for GCN) present should be moved to retained habitats, e.g., rough grassland around the wetland and/or base of shrubs providing adequate cover;
 6. 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;
 7. 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;
 8. Any excess concrete should be poured into a concrete skip, so it can then set to prevent animals coming into contact.
 9. 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;
 10. The GCN poster in Appendix A4 should be erected in the welfare facilities provided for construction staff on site.
 11. 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.
 12. **Gully pots should be avoided where possible and permeable paving used so amphibians don't become trapped in silt traps/attenuation crates; and**
 13. **Downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen⁸ to prevent amphibians entering drains.**

If the subsequent construction of foundations, floor slabs etc required for the garage and extensions cannot be undertaken when GCNs are unlikely to cross areas of short grassland (e.g., hot summer weather or in the winter months), the site could be registered as part of the NE GCN DLL Scheme.

c) Residual effects

With mitigation measures proposed, no significant effects are anticipated.

5.7

BATS

a) Potential impacts

i) Roosting bats

The single storey extensions of the bungalow will not impact upon any bat roosts and so no significant impacts are anticipated with no bats recorded emerging and only a couple of old droppings present.

The trees requiring removal support *negligible* BRP. As such, there is a low risk of disturbance to any bat roosts.

⁸ <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

ii) Foraging and commuting habitats

Vegetation clearance will remove two trees, shrubs and a length of hedgerow which is considered a minor impact in relation to local foraging opportunities.

iii) Light disturbance

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

Lighting impacts relate to security lighting external to the buildings, and potentially from spillage of internal lighting once they are in use. In this instance, impacts on retained mature trees, shrubs and hedgerows at the site boundaries, the trees on adjacent land to the southwest and the pond are considered most relevant.

iv) Roofing membranes

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

b) Mitigation

i) Foraging and commuting habitat

As per 5.5, protective fencing will be used to protect retained trees, hedgerows, and grassland areas. As a precautionary measure, works must stop immediately if any bats are found during any works affecting the existing roof/soffits and an experienced ecologist must be contacted to provide advice.

ii) Light disturbance

Exterior lighting (as well as temporary security lighting during the construction phase) design must minimise lighting impacts upon retained natural habitats including the pond, mature trees, hedgerows, and shrubs in the gardens, particularly at the site boundaries and should follow current guidance as necessary^{9,10}:

- *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 °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 (e.g., oak tree to the west of the bungalow), boundary hedgerows, shrubs and the pond. This can be achieved by restricting the height of the lighting columns/fixtures and the design of the luminaire, including the following measure:
 - ❖ Light columns/fixtures in general should be as short as possible as light at a low level reduces the ecological impact.
 - ❖ Luminaires with an upward light ratio of 0% should be mounted on the horizontal i.e., with no upward tilt.
 - ❖ If taller lights are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
 - ❖ PIR movement sensors and timers should be used to minimise the 'lit time'.

⁹ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

¹⁰ www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

iii) Roof membrane

Bat friendly roofing felt (e.g., Type 1F or a breathable sarking board e.g., Hunton Sarket or Pavatex Isolair) should be used if handmade clay pantiles or plain tiles are proposed for the house extension. Until recently non-bitumen coated roofing membranes (NBCRM) would not be licensed by Natural England. However, a NBCRM which has passed a *snagging propensity test* as defined by Natural England and the Bat Conservation Trust¹¹ may be approved as part of an EPS Mitigation licence application.

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

c) *Residual effects*

The results of the bat emergence survey have determined that bat roosts are likely absent from the bungalow and as such, no EPSML will be required. With mitigation measures implemented, impacts upon bats will likely be negligible.

5.8

NESTING BIRDS

a) *Potential impacts*

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

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

b) *Mitigation*

As per 5.5.

Habitat avoidance and mitigation as per sections 5.5 and 5.6.

Commencement of vegetation clearance should take place outside of the nesting bird season (March to August inclusive). 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*

Effects upon active nests will be avoided.

5.9

OTHER S. 41 LIST HABITATS AND SPECIES

a) *Potential impacts*

Vegetation clearance will result in the permanent loss of potential refuge and foraging habitat for hedgehogs. During construction, hedgehogs could potentially fall into open trenches resulting in possible entrapment, injury and mortality of individuals due to contact with caustic substances such as fresh concrete.

¹¹ <https://www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-coated-roofing-membranes>

b) Mitigation

Habitat avoidance and mitigation as per section 5.5 and 5.6.

Site clearance should always consider the potential presence of hedgehogs with vigilance, with no clearance of dense woody shrubs or hedgerows 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 retained hedgerows/shrubs.

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 should be installed to allow animals escape. Uncovered trenches must be checked daily, and any animals encountered be relocated out of the works area.

c) Residual effects

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

5.11

COMPENSATION

Residual negative effects upon habitats and species relate to the loss of some trees, shrubs, some small areas of lawn and a short section of hedgerow within the footprint of the new garage and access, with associated minor impacts on amphibians, foraging bats, mammals (e.g., hedgehogs), and nesting birds.

To compensate for the loss of any lawn areas, an area of retained lawn to the northeast of the site could be managed as a flowering lawn by cutting the existing sward short in the spring or autumn and then scarifying prior to over-seeding with a wildflower seed mix¹² suitable for the underlying soils/geology and hydrology.

To compensate for the loss of two trees and a short section of hedgerow three heritage fruit trees (see www.applesandorchards.co.uk) should be planted within the garden.

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

5.13

CUMULATIVE EFFECTS

The Mid Suffolk Council website was searched on 12 September 2023 for significant planning applications within 1km of the application site dating back by two years. Refused and withdrawn applications were not considered in relation to cumulative ecological effects.

The search returned a low number of householder applications for extensions and/or alterations to existing dwellings, several applications for the discharge and/or variation of conditions for previously granted minor schemes (beyond the 2-year search period), an application to erect a detached dwelling and cart lodge, and another to construct a new access.

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

¹²<https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/flowering-lawn-mixture/>

5.13

ENHANCEMENT OPPORTUNITIES

It should be noted that from November 2023 it is anticipated that all planning permissions granted in England (with a few exemptions) will be formally required to deliver at least 10% biodiversity net gain (see Section 2.3.1). Quantitative assessments of habitat losses and gains using the Defra Metric will therefore be necessary.

Mitigation and compensation measures proposed will ensure negative ecological effects are minimised. However, to be consistent with planning policy, biodiversity gains could be delivered through suggested enhancement measures. To maximise biodiversity enhancements a minimum of 3 of the 5 options listed in Table 5.1 should be implemented.

Table 5.1 Biodiversity enhancements

Feature	Enhancement suggestion
Nectar rich climbers	<p>1. Any ornamental planting should utilise nectar rich plants to benefit pollinators and associated predators (e.g., foraging bats and hedgehogs).</p> <p>Planting should include nectar rich 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 hedgerows and/or trained up walls, fences, posts, and trellises.</p>
Small passerine nest boxes	<p>2. A minimum of 3 small passerine nest boxes (Appendix A5) including could be mounted on existing mature trees in the gardens and/or buildings, with exact locations agreed with a suitably experienced ecologist.</p>
Bats	<p>3. Three bat boxes (comprising 1x each of the boxes in Appendix A6), could be erected on suitable mature trees in the gardens. Exact locations to be agreed with a suitably experienced ecologist.</p>
Pond	<p>4. The pond could be cleaned out and any fish removed (if present) and water mint (<i>Mentha aquatica</i>) and water forget-me-not (<i>Myosotis scorpioides</i>) planted around the margins. Duck should be discouraged as they defaecate in the water and make it turbid and smelly.</p>
Log/brush piles	<p>5. A log/brush piles (Appendix A7) could be created and sited within the garden, near the pond using logs/brush from any trees/shrubs (broadleaved species only – not conifers) requiring felling during construction works.</p> <p>Log/brush piles provide important refuge habitats for amphibians/reptiles and are likely to support a range of fungi, dead wood invertebrates and solitary bees, which in turn will attract foraging small mammals and birds etc.</p>

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

5.14

CONCLUSIONS

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

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

- BS 42020:2013 D.2.1 to provide a Biodiversity Method Statement to detail mitigation, compensation and enhancement measures, to be reflected in the detailed landscaping proposals and site plans for the scheme;
- BS 42020:2013 D.3.2.1. nesting bird check (by suitably experienced ecologist) prior to tree/shrub clearance if during the bird breeding season;
- BS 42020:2013 D.3.5 to limit lighting design impacts upon bats; and
- BS 42020:2013 D.3.7 to ensure mitigation, compensation and enhancement measures are successfully implemented.

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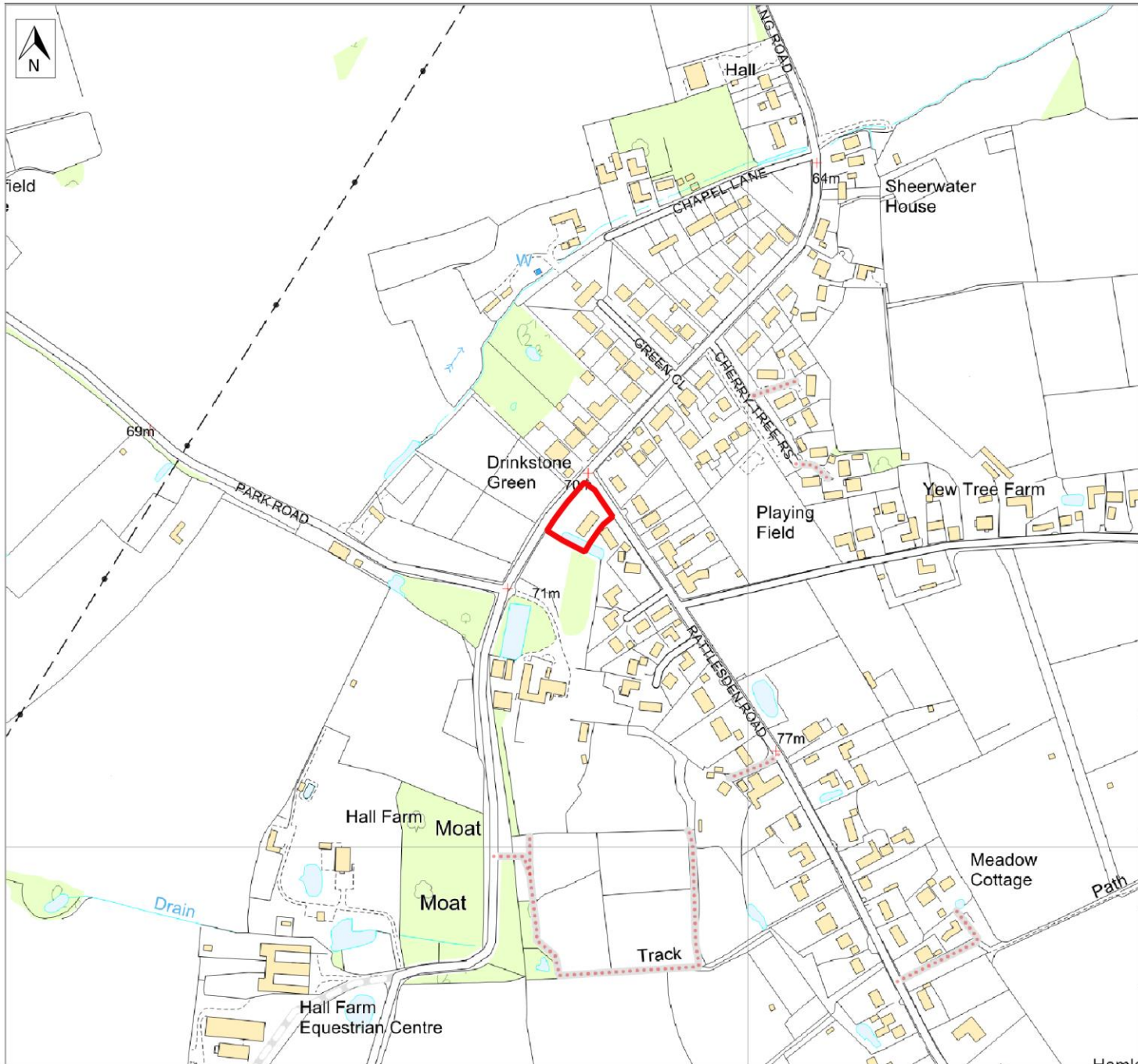
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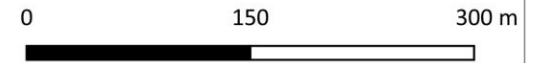
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Figures



Legend

 Site boundary

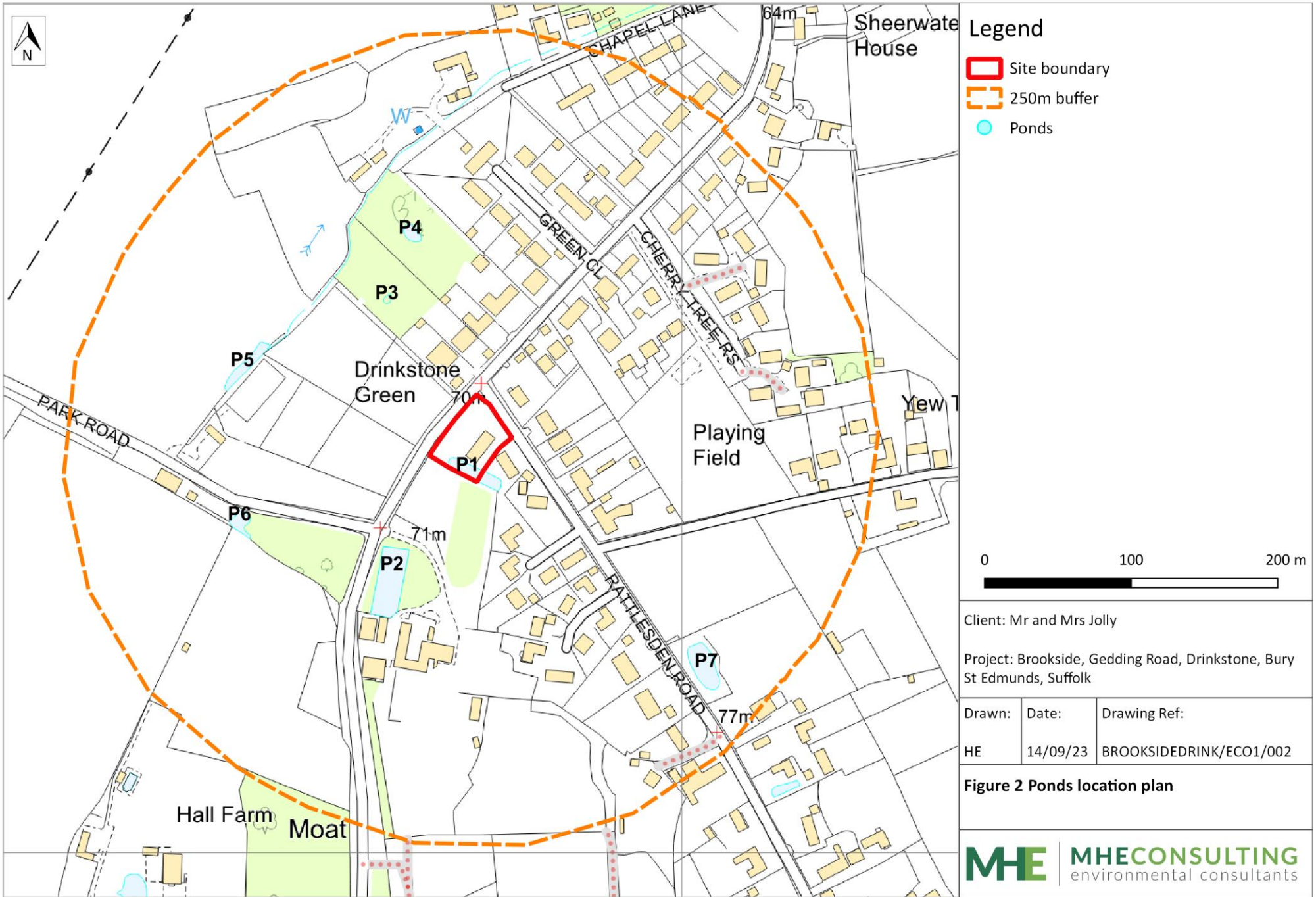


Client: Mr and Mrs Jolly

Project: Brookside, Gedding Road, Drinkstone, Bury St Edmunds, Suffolk

Drawn:	Date:	Drawing Ref:
HE	14/09/23	BROOKSIDEDRINK/ECO1/001

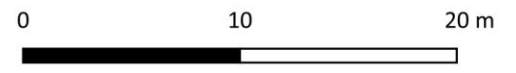
Figure 1 Site location plan





Legend

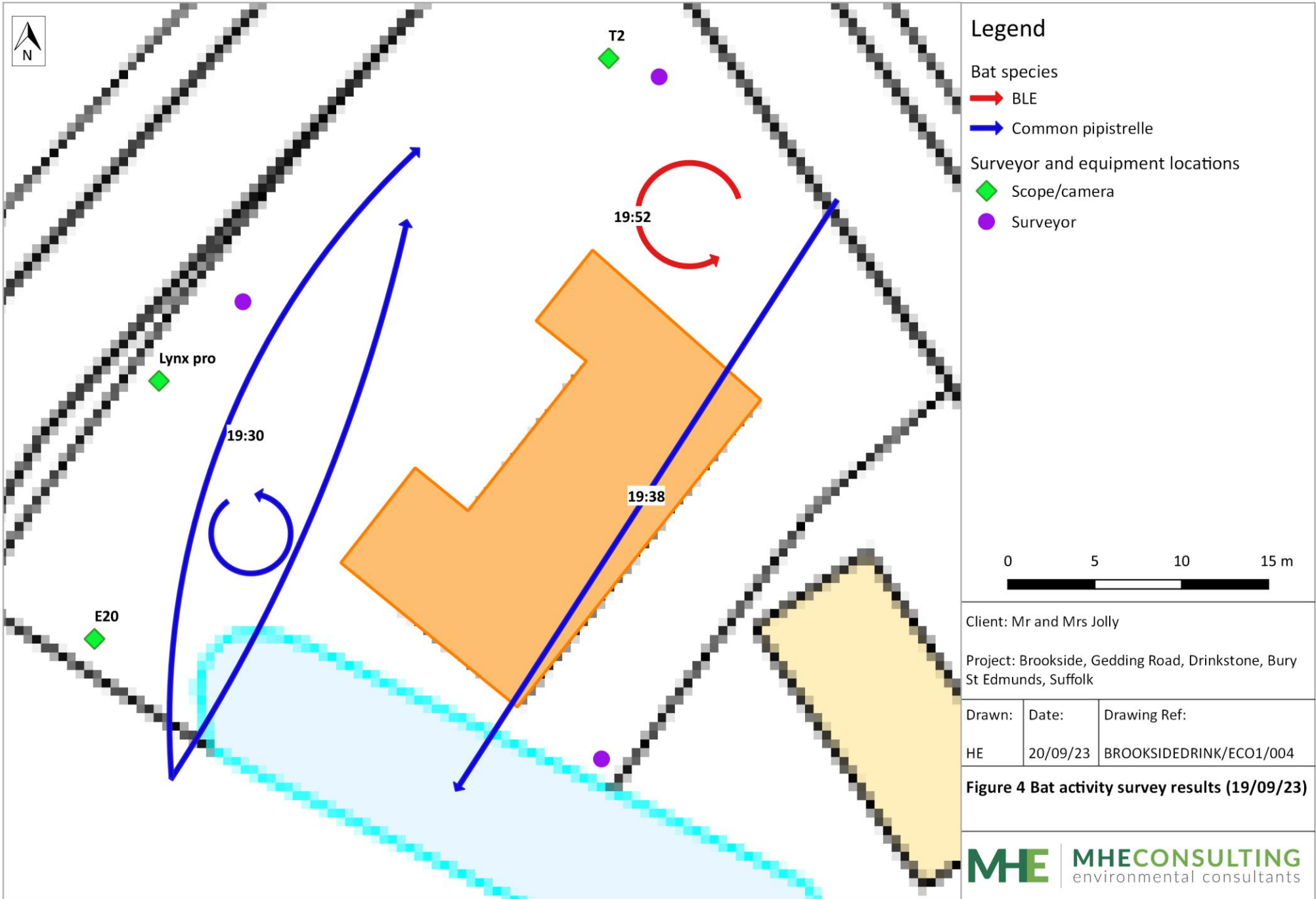
- Site boundary
- ◆ Bat droppings



Client: Mr and Mrs Jolly
 Project: Brookside, Gedding Road, Drinkstone, Bury St Edmunds, Suffolk

Drawn:	Date:	Drawing Ref:
HE	14/09/23	BROOKSIDEDRINK/ECO1/003

Figure 3 Habitats plan



Appendices

Appendix A1 Photos



Photo 1 Northwest elevation of the bungalow viewed from the north corner of the plot



Photo 2 Existing garage off the west section of the northwest elevation



Photo 3 Conservatory on the southeast elevation of the bungalow viewed from the east corner of the plot

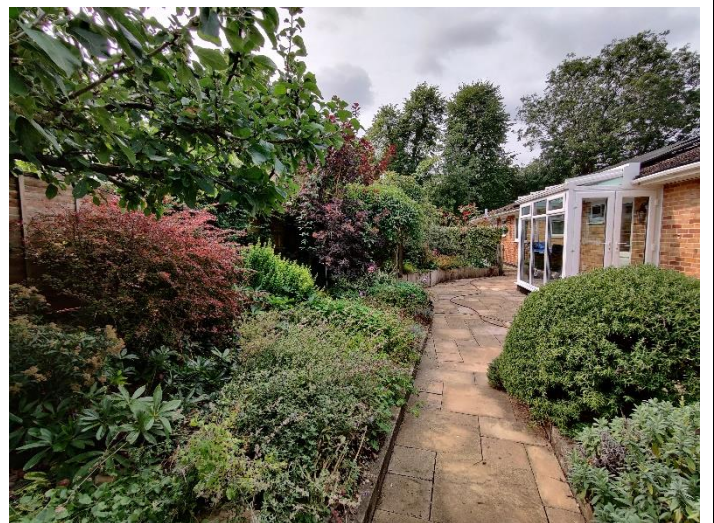


Photo 4 Paved path and flower beds off the southeast elevation, looking south



Photo 5 View of the northwest elevation, east section of the bungalow and patio area



Photo 6 Gravel and flowerbed adjacent to the southeast elevation, looking east



Photo 7 Laurel hedge (L), gravel driveway and shrubs (R), looking northwest towards Gedding Road



Photo 8 Greenhouse, shrubs, and plum trees in the northwest lawn area, viewed from the southwest



Photo 9 Mature oak and hawthorn in the west corner of the site



Photo 10 Lawn area and flower beds in the north corner, viewed from the northwest



Photo 11 P1 viewed from the southeast

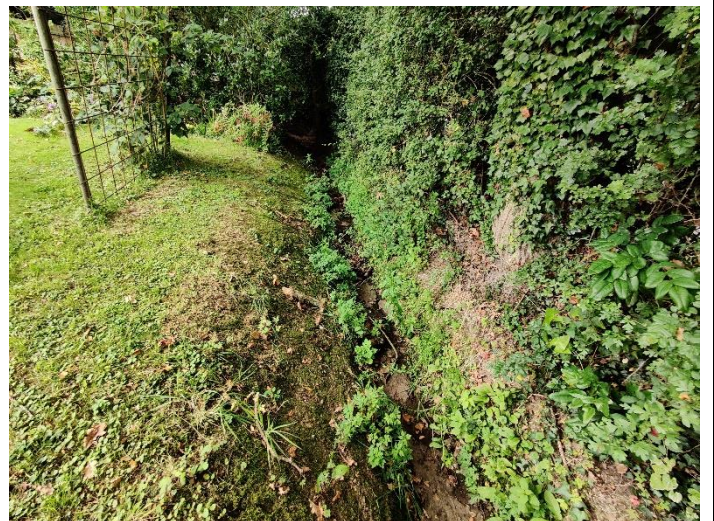


Photo 12 Ditch along the southwest boundary P1 viewed from the northwest



Photo 13 Gap under tile adjacent to the chimney on the northwest elevation



Photo 14 Hole in soffit on the southeast elevation, adjacent to the conservatory



Photo 15 interior of the loft looking northeast



Photo 16 interior of the loft looking northwest

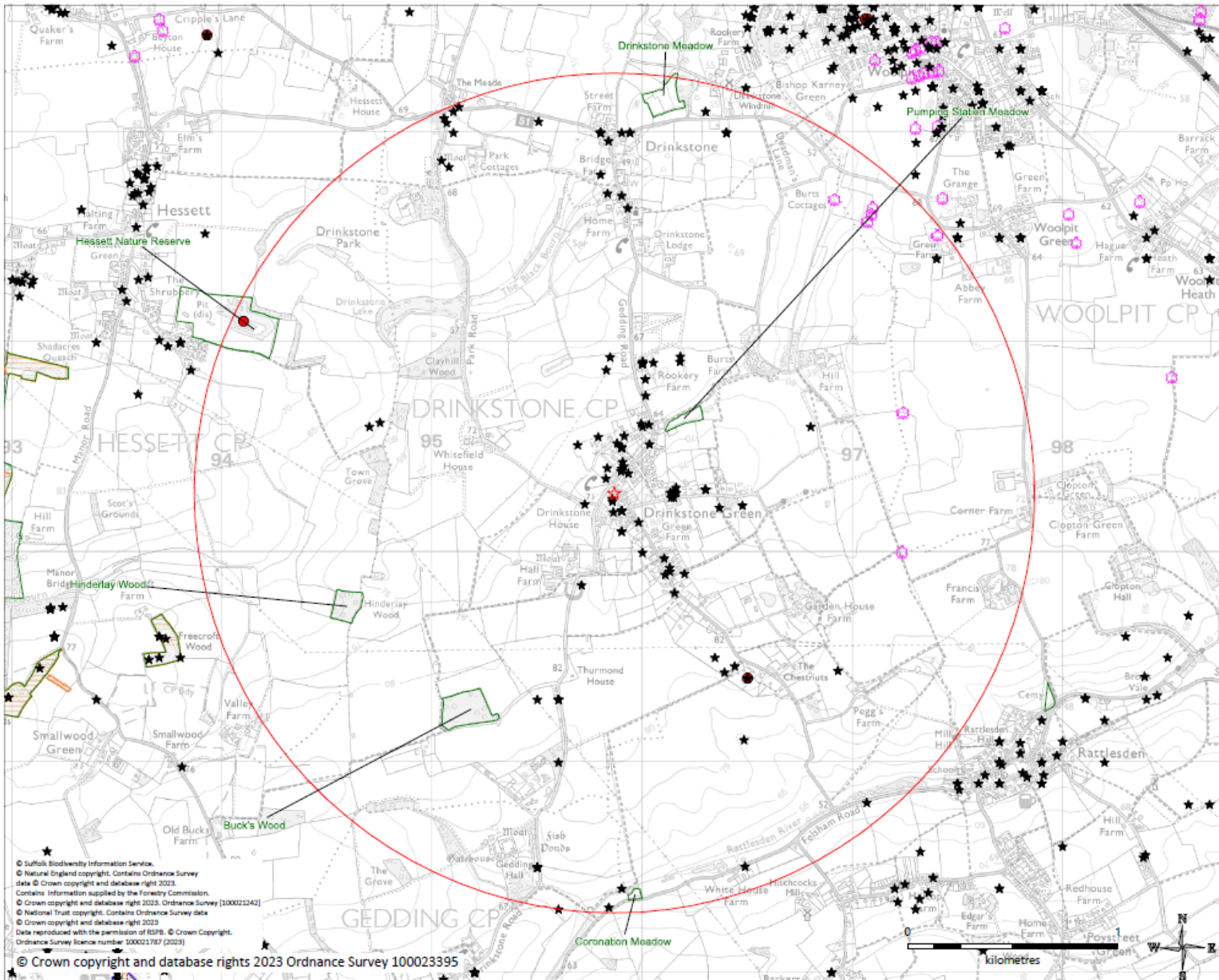


Photo 17 BLE dropping in the loft



Photo 18 Pipistrelle sp. dropping in the loft

Appendix A2 SBIS data search map



- 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**
- ☆ Record Locations
- Roadside Nature Reserve**
-
- County Wildlife Sites**
-
- County GeoSites**
-
- SSSI**
-
- LNR**
-
- SPA**
-
- SAC**
-
- RAMSAR**
-
- NNR**
-
- SWT Reserve**
-
- Ancient Woodland Inventory**
-
- Other Public or Conservation Ownership/Management**
- Forestry Commission, National Trust (public access)
 - RSPB (public access)
- National Park**
- The Broads
- AONB**
- Suffolk Coast and Heaths or Dedham Vale

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MHE Consulting (Brookside, Drinkstone TL95866 60282) 2km Data Enquiry

Date: 18/09/2023 | Drawn by: Andy Mercer

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. • Any BAP species not included in the 'national' category above for which a county Action Plan exists.
Local	<ul style="list-style-type: none"> • Individual members of local populations of priority or other nationally/internationally important species which are not in themselves key for maintaining a sustainable population (e.g. individual dog otter passing through area with no holts or resting sites). • Other habitats and species not in the above categories but are considered to have some value at the district/borough level.

Appendix 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 Bird boxes



RSPB Robin and wren diamond nestbox

Product ID: R401640

£ 15.00

★★★★☆ [Read all reviews](#)

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

[Read full information](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
- Offer ends 4 January 2023 and is subject to availability
- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer

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[Home](#) > [Bird care](#) > [Bird houses & nest boxes](#) > [Garden bird nest boxes](#) > [RSPB Sparrow terrace nest box](#)

 Print



RSPB Sparrow terrace nest box

Product ID: R407816

£ 35.00

★★★★☆ [Read all reviews](#)

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

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

[Read full information](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

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

Print



Apex starling nestbox

Product ID: R405836

£ 26.99

★★★★☆ [Read all reviews](#)

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

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

Nest box measures 31.5 x 18.5 x 18cm.

[Read full information](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

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Open Fronted Nest Box

£25.00

For birds such as robin and pied wagtail. Open fronted but with a generous canopy to screen from aerial predators. Place in good cover not in the open.

43 in stock

- 1 + [Add to basket](#)

Category: bird and bat boxes

Description Additional information Reviews (0)

Description

Height tbc

Width

Depth



Willow Tit/Tree Creeper

£35.00

A new improved box designed for fitting to smaller willow/birch trees, low to the ground, to encourage willow tit. Filled internally with damp sawdust/shavings/rotting wood as this species likes to excavate their own holes. The narrowing top crevice is designed to be suitable for roosting bats. Also suitable for tree creeper without the sawdust infill.

12 in stock

- 1 +

Add to basket

Category: [bird and bat boxes](#)

Description

Additional information

Reviews (0)

Description

Height 430mm
Width 60mm
Depth 70mm
Typical Weight 4.3kg

Appendix A6 Bat boxes



Woodstone multi-chamber box

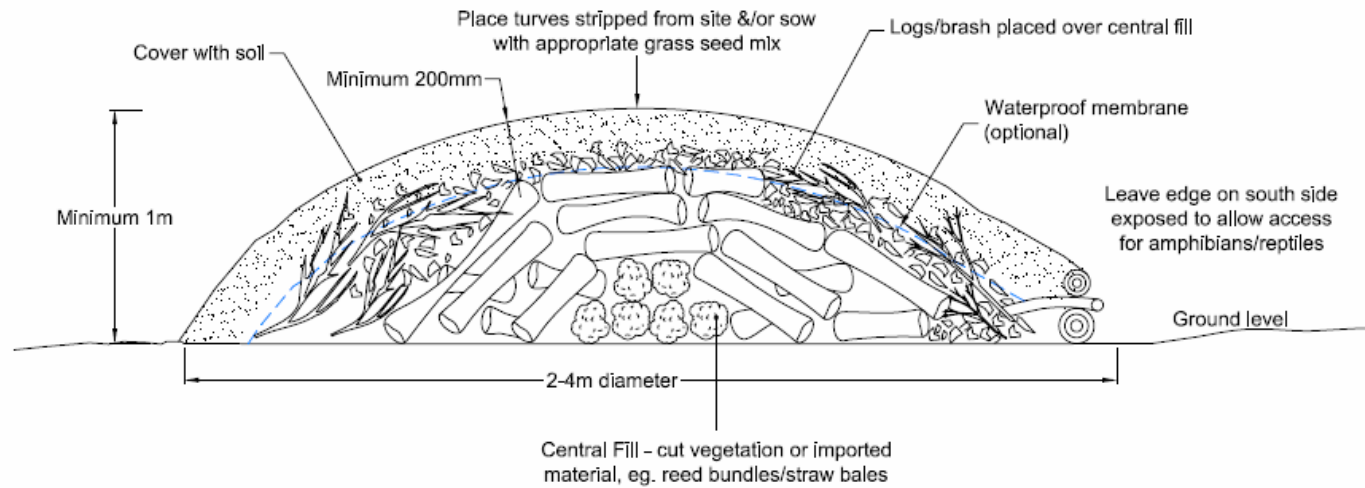


Eco Kent bat box



Vincent Pro bat box

Appendix A7 Log/brash piles



Brush/log pile recently created



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