



ecosupport

Land Adjacent to Pear Tree Public House

Preliminary Ecological Appraisal

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Client:

Dorrington Homes UK Ltd.

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Report	Preliminary Ecological Appraisal
Site Name	Land adjacent to Pear Tree Public House, Botley
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Executive Summary

Ecosupport Ltd was instructed by Dorrington Homes UK Ltd. to undertake a Preliminary Ecological Appraisal (PEA) of the land adjacent to The Pear Tree Public House, Botley. This was required in order to identify any potentially important ecological features that may be affected by the proposed development. As part of this assessment, the following surveys were undertaken:

- 1 km data request submitted to the Hampshire Biodiversity Information Centre (HBIC)
- Walkover surveying assigning UK Habs habitat types
- Preliminary Roost Assessment (PRA) (buildings and trees)

The following important ecological features were identified on site following the conclusion of the above survey work and may be subject to adverse impacts in the absence of suitable mitigation / compensation:

- Single Oak tree with low potential for roosting bats
- Low potential for foraging and commuting bats
- Low potential for common reptile species
- High potential for breeding and nesting birds

In the absence of any mitigation measures, the proposed development is anticipated to result in, **likely adverse impacts**. In addition to this, measures are outlined within section 6.0 of this document to mitigate where impacts (which includes further survey work where considered appropriate) have been identified as well as provide targeted ecological enhancements.

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by Dorrington Homes UK Ltd. to conduct a Preliminary Ecological Appraisal (PEA) of the land adjacent to Pear Tree Public House, Botley (here after referred to as 'the site'). The purpose of this survey was to assess any ecological impacts that may arise as a result of a proposed residential development. The objectives of the survey were as follows:

- Identify and classify any priority habitats;
- Assess the ecological value of the site;
- Identify any signs of protected species and potential features that may support them
- Make recommendations for further survey work as necessary;
- Make recommendations for any necessary ecological avoidance and mitigation where possible at PEA stage.

NB: If the works do not take place within 18 months of this report¹ then the findings of this survey will no longer be considered valid and may require updating.

1.2 Site Description & Location

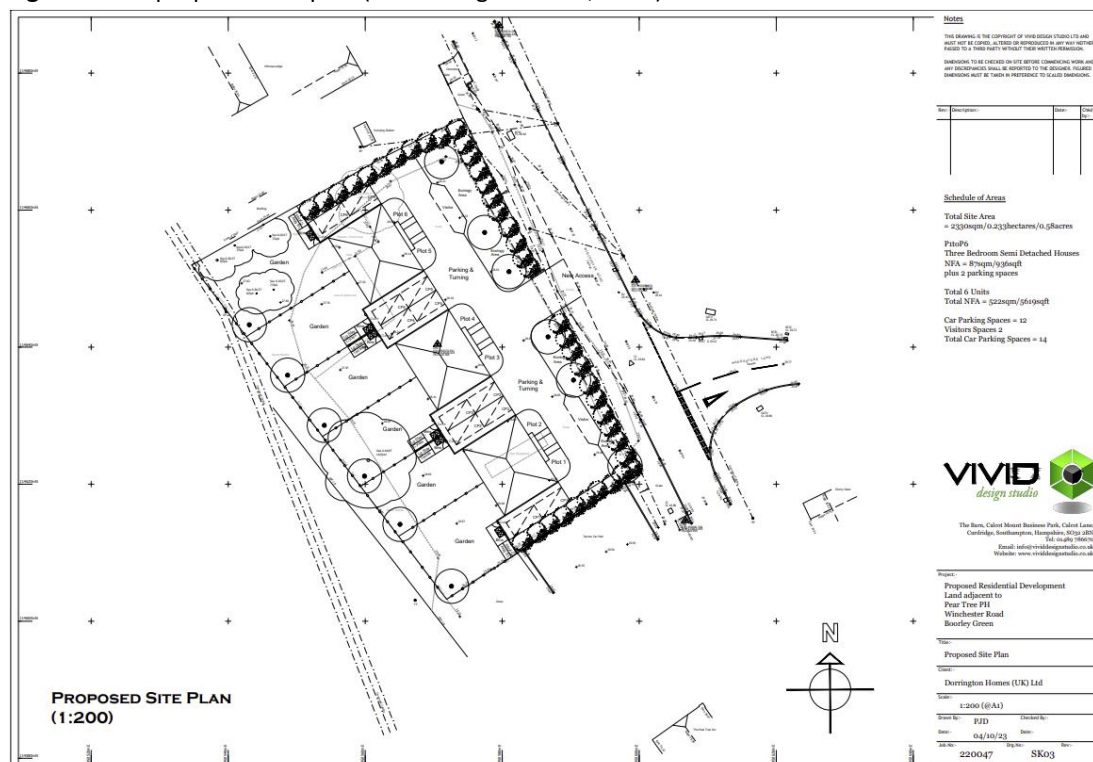
The site comprises a parcel of grassland located to the north of Pear Tree Public House, Winchester Road, Botley, SO32 2DH (centred on OS grid reference SU505146) (**Fig 1**). The site is bound to the east by Winchester Road, by the public house to the south, residential properties and their associated gardens to the north and agricultural land to the west.

¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Figure 1. Redline boundary of the site (Google Satellite, 2023).

1.3 Proposed Development

It is understood that the current proposals involve the construction of 6 new dwellings with associated landscaping and access (**Fig 2**).

Figure 2. The proposed site plan (Vivid Design Studios, 2023).

2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

2.1.1 *The Environment Act (2021)*

The Environment Act 2021 is the UK's new legislation for environmental protection in the UK, which includes protection of water quality, clean air, and biodiversity among other key protections. This Act provides the government power to set targets to reach long-term aims relating to the environment, which will be periodically reviewed and updated. This legislation also establishes a new environmental watchdog organisation, the Office for Environmental Protection (OEP), which will hold the government accountable on environmental issues.

Part 6 of The Environment Act relates to nature and biodiversity. This section makes provision for biodiversity net gain to be a condition of planning permission in England and a requirement for nationally significant infrastructure projects. Biodiversity net gain will require maintenance for a period of at least 30 years after the completion of enhancement works to be achieved.

The legislation also includes updates to existing environmental legislation, such as the NERC Act 2006, to strengthen biodiversity enhancement rather than just conservation and includes a requirement for local, or relevant, authorities to publish biodiversity reports. Further, The Environment Act places a requirement on responsible authorities to prepare local nature recovery strategies, which will outline nature conservation sites and priorities and opportunities for recovering or enhancing biodiversity within the local area. Within England, the legislation also provides Natural England with the power to publish 'species conservation strategies' and 'protected site strategies' to identify activities that may affect a species or site's status and outline their opinions on measures that would be appropriate to avoid, mitigate or compensate any adverse impacts.

2.1.2 *The Conservation of Habitats and Species Regulations 2017 (as amended)*

The Conservation of Habitats and Species Regulations 2017 transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

The Conservation of Habitats and Species Regulations 2019 (EU Exit) makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue. The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

2.1.3 The Wildlife and Countryside Act (1981) (as amended)

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

The Wildlife & Countryside Act (1981) states that it is an offence to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9 part II of the Act. This list over 30 plants including Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Parrot's Feather (*Myriophyllum aquaticum*).

2.1.4 The Countryside and Rights of Way Act (2000)

This Act strengthens the Wildlife & Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is the likelihood of protected species being present. The Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.5 Natural Environment and Rural Communities Act (2006)

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

2.1.6 Protection of Badgers Act

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a set and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

2.2 Policy

2.2.1 National

The National Planning Policy Framework (NPPF) (2023) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 15 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity, the wider benefits from natural capital and ecosystem services, minimising impacts on and providing net gains for biodiversity.

The NPPF states that plans should distinguish between the hierarchy of international, national and locally designated sites and that the scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

To protect and enhance biodiversity plans should:

identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

and promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for biodiversity.

The NPPF states 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 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;
- 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.

2.2.2 Local – Eastleigh Borough Council

The Eastleigh Borough Local Plan 2016 – 2036 has a number of policies relating to ecology with the relevant ones listed below;

‘General Approach

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:

a. protect, conserve and enhance all:

i. international, national and local nature conservation designations;

and

ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character; and facilitate their adaptation to climate change wherever possible;

b. assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);

c. seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and

d. contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S9).

International Designations

2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest and securing

any necessary compensatory measures in the absence of alternative solutions. A 'project level' Habitat Regulations Assessment will be required where there are likely significant effects or uncertainty. Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.

3. The Council will work with PFSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:

a. implementing:

i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and

ii. the interim and any future New Forest Recreation Mitigation Strategy if required; or alternative agreed site specific measures to address recreational disturbance;

b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;

c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and

d. seek contributions towards measures set out in the Southern Damselfly Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.

National and Local Designations

4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;

d. there is an overall biodiversity net gain; and

e. if there are any residual adverse effects which cannot be avoided, mitigated or compensated, the benefits of the development must clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.

Priority habitats, protected and priority species and the local ecological network

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority

habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:

- a. there are no alternative solutions;
- b. the adverse effects are unavoidable;
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;
- d. there is an overall biodiversity net gain; and
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.

Irreplaceable habitats

6. Development will not be permitted if it results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Buffers

7. Buffers free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.

Surveys

8. Development will not be permitted unless it can be demonstrated that:

- a. there have been thorough habitat and species surveys;
- b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and
- c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Data Request

A data request was submitted to the Hampshire Biodiversity Information Centre (HBIC) to ascertain any records held of nature conservation designations and protected species within 1km of the boundary of the site.

The data search covered:

- Statutory designated sites
- Non-statutory designations such as Sites of Importance for Nature Conservation (SINCs)
- Records of protected and notable species.

3.1.2 Waterbodies

Any ponds located within 500m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

3.2 Field Survey

3.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Louise Davies BSc (Hons) QCIEEM (Assistant Project Ecologist with Ecosupport) on the 22nd September 2023. Weather conditions during the survey comprised temperatures of 18°C, light winds and sunny.

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 2.0 (UKHab Ltd., 2023). This was chosen as an appropriate habitat categorisation system as it fits within the Biodiversity Metric 4.0 calculation. Where appropriate primary habitat codes were used although for some habitat types, the use of secondary habitat codes was necessary as well.

3.2.2 Badger

The site was thoroughly searched for evidence of use by Badgers (*Meles meles*), with the specific aim of identifying the presence and location of any setts. In accordance with the *Badgers and Development: A Guide to Best Practice and Licensing* (Natural England, 2011) guidance, the survey accounted for a 30m from the site's boundary (observed where possible i.e. does not conflict with private dwellings). Evidence of Badgers could include latrines, dung pits, feeding remains and foraging evidence, trails and setts.

3.2.3 Bats

3.2.3.1 Buildings

An assessment of all buildings on site was undertaken by Louise Davies during the initial walkover survey under class level 2 survey licence number (2015-13366-CLS-CLS). This followed BCT (Collins, J. (ed) 2023) best practice survey guidelines searching for any PRFs /

evidence of bat occupation and assigning a roost potential assessment as outlined in **Table 1** below.

Table 1. Guidelines for assessing the potential suitability of a built structure for roosting bats (reproduced from BCT (Collins, J. (ed) 2023).

Suitability	Description of Roosting Habitats
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ² and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ³ .
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ² and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure 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 ² and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g., maternity or classic cool/stable hibernation site.
² For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ³ Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2016 and Jansen et al., 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.	

3.2.3.2 Trees

A non-exhaustive Ground Level Tree Assessment (GLTA) assessment of any notable trees on site was undertaken by Louise Davies during the initial walkover survey under class level 2 survey licence number (2015-13366-CLS-CLS). This followed BCT (Collins (ed) 2023) best practice survey which includes aiming to identify the following Potential Roost Features (PRFs):

- PRFs formed by disease and decay: woodpecker holes, squirrel holes, knot holes, pruning cuts, tear outs, wounds, cankers, compression, forks, butt rots
- PRFs formed by damage: lightning strikes, hazard beams, subsidence cracks, shearing cracks, transverse snaps, welds, lifting bark, desiccation features, frost cracks; and
- PRFs formed by association: fluting Ivy.

The presence or absence of any of the features listed above are then feed into the classification of the tree which is as follows (**Table 2**).

Table 2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement (Collins (ed) 2023).

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any
FAR	Further Assessment Required (FAR) to establish if any PRFs are present in the tree
PRF	A tree with at least one PRF present.

3.2.4 Great Crested Newts

3.2.4.1 Waterbody Assessment

A single waterbody was identified within 500m of the site (see **Section 4.6.2**) and this was subsequently subject to a Habitat Suitability Index (HSI) assessment.

A Habitat Suitability Index (HSI) takes into account the following factors when calculating the ponds suitability to support GCN:

- Location of Pond
- Surface Area
- Desiccation Rate
- Water Quality
- Shade
- Presence of Waterfowl and Fish
- Number of Ponds within 1km
- Quality of Terrestrial Habitat
- Macrophyte Cover

These criteria are used to calculate a score according to ARG guidelines (ARG, 2010) using the Oldham (2000) calculation formulae.

This gives a score between 0 and 1 of the suitability of the pond for GCN with:

- 0.40 – 0.50: Poor suitability for GCN
- 0.51 – 0.59: Below average suitability for GCN
- 0.60 – 0.69: Average suitability for GCN
- 0.70 – 0.79: Good suitability for GCN
- 0.80 – 1.00: Excellent suitability for GCN

For ponds of average suitability or above, further surveys are often recommended.

3.3 Assessment Methodology

3.3.1 Introduction

The methodology for the assessment of the likely ecological effects of the proposed development is based on CIEEM's *Guidelines for Ecological Assessment in the UK* (CIEEM 2018). Although this assessment does not constitute a formal Ecological/ Environmental Impact Assessment, the CIEEM guidelines provide a useful framework for assessing ecological impacts at any level.

3.3.2 Valuation

Features of ecological interest are valued on a geographic scale. Value is assigned on the basis of legal protection, national and local biodiversity policy and cultural and/or social significance.

3.4 Limitations

3.4.1 Habitats

There were not considered to be any significant limitations on the results of the habitat survey with all areas of the site accessible and the survey conducted at a suitable time of year for identifying botanical species and all surveys followed the relevant best practice guidelines.

4.0 ECOLOGICAL BASELINE

4.1 Designated Sites

4.1.1 Statutory Designated

HBIC did not identify any statutory designated sites within the 1km search radius. However, the site does lie within the nutrient neutrality catchment for the Solent Marine European Designated Sites and lies approximately 2.3km from the Solent and Southampton Water SPA. The site also lies approximately 13.1km from the New Forest SPA.

4.1.2 Locally Designated / Non-Statutory

The locally designated sites identified by HBIC are shown in **Fig 3** with a summary of these sites presented in **Table 3**.

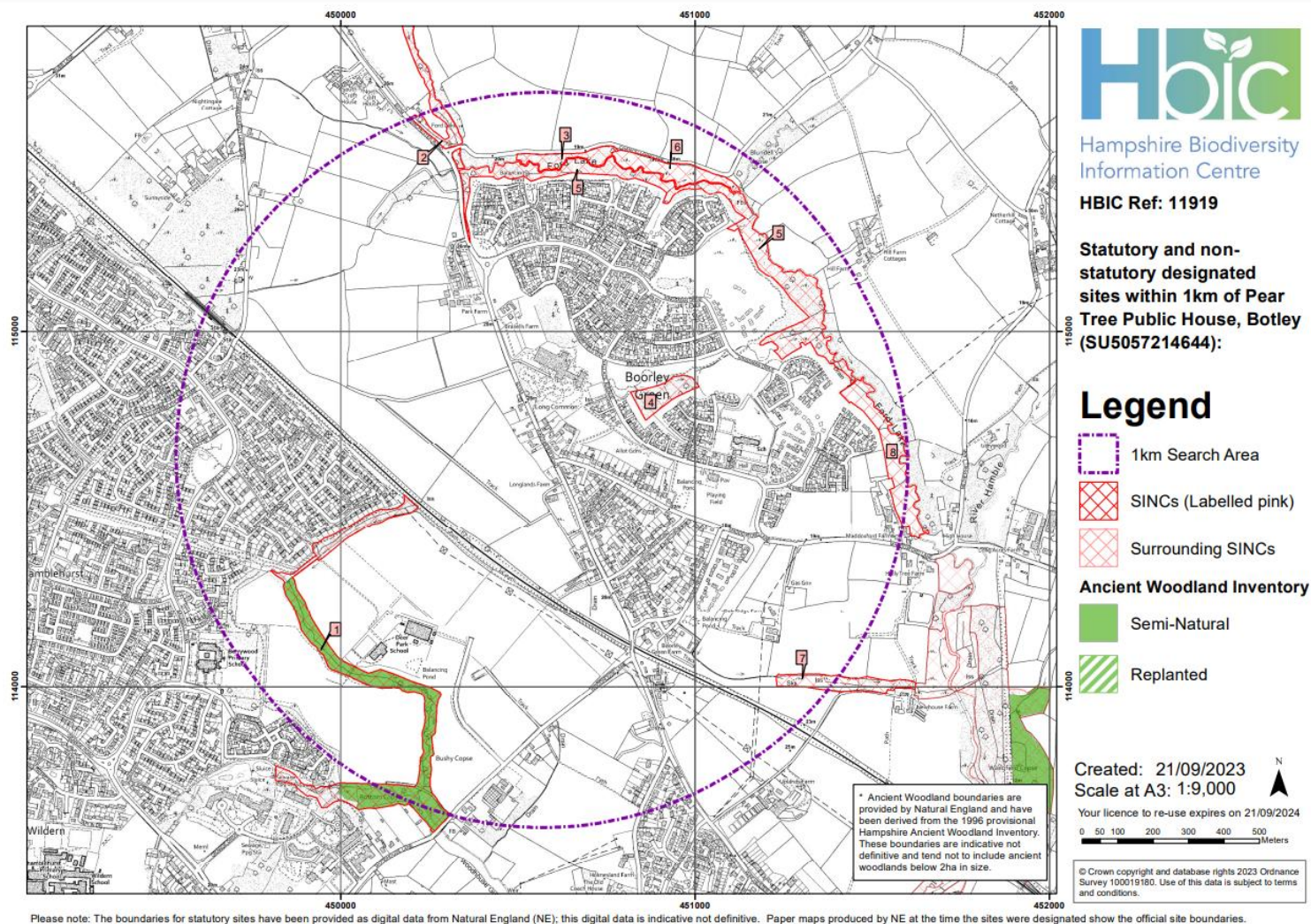
Figure 3. Non-statutory designated sites located within 1km of the site as provided by HBIC.

Table 3. Summary of locally designated sites within 1km of the site as provided by HBIC and shown in Fig 3 above.

Map Label (as per Fig 3) / SINC Reference	Name	SINC Criteria	Distance to Site
1 / EA0113	Bottom Copse / Bushy Copse	1A/1Cii	0.78km SW
2 / EA0115	Alder Strip	1A/1Cii	0.63km N
3 / WC0686	Ford Lake Woodland	1B/1Cii	0.8km N
4 / EA0123	Botley Park Wood	1A	0.29km E
5 / EA0124	Botley Golf Course Wood	1A/1Cii	0.75km N
6 / WC0139	Ford Lake Meadow	1B/2B/5B	0.85km NE
7 / EA0128	Newhouse Farm Woodland & Swamp	1Cii/5B	0.86km SE
8 / EA0130	Maddoxford Farm Meadows	5B	0.95km E

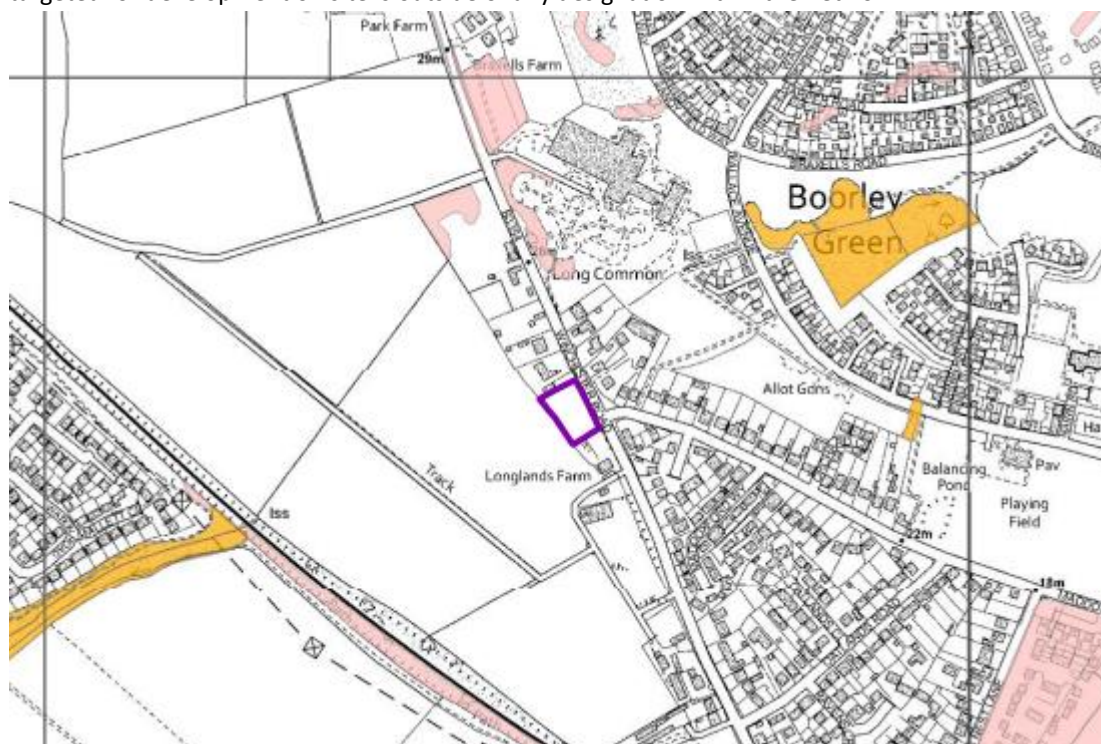
4.1.3 Ecological Network

The data received from HBIC also includes the provision of information about the local Ecological Network designations, the aim of which is to:

- Improve the quality of current wildlife sites by better habitat management;
- Increase the size of existing wildlife sites
- Enhance connections between sites, either through physical corridors or through 'stepping stones'
- Create new sites; and
- Reduce pressure on wildlife by improving the wider environment (Court & Ritter, 2020).

As per Fig 4 below, the site is not within or immediately adjacent to any designated ecological networks or network opportunities.

Figure 4. Screenshot from the ecological network mapping provided by HBIC indicating the areas targeted for development on site is outside of any designation within the network.



4.2 Vegetation Survey Results

The vegetation within the site has been described below using the UK Habs Habitat Definitions Version 2.0 (UKHab Ltd., 2023). The below species noted should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise (approximate spatial extent shown in the habitat map appended)

- Modified grassland (g4) with tall forbs (secondary code: 16), bare ground (secondary code: 510) and frequently mown (secondary code: 108)
- Built-up areas and gardens (u1) with flower beds (secondary code: 846)
- Bracken (g1c)
- Native hedgerow (h2a) with trees (secondary code: 11)
- Building (u1b5)

4.2.1 Modified Grassland (g4:16, 510, 108)

The majority of the site is comprised of frequently mown (secondary code: 108) modified grassland (g4) (**Fig 5**). Species present include: Perennial Rye Grass (*Lolium perenne*), Common Bent (*Agrostis capillaris*), Cocksfoot (*Dactylis glomerata*), Dandelion (*Taraxacum agg.*), Red Clover (*Trifolium pratense*), White Clover (*Trifolium repens*), Ribwort Plantain (*Plantago lanceolata*), Cat's-ear (*Hypochaeris radicata*), Yarrow (*Achillea millefolium*), Daisy (*Bellis perennis*) and Creeping Buttercup (*Ranunculus repens*). There is also an area of bare ground (secondary code: 501) in the north-western corner of the site which hosted scattered, low growing species of similar composition to those listed above.

In addition, there are two areas of tall forbs (secondary code: 16) within the western portion of the grassland on site (**Fig 6**). Species present in the south-western corner include: Nettle (*Urtica dioica*), Yarrow, Bramble (*Rubus fruticosus*), Hogweed (*Heracleum sphondylium*), Creeping Thistle (*Cirsium arvense*), False Oat-Grass (*Arrhenatherum elatius*), Hazel (*Corylus avellana*) sapling and Blackthorn (*Prunus spinosa*) saplings. The tall forb species in the north-western corner of the site include: Creeping Thistle, Spear Thistle (*Cirsium vulgare*), Meadow Buttercup (*Ranunculus acris*), Perennial Rye Grass, Ragwort (*Senecio jacobaea*), Broadleaved Dock (*Rumex obtusifolius*), Hogweed, Red Clover, Rushes (*Juncus* spp.), Nettles and Common Bent.

Figure 5. View of the frequently mown (secondary code 108) modified grassland (g4) (taken September, 2023).



Figure 6. View of the modified grassland (g4) with tall forbs (secondary code: 16) (taken September, 2023)



4.2.2 Built-up Areas and Gardens (u1: 846)

While the north-western area of modified grassland is primarily overgrown with tall forbs, there are still a small number of flower beds present which are dominated by ornamental species (**Fig 7**).

Figure 7. View of the north-western modified grassland (g4) with some ornamental flower beds (secondary code: 846) still noted to be present (taken September, 2023).



4.2.3 Bracken (g1c)

There is a small area of Bracken (*Pteridium aquilinum*) along the western boundary of the site (Fig 8).

Figure 8. View of the stand of bracken (taken September 2023).



4.2.4 Native Hedgerow (h2a: 11)

The north-eastern boundary of the site (Fig 9) is marked by a hedgerow which is dominated by Blackthorn and Plum (*Prunus domestica* L.), with a small amount of Oak (*Quercus* spp.). The understorey is comprised of Ribwort Plantain, Bramble, Nettle, Cow Parsley (*Anthriscus sylvestris*) and Red Clover.

The northern and western hedgerows are comprised of Willow (*Salix* spp.), Hazel, Blackthorn, Dog Rose (*Rosa canina*) and Oak with a number of mature trees noted. The understorey is comprised of Bramble, Nettle, Yarrow, Daisy, Cat-ear's, Vetch (*Vicia* spp.), Ivy (*Hedera helix*), Hedge Bindweed (*Calystegia sepium*), False-oat Grass, Common Bent, Perennial Rye Grass and Creeping Thistle.

Figure 9. Native hedgerow (priority habitat) (h2a) with scattered trees (11) (taken September 2023).

4.2.5 Buildings (u1b5)

The final habitat type on site was the building with information provided in **Section 4.3**.

4.3 Bat Survey Results

4.3.1 Pre-existing Data

The data request from HBIC returned the following bat records within 1 km of the site (**Table 4**).

Table 4. List of bat records within 1 km of the site provided by HBIC.

Taxon Name	Species Name	Number of Records	Further Information
<i>Chiroptera</i>	Bat species	2	From roost visit and observation
<i>Eptesicus serotinus</i>	Serotine	6	All records from bat detectors
<i>Myotis spp</i>	Myotis bat	6	All records from bat detectors
<i>Nyctalus noctula</i>	Noctule	3	All records from bat detectors
<i>Pipistrellus spp</i>	Pipistrelle bat species	1	Daytime observation
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	15	Records from bat detectors and

			emergence survey, 1 grounded bat
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	9	Records from bat detector and emergence survey
<i>Plecotus spp</i>	Long-eared bat	4	Records from droppings and bat detectors
<i>Plecotus auritus</i>	Brown Long-eared	7	Records from a bat in hand, droppings and bat detectors

4.3.2 PRA (Tree)

A tree removal plan was not available at the time of the walkover however all of the significant trees on site were assessed for their potential to support roosting bats (see **Table 5**) with their locations indicated in **Fig 10** below. All of the other trees within the hedgerows were too immature to support roosting bats.

A single Oak tree (T1) was identified as possessing a PRF (**Table 5**) however, following discussion with the client, it is understood that this tree is to be retained.

Figure 10. Location of semi-mature / mature trees likely to require removal as part of the development (yellow circles) with the low potential Oak indicated in red.



Table 5. Preliminary Roost Assessment of the semi-mature / mature trees believed to be impacted by the proposals (all photos taken September 2023).

Tree Number (as per Fig 10)	Species	Image	PRFs Noted	Suitability
1	Oak	Figure 11. View of the mature Oak tree along the western boundary of the site. 	One PRF in the form of a crevice feature between the stems of the trunk (Figs 11 & 12).	PRF identified (low potential) NB. Following discussion with the client, this tree is understood to be retained.

		Figure 12. View of crevice feature in between the stems of the trunk. 		
2-4	Willow spp. (<i>Salix</i> spp.)	No fig.	Trees in good condition with no PRFs noted.	Negligible
5	Pear spp. (<i>Pyrus</i> spp.)	No fig.	The tree was in good condition with no PRFs noted.	Negligible

4.3.3 PRA (Building)

A single-storey shed of wooden construction with a pitched felt roof was present on site (**Fig 13**). The shed was being used to house Geese and it was therefore not possible to inspect the internal space however it can be inferred that the door would ordinarily be left open for the Geese to access the outside thus allowing large amounts of light inside. Further to this, given its construction, it is considered that the shed would lack the thermoregulation required for roosting bats. Taking the above into account, the shed is considered to be of **negligible** potential to support roosting bats.

Figure 13. View of the shed (taken September 2023).



4.3.4 Foraging and Commuting Habitat

Whilst the site is largely dominated by modified grassland which offers limited forb diversity (and therefore will be of limited value to invertebrates), the site does support linear features along some of its boundaries in the form of hedgerows which could be utilised by commuting and foraging bats. However, these linear features are isolated from other linear features and the site therefore lacks connectivity to the wider landscape. Taking the above into account, and the modest number of local records, the site is considered to be of **low** potential for foraging and commuting bats.

4.4 Badgers

4.4.1 Pre-existing Information

HBIC returned 4 records of Badger (*Meles meles*) presence from within the 1 km search radius with the closest being 200m west of the site.

4.4.2 On-site Assessment

The site was thoroughly searched for evidence of use by Badgers. Evidence of Badgers could include latrines, dung pits, feeding remains and foraging evidence, trails and setts. No

evidence of Badger sett(s) or presence was noted. However, the grassland and hedgerows on site could offer some limited foraging opportunities for Badgers. Therefore, it is considered that there is potential for foraging and commuting Badgers on site.

4.5 Reptiles

4.5.1 Pre-existing Information

HBIC returned no records for reptiles within 1km of the site.

4.5.2 On site Habitat Assessment

The majority of the habitats on-site can be considered to offer limited potential for reptiles as the frequently mown grassland dominating the site lacks the structure (through frequent mowing) typically favoured by reptiles (Edgar et al., 2010). Notwithstanding this, there are some areas of more structured grassland present within the tall forbs areas on site and the adjacent field to the west appears to be comprised of rough grassland. Given the lack of local records and very limited area of suitable habitat on site, these areas would be considered to offer **low potential** for common reptiles.

4.6 Great Crested Newts

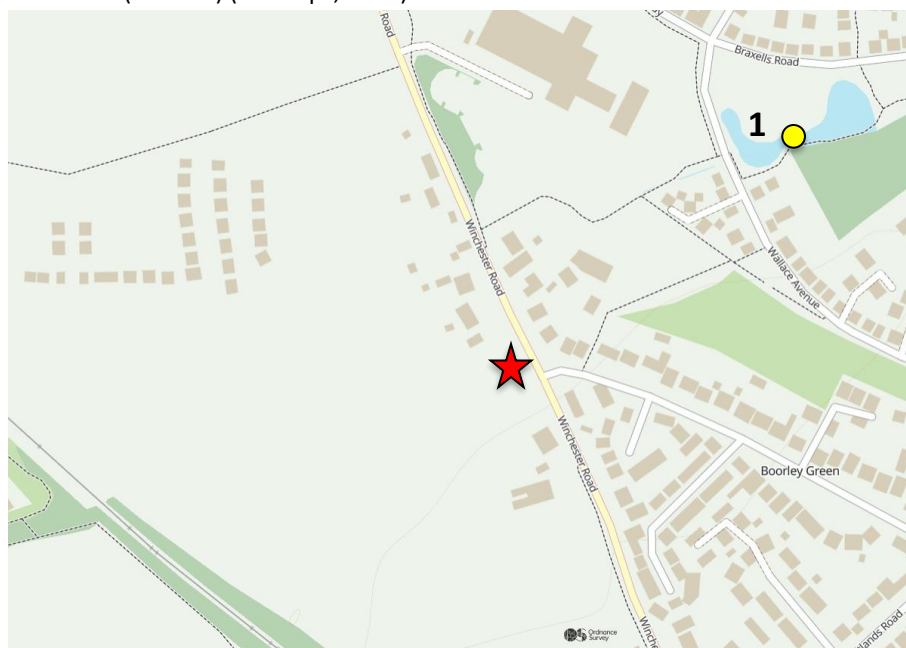
4.6.1 Pre-existing Information

HBIC returned no records of GCN presence for within 1km of the site.

4.6.2 Water Bodies Within 500m

A single large waterbody, suspected to be a SUDs pond, was identified within 500m of the site following a review of OS maps and aerial imagery (**Fig 14**).

Figure 14. Location of the waterbody (yellow circle) identified approximately 260m to the north-east of the site (red star) (OS Maps, 2023).



4.6.3 Habitat Suitability Index (HSI)

Pond 1 (**Fig 15**) was subject to an HSI assessment with the results of this detailed in **Table 6** below.

Figure 15. View of Pond 1 (taken October 2023).



Table 6. Results of the HIS assessment on Pond 1 (***NB. As the pond area was greater than 2000m², this criterion was omitted from the calculation as per ARG (2010).***).

Pond Number	Suitability Indices	Criteria Selected	Score Awarded
Pond 1	Location	Zone A	1.0
	Pond Area	>2000m ²	-
	Pond Drying	Never dries	0.9
	Water Quality	Moderate	0.67
	Shade	45%	1.0
	Waterfowl	Minor	0.67
	Fish	Possible	0.67
	Ponds within 1km	4	0.7
	Terrestrial Habitat Quality	Moderate	0.67
	Macrophytes	10%	0.4
	HSI Score 0.74 "Good"		

4.6.4 Site Assessment

Similar to reptiles, the site only offers very limited potential for GCN within the areas of tall forbs. While the pond located approximately 260m to the north-east of the site was assessed as being of 'good' suitability for GCN, it is considered separated from the site by significant barriers to dispersal (in the form of 2 main roads) and it is therefore considered that, should any GCN be present within this pond, it is highly unlikely that they would be utilising the site.

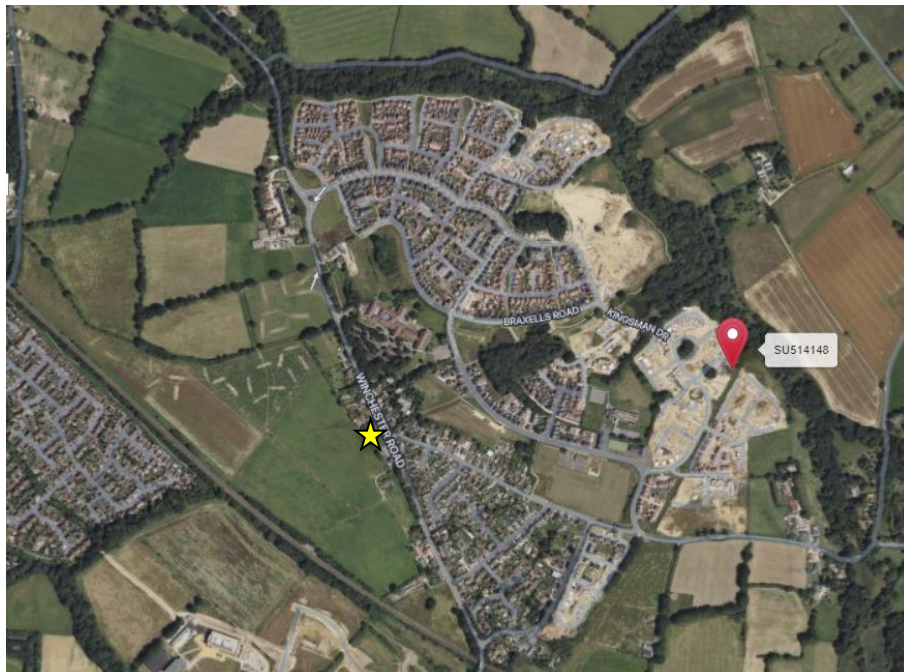
Taking the above into account and considering the lack of local records, the site is considered to be of **negligible potential** for GCN.

4.7 Hazel Dormouse

4.7.1 Pre-existing Information

HBIC returned 1 record of Dormouse (*Muscardinus avellanarius*) presence within 1km of the site. This was located approximately 820m north-east of the site (**Fig 16**).

Figure 16. Location of the dormouse record (red pin) in relation to the site (yellow star) (Magic Maps, 2023).



4.7.2 Site Assessment

The hedgerows around the edge of the site could offer some suitable habitat for Dormouse and contain some species of value to Dormouse such as Hazel and Blackthorn (as per Bright et al., 2006). However, the site is poorly connected to other areas of suitable habitat with no links between the site and the location of the dormouse record (**Fig 16**). Furthermore, survey work conducted for an application site immediately to the west of the site (RM/19/86658) found no evidence of dormice (Ecosupport Ltd., 2019). Taking all of the above into account, the site is considered to be of **negligible potential** for Dormice.

4.8 Notable and Birds of Conservation Concern (BoCC)

4.8.1 Pre-existing Information

HBIC provided a large number of records of birds of conservation concern from within 1km of the site including: Lesser Redpoll (*Acanthis cabaret*), Skylark (*Alauda arvensis*), Kingfisher (*Alcedo atthis*), Cuckoo (*Cuculus canorus*), Little Egret (*Egretta garzetta*), Yellowhammer (*Emberiza citronella*), Merlin (*Falco columbarius*), Peregrine (*Falco peregrinus*), Hobby (*Falco subbuteo*), Mediterranean Gull (*Ichthyiaetus melanocephalus*), Herring Gull (*Larus argentatus*), Lesser Black-backed Gull (*Larus fuscus*), Linnet (*Linaria cannabina*), Crossbill

(*Loxia curvirostra*), Red Kite (*Milvus milvus*), Grey Wagtail (*Motacilla cinerea*), Whimbrel (*Numenius phaeopus*), Osprey (*Pandion haliaetus*), House Sparrow (*Passer domesticus*), Golden Plover (*Pluvialis apricaria*), Willow Tit (*Pluvialis apricaria*), Marsh Tit (*Poecile palustris*), Bullfinch (*Pyrrhula pyrrhula*), Water Rail (*Rallus aquaticus*), Firecrest (*Regulus ignicapilla*), Whinchat (*Saxicola rubetra*), Woodcock (*Scolopax rusticola*), Siskin (*Spinus spinus*), Straling (*Sturnus vulgaris*), Green Sandpiper (*Tringa ochropus*), Redwing (*Turdus iliacus*), Song Thrush (*Turdus philomelos*), Fieldfare (*Turdus pilaris*), Mistle Thrush (*Turdus viscivorus*), Barn Owl (*Tyto alba*) and Lapwing (*Vanellus vanellus*).

4.8.2 Site Assessment

The hedgerows on site provide ideal nesting and foraging habitat for birds with the longer grassland areas also providing further foraging resources. The site is situated within a surrounding environ that provides a mosaic of habitats, including arable land, hedgerows and woodland parcels, providing good foraging habitat for any nesting or breeding birds using the site. In addition, there are bird boxes mounted to an Oak tree on the western boundary and on a Pear spp. tree on the northern boundary. Due to the large quantity of notable bird records and the good breeding and nesting bird habitat within and surrounding the site, the site is considered to be of **high** potential for nesting and breeding birds.

5.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

5.1 Introduction

The CIEEM guidelines (CIEEM 2018) require that the potential impacts of the proposals should be considered in absence of mitigation. In order for a significant adverse effect to occur, the feature being affected must be at least of local value. However, in some cases, features of less than local value may be protected by legislation and/or policy and these are also considered within the assessment. Although significant effects may be identified at this stage of the assessment, it is often possible to provide appropriate mitigation.

5.2 Site Preparation and Construction

5.2.1 Impacts to Habitats

The proposals will predominantly involve the loss of the areas of grassland which were only considered to be of value at the **Site** level of significance (i.e. modified grassland). There will also be some loss of hedgerow on site with the development works also taking place adjacent to the retained sections of hedgerow of local value and therefore construction works could result in both direct (noise, dust, water pollution) and indirect (roost zone compaction) impacts. The loss or damage to these habitats and potential indirect effects would have an **adverse impact** to habitats of **Local** value.

5.2.2 Impacts to Wildlife

The Oak tree with a PRF is scheduled to be retained under the current proposals. Therefore, it is considered there will be a **likely neutral impact** on roosting bats, if present.

The site is considered to be of low potential for foraging and commuting bats and, in the absence of mitigation, a **minor adverse impact is possible** at the local level.

The proposed plans would involve the removal of the limited areas of structured vegetation on site. This has the potential to cause harm, or even death of common reptile species or Great Crested Newts, if present. Therefore, in the absence of mitigation an **adverse impact is possible** at the **local level**.

The trees hosting bird boxes and a section of the north-western hedgerow are due to be removed. In the absence of mitigation, this could cause disturbance, harm or even death of nesting birds (if present). Therefore, an **adverse impact is possible** at the **local level**.

5.3 Site Operation

5.3.1 Impacts to Wildlife

The development may result in an increase in lighting within the general area from external lights on the new houses. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an **adverse impact is likely** on bats and Badgers (should they be using the site).

5.3.2 Impacts to Designated Sites

5.3.2.1 SINC

The site is not located in or immediately adjacent to any designated sites however there are a number of SINC within 1km of the site. Given the small scale of the proposals with a net addition of only 6 dwellings, it is considered that there will be a **likely negligible impact** on the nearby SINC as a result of recreational disturbance.

5.3.2.2 Solent and Southampton Water SPA / New Forest SPA

The site lies within the recreational zone of impact for both the Solent and Southampton Water SPA and the New Forest SPA. Due to the net addition of dwellings on site, it is possible that there will be increased recreational pressure on the SPAs as a result of the development. Therefore, a **minor adverse impact is possible** on sites of **international significance**.

5.3.2.3 Nitrogen Mitigation in the Solent

Due to a net addition of accommodation units on site, the development will result in an increase in nitrogen input into the WwTW, which is within a watershed draining into the Solent. Natural England has stated there is uncertainty as to whether new growth will further deteriorate designated sites due to an increase in nutrient inputs from wastewater. Therefore, an **adverse impact is possible** on the Solent and Southampton Water SPA, a site of **international significance**.

6.0 RECOMMENDATIONS

6.1 Introduction

The below sections outline a number of recommendations for further survey work required to fully assess the potential ecological impacts of the development and ensure and proposed mitigation and compensation appropriate and proportionate. In addition to this, measures are outlined to protect the existing features of value and provide enhancements post development.

6.2 Bats

6.2.1 Trees

A single Oak tree was identified as possessing a PRF in the form of a crevice feature between the stems of the multi-stemmed trunk. Following a discussion with the client, this tree is understood to be retained under the proposals and therefore no further survey work will be required at this stage.

Should the Oak tree need to be removed in the future, a single PRF inspection survey will be required (BCT, 2023). This can be conducted at any time of year and entails more detailed assessment of the likely suitability of a PRF for roosting bats as well as searching for evidence of bats (e.g. droppings) within the PRF. Access equipment (such as ladders, MEWPS or scaffold towers) may be required to gain access to PRFs. The PRF inspection survey will determine the need for further survey work and / or mitigation.

6.2.2 Foraging and Commuting

The site was assessed as being of low potential for foraging and commuting bats. Given the small scale of the site and proposals, it is not considered proportionate to undertake activity surveys and, instead, impacts to foraging and commuting bats can be mitigated via sensitive lighting and compensatory planting (as per the below sections).

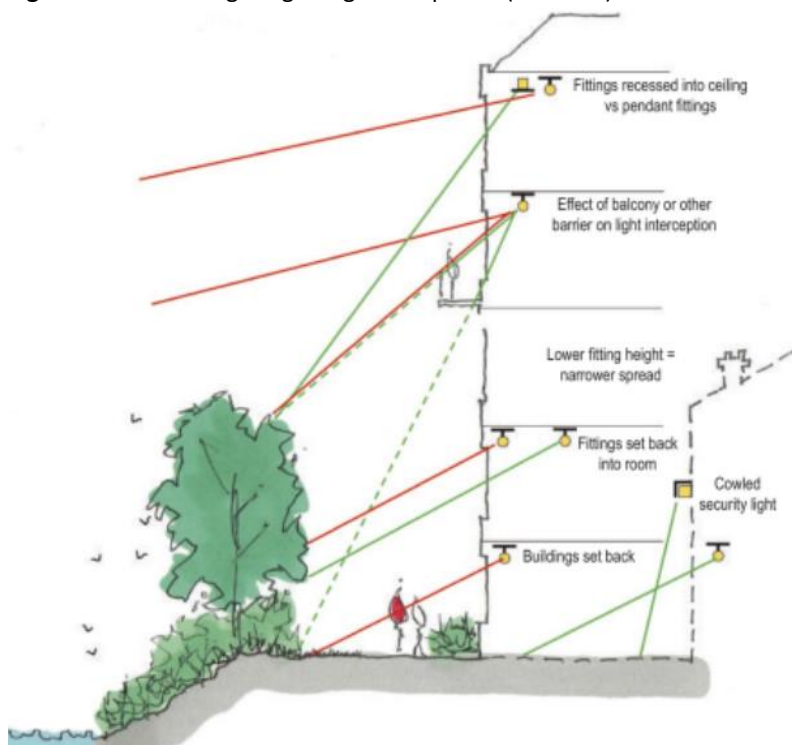
6.2.2.1 Sensitive Lighting for Bats

It is recommended that any lighting complies with the following newly published Guidance Note 08/23 Bats and Artificial Lighting at night (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

'Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*

- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 17**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*
- *Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards*
- *Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01*
- *Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt*
- *Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate*
- *Use of a Central Management System (CMS) with additional web-enabled devices to light on demand Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS*
- *The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6*
- *Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'*

Figure 17. Internal lighting mitigation options (ILP 2023).

6.2.2.2 Compensatory Planting

Much of the northern and eastern hedgerow are to be retained and while some sections of hedgerow are due to be removed to facilitate the new site access and private gardens, new hedgerow will be planted along the eastern and southern boundaries of the site as compensation.

Recommended species to plant include (but are not limited to):

- Hazel (*Corylus avellana*)
- Hawthorn (*Crataegus monogyna*)
- Blackthorn (*Prunus spinosa*)
- Field Maple (*Acer campestre*)
- Guelder-Rose (*Viburnum opulus*)

6.2.3 Bat Bricks

As an enhancement, half of the newly built dwellings will also have Ibstock bat bricks (**Fig 18**) integrated within the external brick work (3 No. in total). These features are entirely self-contained and available in a variety of different colours to match different construction materials. They should ideally be placed on an elevation which will benefit from some degree of sunlight exposure and be located away from windows.

Figure 18. Ibstock bat brick 'B' which will be integrated into the half the new dwellings on-site.



6.3 Reptiles

6.3.1 Passive Dispersal Clearance Methodology

The tall forbs present around the site have been assessed as having some limited potential to support common reptiles. Due to the small size of this site, a full survey is not considered necessary and instead, passive dispersal clearance methodology will be implemented. This will involve suitable habitat being strimmed in two phases under the supervision of an Ecological Clerk of Works (ECoW). The first cut will be down to a height no lower than 15 cm and cut towards the western boundary encouraging any reptiles to exit the site. A second cut (the following day) will take the vegetation right down to ground level. These works will be done immediately before any ground works to prevent the habitats re-growing and will be done during the active reptile period (April – September) when temperatures are above 12°C with sunshine.

6.3.2 Destructive Search

Following the two-stage clearance, a destructive search will be carried out under the supervision of the suitably qualified ecologist. Topsoil will be gently stripped to 100mm depth using a digger with a toothed bucket. The supervising ecologist will capture any reptiles found and relocate them to suitable retained habitat. Please note, any suitable habitat within the root protection zone will not have the topsoil stripped and will only be maintained cut at ground level.

These works will be undertaken during the active reptile period (April – October) when temperatures are above 10°C with sunshine. This area of habitat will be regularly managed and maintained unsuitable for reptiles for the duration of the works and will be cordoned off from the site to prevent vehicles entering the area. The arisings will be removed and any materials will be stored off the ground using pallets or skips if stored on site to prevent sheltering reptiles from using them.

6.4 Notable and Birds of Conservation Concern

6.4.1 Mitigation

In order to avoid disturbance of nesting birds or damage to their nests, any works impacting the vegetation on site will be undertaken outside of the bird nesting season (March – September). If this is not possible, the area of vegetation to be cleared will be thoroughly checked by an ecologist immediately prior to demolition/clearance. If any active nests are found, they will be left undisturbed with a suitable buffer (ca. 5m) until nestlings have fledged.

6.4.2 Compensation and Enhancement

To compensate for the loss of nesting habitat, new hedgerows will be planted along the eastern and southern boundaries of the site. Further to this and to provide an enhancement, Swift bricks will be incorporated into the new dwellings in a 1:1 ratio to the number of dwellings (6 No. in total). The 'CJ Wildlife Swift maxi nesting box' (**Fig 19**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used. A list of swift boxes can be found on the RSPB website via the following link (<https://www.rspb.org.uk/globalassets/downloads/about-swifts/swift-bricks.pdf>) however it is worth noting that some of these do not have an internal floor space exceeding 400cm squared and are therefore not considered appropriate.

Figure 19. A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box.



6.5 Protection of Retained Habitats

Sections of hedgerow along the northern and eastern boundaries are to be retained and should be protected from damage during the works. All the trees / hedgerows should be

fenced using Heras fencing or similar to prevent access by machinery. Where large mature trees are present (such as along the northern and eastern boundaries) they should be protected using standard arboricultural tree protection measures which include protection of the canopy and prevention of root compaction.

6.6 Further Enhancements

6.6.1 Hedgehogs

To ensure permeability for small mammals across the site, the garden fences of the properties will ensure at least 2 gaps are present within the gravel boards / bases of each fence line to allow for movement of Hedgehogs between gardens and into the wider area. The gaps should be at least 15 cm high by 15 cm wide with permeability for small mammals.

Small signage could be installed at these points to ensure they remain open upon completion of the development. The People's Trust for Endangered Species provide such signage, the purchase of which also supports conservation efforts (**Fig 20**).

Figure 20. Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



6.7 Designated Sites

6.7.1 Nutrient Neutrality

To ensure the scheme does not adversely affect the Solent Marine European designated sites through an increase in nitrate loading, a nitrogen budget calculation will need to be undertaken with credits purchased to offset this as required.

6.7.2 Solent and Southampton Water SPA

The site lies within the vicinity of the recreational zone of influence for the Solent and Southampton Water SPA (1 of the 3 Solent SPAs). In order to mitigate for the likely increases

in residential pressure upon this SPA, due to the high densities of wildfowl and waders for which the area is predominantly protected, the Solent Recreation Mitigation Strategy (SRMS) has been introduced in collaboration with Natural England, comprising a partnership of all local councils. Mitigation towards the SPA must be provided for all new recreational developments within the 5.6km disturbance zone of the SPA.

The simplest method of providing a necessary suitable and appropriate level of mitigation towards the SPAs associated with the Solent is via financial contributions. These contributions are used to enable the continued use of the coastline in a way that reduces the risks to the bird species of international importance that use the area, for example funding a team of rangers and implementing initiatives to encourage responsible dog walking (Solent Recreation Mitigation Partnership, 2014). It is considered that the contribution, in compliance with the recommendations presented within the SDMP, provides a suitable level of mitigation for the potential adverse impacts associated with the proposed scheme upon the Solent SPA.

In April 2023, the standard rates were updated to the following:

- 1 bedroom property £443
- 2 bedroom property £639
- 3 bedroom property £834
- 4 bedroom property £980
- 5 bedroom property £1150
- Flat Rate £740

Therefore, a contribution will be made either prior to planning permission being granted, by completing the Agreement and sending the completed form along with mitigation contribution to the Planning Agreements Officer at the Local Planning Authority or by completing a Unilateral Undertaking before planning permission is granted with the per dwelling payment made before the development is implemented.

6.7.3 New Forest SPA

Research published by Footprint Ecology (2020) has identified that the majority of visitors to the New Forest designated sites on short visits/day trips originate within a 13.8km radius of the site. Day visitors to the park have been identified with resulting in impacts to sensitive areas through increases in habitat trampling, disturbance of/predation of ground nesting birds, fires, contamination (such as via dog fouling, sunscreen or contamination of water sources from campervans or road runoff), harvesting of sensitive species, visitor expectation of habitat management, and interference of grazing distribution through feeding or livestock or causing livestock worrying. It is predicted by the report there will be an increase of access levels to the National Park of 11% by 2036 as a result of increased housing developments locally.

To mitigate for this increased recreational pressure, Eastleigh Borough council “has developed a strategic mitigation package based on providing alternative countryside recreation opportunities within the borough and including financial contributions to measures within the

New Forest National Park. These will need to be funded from developer contributions in proportion to the number of housing units to be delivered.” (Eastleigh Borough Council, 2019).

The current financial contribution is £2,220 per dwelling (Eastleigh Borough Council, 2022).

6.8 Biodiversity Net Gain

A biodiversity net gain assessment will be undertaken for the site using the latest Defra 4.0 metric. This will be provided as a separate document (the Excel workbook) to demonstrate a gain is achievable either through on-site works, or if needed, off site provision.

7.0 REFERENCES

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK & Ireland

Collins (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition

Court and Ritter (2020) Mapping the Hampshire Ecological Network. Available at: [https://www.hants.gov.uk/landplanningandenvironment/environment/biodiversity/informationcentre/information#:~:text=The%20Hampshire%20Biodiversity%20Information%20Centre%20\(HBIC\)%20has%20produced%20a%20detailed,ecological%20function%20and%20conserving%20biodiversity.](https://www.hants.gov.uk/landplanningandenvironment/environment/biodiversity/informationcentre/information#:~:text=The%20Hampshire%20Biodiversity%20Information%20Centre%20(HBIC)%20has%20produced%20a%20detailed,ecological%20function%20and%20conserving%20biodiversity.)

Eastleigh Borough Council (2019). Eastleigh Borough Council Interim Mitigation Strategy to address recreation impacts on New Forest protected sites. Available at: <https://www.eastleigh.gov.uk/planning-and-building/recreational-disturbance#:~:text=In%20December%202022%20Cabinet%20approved,projects%20on%20Council%20Downed%20land.>

Eastleigh Borough Council (2022). Recreational Disturbance. Available at: <https://www.eastleigh.gov.uk/planning-and-building/recreational-disturbance#:~:text=In%20December%202022%20Cabinet%20approved,projects%20on%20Council%20Downed%20land.>

Eastleigh Borough Council (2022). *Eastleigh Borough Local Plan (2016-2036)*. Adopted April 2022. Accessed at: <https://www.eastleigh.gov.uk/media/11806/to-be-published-final-local-plan-april-2022-v4.pdf>

Ecosupport Ltd. (2019) Land to the North West of Boorley Green – Ecological Assessment

Edgar, P., Foster, J., & Baker, J., (2010) Reptile Management Handbook, Amphibian and Reptile Conservation (ARC)

HMSO (2000). *The Countryside and Rights of Way Act 2000*. HMSO, London.

HMSO (1981). *The Wildlife & Countryside Act 1981*. HMSO, London.

Natural England, 2011 *Badgers and Development: A Guide to Best Practice and Licensing*

UKHab Ltd. (2023). *UK Habitat Classification – Habitat Definitions Version 2.0* (July 2023).

Wilson, P., (2021) Criteria for the Selection of Sites of Importance for Nature Conservation (SINCs) in Hampshire, HBIC



Legend

— Site Boundary

— Bracken (g1c)

Modified Grassland (g4)
 - 16 tall forbs
 - 108 frequently mown
 - 510 bare ground

Native Hedgerow (h2a)
 - 11 hedgerow with trees

Built-Up Areas and Gardens (u1)

Developed Land; Sealed Surface (u1b)

Buildings (u1b5)



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Map UK Habs Map

Site Pear Tree Public House

Client Dorrington Homes UK Ltd.

Date 20/10/2023

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