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Preliminary Ecological
Appraisal &
Precautionary Measures

Brighstone, Botley Road, Horton
Heath

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Client:

Alderbury Homes Ltd

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Report	Preliminary Ecological Appraisal & Precautionary Measures
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Executive Summary

Ecosupport Ltd was instructed by Alderbury Homes Ltd. to undertake an updated Preliminary Ecological Appraisal (PEA) of the Brighstone property and associated land located in Horton Heath, Eastleigh. 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:

- Walkover survey with UK Habs habitat assessment (February 2023)
- Preliminary Roost Assessment (February 2023)

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:

- Confirmed bat roost within B1
- Low potential to support roosting bats within B2
- Suitability for commuting Badger & Hedgehog
- Low potential for commuting Dormice within the southern hedgerow
- Low potential for nesting and breeding birds

In the absence of any mitigation measures, the proposed development is anticipated to result in, ***certain adverse impacts*** (significance level to be determined following phase II survey work where considered appropriate). 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) been identified as well as provide targeted ecological enhancements.

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by Alderbury Homes Ltd. to conduct a Preliminary Ecological Appraisal (PEA) of the Brighstone property and associated land located in Horton Heath, Eastleigh. (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 the proposed 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 of a bungalow (Brighstone), a large garage, three sheds, a greenhouse and associated garden and drive located off Botley Road, Horton Heath, Hampshire, SO50 7DQ (centered on OS grid reference SU 49551 16625) (**Fig 1**). The immediate wider environment is predominantly sub-urban with agricultural fields to the south and woodland parcels to the east. Additionally, the village of Horton Heath located to the north of the site.

Figure 1. Google aerial image of the site with approximate redline boundary (Google Earth 2023).



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

1.3 Proposed Development

It is understood that the proposals involve the demolition of all buildings on site to make room for five residential dwellings with associated landscaping and access.

2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

2.1.1 *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.

2.1.2 *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*).

2.1.3 *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.

2.1.4 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*.

2.1.5 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.

2.1.6 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.

2.2 Policy

2.2.1 National

Section 15 of the National Planning Policy Framework (NPPF, 2021) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;
- 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
- 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.'

2.3 Biodiversity Action Plans & UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (JNCC & DEFRA, 2010) supersedes the UK Biodiversity Action Plan 1992-2012 (UKBAP), setting out goals relating to nature conservation at a UK scale, for example the reduction and reversal in the decline of threatened species and improving the status of biodiversity. The specific habitats and species contained within the UKBAP continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework, and are required to be a material consideration in the planning process under the 2021 NPPF.

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Waterbodies

Any ponds located within 250m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

3.1.2 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 the wider area which could be impacted upon as a result of the proposed plans.

The data search covered:

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

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 Darla Brown BSc (Hons) (Project Ecologist with Ecosupport Ltd) and Katalin Balazs BSc (Hons) BSc (Assistant Ecologist with Ecosupport Ltd) on the 20th February 2023. Weather conditions consisted of 7°C with 100% cloud cover and a light breeze.

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 1.1 (UKHab Ltd., 2020). This was chosen as an appropriate habitat categorisation system as it fits within the Biodiversity Metric 3.1 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

An assessment was made of the suitability of the buildings on site to support roosting bats based on the presence of any Potential Roost Features (PRFs) during February 2023. This involved the use of 8 x 42 close focus binoculars and a high-powered torch (where required) for a more detailed inspection of any features. The survey conformed to current best practice guidance as described in *Bat Surveys for Professional Ecologists: Good Practice Guidelines*

(Collins, 2016), as outlined in **Table 1** below, and was conducted Darla Brown (working under Dean Swensson NE class level 2 bat licence number 2015-13211-CLS-CLS).

Table 1. Guidelines for assessing the potential suitability of a built structures / trees for roosting bats (reproduced from BCT (Collins (ed) 2016).

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site are likely to be used by roosting bats
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. 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 a large number of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure or tree 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree 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.

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

There were not considered to be any significant limitations on the results of the habitat survey with all areas of the site accessible. Despite the survey being conducted outside of the optimal

² For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

season for vascular flowering plants, given the nature of the habitat types present and the species recorded this is not considered to have affected the accuracy of the site's valuation. Similarly, this survey does not constitute a full site assessment for invasive plant species such as Japanese Knotweed (*Fallopia japonica*).

4.0 ECOLOGICAL BASELINE

4.1 Designated Sites

4.1.1 Statutory Designated

HBIC did not identify any statutory designated sites within 1km search radius, although using freely available online sites, the following designated sites were identified nearby:

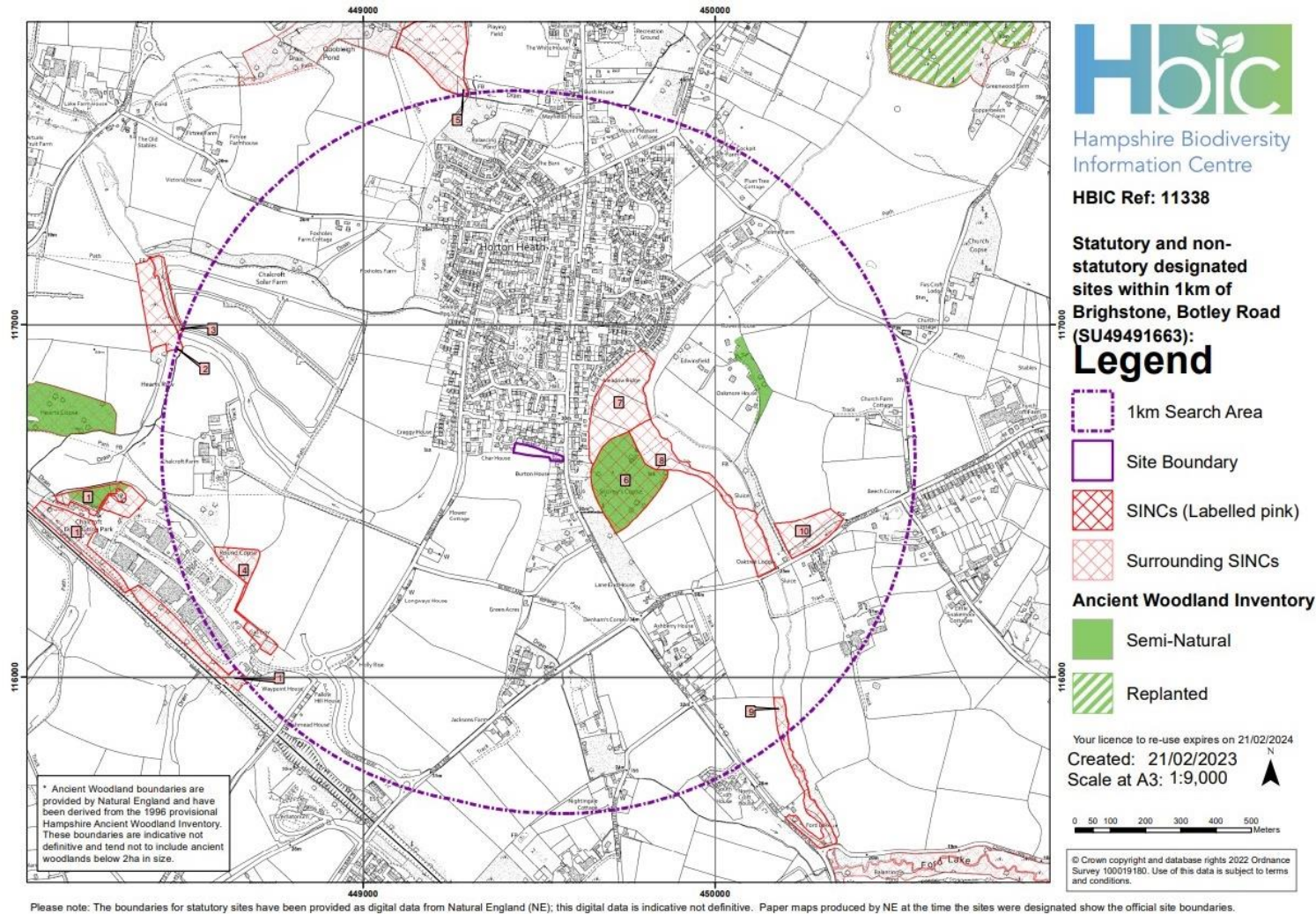
- River Itchen SAC & SSSI approximately 2.2km west
- Solent Maritime SAC approximately 4.5km south
- Solent and Southampton Water SPA & Ramsar approximately 4.5km south
- New Forest SAC and SPA approximately 13.5km east

4.1.2 Locally Designated / Non-Statutory

The locally designated sites identified by HBIC are shown in **Fig 2** with a summary of these sites presented in **Table 2**.

Table 2. Summary of locally designated sites within 1 km of the site as provided by HBIC and shown in **Fig 2** below.

Map Label	SINC Name	SINC Criteria	Distance to Site
1	Chalcroft Distribution Park	1B	980m
2	Field North of Hearts Row, West End	5B	980m
3	Treeline Break, West End	1A/1Cii	1000m
4	Round Copse, West End	1A	777m
5	Wyvern Technology College Meadow	2A	995m
6	Scorey's Copse	1A	80m
7	Scoreys Copse Meadow	2D	75m
8	Scorey's Copse Rush Pasture	2B/5B	200m
9	Alder Strip	1A/1Cii	900m
10	Snakemoor Farm Meadow	2B	625m

Figure 2. Non-statutory designated sites located within 1km of the site as provided by HBIC.

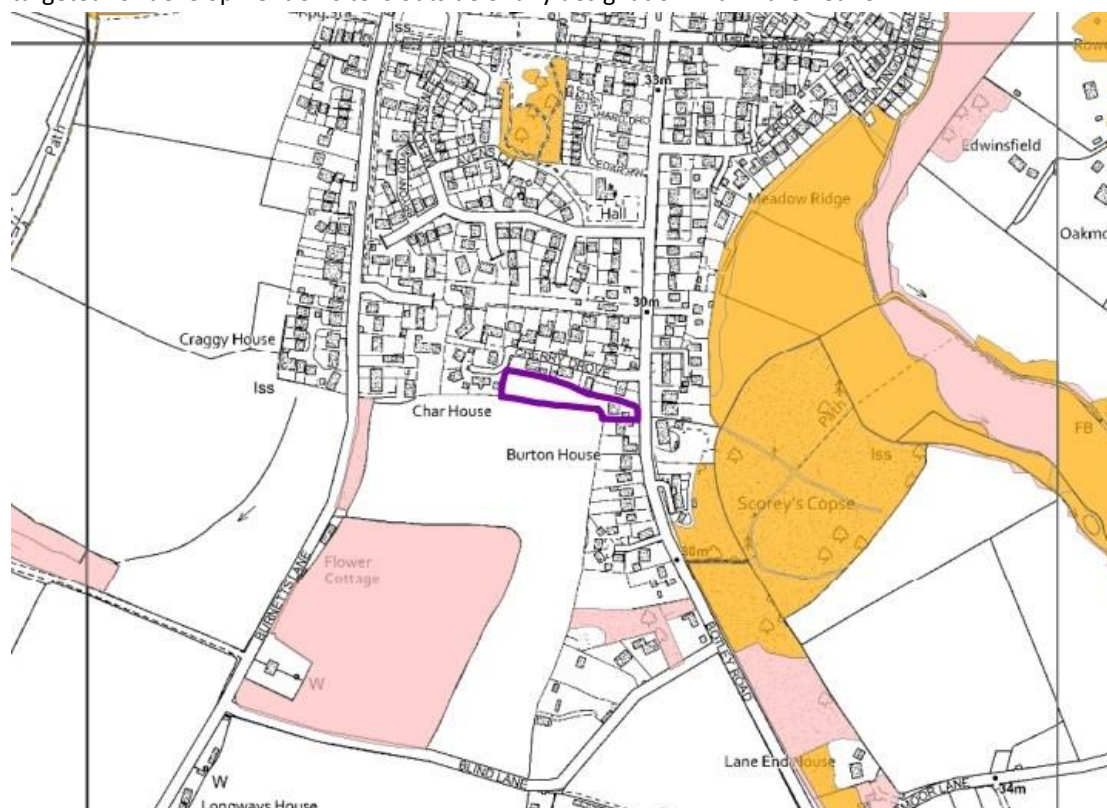
4.1.3 Ecological Network

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, 2016)

As per **Fig 3** below, the SINC areas encompassing the Scorey's Copse Meadow and Scorey's Copse Woodland are both within the 'Core Non-Statutory' designation (shown in orange) and there are 'Network Opportunities' to the east and south (shown in pink). However, the site itself does not lie within any designated areas or Network Opportunities.

Figure 3. Screenshot from the ecological network mapping provided by HBIC indicating the area 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 1.1 (UKHab Ltd., 2020). 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:

- Built-up Areas & Gardens (u1), with vegetated garden (230), scattered trees (secondary code: 11), introduced shrub (secondary code: 1160), and ruderal / ephemeral (secondary code: 17)
- Hedgerow (h2b)
- Developed land; sealed surface (u1b), with introduced shrub (secondary code: 1160)
- Buildings (u1b5)

4.2.1 Built-up Areas & Gardens (u1), with Vegetated Garden (230), Scattered Trees (secondary code: 11), Introduced Shrub (secondary code: 1160), and Ruderal / Ephemeral (secondary code: 17)

The main habitat type on site is a vegetated (secondary code: 230) Built-up Areas & Gardens (u1) forming the grassland garden on site (**Fig 4**) and in small parcels surrounding the buildings. The following species were recorded within this habitat type: Perennial Rye-grass (*Lolium perenne*), Dandelion (*Taraxacum agg.*), Daffodil (*Narcissus spp.*), Creeping Buttercup (*Ranunculus repens*), Yorkshire Fog (*Holcus lanatus*), Nettle (*Urtica dioica*), Ragwort (*Senecio jacobaea*), Ivy (*Hedera helix*), Ground-ivy (*Glechoma hederacea*), Ribwort Plantain (*Plantago lanceolata*), White Clover (*Trifolium repens*), Daisy (*Bellis perennis*), Creeping Cinquefoil (*Potentilla reptans*), Snowdrop (*Galanthus nivalis*), Tulip (*Tulipa spp.*), Rose (*Rosa spp.*), Bramble (*Rubus fruticosus*), Cow Parsley (*Anthriscus sylvestris*), Common Mouse-ear (*Cerastium fontanum*), as well as non-native ornamental flowers and shrubs (secondary code: 1160). A small patch of ruderal vegetation (secondary code: 17) is present at the south-western end of the site with additional species including Cleavers (*Galium aparine*), Bird-eye Speedwell (*Veronica persica*), Purple Dead Nettle (*Lamium purpureum*), Cock's-foot (*Dactylis glomerata*), and Carolina Geranium (*Geranium carolinianum*).

In addition, several scattered trees (secondary code: 11) are present throughout the site, consisting of Apple (*Malus spp.*), Fig (*Ficus carica*), Holly (*Ilex aquifolium*), Alder (*Alnus glutinosa*), Cherry (*Prunus sp.*), and Cypress (*Cypressus spp.*).

Figure 4. View of the u1 garden showing the scattered trees and introduced shrubs, facing west (taken February 2023).



4.2.2 Hedgerow (h2b)

Species poor hedgerow is present forming the south and north site boundary (**Fig 5 & 6**). The hedgerow forming the southern site boundary consisted of regularly managed Hazel (*Corylus avellana*) with an Ivy understorey. The northern site boundary consisted predominantly of Hawthorn (*Crataegus monogyna*) with intermittent patches of Bramble (*Rubus fruticosus*).

Figure 5. h2b Hedgerow located along the northern site boundary (taken February 2023).



Figure 6. h2b Hedgerow located along the southern site boundary (taken February, 2023).



4.2.3 Developed Land; Sealed Surface (u1b), with introduced shrub (secondary code: 1160)

This habitat type is present forming the drive and patio at the east of the site (**Fig 7**). To the east of the Bungalow, Bramble and ornamental shrubs were present (secondary code: 1160).

Figure 7. Hardstanding gravel drive located at the east of the site (taken February 2023).



4.2.4 Buildings (u1b5)

The final habitat type on site was the buildings with further descriptions of all buildings on site provided in section 4.3 below as part of the preliminary roost assessment.

4.3 Bat Survey Results

4.3.1 Pre-existing Data

The data request from HBIC returned the following bat records within 1km of the site (**Table 3**).

Table 3. List of bat records within 1km of the site provided by HBIC.

Taxon Name	Species Name	Number of Records	Further Information
<i>Eptesicus serotinus</i>	Serotine	9	All records from aural bat detectors and one harp trapping
<i>Myotis spp</i>	Myotis bat	14	All records from aural bat detectors
<i>Myotis daubentonii</i>	Daubenton's bat	2	All records from harp trapping with acoustic lure
<i>Myotis mystacinus</i>	Whiskered bat	2	All records from harp trapping with acoustic lure
<i>Myotis nattereri</i>	Natterer's bat	1	Confirmed roost
<i>Nyctalus noctula</i>	Noctule	20	Mixture of records from aural bat detector, harp trap and emergence survey
<i>Pipistrellus spp</i>	Pipistrelle bat species	8	4 roost records, and aural bat detector
<i>Pipistrellus nathusii</i>	Nathusis's Pipistrelle	5	All records from aural bat detector
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	43	5 roost records; a mixture of harp trapping, statics and aural bat detector recordings
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	19	1 roost records; a mixture of harp trapping and aural bat detector recordings
<i>Plecotus spp</i>	Long-eared bat	8	All aural bat detector recordings
<i>Plecotus auritus</i>	Brown Long-eared	4	2 roost recordings; a mixture of harp trapping and aural bat detector recordings

4.3.2 Buildings

The findings of the preliminary roost assessment of all buildings on site is outlined in **Table 4** below. Due to the number of buildings, these have been assigned numbers as shown in **Fig 8**.

Figure 8. Google aerial image of the site with numberings attributed to each building (as referred to in **Table 4**) for ease of description.

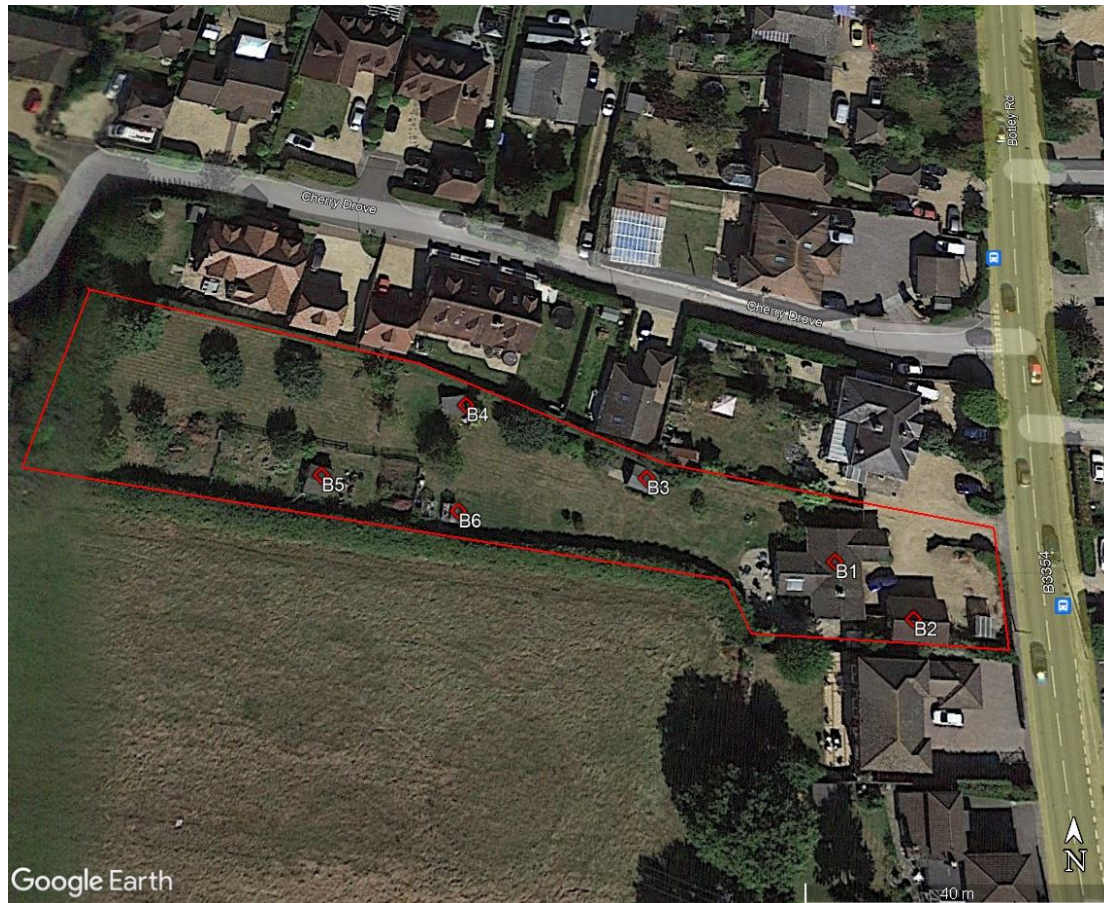


Table 4. Results of the preliminary roost assessment undertaken of all built structures proposed for works (all photos taken February, 2023).

Building (B)	Figure	Description of Construction	PRFs / Evidence of Occupation	Assessed Roost Potential
1 (Bungalow)	Figure 9. View of the eastern elevation of B1.  Figure 10. Internal view of the roof void. 	B1 is a single-storey building of brick construction with a clay tiled roof (Fig 9). Soffits and fascias are present on all elevations with hanging tiles present on the east and west elevations. Furthermore, climbing plants were present along the east and western gable ends growing into the soffits. Internally, the roof void is supported by wooden beams with a bitumen felt lining (Fig 10).	PRFs were noted amongst the roof through a low number of lifted roof tiles and missing mortar under the verges (Fig 11). Furthermore, a low number of gaps were present beneath the hanging tiles on the east and west elevation (Fig 12). Internally, approximately 15 Long-eared bat species droppings were identified scattered throughout the loft space. The droppings have been sent off for DNA analysis. Additionally, there are multiple access features where the bitumen felt	Confirmed bat roost

Figure 11. Gaps under the roof tiles.



Figure 12. Gaps under hanging tiles.



was hanging loose (Fig 13).

	Figure 13. Gaps within the internal lining. 			
2 (Garage)	Figure 14. View of the north-eastern elevation of B2. 	A large single-storey garage of brick construction with a pitched clay tiled roof. Wooden cladding is present on all elevations with hanging tiles present on the east and east elevation (Fig 14). The cladding is closely connected with no gaps beneath. Internally, the majority of the roof void was vaulted, with a small blocked off roof void at the western part of the building (Fig 15). The roof was underlined with bitumen felt.	A low number of PRFs were identified under the verge tiles on the roof that could allow internal access into the roof void as well as a low number of gaps beneath the hanging tiles on the east and west elevation. No evidence of bats was found.	Low

	Figure 15. Internal view of B2. 			
3 (Shed)	Figure 16. View of the south-eastern elevation of B3. 	A single-storey shed of wooden construction with a pitched felt roof and windows present on the southern elevation (Fig 16). Internally, the roof void is vaulted with a small number of wooden beams (Fig 17).	No internal evidence of bat presence found. The internal space of the shed can be considered less suitable for roosting bats due to the windows allowing large amounts of sunlight to infiltrate, as well as lacking the thermoregulation required for roosting bats.	Negligible

	Figure 17. Internal view of B3. 			
4 (Wendy House)	Figure 18. View of the southern elevation of B4. 	A Wendy house of wooden construction with a pitched felt roof (Fig 18).	A small hole was present on the southern elevation of the building however no internal evidence of bat presence found. The internal space of the barn can be considered less suitable for roosting bats due to the small window allowing sunlight to infiltrate, as well as lacking the thermoregulation	Negligible

			required for roosting bats.	
5 (Barn)	Figure 19. View of the north-western elevation of B5.  Figure 20. Internal view of B5. 	A shed (prior chicken coop) of wooden construction with a pitched corrugated metal roof (Fig 18). Internally, the building is supported by wooden beams and ridge beam with no internal lining (Fig 20).	Several gaps were present within the wooden cladding on the building. However these potential access points can be considered less suitable for bats due to their close proximity to the ground. Furthermore, no internal evidence of bat presence found. The internal space of the barn can be considered less suitable for roosting bats due to the window allowing sunlight to infiltrate as well as lacking the thermoregulation required for roosting bats, because of the gaps within the cladding.	Negligible

6 (Greenhouse)	Figure 21. View of the north-eastern elevation of B6. 	A small greenhouse with a metal frame and glass windows (Fig 21).	No internal evidence of bat presence found. The internal space of the stable can be considered less suitable for roosting bats due to large gaps allowing large amounts of sunlight to infiltrate, as well as lacking the thermoregulation required for roosting bats.	Negligible
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4.3.3 Trees

All of the trees on site were assessed for their potential to support roosting bats. One hole was identified at the end of a large branch on a Cherry (*Prunus sp.*) tree located at the centre of the garden (see location below in **Fig 22**). Upon closer inspection with a high-powered torch, the hole was only 2 inches deep and no evidence of bats was found (**Fig 23**).

In summary, the remaining trees on site, including the Cherry tree, were either small in diameter and lack the age and size to support roosting bats or did not support any PRFs. Therefore, all trees on site were considered to be of **negligible potential** for roosting bats.

Figure 22. Location of the tree with PRFs on site, as indicated by the star (Google Earth, 2023).

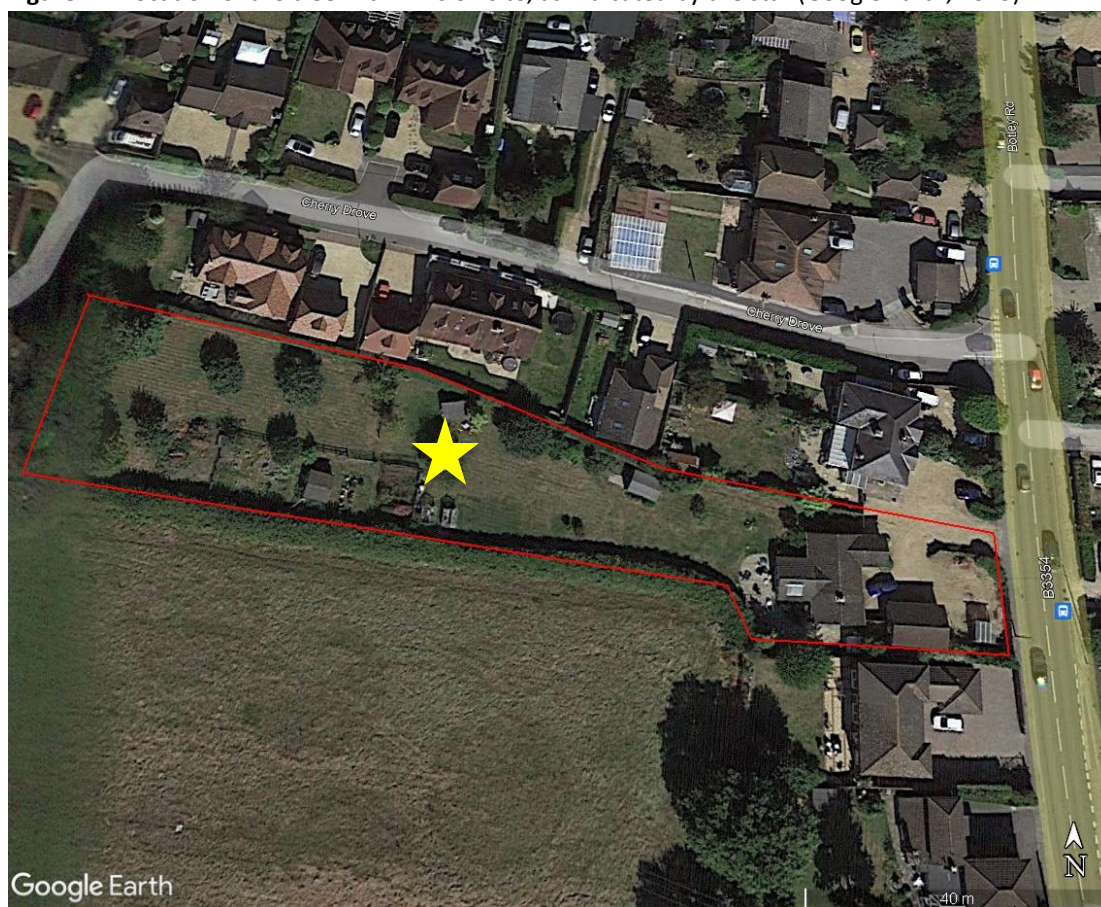


Figure 23. The PRF on tree on site (taken February, 2023).



4.4 Badgers & Hedgehogs

4.4.1 Pre-existing Information

HBIC returned one record of Badger within 1km of the site, approximately 215m from the site, and 27 records of Hedgehogs, with the closest approximately 109m from the site.

4.4.2 On-site Assessment

During the walkover survey, no evidence of resident Badgers (i.e. sett) was noted on site and no evidence of foraging or commuting activity noted either. Notwithstanding this, the site does support larger areas of short grassland connecting to a arable land to the south with woodland to the east of the site and can therefore be considered **suitable** for foraging and commuting Badgers and Hedgehogs.

4.5 Reptiles

4.5.1 Pre-existing Information

HBIC returned one record of Slow-worm (approximately 440m from the site), two records of Grass Snake (with the closest record approximately 132m from the site), and two records of Common Lizard (with the closest record approximately 440m from the site).

4.5.2 On-site Assessment

All of the grassland habitat on-site can be considered to offer limited potential for reptiles as it is cut / mowed regularly with a short sward height. These areas would consequently not support the structure and heterogeneity needed by foraging and sheltering reptiles (Edgar et al., 2010). As such, assuming the current management regime on site continues, it is considered to be of **negligible potential** for reptiles.

4.6 Great Crested Newts

4.6.1 Pre-existing Information

HBIC returned 8 records of GCN presence for within 1km of the site, the closest being approximately 700m north-west of the site.

4.6.2 Waterbodies within 250m

No ponds were noted within 250m of the site and as such (when the nature of the habitat types on-site is accounted for), the site is considered to be of **negligible** value for this species.

4.7 Hazel Dormouse

4.7.1 Pre-existing Information

HBIC did not return any records of Hazel Dormouse within 1km of the site.

4.7.2 On-site Assessment

Although the hedgerows on site will not be impacted upon by the proposals, the southern hedgerow present on the site itself would be considered to be 'sub-optimal' for Dormice as it is not species rich but does provide some favoured species (Hazel & Bramble). Furthermore, the hedgerow can somewhat be considered connected to the wider environment and woodland to the east of the site through a series of interconnecting hedgerows. However the northern hedgerow would be considered 'unfavourable' for Dormice due to lack of connectivity to the wider environment. Therefore, the hedgerow along the southern site boundary is considered to be of **low potential** to support this species.

4.8 Notable and Birds of Conservation Concern (BoCC)

4.8.1 Pre-existing Information

HBIC returned a high number of records of birds of conservation concern within 1km of the site including a number of records for red listed species (the list will not be reproduced here due to the number of records (32)).

4.8.2 On-site Assessment

The scattered trees, line of trees and hedgerows provide ideal nesting habitat for tree nesting and foraging birds with the site situated within a surrounding environ that provides an ideal mosaic of habitats, including woodland and hedgerows. Consequently, there is **low potential** for nesting and breeding birds on site.

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 works to the areas of built-up areas and gardens, introduced shrubs, hard standing and buildings which were only considered to be of value at the **Site** level of significance. Additionally, the proposals may require the removal of scattered trees (of **Local** value). Therefore, the loss of habitat would have a **minor adverse impact** to habitats of **Site – Local** value.

5.2.2 Impacts to Wildlife

B1 was identified as being a confirmed bat roost with droppings sent off for DNA analysis to confirm the species. B2 was noted to have low potential for roosting bats. Consequently, construction works could result in the destruction of bat roosts and death of bats in B1, and in B2 if present. In the absence of mitigation, an **adverse impact is certain** (scale would be determined by the nature of bat roosts present and the species) during works on the roof or roof void of B1, and an **adverse impact is possible** if any bat roosts are present in B2.

The proposed works may involve groundworks and the creation of some excavations. This may lead to the potential for Badgers and Hedgehogs becoming trapped or injured during the works. Therefore, in the absence of mitigation an **adverse impact is possible** at the **Local level**.

The proposed works to directly / indirectly trees and hedgerow on site could result in the disturbance of nesting birds and damage to their nests if conducted during the nesting season. Therefore, in the absence of mitigation 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 any additional external lights on the new access road and on the new dwellings. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an **adverse impact is likely** on bats, Badger, and other nocturnal wildlife (i.e hedgehogs).

5.3.2 Impacts to Designated Sites

The increase in residential units on site could result in an increase in visitor pressure to the New Forest SPA & SAC and the Solent SPAs. Therefore, in the absence of mitigation a ***minor adverse impact is likely*** at the ***International level***.

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 Phase II Surveys

As B1 is a confirmed bat roost, three Phase II bat surveys will be required (comprising of two dusk emergence and / or one dawn re-entry) in line with best practice guidance (**Table 4**), with at least two **between May – August (one can be within September)**. These surveys will help inform a detailed mitigation and compensation strategy and a European Protected Species licence will be required to undertake works on the building.

As B2 was considered to be of low potential, one dusk emergence or one dawn re-entry survey will be required between May – August.

Table 4. Recommended minimum number of survey visits (from Table 7.3 (BCT, 2016)).

Low Roost Suitability	Moderate Roost Suitability	High Roost Suitability/ Confirmed Roost
One survey visit. One dusk emergence or dawn re-entry survey.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third could be either dusk or dawn.

6.2.2 Sensitive Lighting

The development may result in an increase in lighting on the site. To avoid adverse impacts on bats, Badgers and Dormice, sensitive lighting should be used. Further recommendations on this will be outlined within the Phase II bat surveys report when a better assessment of the assemblage of bats / most important areas on site can be made.

6.3 Badgers & Hedgehogs

As the site has potential for foraging and commuting Badgers, the following mitigation steps are required. During the construction phase, any open excavations left overnight will either be covered to prevent falling in or escape ladders will be used to prevent them from becoming trapped.

6.4 Avoidance of Impacts to Breeding & Nesting Birds

As the hedgerows and trees are considered to provide suitable habitat for breeding and nesting birds, in order to avoid disturbance of nesting birds or damage to their nests, the removal of any suitable nesting bird habitat on site will be undertaken outside of the bird-nesting season (typically March – September, dependent on weather). If this is not possible,

any areas to be cleared will be thoroughly **checked by an ecologist immediately prior to clearance**. If any active nests are found, they will be left undisturbed with a suitable buffer of vegetation (ca. 5m) until nestlings have fledged and left the area of impact.

6.5 Protection of Retained Trees / Hedgerows

Any existing trees / hedgerow that is to be retained should be protected from damage during the works. All the trees / hedgerow should be fenced using Heras fencing or similar to prevent access by machinery. Where trees are present (and retained), they should be protected using standard arboriculturally tree protection measures which include protection of the canopy and prevents root compaction.

6.6 Precautionary Measures

Although the site is largely unsuitable for a number of protected species (reptiles, GCN, and Hazel Dormouse), the immediate surrounding environment does offer limited suitable habitat and as such precautionary measures for these species are recommended (in addition to the measures outlined in *Sections 6.3, 6.4, & 6.5*). In addition, the boundaries of the site offering connectivity to the surrounding environment will be protected from works using Heras fencing or similar (see *Section 6.5*).

6.6.1 Reptiles

Although the vast majority of the habitat on site is not considered suitable for reptiles as it is regularly managed to a short sward height, there are some small areas of suboptimal reptile habitat present within the immediate wider environment. Given the very limited extent of the suitable reptile habitat on site and the suboptimal nature of this habitat, the most appropriate form of mitigation would be to adopt a precautionary approach. The following methods will be undertaken to ensure that no reptiles are harmed during the works in the unlikely case that individuals are present on site.

- The habitats on site must be maintained how they currently are (i.e regularly cut to as short sward height) until the works commence.
- The day prior to ground works commencing, all suitable vegetation on site will be cut to a height of 20cm under the supervision of an ecologist. This must be done directionally towards the boundaries of the site to encourage reptiles to passively disperse. The ecologist on site will then hand search any denser areas of cover such as leaf litter where these areas are to be directly impacted upon.
- All vegetation on site must be kept managed during the development to ensure that reptiles don't establish whilst works take place.
- Materials must not be stored along the boundary vegetation on site and must be kept raised off of the ground (i.e stored on pallets).

6.6.2 Great Crested Newt

Before any works commence an ecologist holding a GCN license must brief all site operatives. This briefing must include details of the legal protection of GCN, all precautionary steps that must be taken during the proposed works, an annotated key detailing the appearance,

characteristics and optimal habitat of GCN as well as what actions need to be taken if a GCN is found on site.

A visual and fingertip search of the areas of impact will be undertaken prior to the works taking place. Following this, the vegetation, paving slabs and wooden borders can be gradually removed using a digger with a toothed bucket (to a depth of 1 to 2 inches) which will allow any amphibians on site to be discovered. This work must be supervised by a suitably qualified ecologist searching each bucket of removed vegetation and must be undertaken during the GCN active period (between March and October depending on the weather).

Steps to be taken if any GCN are found

In the unlikely instance that a GCN is found during any works, all works must immediately stop and the project ecologist must be informed. Natural England will then need to be contacted in order to obtain a European Protected Species development licence before any further works proceed. If any GCN are found on site updated GCN surveys will be required for all water bodies within 500m of the site to establish the population size present. It is essential that these processes are immediately followed to ensure that no offence is committed under the Wildlife and Countryside Act 1981 or the Conservation of Habitats and Species Regulations 2017.

6.6.3 Hazel Dormouse

Based on the current proposals, it is not anticipated there will be any significant areas of potentially suitable Dormouse vegetation that will require removal. Notwithstanding this, accounting for the suitability of the habitat on site and in the wider area, the following precautionary approach will be adopted if any of the hedgerow will be removed:

Prior to clearance commencing (if necessary), 1 Dormouse nest boxes will be installed through the retained hedgerow southern, to increase the carrying capacity of the retained habitats for Dormice. These will also act as receptors for any Dormice found during the sensitive clearance works (outlined below).

All habitat clearance will adopt the following methodology:

- Fingertip search of all vegetation to be cleared, by the licenced ecologist, immediately prior to clearance commencing (on the same day and every day clearance occurs). ***If any Dormice are found, works will cease and Natural England consulted.***
- The licenced ecologist will deliver a toolbox talk to the vegetation clearance contractors, detailing the sensitive measures required. The ecologist will then supervise all vegetation clearance. No clearance will be undertaken without the supervision of the ecologist.
- Hand tools will be utilised to sensitively cut vegetation down to ground level in a **single stage**. This will be undertaken in a directional fashion to passively encourage Dormice to move away from the works area towards retained, suitable habitats (i.e hedgerow). All arisings will be moved away from the cleared areas immediately to an area of within the central part of the site, and will then be chipped and immediately removed from site.

- In the unlikely event of any Dormice being discovered (within areas where they cannot be let in situ), they will be moved (along with their nest) into one of the nest boxes.
- No more than 50 m² of habitat will be cleared in a single day and works will take place during mid-April - mid-May or during October to avoid the breeding period (but ensure works are done during a time when Dormice are active).

6.7 Impacts to the New Forest SPA & SAC

Mitigation strategies are in place in other Council jurisdictions to address the impact of recreation arising from new development within and close to the National Park. Strategies are currently in place for the New Forest National Park Authority, New Forest District Council (which covers areas outside the National Park) and for Test Valley Borough Council. These involve the provision and enhancement of alternative non-designated areas, access and visitor management measures and monitoring:

- The New Forest National Park Authority draft 'Revised Habitat Mitigation Scheme 2018' calculates the contributions required to fund the mitigation measures during the Plan period and in perpetuity covering access management, alternative sites and routes, education, awareness and promotion, monitoring and research and implementation. It applies a standard developer contribution to all new residential development irrespective of dwelling size.
- Test Valley Borough Council seek development contributions towards habitat mitigation measures under its Interim Mitigation Framework (2014). This applies to development within 13.6 km of the New Forest protected areas.

Eastleigh Borough Council is part of a partnership of local authorities within and adjacent to the New Forest and also involving Natural England. The emerging Eastleigh Borough Council Local Plan includes commitment to deliver a mitigation strategy for the New Forest. The partnership is developing an effective and proportionate package of measures and consider the most appropriate way to fund this.

Within Eastleigh borough, the provision of new and enhanced green open spaces and routes will provide open spaces and routes in people's immediate neighbourhoods and providing an attractive alternative to driving to the New Forest. This interim strategy will initially prioritise the investment in delivering new, and improving existing, open spaces and routes in Eastleigh. This may be through improved facilities to make country parks useable throughout the year and increase their attractiveness to specific users such as dog walkers.

The following measures are likely to be appropriate to Eastleigh Borough:

- i) New open space within or adjoining development including within the west of Horton Heath and SGO developments and in the new country park in Bursledon (SANGS);
- ii) Improvements to routes and existing open spaces in Eastleigh borough – linking up areas to create longer routes, physical and access improvements to routes, improved facilities within open spaces such as dog waste bins, dog exercise areas and seating, signage, information boards, providing facilities for dog walkers; and

- iii) Where appropriate, contribution to measures within the New Forest with funding sought from national sources – to fund access management, rangers, education and awareness projects.

In March 2022, EBC produced an advisory document, in association with the new local plan, approving an interim strategy for addressing the significant impacts to the New Forest SPA/Ramsar through increased recreational pressure resulting from increased housing within the borough. This strategy outlines a financial contribution of £1,161 per dwelling to fund the provision of council developed SANGS on land east of Allington Lane associated with the One Horton Health project, increased funding for a ranger within the New Forest, improvements to the Itchen Valley country park, and monitoring costs. Although the design of this SANGS is to address allocated housing within the new local plan, a 'windfall' amount is available to developers for projects that are not included within the local allocation.

It is anticipated the development will contribute £1,161 per dwelling towards the windfall amount set aside as part of Eastleigh Borough Council's interim strategy will be sufficient to offset the increased recreational impacts of the scheme on the New Forest SPA.

6.8 Impacts to the Solent SPAs

The site lies within the vicinity (c.5.5km north) of the Solent and Southampton Water SPA, Ramsar, SSSI and SAC. 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 2022 a sliding scale of contribution, based upon the number of dwellings per residential unit, was introduced:

- £390 for each 1 bedroom property
- £563 for each 2 bedroom property
- £735 for each 3 bedroom property
- £864 for each 4 bedroom property

- £1,014 for each 5 bedroom property

6.9 Biodiversity Net Gain Calculations

A biodiversity net gain assessment will be undertaken for the site using the latest Defra 3.1 metric. This will be provided as a separate document (the Excel workbook) with accompanying baseline condition sheets and

6.10 Enhancements

6.10.1 Birds

To act as biodiversity enhancement, each of the newly built dwellings will incorporate one Swift brick. The Ibstock 'Eco Home for Swifts' bricks will be installed (**Fig 24**) as they are a discreet and attractive box ideal for new dwellings. The boxes should be installed under the eaves or in high walls in shaded areas out of direct sunlight and away from windows. The installation of such boxes has also been shown to be beneficial for House Sparrows (*Passer domesticus*) which are a nationally declining species.

Figure 24. Ibstock eco home for swifts that will be incorporated into the newly built dwellings



6.10.2 Bats

To act as an additional biodiversity enhancement and in the interests of promoting net gain principles (in line with National and Local planning policy), each of the newly built dwellings will have Ibstock bat bricks (**Fig 25**) integrated within the external brick work. 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 25. Ibstock bat brick 'B' which will be integrated into the gable walls of the new dwellings on site.



6.10.3 Hedgehogs

To ensure permeability for small mammals across the site, any new garden fences installed around the site 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 26**).

Figure 26. Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



6.10.4 Planting

As a general enhancement, all new planting should favour native species over non-natives and ornamentals with a minimum ratio of 70:30 (in line with the CIEEM guidance outlined within Smith & Day (2012)). Species that can be considered within any planting include: Rowan (*Sorbus aucuparia*), Alder (*Alnus glutinosa*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Bird Cherry (*Prunus padus*), Dog rose (*Rosa canina*), Dogwood (*Cornus sanguinea*), Holly (*Illex aquifolium*), Elder (*Sambucus nigra*), Silver Birch (*Betula pendula*), Small-leaved Lime (*Tillia cordata*), *Quercus* spp. and Willow (*Salix* spp.).

Planting a mixture of flowering plants, trees (including fruit trees) and shrubs encourages a diversity of insects. It is beneficial that the flowers vary in colour (although pale flowers that are more easily seen in poor light and so attract insects at dusk), fragrance, shape, amount of nectar and time of flowering. (It is important to provide native flowering plants, shrubs and trees throughout spring, summer and autumn). Flowers with 'landing platforms' for insects (i.e. flowers from the Daisy and Carrot families) increase opportunities for insects and in turn foraging Badgers and Bats.

The created areas of modified grassland will be sown with Emorsgate EL1 – Flowering Lawn Mixture. This seed mixture includes but is not limited to Common Knapweed (*Centaurea nigra*), Birdsfoot Trefoil (*Lotus corniculatus*), Ribwort Plantain (*Plantago lanceolata*), Cowslip (*Primula veris*), Meadow Buttercup (*Ranunculus acris*), Tufted Vetch (*Vicia cracca*), Common Bent (*Agrostis capillaris*), Crested Dogstail (*Cynosurus cristatus*) and White Clover (*Trifolium repens*). Further recommended species planting includes Rye grasses (*Lolium* spp.), Timothy (*Phleum pratense*), Yorkshire-fog (*Holcus lanatus*), and Cock's-foot (*Dactylis glomerata*) as well as Dandelion (*Taraxacum officinale*), Creeping Buttercup (*Ranunculus repens*) and Greater Plantain (*Plantago major*). More information on the management and monitoring of this habitat can be found within the accompanying 'Brighstone, Botley Rd Biodiversity Net Gain Assessment, Monitoring & Management Plan' (Ecosupport, 2023).

7.0 REFERENCES

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